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THE AGRICULTURAL SUPPLY MARKETING SYSTEM IN EL SALVADOR

A Report
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TABLE OF CONTENTS

SECTION I: INTRODUCTION 1

SECTION II: BACKGROUND INFORMATION 2

A. Fertilizers 2

B. Insecticides, Herbicides, Fungicides, Pesticides . 4

C. Certified Seed 6

SECTION III: THE GOVERNMENT'S POLICY ON AGRICULTURAL INPUTS 9

A. Policy Documents 9

B. Law for Control of Pesticides, Fertilizers and Products for Agricultural use 10

C. Summary of Defined Governmental Policy 11

SECTION IV: IMPORTATION 13

A. Fertilizers 13

B. Pesticides, Insecticides, Herbicides, Fungicides . 20

C. Seed 24

SECTION V: STRUCTURE OF THE AGRICULTURE INPUT MARKETING SYSTEM 26

A. Marketing Networks 26

B. Importer - Wholesalers 29

C. Retailers 45

SECTION VI: DEMAND FOR AGRICULTURAL INPUTS FROM THE SMALL FARM SECTOR (For Basic Grains Production) . . . 56

SECTION VII: CONCLUSIONS AND RECOMMENDATIONS 60

A. Conclusions 60

B. Recommendations . . . . . 6[illegible]

TABLE OF CONTENTS

TABLES

Table 1: Volumes of Fertilizer Imported: 1970-1974 (In Metric Tons) 3

Table 2: Value of Fertilizers Imported 1970-1974 in U.S. Dollars C.I.F. 3

Table 3: 1975 Retail Prices Fertilizer, Ahuachapán Price per 100 Kilograms/Sack Colones 4

Table 4: Volume of Pesticides Imported: 1970-1974 (in kilograms or liters) 5

Table 5: Value of Pesticides Imported - 1970-1974 in US $ - CIF 5

Table 6: Production of Certified Basic Grain Seed During the Last Five Agricultural Years - in quintals 7

Table 7: Production Goals of Seed Certification/Program for Agricultural Year 1975-1976 - in quintals 7

Table 8: Long Range Goals of the Seed Certification Program as of August 1, 1975 8

Table 9: Countries Supplying Fertilizer for El Salvador in 1974 13

Table 10: Importation of Loose Fertilizer Through Acajutla - 1974 17

Table 11: Countries Supplying Insecticides for El Salvador in 1974 21

Table 12: Countries Supplying Herbicide for El Salvador in 1974 22

Table 13: Countries Supplying Fungicides for El Salvador in 1974 22

Table 14: Percentage of Total Volume of Pesticides Supplied to El Salvador by CACM Based Producers - 1974 24

TABLE OF CONTENTS

TABLES

Table 15: Fertilizer Importation by Private Sector Importer-Wholesaler 1974 and 1975 (January-July) . . . 29

Table 16: Importations of Fertilizers by Public Sector Institutions 1974 and 1975 - (January-July) . . . 34

Table 17: Importations of Insecticides by Private Sector Importer-Wholesaler - 1974 and 1975 (January-July) 37

Table 18: Importation of Herbicides by Private Sector Importer-Wholesaler - 1974 and 1975 (January-July) 38

Table 19: Importations of Fungicides by Private Sector Importer-Wholesaler - 1974 and 1975 (January-July) 39

Table 20: Domestic Production of Certified Hibred Corn Seed Producers 1970-1971-1974-1975 44

Table 21: Average Volume of Inputs Sold by Seventeen Retailers in 1974 47

Table 22: Estimation of Gross Profit of Model Retail Agricultural Farm Supply Outlet Using Prices and Markups for July, 1975 48

Table 23: Methods Used by Retailers for Calculating Product Orders from Wholesalers 49

Table 24: Principal Wholesale Sources of Inputs for Retail Outlets 50

Table 25: Transport of Products 50

Table 26: Average Transportation Charged Paid by Retailers 51

Table 27: Terms of Payment for Fertilizers 51

Table 28: Terms of Payment for Pesticides 51

Table 29: Terms of Payment for Seed 52

TABLE OF CONTENTS

TABLES

Table 30: Terms of Payment for Back-Pack Sprayers . 52

Table 31: Average Gross Marketing Margins for Inputs Studied 53

Table 32: Retailer Responses 53

Table 33: Retailer Responses 54

Table 34: Retailer Responses 54

Table 35: Forms of Technical Assistance Provided by Retailers 54

Table 36: Retail Suppliers Evaluation of their Future as Retail Input Suppliers 55

Table 37: Total Manzanas of Basic Grains Planted by Farmers with Access to Less than 3 Manzanas (2 Hectares) of Tillable Land 56

Table 38: Estimated Present and Potential Use of Fertilizers, Insecticides, Fungicides and Herbicides by Small Farm Subsector 57

Table 39: Estimated Basic Grains: Levels of Use of Purchased Inputs/Manzana Small Farm Sector. 58

Table 40: Total Potential Use of Purchased Inputs by Small Farm Sub-sector as a Percentage of Total 1973 Imports 59

ANNEXES

Annex A: Average CIF Prices Paid by El Salvadorean Importers for Fertilizers January 1974 - July 1975 in U.S. Dollars in Metric Tons 65

Annex B: Average CIF Prices Paid by El Salvadorean Importers for Selected Pesticides - January 1974-July 1975 66

TABLE OF CONTENTS

ANNEXES

Annex C: Translation of Plan de Desarrollo Agropecuario - 1973-1977 MAG - CONAPLAN - San Salvador - October 1972 67

Annex D: Translation of Plan Operativo del Sector Agropecuario - 1974 MAG-CONAPLAN, San Salvador. 74

Annex E: Translation of Plan Operativo del Sector Agropecuario - 1975 MAG-CONAPLAN, San Salvador. 77

Annex F: Charges Levied by CEPA 1975 82

Annex G: Sacking Costs - Paid by Cristiani Burkard per sack of 100 Kgs. (220 Pounds) 84

Annex H: Trucking Charges from Acajutla to the Following Places, Prices per Hundred Weight (Applicable to freights that meet control of weights, cargo and measurements standards on highways) Provided by SAGRISA 85

Annex I: Encuesta sobre Insumos Agrícolas 87

SECTION I: INTRODUCTION

An intensive review of the Agricultural Input Marketing Sector of El Salvador was carried out during the period July 5 - September 12, 1975. The purpose of the review was to determine if the availability, accessibility, and costs of key agricultural inputs might become limiting factors in terms of the objectives of a proposed USAID/SMALL FARMERS PROGRAM loan. The diagnostic aspect of the review focuses on the availability of key agricultural inputs to small scale farmers who cultivate from 1 to 5 manzanas.

All elements, private and public, which compose the sector were contacted. All stages from importation to retailing were reviewed. One to four hour interviews were conducted with eight of the ten major importers and elaborators of agricultural inputs. All government agencies and non-profit private institutions that are directly involved in the distribution and sales of agricultural inputs were also interviewed. All government agencies that are involved with the functions of policy making, regulation and data collection were visited. Seventeen retail outlets were visited and a standard questionnaire was filled out. This retail outlet survey was carried out in the same eight observational areas that were chosen for this and the other two studies undertaken by the Básico, Inc., contract group.

The immediate objectives of this work were to:

1. Review the recent history of the sector.

2. Establish consumption trends.

3. Identify structural strengths and deficiencies in the marketing system.

4. Establish current marketing costs and mark-ups.

5. Review government policies with respect to regulation of the sector.

6. Review the actions and influence of the government as a participating element in the sector.

Reference inputs were fertilizers, insecticides, herbicides, fungicides, certified seed, and back-pack sprayers. The major effort was to analyze the fertilizers marketing system, since fertilizer purchases account for 70% of small farmers expenditures for outside production inputs.

SECTION II: BACKGROUND INFORMATION

A. FERTILIZERS

El Salvador, more than any other Central American country, needs to utilize fertilizer intensively in its cultivation management practices. The population of the country may be reaching its limit given the available arable lands. Agricultural lands have been used very intensively. The use of fertilizers is crucial, just to maintain current productive levels.

In 1974, 319,811.7 metric tons of fertilizer were imported into El Salvador or .21 Metric Tons/hectare of arable land (See Table 1). The 1972 FAO Annual Fertilizer review estimated that fertilizer consumption per hectare of arable land in El Salvador was 133 kilograms of N,P_2O_5 and K_2O, one of the highest rates in the hemisphere. In comparison, Costa Rica consumed approximately 84 kilograms per hectare. The next highest of the three remaining Central American republics, Nicaragua, used 35 kilograms per hectare. Clearly, El Salvador is the leader in fertilizer importation and consumption in Central America.

Fertilizer importation and sales is a relatively new business, dating back approximately twenty years. Prior to 1960, fertilizer was utilized primarily by the commercial agricultural sector. Dr. Benjamín Birdsall's massive corn demonstration plot campaign changed this pattern by showing the Salvadorean campesino, in terms that he could understand, that fertilizer use was economically and technically viable. A leading fertilizer distributor assisted Dr. Birdsall in his work by providing fertilizers and technical assistance.

At this point the traditional farmer became aware of fertilizers but the retail marketing system was not developed adequately to take care of his needs. In 1966, the Asociación de Bienestar Campesino (ABC), with financial and technical assistance from USAID/El Salvador, began its agricultural production credit program called Créditos Especiales (In Kind Credit).

At first, the goal of increasing the small farmers productivity was frustrated because no mechanism had been developed for getting key agricultural inputs to clients. A system was developed whereby ABC issued purchase orders (ordenes de entrega) for inputs which were honored by wholesalers and local retailers. Knowingly or unknowingly one of the major side effects of the ABC program was the proliferation of retail agriservice stores.

The use trend in El Salvador of fertilizers was rising steadily until prices rose precipitously in 1973-1974. (See Tables 1 and 2).

During the current crop year prices have dropped. (See Annex A: Average CIF Prices to El Salvadorean Fertilizer Importers 1974-1975). However, at the time that fertilizer purchase commitments had to be made by basic grains producers in April 1975, prices were at their peak. (See Table 3). The majority of the small farmers who received credit-in-kind fertilizer through farmers organizations or as direct BFA loans acquired it at the peak price. Many of them as they look at August prices believe they were exploited although the truth is that the BFA was offering fertilizer in April as credit in-kind at a subsidized price.

Table 1

VOLUMES OF FERTILIZER IMPORTED: 1970-1974
(IN METRIC TONS)

	1970	1971	1972	1973	1974
Simple Fertilizer	164,963.8	179,465.0	229,556.4	241,196.2	227,139.6
Compound Fertilizer	72,874.5	104,524.1	78,078.6	111,824.9	92,672.1
TOTALS	237,838.3	283,989.1	297,635.0	353,021.1	319,811.7

SOURCE: Departamento de Defensa Agropecuaria - MAG.

Table 2

VALUE OF FERTILIZERS IMPORTED 1970-1974
IN U.S. DOLLARS C.I.F.

	1970	1971	1972	1973	1974
Simple Fertilizer	5,513,716	4,320,130	8,089.081	10,652,559	29,362,156
Compound Fertilizer	4,814,841	6,833,692	6,214.479	9,728.066	16,475,624
TOTALS	10,328,557	11,153,822	14,303.560	20,380,625	45,837,780

SOURCE: Departamento de Defensa Agropecuaria - MAG.

Table 3

1975 RETAIL PRICES FERTILIZER, AHUACHAPAN
PRICE PER 100 KILOGRAMS/SACK COLONES

	BFA		LOCAL RETAIL STORE	
	April	August	April	August
*20-20-0	65.00	45.00	69.00	56.00
*Ammonium Sulphate	50.50	30.00	51.00	38.00

* Note, these are the two grades of fertilizer used almost exclusively by small basic grains producers.

SOURCE: Contractors Survey August 1975.

B. INSECTICIDES, HERBICIDES, FUNGICIDES, PESTICIDES

The demand trends in agricultural chemicals are similar to those for fertilizer. Demand is created primarily by the commercial farming sector (cotton, coffee, and sugar). Small farmers are not a big factor in the market. However, it is important to them to have a reliable supply of agricultural chemicals, especially insecticides at reasonable prices. We estimate that 15% to 20% of the costs of the corn production input-package is for insecticides. In 1974 the three insecticides most commonly used by small corn farmers, Aldrin, Dipterex and Volaton, accounted for ¢457,236 or 8.3% of the CIF value of the dry insecticides imported into El Salvador. For small farmers who produce horticultural crops, use of all classes of agricultural chemicals is high and varied. We roughly estimate that they account for 3.0% of the national demand for agricultural chemicals. Our best estimate is that small farmers account for 11% of the total demand for agricultural chemicals.

Table 4

VOLUME OF PESTICIDES IMPORTED: 1970-1974
(in kilograms or liters)

	1970	1971	1972	1973	1974
INSECTICIDES					
Liquid (lts)	2,738,329	5,839,342	8,023,372	9,495,498	6,938,566
Solid (kgs)	2,897,558	3,329,149	3,101,223	5,365,643	4,566,202
HERBICIDES					
Liquid (lts)	192,623	280,849	276,396	391,318	670,129
Solid (kgs)	13,622	89,642	25,795	122,496	107,887
FUNGICIDES					
Liquid (lts)	--	7,256	4,833	17,484	379
Solid (kgs)	122,694	64,869	93,982	129,205	98,349

SOURCE: Depto. de Defensa Agropecuaria - MAG

Table 5

VALUE OF PESTICIDES IMPORTED - 1970-1974 IN US $ - CIF

	1970	1971	1972	1973	1974
INSECTICIDES					
Liquid	3,519,000	7,695,856	10,971,634	14,952,967	16,332,991
Solid	1,194,684	1,393,769	2,398,429	5,014,471	5,473,759
TOTALS	4,713,684	9,089,625	13,370,063	19,967,438	21,806,750
HERBICIDES					
Liquid	284,850	395,378	463,060	472,727	1,401,384
Solid	18,714	153,086	85,768	384,024	445,906
TOTALS	303,564	548,464	548,828	856,751	1,847,290
FUNGICIDES					
Liquid	--	17,220	7,678	20,959	1,500
Solid	91,728	76,937	107,800	205,190	242,931
TOTALS	91,728	94,157	115,478	226,149	244,431

SOURCE: Depto. de Defensa Agropecuaria - MAG

C. CERTIFIED SEED

Small farmers are convinced through their experiences with the H-3 and H-5 corn hybrids that variety and seed source are key considerations in achieving high yields. Visual comparison of plants started from criollo seed versus plants from improved seed is dramatic and easily seen. Demonstrations of this sort are readily understood by farmers of limited education. The problem, however, arises as to quality of seed. The untrained eye cannot distinguish between seed quality until after planting. The potential for misrepresentation of product is high given the marked differences in yield capabilities of improved versus unimproved varieties.

With the signing of Decree Nº229 - Ley de Certificación de Semilla y Plantas (Law of Seed and Plant Certification) the government of El Salvador began to take an active part in the control of seed production. The Ministry of Agriculture and Livestock (MAG) was made responsible for the control of production, sale, importation, and exportation of seed and plants of proven genetic purity and quality. The departments of Seed Certification and Plant Science of CENTA, collaborating with the department of Commercialization and Statistics of MAG, were designated these responsibilities.

To date the Seed Certification program has concerned itself mostly with corn seed production. The hybrid corn double-cross varieties developed by MAG, especially the H-3 and H-5 varieties, have gained almost universal acceptance among all classes of corn producers. During the agricultural years 73-74 and 74-75 increased emphasis was placed on producing certified seed of the other basic grains crops.

Table 6

PRODUCTION OF CERTIFIED BASIC GRAIN SEED DURING THE LAST FIVE AGRICULTURAL YEARS - in quintals

Agricultural Year	Corn	Rice	Sorghum	Beans
1970-71	42,201	421	137	70
1971-72	44,002	209	293	379
1972-73	37,911	580	280	761
1973-74	54,140	651	1720	1070
1974-75	57,170	3000	1400	1200

SOURCE: Depto. de Certificación de Semillas - CENTA

The Seed Certification Department at CENTA has set for agricultural years 1975-76 the following goals:

Table 7

PRODUCTION GOALS OF SEED CERTIFICATION/PROGRAM FOR AGRICULTURAL YEAR 1975-1976 - in quintals

Agricultural Year	Corn	Rice	Sorghum	Beans
1975-76	70,000	10,000	5,000	5,000

SOURCE: Depto. de Certificación de Semillas - CENTA

Table 8

LONG RANGE GOALS OF THE SEED CERTIFICATION PROGRAM
as of August 1, 1975

SEED	GOAL IN QUINTAL/YEAR	TIME FRAME
Corn	120,000	Within 2 years
Rice	50,000	Within 5 years
Sorghum	30,000	Within 5 years
Beana	60,000	7-8 years (1982)

SOURCE: Depto. de Certificación de Semillas - CENTA

SECTION III: THE GOVERNMENT'S POLICY ON AGRICULTURAL INPUTS

A. POLICY DOCUMENTS

Three policy documents of the government of El Salvador were reviewed for this intensive review. They are:

Plan de Desarrollo Agropecuario: 1973-1977 (5 year plan) (See Annex C)

Plan Operativo del Sector Agropecuario - 1974 - (See Annex D)

Plan Operativo del Sector Agropecuario - 1975 - (See Annex E)

The basis of all government policy toward agricultural inputs is that their incorporation into agricultural management practices will bring about significant increases in productivity. However, three inherent dangers must be avoided; those of uneconomical use, over-use and untimely distribution at exorbitant prices.

The Plan de Desarrollo Agropecuario 1973-1977 (Five Year Agricultural Development Plan) notes that the responsibility for commercialization of inputs has fallen to the private sector. The role of the government is passive due to the lack of a defined government policy to control the use and commercialization of inputs. Consequently, the 5-Year Plan urges the government to develop such laws as necessary to meet the general aspects of the policy for inputs. Specifically referred to are the establishment of maximum sales prices for critical inputs, strengthening of systems for controlling quality norms, direct importation of inputs by public sector institutions, promotion of farmer organizations capable of participating in the input marketing system, technical assistance aimed at more rational use of inputs, adequate supply of credit for inputs, regulation of use of herbicides and creation of input marketing infrastructure.

The Plan Operativo del Sector Agropecuario 1974 (Operative Plan for the Agricultural Sector - 1974) differs markedly from the Five-Year Plan, being much more concise in its wording. Recognition of the governments efforts in seed certification and fertilizer distribution are made. Then the tone changes as very specific actions that the Government should carry out are detailed. MAG is authorized to strictly regulate exportation of inputs and given guidelines as to when and how to permit exportations. The BFA is directed to carry out direct importations and to set up a retail distribution system. CENTA and the Salvadorean Institute for the Investigation of Coffee are made responsible for developing technical criteria for input use. CENTA is named to carry out research to determine

rational levels for pesticide use as well as being instructed to produce certified seed. Finally, MAG is designated to supervise all phases of input use and commercialization to ensure that there is compliance with the Law for Control of Pesticides, Fertilizers and Products for Agricultural use. This Law, Decree N°315 was written and approved by the government in May 1973. It was borne out of the government's recognition, as reported in the Five-Year Plan, that its participation in the input system would be limited until such a law was developed.

The Plan Operativo del Sector Agropecuario-1975 continues in the same direction as the Plan just discussed. Reference is made to the accomplishments although except for the B.F.A., no agency receives credit for its efforts. Yearly goals are defined for both agricultural and livestock sectors. Finally, the policy for inputs is outlined. For 1975, the B.F.A. is to import directly "large quantities of fertilizers". CENTA and the B.F.A. are assigned responsibility for the government's technical assistance program. CENTA is also instructed to increase its production of certified seed by planting more land. MAG is to continue in the regulation of exportation of inputs, however, with the collaboration of the Ministry of Economy. Finally, the proposed donation of a major quantity of fertilizer by the United Nations is discussed as a method of stabilizing the supply of fertilizers.

B. LAW FOR CONTROL OF PESTICIDES, FERTILIZERS AND PRODUCTS FOR AGRICULTURAL USE

Clearly, the basis of the El Salvadorean Government's agricultural input policies is Decree N° 315 - The Law for Control of Pesticides, Fertilizers and Products for Agricultural Use. The Law came as a result of increased use of inputs as technological improvements were made by farmers. The spirit of the law rests in the need to guarantee farmers quality products and a system of controlling inefficient, uneconomic and/or indiscriminate use.

The Law is broad in its principal objectives of regulating the production, commercialization, distribution, importation, exportation and use of pesticides, fertilizers, herbicides, additives defoliants and other chemical and bio-chemical products for agricultural, livestock, or veterinary use and its raw materials. Technical definition of all these products is found in Chapter II of the Law.

The institution vested with the authority to see that the Law is met at all levels is the Ministry of Agriculture and Livestock. This authority includes the right to make inspections, analyze product samples, develop recommendations for input use, maintain a registry of approved products, prohibit importation of products, establish quality norms, review technical information provided by the producer and impose the sanctions established by the Law.

The branch of MAG most involved in ensuring that the Law is carried out is the Agricultural Defense Department DDA (Departamento de Defensa Agropecuaria). The Law specifically assigns the following responsibilities to the Agricultural Defense Department:

1. Maintain a registry of products and raw materials judged as technically acceptable given the stipulations of Decree Nº 315. The registry should include pertinent data on chemical make-up of the product and complete identification including producer and country of origen, importer, etc.

For a product to be inscribed in the registry, the interested party must request inscription in writing, provide a product sample for analysis and all technical data requested. The Law defines under what circumstances inscriptions can be denied.

2. Authorize the importation of agricultural inputs. Importers, as part of the process of obtaining permission to import a product, must present invoices corresponding to the products in question to the Agricultural Defense Department. Without its approval, the importation process cannot be continued.

3. Authorize the establishment and continued operation of retail agricultural input outlets. Prior to granting its approval, the Agricultural Defense Department should receive an application and make an inspection of the stores. Approval is contingent upon the store having a qualified agronomist acting as the person responsible for technical integrity. Periodic inspections of the outlet are made throughout the year. Samples can be requested for analysis and DDA has the authority to close the store at any time if it is judged in violation of the norms of Decree 315.

C. SUMMARY OF DEFINED GOVERNMENTAL POLICY

In comparing the Five Year Plan for 1973-77 and the Operative Plans for 1974 and 1975, the reader is quick to note that all three discuss the problems that need to be resolved through a governmental policy on agricultural inputs while only the Operative Plans for 1974 and 1975 offer defined modes of action to handle the problems. Where the Five Year Plan fails to assign responsibilities, the Operative Plans are very specific. It appears that the government has quietly forgotten about the Five Year Plan since its publication.

The overlying objective of all planning documents is to increase yields through timely delivery of a quality product in sufficient quantities and at just prices. The Five Year Plan addresses public sector intervention in the input marketing system, albeit vaguely. The Operative Plan is more direct, calling for direct importation of fertilizers increased production

of seed, regulation of input exportation, and control of pesticide use by the public sector. Finally 1975's Operative Plan is bluntly clear; it is the public sector's intention to become directly and heavily involved in the importation and distribution of agricultural inputs, through active participation by specified government agencies. In the period 1973 to the present, the agricultural input marketing system has undergone radical changes, mostly notably the reversal in the public sector's role in the system from passive to active.

The Five Year Plan focuses on the notable lack of governmental policy towards control of use of inputs prior to 1975, noting that it is the responsibility of the public sector to develop such a law. In May, 1973 the Law for Control of Pesticides, Fertilizers and Products for Agricultural use is approved. Coupled with Ministerial controls of importation and exportations and the policies outlined in the Operative Plans it would appear that defined government policies now exist.

SECTION IV: IMPORTATION

A. FERTILIZERS

1. Sources

The two principal sources of fertilizers for El Salvador are the United States and Europe.

Table 9

COUNTRIES SUPPLYING FERTILIZER FOR EL SALVADOR
in 1974

COUNTRY	VOLUME IN METRIC TONS	PERCENT OF TOTAL
United States	125,596.0	39.3%
Germany	103,992.4	32.5
Holland	49,657.6	15.5
Norway	9,000.0	2.8
Belgium	7,486.7	2.3
Canada	6,780.0	2.1
Mexico	4,500.0	1.4
Costa Rica	3,128.4	1.0

SOURCE: Departamento de Defensa Agropecuaria

Traditionally, the United States has been a principal supplier of fertilizers to El Salvador. The percentage of fertilizers supplied by the US has been decreasing each year. These reductions, to a great degree, have been self-imposed, since internal U.S. demand has increased at a greater rate than has production capacity.

The major competition for US fertilizer producers are European suppliers. In reaction to changes in US fertilizer production and internal needs, European fertilizer producers have followed more aggressive marketing

strategies. The principal markets for fertilizers, outside of the US and Europe, are Africa, Central and South America and Asia. In the past, the US has been the major supplier to Central and South American markets while Europe supplied Africa and Asia.

To the European producers, the Central and South American fertilizer markets are much more attractive in terms of demand than the African and Asian markets. At the time U.S. producers were beginning to redirect their marketing strategies to meet internal needs, European producers through two sub-cartels based in Zurich, Switzerland strengthened their position in El Salvador. These associations, called NITREX and COMPLEX, work together to set uniform prices and policies for European fertilizer producers. Consequently, the US share of the El Salvador market decreased. In early 1974, the Fertilizer Producer Convention in Mallorca discussed the issue of relative shares of the various markets, with the US openly declaring renewed interest in Central America and the Europeans unwilling to return to the pre-1971 status quo. No firm decisions were reached as would be expected.

Beginning in late February, El Salvadorean fertilizer importers received unsolicited quotations from US producers for nitroginated fertilizers that were up to $50.00 per Metric Ton lower than European quotations. However, several importers were tied into agreements with European producers. Since only one major Salvadorean importer distributes U.S. produced fertilizers on an exclusive basis and other less important importers were contemplating major importations of U.S. fertilizers, the potential for disaster was ominous for four of the six traditional importers. Consequently, during the second week of April, a delegation of four Salvadorean importers met with more than 25 NITREX-COMPLEX representatives to plead for more competitive prices. The European producers were unresponsive, leaving Salvadorean importers to look for methods of competing in their fertilizer markets without abrogating their agreements with their traditional suppliers.

2. Ordering

The ordering process begins with the programming of purchases during the months of October, November, and December, depending on the internal policies of each importing firm. In interviews with importer-wholesalers no special methods for calculating fertilizer needs were discussed, but rather a combination of educated guesses based on price trends, sales over previous five-year periods, conversations with major buyers of fertilizers of previous years, intuition, and availability of fertilizer are used.

After fertilizer needs have been calculated and programmed, two courses may be taken, both beginning with the importing firm's representative traveling to potential sources of fertilizer. The first course, taken by importers who have obtained exclusive representation rights from

producers, is to deal directly with a particular supplier. The supplier brings the importer up-to-date on fertilizer production, prices, etc., and the importer will discuss his needs with the supplier. Depending on the number of years the two enterprises have worked together, the visit becomes less oriented to strict business.

The second course is where the importer attempts to interest as many suppliers as possible in his needs while looking for the best price. This strategy has its risks as well as advantages.

A principal concern in programming purchases, after price, is transport. A buyer may opt for a slightly higher price with a supplier who has access to boats capable of more efficient or timely shipping.

Representatives of importing houses reported that they calculate, a minimum of one month lead-time for fertilizer purchased in Europe and slightly less (24-25 days) for US supplied fertilizer. However, these figures are contingent upon previous working experience with suppliers and transport. Only in times of marked fluctuation of prices will salvadorean importers wait "until the last minute" to place orders. It was reported by importers that normal lead-time for their purchases is 2-3 months.

3. Financing

At the importation level, it is logical to assume that vast amounts of money are being transacted.

International letters of credit - Although the exact amount of credit capacity each importer enjoyed was not revealed in every case, all importers interviewed reported that they financed their purchases using letters of credit. The credits generally are for 180 days and are handled in El Salvador by branches of international banks. Interest on the credit varies according to the international money market, with the highest reported interest paid being 1.1% per month.

Credit Insurance - The majority of importers interviewed reported that their fertilizer purchases were bonded or that the supplier was guaranteed payment by a third party. Immediately prior to shipment, when the exact dollar value CIF is known, the supplier secures bonding by paying up to 1.5% of 80% of the value of the shipment for credit insurance. On the due date of the credit, if the supplier has not been paid, the letter of credit is turned over to the credit insurance firm who in turn pays the supplier. Two credit insurance firms were mentioned by importers: Hermes in Europe and the Federal Credit Insurance Association in the US. Both firms have representatives who periodically review the financial status of importing firms in El Salvador. The ability to obtain major quantities of fertilizer without approval of a credit insurance firm is virtually nil.

4. Transport

Transport of fertilizer is done by ship. The supplier contracts the boats, oversees loading and preparation of shipping documents. Consequently, the buyer has little control over the type of ocean-going vessel that will carry his fertilizer. The type of vessel is critical in minimizing shipping and unloading time.

Importers reported that they calculated 25-27 days passage from Europe and 17-21 days in transit for US supplied fertilizer. Off-loading in El Salvador is carried out in Acajutla, Cutuco-La Unión and La Libertad, in order of importance.

International trade can affect the El Salvadorean fertilizer enterprise in two ways. Historically, when importers least need fertilizer in El Salvador, the availability of boats is greatest. This corresponds to the period of December-January. Secondly, movements of vast amounts of commodities by ocean-going vessel greatly reduce the availability of boats, especially boats with efficient off-loading capabilities. Three importers noted that the latest US-Russian grain deal will have negative effects on their off-loading costs.

5. Price

The pricing system used by fertilizer exporters is US dollars CIF. This price includes exporters cost of fertilizer plus shipping insurance charges plus shipping charges. At the importation level, prices are quoted in value per metric ton (1000 kilograms). (See Annex B - Average Metric Tons CIF prices paid by Salvadorean importer 1974-75).

Insurance charges are for what is known as 110% insurance. If the cargo is lost in transit the importer is reimbursed the value CIF of the shipment plus 10% of the value.

In recent years, prices have fluctuated continuosly. Attempts are made by the fertilizer producers to fix prices for three-month periods. This cannot be done with freight charges and insurance charges. One week prior to shipment, suppliers give estimated product prices for the day of shipment. At this point, the importer has the right to reject the offer. Any time prior to debarkation of the boat, the importer may abrogate his agreement with the supplier although as the time differential decreases, the severity of the supplier's reaction increases.

6. Ports and off-loading

As mentioned earlier, the ports of Acajutla, Cutuco-La Unión and La Libertad are used for off-loading fertilizers. All these ports are administered by autonomous institutions.

The primary port for fertilizer importation is Acajutla, having the best conditions for handling, storing and later distribuiting the vast amounts of product. La Union, although a deep water port is only accesible at high tide and is serviced by railroad. In La Libertad, fertilizers must first be offloaded into lighters. The role of La Libertad in fertilizer importation is insignificant.

The major port, Acajutla, is administered by the Comisión Ejecutiva Portuaria Autónoma (CEPA). Between 1970 and 1974 Acajutla handled an average of 434 boats and 2,422,354 metric tons of cargo per year. There are six docking areas of lengths ranging from 152 to 198 meters. In four docking areas loose granular cargo can be off-loaded. In 1974, 73,076 Metric Tons of sacked fertilizer and 307,466 Metric Tons of loose fertilizer were off-loaded in Acajutla. This amounts to 119% of registered imports. As seen in the following table, clearly Acajutla possesses the capability to handle all fertilizer importation needs of the country.

Table 10

IMPORTATION OF LOOSE FERTILIZER THROUGH ACAJUTLA
1974

Product	Total imported in Metric Tons	Imported in granular form thru Acajutla	Per Cent of Total
Ammonium Sulphate	172,305.0	132,001	77 %
Urea	14,234.0	8,775.8	67
Potasium Sulphate	799.6	799.6	100
Potasium Muriate	7,096.6	9,737.4	137
Potasium Chlorate	5,400.0	4,200.0	78
Superphosphate	2,500.0	1,800.0	72

Furthermore, 72,635 Metric Tons of formula fertilizer or 78.4% of the total imported in 1974 entered the country through Acajutla.

While a boat is unloading fertilizers in Acajutla, CEPA charges for the following services:

1. Docking and Undocking
2. Moorage
3. Use of docking cable
4. Use of docks
5. Stowage (off-loading)
6. Transport (when applicable)
7. Storage (when applicable)

The first three are paid by the shipping company, the remainder by the importer. The exact tariffs levied for each service are included in Annex F of this report. For purposes of calculating their wholesale fertilizer prices, importer-wholesalers estimate these costs at between ¢18.50 and ¢20.00 per Metric Ton of fertilizer.

Contracts written with shipping companies include a clause that provides for a cash rebate in the case that a ship can be unloaded ahead of schedule and a penalty charge if the ship must overstay its planned period in port. This clause is called the dispatch/demurrage clause. Its calculation is based on the established per Metric Ton off-loading capability of the port. For Acajutla the rate is 800 Metric Tons per 24 hour day. Off-loading is stopped for inclement weather, and these hours are discounted from the demurrage calculation. Dispatch/Demurrage = $1,000/$2,000 is an example of this clause. If the boat debarks three days ahead of schedule a rebate of $3,000 is awarded. Likewise, $6000 would be billed to the importer if the boat remained in port for three days after its scheduled departure.

The hours of 7:00 A.M. to 7:00 P.M. are considered normal working hours in the port. Overtime charges are levied for work carried out between 7:00 P.M. and 7:00 A.M., Sundays and holidays.

It is significantly cheaper to import fertilizers in the loose, granular form.

7. Documentation and Duties

Only importers registered with the government may carry out importations. Government permission is granted in the form of an importer's license which must be renewed every three years. This license is called the Matricula de Comercio.

The documentation process begins when the exporter sends the original copy of the bill of lading, insurance documents and invoices to the bank in El Salvador handling the letter of credit. Copies of the aforementioned are sent to the importers and given to the shipping firm. The importer, upon receipt of the sales documents, notifies his custom broker who in turn fills out the Poliza de Importación (Custom House Permit for Importation). The Permit plus shipping documents are taken to the Agricultural Defense Department where the merchandise to be imported is checked against the registry of acceptable products maintained by ADD. At this point, ADD can request samples for analysis, approve or disapprove the importation.

The documentation is then passed by the customs broker to the Ministry of Economy, for recording of data relevant to the importation and assignment of importation code numbers (NAUCA numbers) according to Central American trade agreements.

The final step in clearing an importation of fertilizer is carried out by the Ministry of Hacienda (Treasury). The Importation Permit and sales documents are reviewed for errors. Tariffs are assigned according to the trade laws of El Salvador. Once the importer has paid the tariffs, the merchandise can be distributed. The Corte de Cuentas (approximate equivalent of U.S. Office of Inspector General) is responsible for fiscalization of the documentation.

The principal tariffs are a 5% ad-valorem importation charge specific for fertilizers and a charge of US$1.00 for each $500.00 of product value - not to exceed $30.00 called the Conocimiento de Embarque (Confirmation of Arrival). This latter tariff is charged to cover expenses of the government representative who reviews the cargo on the ship chacking it against the sales and shipping documents.

Finally, the Ministry of Hacienda may levy a five percent tax on value if it judges the importer to be guilty of negligence or misrepresentation. Specifically, this tax may be applied if:

1. The importer does not possess a valid importer's license.

2. The product being imported is not the product detailed on the sales documents and Importation Permit.

3. The importer declares on the importation permit that he is importing less than he actually is.

This tariff rarely, if ever is levied against fertilizer importers due to the vast amounts of money involved and the fact that the tax is fixed according the dollar CIF value of the shipment.

8. Tax Exemption

Fertilizers are exempt of any tariff calculated on weight. Furthermore, due to the importance of fertilizers to a growing agricultural economy, the normal 30% ad-valorem importation tax is not applied. Prepared fertilizers and raw material are given the same consideration. Except for raw materials imported in their elemental forms, all fertilizers and raw materials are classified with NAUCA tariff numbers beginning with 561 eg., Ammonium Sulphate 561-01-00.

The Central American agreement on fiscal incentives for Industrial Development, signed July 31, 1962 in San José, Costa Rica provides for the duty-free importation of machinery that will be used for the fabrication of fertilizers, pesticides and other products to be used in agriculture. Two firms, FERTICA and QUIÑONEZ HNOS., have applied for and received tax-free status under the framework of the Central American Agreement.

FERTICA has a physical mixing plant for compound fertilizers in Acajutla whose total productive capacity is 120,000 M.T. per year. Presently, approximately 100,000 M.T. per year is being produced. FERTICA's Ammonium Sulphate plant, expected to have a full production capacity of 150,000 M.T., is under construction in Acajutla. Production test runs will be carried out at the end of the year and it is hoped the plant will be fully operative by April of 1976. The principal raw materials to be used in Ammonia Sulphate production will be sulfuric acid and ammonia. The sulfuric acid will be produced domestically at two plants. Expected production is 500 M.T. per day, one half the expected production for Central America for 1976.

QUIÑONEZ HNOS., set up mixing plants in La Unión and Acajutla where they produce physical mix fertilizers. The tax free privilege for both enterprises expires in March of 1979.

B. PESTICIDES, INSECTICIDES, HERBICIDES, FUNGICIDES

1. Sources

The principal sources of pesticides for El Salvadorean Agriculture are agrichemical producers located in Europe, the U.S. and Central America. Almost 100% of the pesticides used in El Salvador originate from these three geographical areas. The same can be said for the raw materials that are imported by domestic elaborators.

Established pesticide producers generally seek exclusive trade agreements with major buyers and vice-versa. Product research aims at development of pesticides specific to pest, weed, climate, crop, temperature, etc.

Brand names are much more important in product recognition by the client, especially in the case of farmers of limited education who may not know if the chemical is an insecticide or fungicide but do know that X brand will take care of their problem. It is common practice for an established importer-wholesaler to exclusively represent more than one producer of pesticides. All pesticide wholesalers interviewed as part of the study reported having exclusive trade agreement with at least one major producer.

The following tables demonstrate where El Salvadorean wholesalers obtained pesticides during 1974.

Table 11

COUNTRIES SUPPLYING INSECTICIDES FOR EL SALVADOR in 1974

LIQUID FORMULA INSECTICIDES Liters	COUNTRY	DRY FORMULA INSECTICIDES Kilograms
2,689,877	Germany	43,020
1,883,084	Nicaragua	159,986
811,645	Guatemala	1,962,344
700,092	Colombia	113,455
580,064	U. S. A.	1,286,978
419,164	Costa Rica	632,984
16,409	Denmark	---
10,147	Holland	27,080
8,981	France	---
8,925	England	---
2,050	Japan	---
--	Switzerland	111,948
--	Israel	35,000

Source: Depto. de Defensa Agropecuaria

Table 12

GOUNTRIES SUPPLYING HERBICIDE FOR EL SALVADOR
in 1974

LIQUID FORMULA HERBICIDES Liters	COUNTRY	DRY FORMULA HERBICIDES Kilograms
178,269	Guatemala	---
153,596	U. S. A.	57,452
151,049	Germany	42,125
100,000	Nicaragua	2,200
19,058	Austria	---
7,652	England	4,330
379	Costa Rica	---
---	Switzerland	21,605

SOURCE: Depto. de Defensa Agropecuaria

Table 13

COUNTRIES SUPPLYING FUNGICIDES FOR EL SALVADOR
in 1974

COUNTRY	VOLUME IN KILOGRAMS
U. S. A.	34,111
Guatemala	16,551
Costa Rica	14,355
Perú	13,000
Holland	12,625
Germany	12,400

SOURCE: Depto. de Defensa Agropecuaria

2. Ordering

As with most fertilizer purchases, pesticide orders must be placed well in advance, with most importers calculating a minimal lead-time of 60-90 days. Major orders of pesticides cannot be placed "at the last minute". Volumes of pesticide purchases are not sufficiently large to warrant chartering a boat and shipment by air is too expensive. Consequently, importer-wholesalers must be astute in anticipating their needs.

3. Financing

Letters of credit are used by the major El Salvadorean importers in securing their products. The time period tends to be shorter, 60-180 days, than with the letters of credit used in fertilizer purchases. Interest charges vary according to the money markets and the degree of exclusivity developed between producer and importer. Credit insurance is not as common as with fertilizers, again due to the nature of exclusivity.

4. Transport

As mentioned earlier, transport is a critical factor. For shipments, originating outside of Central America ocean going vessels are the most economical means of transport.

Most shipments of pesticides produced in the U.S. originate from East Coast ports and off-load in Puerto Barrios, Guatemala. The same holds for shipment of European produced pesticides. From Puerto Barrios merchandise is brought to San Salvador by train or trailer truck. On the negative side, shipments can get tied up in Guatemala due to legal requirements related to clearing in-transit merchandise. On the positive side, once on its way a shipment crosses the border quickly and is brought directly to San Salvador thereby making the processes of clearing customs and warehousing more efficient and economical for the importer.

In response to the problems presented by transportation, producers have made increasing investments in regional production plants and El Salvadorean importer-wholesalers have redirected their purchasing strategies, buying more from CACM countries.

Table 14

PERCENTAGE OF TOTAL VOLUME OF PESTICIDES SUPPLIED TO EL SALVADOR BY CACM BASED PRODUCERS - 1974

PRODUCT	GUATEMALA	NICARAGUA	COSTA RICA	TOTAL
Dry Insecticide	44.9	3.7	14.5	63.1
Liquid Insecticide	11.4	26.4	5.9	43.7
Dry Herbicide	--	1.7	--	1.7
Liquid Herbicide	29.2	16.4	0.06	45.7
Fungicide	16.1	--	13.9	30.0

SOURCE: Depto. de Defensa Agropecuaria

5. Documentation and Duties

The process of clearing a pesticide importation through customs is almost identical to that of fertilizer except for the calculation of importation duty paid to the Ministry of Hacienda.

All importers must possess an importer's license (Matrícula de Comercio). All sales documents must be reviewed by the Agricultural Defense Department (DDA) whose approval is contingent upon proper registration of all products being imported. It is not uncommon for DDA to request a product sample for analysis. The remaining steps taken to clear an importation through customs, completing the Custom's House Permit, registry of the importation in the Ministry of Economy and payment of tariffs in the Ministry of Hacienda, are carried out by the customs broker contracted by the importer.

As mentioned earlier, a 5% ad-valorem importation duty is assessed for all fertilizer importations. With pesticides, the percentage varies between 5-13%.

C. SEED

The major source of certified basic grains seed is the private sector of El Salvador working with the seed certification program of CENTA. As shown in Tables 5, 6, and 7, seed production and certification have shown marked increases annually. It is the writer's

judgement that if CENTA and private producers can maintain continuing good working relationships over the next five years, the national seed production goals will be met and the country will become a net exporter of seed.

The principal source of imported seed is Nicaragua, where PIONEER corn seed is produced. The value of these importations in the traditional agriculture sector is very limited, however, as small farmers are more familiar with the H-3 and H-5 hybrid corn varieties. Small farmers interviewed referred not only to the varietal name but also to the tradename of the domestic producer of hybrid corn seed. In that respect, the hybrid seed marketing system is functioning very well.

Importation of hybrid corn seed is regulated due to two factors. The first is obvious; to protect the domestic producers. The second reason is that El Salvador is a focal point for stunting disease (achaparramiento). The domestically produced H-3, H-5, H-101 and M-1 varieties show good resistance to stunting. Seeds of varieties produced externally may not possess genetic resistance.

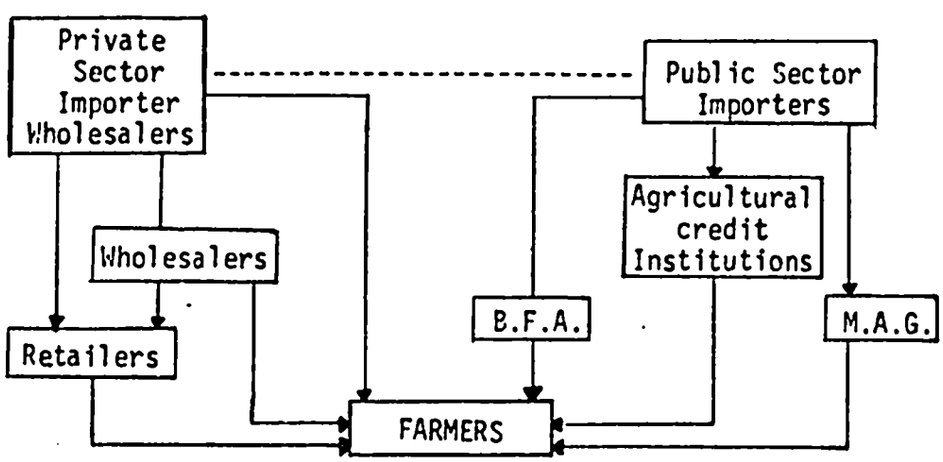
The exportation of seeds is referred to in the Operative Plans of 1974 and 1975. CENTA and the General Direction of Economy and Planning, working together, have the authority to establish exportation quotas based on economic studies of internal necessities. The issue of exportation of seed is highly political with seed producers anxious to export as much as possible to obtain foreign exchange. The internal price for hybrid corn seed (corn is the major exported seed) has been increasing annually, therefore the domestic market alternative is becoming more attractive. As with fertilizers, exact figures on exportation of certified seed were not available.

SECTION V: STRUCTURE OF THE AGRICULTURE INPUT MARKETING SYSTEM

A. MARKETING NETWORKS

1. Fertilizers

Diagram 1 - Fertilizer Marketing Network Diagram



The marketing system for fertilizers begins with importation, carried out by private sector importer-wholesalers (principally six enterprises) and public sector importers, the most important being the Banco de Fomento Agropecuario. The broken line depicting movement of fertilizers from private to public sectors represents the private sector supplying the public sector through licitation. The last operation of this sort was carried out in March, 1975. Future procurement of fertilizer by the public sector through this procedure is not anticipated.

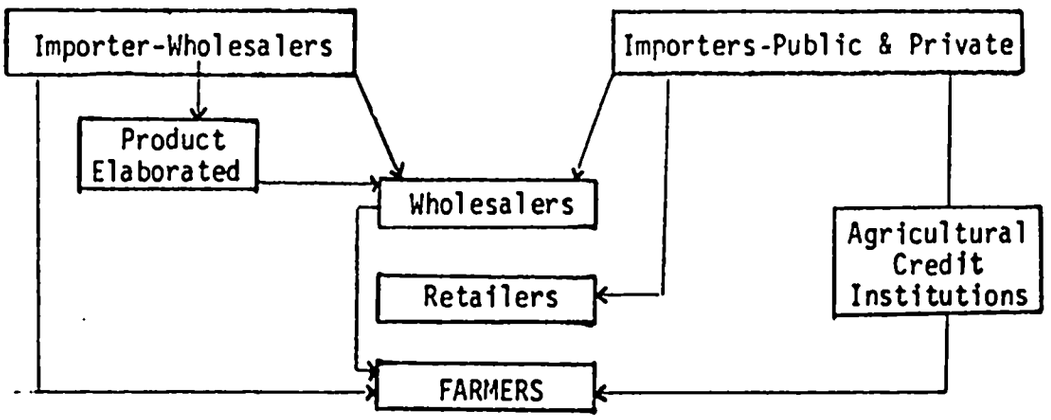
Importer-wholesalers may sell directly to retail distributors or other wholesalers. The latter case is not common, however, being used principally to obtain cheaper fertilizer without breaking exclusivity agreements. The line from importer-whole-

salers to farmers represents the movement of major quantities of fertilizers directly to large commercial farmers.

The public sector is just beginning to carry out major importations of fertilizers. The principal importer is the Banco de Fomento Agropecuario (BFA). Movement of fertilizer is to 35 BFA regional warehouses where it is picked up by individual or group loan recipients on the basis of ordenes de entrega (delivery orders). In the case of the FAO donation, some extension agencies of CENTA are serving as warehouse and delivery points.

2. Pesticides

Diagram 2 - Pesticide Marketing Network Diagram



Major importer-wholesalers have two alternative sources of supplies:

1. Direct importation in the concentrated form of the active product ingredients which are subsequently elaborated (diluted and containerized) into consumer units; or

2. Direct importation of finished consumer units.

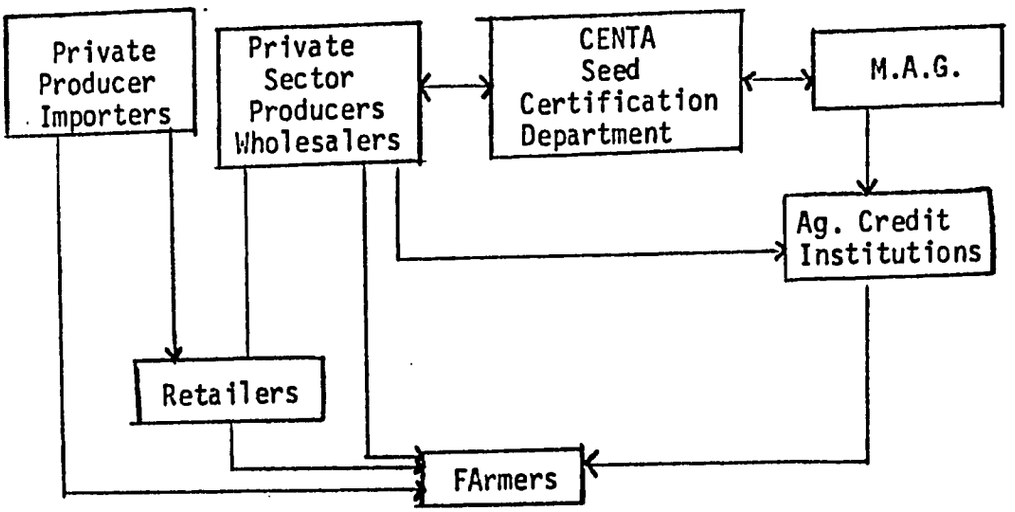
The direct importation of concentrated ingredients enjoys a tariff advantage since they are classified as raw materials.

Beyond the importation or importation-elaboration stages, products may move through or skip any stage in the wholesaler/retailer/farmer chain depending on the volume of the transaction.

The public sector is barely active in the pesticide marketing system, its first efforts being at distribution of insecticides for coffee and cotton. The B.F.A., the institution distributing the aforementioned insecticides, is moving cautiously due to the competiveness of the market.

3. Seeds

Diagram 3 - Certified Seed Marketing Network Diagram



Certified seeds are produced by both MAG and the private sector. The Seed Certification Department of CENTA enforces strict quality control.

Producer-wholesalers can move their seed directly to farmers, to retailers or to agricultural credit institutions. These institutions cover their needs directly from MAG and do not look to the private sector as a source until MAG supplies are exhausted.

Producer-importers basically have two options, direct sale to farmers or distribution through retailers. Direct sale to farmers is preferred.

The certified seed marketing system is the least competitive of the three agricultural input marketing subsectors. Only four marketing enterprises compete for the farmer's patronage.

B. IMPORTER - WHOLESALERS

1. Fertilizers

a) Private Sector

Traditionally, the private sector has been the most active participant in the fertilizer market system at the importation-wholesale level, maintaining control over 80-90% of the fertilizers distributed. At this level seven major firms dominate the market system.

Table 15

FERTILIZER IMPORTATION BY PRIVATE SECTOR IMPORTER-WHOLESALER
1974 and 1975 (January-July)

Importer-Wholesaler	Metric Tons			
	1974		1975	
	Simple Fertilizer	Compound Fertilizer	Simple Fertilizer	Compound Fertilizer
FERTICA	116,569.6	34,382.4	64,631.8	21,019.0
SERTESA	10,434.0	13,944.0	9,158.0	11,706.7
SAGRISA	20,500.0	8,984.4	16,039.3	11,000.0
CRISTIANI BURKARD	17,138.4	7,473.8	45	5,102.1
COMISA	9,793.0	8,960.3	-	2,495.0
QUIÑONEZ HNS.	21,217.2	13.957.3	4,809.8	3,123.2
MOORE COMMERCIAL	18,400.0	3,800.0	4,030.0	1,035.0

SOURCE: Departamento de Defensa Agropecuaria

FERTICA: (Fertilizantes de Centro América, S. A.).

FERTICA is the major enterprise participating in the El Salvadorean fertilizer marketing system. It is affiliated with Guanos y Fertilizantes de México and is controlled by the Government of México, who bought both enterprises from ESSO. It has recently been offered for sale to the five Central American republics.

Among related assets FERTICA controls a physical mix plant in operation in Acajutla, an ammonium sulphate plant in Acajutla under construction, a sacking plant, warehouses and a distribution system including over 100 outlets.

FERTICA obtains 18-46-0 and superphosphate from the U.S., ammonium nitrate from its Costa Rican affiliate, urea from the parent company in México and ammonium sulphate from wherever it can get the best price. From these products, compound fertilizers specific to the country's needs are mixed.

FERTICA is the best known and the most established fertilizer enterprise in the country. Its distribution system is extensive. Regional agents providing administrative and technical supervision. Historically, FERTICA has provided 90 day credit, interest free to retailers. Also, it has rebated distributors 1% of the sales price for direct sales of FERTICA products in major quantities. Due to falling prices this year and the high losses expected, both these policies have been curtailed.

SERTESA: (Servicio Técnico Agrícola Industrial, S. A.)

SERTESA is commonly considered the second largest seller of fertilizers in El Salvador, although the data in Table 15 does not show this. In 1974, SERTESA drew down on its inventory in the face of rising world fertilizers prices. However, during the first seven months of 1975, it has almost equaled its 1974 importation.

The strength of SERTESA lies in its organization and technical assistance program, principally the later. The General Manager and founder, Dr. Gabriel Montenegro, is a soils chemist. He maintains a laboratory capable of rapidly making both soil and foliar analysis. Eight agronomist/salesmen provide on-the-farm technical assistance. A wide variety of compound fertilizers is maintained on stock in an effort to meet as closely as possible, the exact needs of the soil to be fertilized.

SERTESA maintains sacking plants and warehouses in Cutuco and Acajutla. Plans to invest in a physical mixing plant were dropped recently. In light of the increasing intervention of the B.F.A., Dr. Montenegro's view of the future of the fertilizer business is pessimistic.

It was estimated that 60% of SERTESA's fertilizer sales go to cotton, 20% to coffee and 20% to sugar and basic grains. SERTESA works with 22 retail outlets and has five central distribution centers. Supplier's credit to retailers is in the form of 90 day rotating credits. Dr. Montenegro estimates that of his fertilizer distributed through retailers 90% goes to the basic grains farmers.

SAGRISA: (Servicio Agrícola Salvadoreño, S. A.)

The present owner Manager of SAGRISA has been with the company for seven years. During this period, SAGRISA, has grown significantly. Total sales for 1974 were approximately ¢19,000.000 and gross sales for the present year are expected to be ¢22,000.000.

The principal source of fertilizer for SAGRISA is Holland due to an agreement it has with Dutch producers who have extended a substantial line of credit. In late July, 1975 SAGRISA, due to lower prices, carried out its first importation of U.S. produced fertilizer.

Fertilizers enter through Acajutla where SAGRISA maintains a sacking plant and warehouse. The productive capacity of the sacking plant is about 750 metric tons per day. Transport is by contracted truck direct to the farm or SAGRISA's central warehouses. (See Annex G). SAGRISA does no mixing or other elaboration of fertilizers. To better cover the market of San Miguel, a reciprocal trade agreement has been worked out with SERTESA.

SAGRISA works with 12-15 distributors and would like to reduce this number. Estimated percentage of direct sales is 95%. To larger clients and distributors supplier's credit is provided at 12% annual interest. The company has one agronomist/salesman who provides technical assistance to coffee, cotton and sugar producers, three veterinarian/salesmen and two pesticides-agricultural machinery salesmen as well as the sales Manager and Manager working in sales and technical assistance.

SAGRISA also distributes Pioneer Seed, insecticides, herbicides, fungicides, irrigation systems, and farm machinery. Quantities are limited and sales are almost totally to commercial farmers.

CRISTIANI BURKARD

Although considered a leading importer-wholesaler of fertilizers, CRISTIANI BURKARD's investments in fertilizer distribution are minimal, ending with central warehouses. Sacking is done for Cristiani Burkard by SAGRISA (See Annex for breakdown of sacking costs paid by CRISTIANI BURKARD). Although they own trucks, transport is generally contracted. Two agronomists are responsible for making technical recommendations based on analysis of soils. They also serve as salesmen. A breakdown of sales is estimated at 50% direct and 50% through distribution. 50% of fertilizers

imported are intended for cotton, 30% for coffee, 10% for sugar, and 10% for basic grains. Supplier's credit is offered only to the most prized direct clients and 30 day interest free rotating credit is offered to the best distributors.

CRISTIANI BURKARD is the exclusive representative of RUHR STICKSTOFF in Germany. So long as U.S. and European source CIF prices are about equal, this agreement is advantageous because of the liberal credits which RUHR STICKSTOFF extends. Presently, however, with U.S. produced fertilizer, particularly nitrogenated fertilizers, significantly cheaper than European ones, CRISTIANI BURKARD is hard pressed to maintain its position. Consequently, they are looking at the future pessimistically and openly talking about switching to other lines of business.

COMISA: (Compañía Mercantil Intercontinental, S. A.)

This fertilizer importer-wholesaler was not interviewed due to its limited activity. During 1974 and 1975, it has imported some fertilizer, exclusively from Europe. The majority of its fertilizers are distributed to commercial farmers (coffee).

QUIÑONEZ HERMANOS, S. A.

QUIÑONEZ HERMANOS is a locally owned integrated agricultural input importer-formulator-wholesaler-retailer. With respect to fertilizers, it resembles FERTICA although it is much smaller.

Quiñonez obtains its fertilizers exclusively from the U.S. Compound fertilizers are purchased from OLIN MATHIESON, a US producer Quiñonez represents exclusively. Fertilizers can be received, in either Acajutla or La Unión. Physical mixing plants, sacking plants, and warehouses of the company are located in both ports.

Presently, Quiñonez works with 32 distributors, down from 60 in 1972, through which 35% of its fertilizer sales are channeled. Eight wholly owned outlets are spread around the country, in San Miguel, Usulután, Zacatecoluca, San Salvador, Santa Ana, Santa Tecla, Sonsonate, and Metapán, as well as four regional offices in Santa Ana, San Miguel, Sonsonate, and Zapotitán. The Zapotitán regional office specializes in meeting the needs of the small scale farmer. Four agronomists provide technical assistance, respond to customer complaints, and sell to large farmers.

Interest free 30-90 day suppliers credit is provided to distributors using letters of agreement (cartas de convenio) as legal guarantees. These credits are handled on a rotating basis. Every fifteen days a Quiñonez representative will review the inventory and collect payment

for that which has been sold. Orders to replenish the inventory are taken simultaneously. Quiñonez is strongly discouraging retail sales of fertilizers on credit. Furthermore, they will not accept the return of unsold consignments, and they will not work with new distributors except on a cash basis. Both these policies have been developed as a reaction to price changes of fertilizers.

Quiñonez also sells a full line of herbicides, insecticides, fungicides, agricultural machinery and seeds. They are formulators of pesticides as well as importers. Expected total gross sales for 1975 are ¢25 million.

MOORE COMERCIAL:

MOORE is a major fertilizer importer-wholesaler that is not interested in the cotton market. 40% of its fertilizers sales are direct sales and 60% are to distributors.

It is estimated that 75% of the fertilizer sold through distributors is used by basic grains producers. Gross sales for the Agricultural Department of MOORE COMERCIAL have grown from ¢12,500.000 in 1972 to ¢15,000,000 in 1973 to ¢21,250,000 in 1974.

The main source of MOORE's fertilizer is Germany; only one small importation originated from another source. MOORE has no sacking facilities in either ports. MOORE imports small amounts of compound fertilizers this is compensated for by marketing FERTICA produced compound fertilizers. During 1974, MOORE marketed approximately 12,000 M.T. of FERTICA fertilizers.

Distribution is handled through 70 retail outlets, none wholly owned. The majority are in the northern zone of the country. Supplier's credit for 30-90 days is provided at no interest. Prior to 1975, technical assistance was provided to distributors through several agronomists. This has been cut back to one due to an internal policy change of MOORE.

MOORE COMERCIAL does not see a future in continuing its operation with heavy emphasis in fertilizers. Therefore, it is re-allocating its resources to be more competitive in the agricultural chemicals and equipment markets. Moore markets a complete line of agricultural inputs, including veterinary products. With reduced participation in the fertilizer market, a new line of speciality agricultural chemicals will be opened up, i.e., systemic insecticides, growth regulators, etc. In short, MOORE feels very direct pressure from the growing activity of the B.F.A. in the fertilizer market for basic grains producers.

b) Public Sector

The role of the public sector in the importation and distribution of fertilizers has undergone dynamic changes over the past year as indicated in the following table.

Table 16

IMPORTATIONS OF FERTILIZERS BY PUBLIC SECTOR INTITUTIONS
1974 and 1975 - (January-July)

Metric Tons

Institution	1974		1975	
	Simple Fertilizers	Compound Fertilizers	Simple Fertilizers	Compound Fertilizers
Cooperativa Salvadoreña Algodonera	12,393.5	-	15,311.7	-
Banco de Fomento Agropecuario	4,000.0*	-	16,363.5	14,603.0**
FEDECACES	-	-	500.0	-

SOURCE: Departamento de Defensa Agropecuaria

* Importation carried out jointly with MOORE COMERCIAL
** Including FAO donation

As mentioned earlier, the Operative Plans for 1974 and 1975 specifically encourage the public sector to carry out direct importation. The B.F.A., as shown above, has been very active and its participation is having profound effects on the marketing system.

BANCO DE FOMENTO AGROPECUARIO - B.F.A.

Fertilizer importation and distribution is carried out by the B.F.A.'s Department of Agricultural Provision. The Department was started in 1973. Its growth has been rapid not only in terms of the volume of imports, but also in numbers of employees (47) and distribution points (35). In terms of percentages, the Department of Agricultural Provision is growing at the rates

of 30% per year, expecting to maintain this rate of growth over the next two years.

Bagged fertilizers are included in the Bank's Economic and Social Development Division production credit loans to small and medium sized farmers. The B.F.A. reported that presently it has credits for 60,000 manzanas out under this portfolio, 80% of which is planted to basic grains.

The direct importation system used by BFA is exactly the same as that followed by private sector importers although the 5% ad-valorem duty is waived. The Department of Agricultural Provision ha no facilities for handling, bagging and storing in either major port. The Interamerican Development Bank (IDB) is studying a $2 million loan to finance fertilizer handling facilities for the Bank. Bagging is presently being contracted out to the private sector as is transport. All warehouses are rented. All fertilizers imported directly by the BFA to date have come from the US or Holland.

In June of this year, the BFA received 4,000 M.T. donation of 20-20-0 from FAO. At the same time, FAO provided a reported $2 million for further purchases. According to statistics provided by the Department of Agricultural Defense, the BFA with collaboration from FAO imported 13,263.5 metric tons of fertilizer valued at $3,036,990 plus the aforementioned donation in June,

COOPERATIVA ALGODONERA SALVADOREÑA

This cooperative of large cotton growers has made major direct importations of fertilizers during 1974 and 1975. Their only source of fertilizer has been the US. In all cases, importations were of ammonium sulphate. This year, however, the cooperative made only one large purchase, whereas in 1974 three separate importations were carried out.

FEDECACES

FEDECACES is a federation of Savings and Loan Cooperatives which includes among its membership approximately 3,000 farmers the majority of whom are basic grains producers. In March of this year, FEDECACES imported 500M.T. of ammonium sulphate directly from the U.S. Then the world price of fertilizer dropped substantially and FEDECACES was left holding expensive fertilizer.

This case is interesting to study. FEDECACES has limited financial capability with which to respond to member co-operatives needs. In times of low priced fertilizer or stable world fertilizer prices, the Federation is under no pressure to meet into members' fertilizer needs. When the prices for fertilizer are high, however, members look to the parent organization for assistance. In that FEDECACES fertilizer needs can be met in one small direct importation per year, risks are high as there is no second chance to recuperate losses. FEDECACES direct importation could have been successful only if prices had continued to climb after the fertilizer had been purchased from the producer.

c) Estimated Wholesaler Mark-ups for Fertilizer

Calculation of per sack wholesale price for fertilizer originally imported in loose form placed in San Salvador is estimated as follows:

Metric Ton price divided by ten.

E.G. Metric ton price of ammonium sulphate for May 1975 was approximately $121.00

$121.00 ÷ 10 sacks/M.T. x ¢2.515/dollar - the exchange rate used by fertilizer importer ¢30.43

Port Charges - In that many factors can affect this cost, an estimation is used. (See Annex F).

$7.50 - $8.00/Metric Ton - using $8.00/M.T.

$8.00 ÷ 10 sacks/M.T. x ¢2.50/dollar ¢ 2.00

Importation Duty

5% ad-valorem - Value CIF
Value of 100 kilograms of fertilizer = ¢30.43 ¢ 1.52

Sacking Costs - (See Annex H)

Sack	¢1.95	
Liner	0.30	
Labor and storage	1.25	¢ 3.50

Customs Broker Fees, estimated at ¢0.05/sack	
Customs House Fees, (Conocimiento de Embarque) estimated at ¢0.02/sack	¢ 0.07
Transport to San Salvador - (See Annex G) calculated at ¢1.14/sack	1.14
SUB-TOTAL	¢38.66
1% Sales Tax - 1% of ¢38.66	.39
	¢39.05
Wholesaler Marketing Margin - calculated at 8%	3.12
Sales Price to Direct Clients	¢42.17
Sales Price to Retailers less 1.07/sack	41.10

Assumptions made for this analysis:

1. That the El Salvadorean bank handling the letter of credit for the importer requires that the purchase of dollar be carried out at the exchange rate of ¢2.515 per dollar.

2. That the boat is unloaded at the rate of 800 Metric Tons of fertilizer per day, the standard rate used for writing contracts for dock crews in Acajutla. Therefore, there is no dispatch money rebate nor demurrage charges for the importer.

Table 17

IMPORTATIONS OF INSECTICIDES BY PRIVATE SECTOR IMPORTER-WHOLESALER - 1974 AND 1975 (January-July).

Importer - Wholesaler	1974		1975	
	Liquid Insecticides	Dry Insecticides	Liquid Insecticides	Dry Insecticides
	Liters	Kilograms	Liters	kilograms
Quiñonez Hermanos	232,289	15,876	18,779	90,720
Moore Comercial	61,860	523,187	618	185,382
Avelar Hnos.	31,532	53,838	-	9,086
Bayer de E. Salv.	1,657,305	140,266	388,284	465,738
Químicas Unidas Bayer	6,000	1,829,076	300	1,019,220
Monsanto	1,464,840	293,602	56,805	77,832
Pro-Agro	1, 354,612	966,961	287,019	75,211

SOURCE: Departamento de Defensa Agropecuaria.

Table 17 lists the major importers of insecticides for El Salvadorean agriculture. QUIÑONEZ HERMANOS, MOORE COMERCIAL, AVELAR HERMANOS, and BAYER QUIMICAS UNIDAS were the firms judged as relevant to the objectives of the study. BAYER DE EL SALVADOR, MONSANTO, and PRO-AGRO import raw materials and fabricate parathion and toxaphen insecticides used predominately in commercial agriculture.

Table 18

IMPORTATIONS OF HERBICIDES BY PRIVATE SECTOR IMPORTER-WHOLESALER - 1974 and 1975 (January-July)

Importer-Wholesaler	1974		1975	
	Liquid Herbicides	Dry Herbicides	Liquid Herbicides	Dry Herbicides
	Liters	kilograms	liters	kilograms
Quiñonez Hnos.	48,221	13,072	85,336	5,000
Moore Comerical	159,701	1,830	99,988	-
Avelar Hnos.	84,557	26,624	66,016	30,520
Bayer de E.Sal.	148,500	-	-	-
Quim. Unid. Bayer	124,000	40.625	126,095	-
Monsanto	15,140	18,039	15,140	24,639

SOURCE: Departamento de Defensa Agropecuaria

Here again, the importer-wholesalers of interest to this study are: QUIÑONEZ HERMANOS, MOORE COMERCIAL, AVELAR HERMANOS, and BAYER QUIMICAS UNIDAS.

Table 19

IMPORTATIONS OF FUNGICIDES BY PRIVATE SECTOR
IMPORTER-WHOLESALER - 1974 AND 1975 (January-July)

Importer-Wholesaler	FUNGICIDES		
	1974	1975	
Quiñonez Hnos.	2,268 kgs	-	-
Moore Comercial	18,855 "	4,000 kgs	12,614 lts
Avelar Hnos.	31,843 "	12,000 "	-
QUIMICAS UNIDAS-BAYER	33,526 "	22,506 "	4,000 "
FERTICA	10,000 "	4,000 "	-
PRO-AGRO		9,308 "	2,244 "

SOURCE: Departamento de Defensa Agropecuaria

The major firms importing and distributing fungicides to small farmers are: QUIÑONEZ HERMANOS, MOORE COMERCIAL, AVELAR HERMANOS, and QUIMICAS UNIDAS BAYER.

QUIÑONEZ HERMANOS

As discussed earlier, QUIÑONEZ HERMANOS, is an importer, wholesaler, formulator, wholesaler, and retailer of a complete line of agricultural inputs.

The primary source of insecticides for QUIÑONEZ is the ORTHO CHEMICAL of California's plant in Costa Rica. Products enter the country by land and are stored in La Unión or San Salvador. Insecticides for coffee and cotton predominate. The major insecticides imported are Malathion, Cygard, Cylan, Thimet, and Thimet Nemafos. Ninety percent of these products are sold directly without supplier's credit. Approximately ¢41,000.000 of sales come from insecticides.

Herbicides make up another ¢1,000.000 of sales. QUIÑONEZ HERMANOS are representatives for CIBA-GEIGY (Switzerland), FISONS LTDA., (England) and CHEMIE LINZ AG., (Austria). Principal herbicides imported are Atrazine-80, 2-4-D Amine, Cobex and Gesapax.

Also QUIÑONEZ HERMANOS maintains its own herbicide mixing laboratory located at Kilometer 23 of the Santa Ana highway. The processes carried out were reported as simple because only the last steps are carried out; for example, an adherent is mixed with 2-4-D. The advantage to making this investment is that raw materials are imported duty-free. Plans are well underway to formulate Gramoxone.

Fungicides are not given much emphasis by Quiñonez. Although they are included on the product lists, quantities in stock are very small.

The distribution system for pesticides is the same as that for fertilizers.

MOORE COMERCIAL

Like Quiñonez, MOORE offers a complete line of agricultural inputs. Its focus of interest, however, is clearly in pesticides given the highly competitive and chaotic nature of the fertilizer business.

MOORE prefers to work as the representative of well known brands of pesticides.

The major suppliers that MOORE represents are:

PRODUCER - SUPPLIER:	COUNTRY:	PRODUCT:
BASF AKT.	Germany	herbicides, fungicides
PLANT PROTECTION LTD.	England	herbicides
COOPER MCDOUGALL LTD.	England	fungicides
QUIMICA ORTHO	Costa Rica	insecticides, herbicides, fungicides.
UNION CARBIDE	U. S. A.	insecticides
QUIMICAS ATLAS DE C. A.	Nicaragua	herbicides, fungicides

QUIMICAS ORTHO and QUIMICAS ATLAS are critical to MOORE because of their location. Transport is dependent upon urgency and feasibility studies. Overland trucking is used in 95% of the cases. Letters of Credit for 60-180 days of duration are utilized.

As mentioned earlier, MOORE is reducing its dependency on fertilizers. This is due to their view of the agricultural input market system which follows:

MARKET:	LEADING SALVADOREAN ENTERPRISES:
Fertilizers	Fertica, Sertesa, B.F.A.
Insecticides for cotton	Bayer, Monsanto
Agricultural Equipment	Quiñonez, Moore
Herbicides	Moore, Avelar
Insecticides for other crops	Bayer, Monsanto, Moore
Fungicides	Bayer, Avelar, Moore
Seeds	Semillas S. A., Semillas del Litoral

Briefly, MOORE COMERCIAL wants to drop out of the fertilizer category, enter into the cotton insecticide market with specialized insecticides, growth regulators, etc., improve their position in the agricultural equipment market, further consolidate their role within herbicides, and increase their sales of insecticides and fungicides. Seeds and fertilizers will be kept on stock in limited quantities. The excess money freed up by moving out of fertilizers will be used in diversification activities.

Consequently, the technical assistance and service areas are being revamped. The number of distributors that MOORE work with, 70, will remain approximately the same, if possible. The crops of agronomist-salesmen is being increased to nine- two to work with retailers, two with all pesticides, four with herbicides and one with fertilizer. A new representation of herbicides will be taken on.

AVELAR HERMANOS

Avelar, Hnos. is a young company, 12 years in operation, that began as a representative of U.S. pesticide exporters, specializing in herbicides and spraying. Presently, the firm represents (in order of importance) DUPONT, DOW CHEMICAL INTERNATIONAL, CIBA-GEIGY and STAUFFER. Also, AVELAR HNOS., is a certified seed producer, being one of the four principles of SEMILLAS, S. A.

Distribution is run through twenty retail outlets. Approximately, 25% of total sales are direct, the remainder through distributors. With respect to pesticides, direct sales are much higher due to the spraying service

that Avelar operates. Retail distributors are given 30-90 days of interest free suppliers credit.

Technical assistance is provided through five agronomist-salesmen assigned regionally, 4 experienced field workers who make up the spraying crews and an agronomist who serves as head salesman in the San Salvador central distributorship.

Avelar sold 1500 back-pack sprayers in 1974. It also maintains a small metal shop which fabricates spraying booms that are attachable to a back-pack sprayer. A sprayer with boom sells for ¢125.00. A farmer is capable of covering 2 manzanas with this equipment rather than the normal half manzana per day.

The gerente reported that his mark-ups were 25% of sales price.

BAYER - QUIMICAS UNIDAS BAYER

The role of BAYER in the pesticide marketing system is major, throughout all of Central America. It offers the most complete line of products and reaches all levels of agricultural production. Clearly, BAYER is the most important participant in the pesticide marketing system.

Two distinct enterprises make up BAYER in El Salvador. BAYER DE EL SALVADOR is an importer of raw materials used to elaborate insecticides which are used principally in the export-farming sector. From its laboratories come a high percentage of the products that are marketed by QUIMICAS UNIDAS BAYER.

QUIMICAS UNIDAS BAYER also carries out direct importation, but only of finished products. It works with approximately 100 retail distributors through which 70% of its products are sold. 30-90 day interest free suppliers credit is provided with a flexible guarantee policy. In most cases, the product is accepted as collateral; therefore the agreement is basically one of consignment. Twelve agronomists, working by region, provide technical assistance.

The two principal sources of the products that QUIMICAS UNIDAS BAYER imports are BAYER-GUATEMALA and BAYER-GERMANY. During 1974, QUIMICAS UNIDAS BAYER imported the following quantities of products commonly used in basic grain production.

Aldrin 2.5%	526,176	Kilograms
Dipterex	134,782	Kilograms
Anthracol	19,551	Kilograms
Cupravit	5,550	Kilograms
Hedonal	86,625	Liters

b) Public Sector

The role of the public sector in the importation and wholesale distribution of pesticides, to date, has been insignificant. Prior to this year, the public sector had to rely totally on the private sector limiting its intervention in this area to control of use, product quality and importation. B.F.A. credit users and cooperative members either purchased their pesticides in retail outlets and were re-imbursed or received delivery orders from public sector institutions that were redeemable in designated agricultural supply stores.

The Ministry of Public Health (MSP) directly imported 100 M.T. of Baygon insecticide for its public health program during the months of March through July of the present year. Large commercial farmer-cooperatives, ie. Cooperativa Algodonera Salvadoreña, have imported paratheon insecticide in the past. Also, these, however, are the only two public sector institutions that have carried out direct importation since January 1974.

3. Certified Seed

Table 20

DOMESTIC PRODUCTION OF CERTIFIED HYBRID CORN SEED PRODUCERS
1970 - 1971 --- 1974 - 1975

PRODUCERS	AGRICULTURAL YEARS				
	Quintales				
	1970-71	1971-72	1972-73	1973-74	1974-75
Cristiani Hnos.	10.070	14.364	10.650	17.508	18.799
Borgonovo Hnos.	7.530	10.013	5.234	12.276	11.517
Contreras Castro Hnos.	6.500	7.122	5.319	3.763	7.008
Mario Silva	1.056	3.679	2.639	3.920	5.021
Avelar Hnos.	---	1.121	2.006	1.875	1.437
Ministerio Agricultura y Ganadería	1.557	1.253	2.478	1.859	1.172
Daniel Portillo V.	1.102	679	---	---	---
Portillo Barrientos	---	---	---	1.255	2.828
Carlos García Prieto	3.202	2.095	---	---	---
Comunal Salv.	---	---	---	---	1.360
Joaquín Molina	1.036	877	---	---	---
Ernesto Campos M.	1.087	---	---	---	---
La Cabaña, S. A.	2.025	---	---	---	---
Fundación Promotora de Cooperativas	1.849	2.799	955	---	---
J. Benedicto Morataya	1.700	---	---	---	---
Productores de Semillas	3.427	---	---	---	---

SOURCE: Seed Certification Department - CENTA

The leading producers for the present agricultural year are expected to be SEMILLAS, S.A., an association of four producers, Cristiani Hnos., Borgonovo Hnos., Ing. Mario Silva, and Avelar Hnos. Semillas del Litoral - shown as Portillo Barrientos in Table 20 above, Contreras Castro Hnos., and the Ministry of Agriculture and Livestock.

The Seed Certification Department of CENTA is the ultimate authority in the production of improved seeds. Laws specific to the production of seeds for each basic grain crop are available and are being revised. Only producers registered with CENTA may produce and market improved seed.

CENTA provides parent stock seed to the producer after inspecting the producer's production and processing facilities and approving the award of a producers license. The Seed Certification Department provides continuing technical assistance through eight agronomists. This corps of agronomists is being increased to eleven. After processing, the Seed Certification Department runs tests, for germination, moisture, foreign matter, etc. If the seed meets the established standards, which generally are similar or more stringent than U.S. standards, the seed is certified.

Wholesale distribution is carried out by the producers. They receive orders in February, March and April. Delivery is made within one month. Credit is seldom given, nor do producers accept returns. Consequently, orders are conservative with re-ordering common.

C. RETAILERS

1. Private Sector

The exact number of retail distributors in the country is not known. A list provided by MAG of retail farm stores operating during 1974 showed 152 outlets. However, in the area sampled, five stores not on the list were found while three on the list were out of business.

The recent history of the retail distribution business is dynamic. The impetus for rapid growth came from the Small Farmers Association, ABC (later BFA) credit in-kind program, begun in 1966. This credit program channeled agricultural inputs to small farmers through delivery orders redeemable at retail farm stores.

The majority of retail outlets are small business with gross sales between the ¢45 to 70,000 per year-range using 1972-73 prices. The nature of the business is seasonal. Most sales are made between April and August or May and September depending on the region. The smaller the volume of sales the greater the possibility that the business of retailing agricultural inputs will be mixed with a general store, furniture outlet, or other small business.

A survey was carried out of seventeen retail outlets in seven basic grains growing areas of the country. Sixteen of the stores were independently owned, one had been affiliated with FEDECACES. Twelve outlets reported that they had represented the ABC or BFA in their credit in-kind programs. Five store owners spoke positively of working with the BFA, two were negative, three responded more or less, and two gave no response. The main limiting factor in representing the B.F.A. was reported to be the securing of warehousing for large amounts of fertilizer, but for short periods of time. The commission received from the B.F.A. for handling its fertilizers was minimal (¢0.40 per 100 Kilograms of fertilizer average). Consequently, expenditures for obtaining more warehouse capability tended to eliminate profit. Only one retailer had carried out a direct importation and that was of backpack sprayers.

Using the average volumes arrived at in Table 21, calculations of estimated gross sales and profits are developed in Table 22. Gross profit ¢8,479 is 6.8% of gross sales. Gross profit derived from fertilizer sales amounts to 53.4% of total gross profit. Hybrid seeds provides another 13.2% of gross profit. Clearly, if the public sector were to totally take over the distribution of fertilizers and seeds, the average retail farm supply outlet, as depicted in Table 21, would be hard pressed to continue operations.

Table 21

AVERAGE VOLUME OF INPUTS SOLD BY SEVENTEEN RETAILERS IN 1974

PRODUCT	Nº of Responses	Total	Units	Parameters	Average Volume
Simple fertilizers	13	11,475	100 Kg. sacks	50 - 2000 sacks	833 sacks
Compound fertilizers	13	12,860	100 Kg. sacks	200 - 2600 sacks	989 sacks
Liquid insecticides	2	200	Gallons	150 - 250 gal.	200 gallons
Dry insecticides	13	1,378	Quintals	1 - 350 qq.	106 qq.
Liquid Herbicides	9	2,130	Gallons	10 - 1000 gals	237 gallons
Fungicides	8	1,232	Kilograms	10 - 600 Kgs.	154 kgs.
Hybrid Corn Seed	13	3,025	Quintals	15 - 1500 qq.	232 qq.
Back-pack sprayers	6	135	Sprayers	4 - 75 sprayers	22 sprayers

Table 22

ESTIMATION OF GROSS PROFIT OF MODEL RETAIL AGRICULTURAL FARM SUPPLY OUTLET
USING PRICES AND MARK-UPS FOR JULY, 1975

INPUT	REFERENCE PRODUCT	AVERAGE VOLUME (See Table 21)	ESTIMATED GROSS MARK-UP (See Table 30)	ESTIMATED WHOLESALE PRICE July 1975	ESTIMATED GROSS SALES	ESTIMAT GROSS PR
Simple Fertilizer	Ammonium Sulphate	833 sacks	5.5%	¢ 36.00	¢ 31,637.	¢1649.0
Compound Fertilizer	20-20-0	989 sacks	5.5%	53.00	55,300.	2883.0
Liquid Insecticide	Folidol	200 gallons	15.2%	27.60	6,359.	839.0
Dry Insecticide	Aldrin 2.5%	106 quintals	15.2%	26.90	3,285.	433.0
Liquid Herbicide	Hedonal-72	237 gallons	15.2%	27.30	7,454.	983.0
Fungicides	Antharcol	154 kilograms	16.5%	8.85	1,588.	224.
Hybrid Corn Seed	H-3 & H-5	232 quintals	6.9%	70.00	1,736.	1121.
Back Pack Sprayers	---	22 sprayers	22.5%	70.00	1,887.	347.
				TOTAL	¢ 124,871	¢8479.

Gross Profit is 6.8% of Gross Sales.

The seasonal nature of demand and their limited financial capabilities make the ordering of products difficult and risky for retail outlets owners. As shown in Table 22, store owners tend to plan orders as a reaction to demand for products. Generally, the initial product order will be limited. When inventory decreases to a specific point, re-ordering will be carried out.

Table 23

METHODS USED BY RETAILERS FOR CALCULATING PRODUCT ORDERS FROM WHOLESALERS

METHOD	NUMBER OF RESPONSES
Inventory control	3
Observations of previous years	2
Guesswork	3
Surveys	2
Reaction to demand	10
Client requests	2
No answer	4

One month maximum lead time was reported necessary for programming orders of products.

The principal wholesale sources of agricultural inputs for the retail outlets interviewed are shown in the following Table.

Table 24

PRINCIPAL WHOLESALE SOURCES OF INPUTS FOR RETAIL OUTLETS

INPUTS	SOURCES (Number of responses in parenthesis)							
Simple Fertilizers	FERTICA	(13)	SERTESA	(2)	MOORE	(1)	C.BURKARD	(1)
Compound Fertilizers	FERTICA	(13)	SERTESA	(2)	MOORE	(1)	C.BURKARD	(1)
Insecticides	BAYER	(10)	MOORE	(4)	QUIÑONEZ	(1)	SHELL	(1)
Herbicides	BAYER	(10)	MOORE	(2)	QUIÑONEZ	(1)	SAGRISA	(1)
Fungicides	BAYER	(8)	AVELAR	(2)	FARRAR	(2)	QUIÑONEZ	(1)
Seeds	BORGONOVO	(8)	CRISTIANI	(4)	SILVA	(3)	AVELAR	(1)
Back-pack Sprayers	BAYER	(3)	AVELAR	(2)	MOORE	(1)	SAGRISA	(1)

Six retailers reported they had their own transportation, although only five noted that they preferred to transport the products themselves. Ten retailers definitely preferred to have the wholesalers take care of transportation.

Table 25

TRANSPORT OF PRODUCTS

1. Do you own and operate a truck as part of your retail operation?	YES	- 6	NO	- 11
2. Do you prefer to supply transportation?	YES	- 5	NO	- 12
3. If not, who do you prefer?	WHOLESALER	- 10	DEPENDS	- 2

The question has become much more critical with the present state of the fertilizer marketing system. When pressured, fertilizers wholesalers will take back fertilizer that their retailers cannot sell. However, they will not return the cost of transport if it has been included in the wholesale price.

Transportation charges were obtained and averaged for fertilizers. They are:

Table 26

AVERAGE TRANSPORTATION CHARGES PAID BY RETAILERS

San Salvador to retail outlets	¢1.37 per 100 kilos
Acajutla to retail outlet	¢1.96 per 100 kilos

The per 100 kilogram sack transportation sack has risen significantly over the past years due to gasoline and diesel increase and strict enforcement of the Highway Weights, Freight and Measures Law. Presently fertilizer transport trucks carry approximately 20 sacks of fertilizer less than before the enforcement of the Law.

Terms of payment requested by wholesalers from retailers vary according to the particular input.

Table 27

TERMS OF PAYMENT FOR FERTILIZERS

30 days without interest	9
60 days at 1% per month	1
Letters of Credit with interest	4
No answer	3
TOTAL	17

Table 28

TERMS OF PAYMENT FOR PESTICIDES

30 days without interest	10
Letter of agreement for up to 60 days	1
Letter of agreement for up to 90 days	1
Consignment	1
No answer	2
TOTAL	15

Table 29

TERMS OF PAYMENT FOR SEED

30 days without interest	7
60 days without interest	1
Consignment	1
Cash Payment	2
No answer	3
TOTAL	14

Table 30

TERMS OF PAYMENT FOR BACK-PACK SPRAYERS

Letter of agreement for up to 60 days	6
Letter of agreement for up to 90 days	1
60 days without interest	1
No answer	1
TOTAL	9

As can be seen in Tables 26-29, those inputs of greatest demand therefore the quickest to be turned over, seed and fertilizer, have the most conservative terms of credit.

Four stores enjoying 30 day interest free credit from their principal wholesale sources noted that periodic revisions of inventory were made or that they enjoyed rotating credit. Wholesaler to retailer credit terms were generally reported by the retailer to be less liberal than those which the wholesaler reported to us.

It was very difficult to get actual prices of products. Seemingly, the direct question of what do you charge for X was bothersome for retailers. Asking for the difference between purchase price from the wholesaler and the retail sales price the gross marketing margin or gross profit and later the wholesale price resulted in the following information on gross mark-ups.

Table 31

AVERAGE GROSS MARKETING MARGINS FOR INPUTS STUDIED

Fertilizers	4.5 - 5.5%
Insecticides	12.8 - 15.2%
Herbicides	10.1 - 11 %
Fungicides	15.3 - 16.5%
Seed	5.6 - 6.9%
Back-pack Sprayers	21 - 22.5%

These mark-ups are specific for July and August of this year. Decreasing fertilizer prices over 1975 have made the sale of fertilizer very competitive, hence it can be assumed that the mark-ups are probably a bit low with respect to a normal situation. Also, it was probably a bit late in the agricultural year to get an accurate reading of seed mark-ups due to the retailers necessity to sell at any price so as to liquidate inventory.

Retailer's policies on short term credit to clients are undergoing changes due principally to the chaos inherent throughout the entire input marketing system. Wholesale suppliers are demanding repayment for products. One wholesaler as noted earlier in this report is actively encouraging retailers to not offer credit. Retail suppliers credit will never be abandoned but, as shown below, conservative credit policies are presently in practice.

Table 32

Do you provide credit to clients for inputs?

Yes	5
Depends on the client	8
No	3
No answer	1

Table 33

For what period of time?

90 days	3
30 days	7
15 days	1
8 days	1
Until the harvest	1

Table 34

Do you charge interest on your credits?

Yes	1
No	11
No answer	1

Twelve stores responded positively and four negatively to inquiries on provision of technical assistance. Verbal explanation of product mark-up and application recommendations, given in the retail outlet, was the predominate form of technical assistance.

Table 35

FORMS OF TECHNICAL ASSISTANCE PROVIDED BY RETAILERS

Verbal explanations	8
Distributes bulletins, information sheets, etc.	5
Farm visits by retailer	4
Farm visits by wholesalers agronomist	3
Maintenance of demonstration plots	1

The retail input supplier may be playing as important a role in the provision of technical assistance as any other institution working in the agricultural sector. In the majority of cases, the client arrives at the outlet with the intent to resolve or prevent a problem and is willing to spend money to do so. As such, he is more willing to listen to recommendations. In that the store owner extracts some or all of his income from the business, it is assumed that it is in his interest to have concise knowledge of his products and the needs of his clients. Few other technical assistance activities take place in such a favorable environment.

Of the seventeen retailers interviewed, two were out of business, the reminder were in operation. Seven operations were retailers of agricultural inputs only. Ten handled other lines of goods as well as agricultural inputs. When asked for their opinion of the future, store owners gave the following answers:

Table 36

RETAIL SUPPLIERS EVALUATION OF THEIR FUTURE AS RETAIL INPUT SUPPLIERS

Good	3
Mediocre	7
Bad	5

In that our survey and interviews were carried out shortly after the BFA and MAG began selling fertilizers at the lowest price available on the retail market, many of the retailers interviewed expressed discontent or disgust toward public sector incursions into their local markets. This is to be expected. Evaluation of their short-run futures by retailers generally included some reference to the degree of public sector intervention that would prevail during 1976. Four owners judging their futures as bad were actively looking for new sources of income. They laid the blame for their bad fortunes on the public sector having undercut their position in the local market over the past six months. Of the retailers who foresaw mediocre futures, two were waiting to see what the BFA would do next year, preferring to look ahead fatalistically. Ironically, the public sector which through its directed credit programs was the principal stimulus in creating the demand for the services of independent retail farm supply stores, may now prove to be the major factor in its demise.

SECTION VI:

DEMAND FOR AGRICULTURAL INPUTS FROM THE SMALL FARM SECTOR
(For Basic Grains Production)

For the purposes of this section we have interpreted the Small Farm Sector to be composed of farms with less than two hectares of tillable land. Tables 37, 38 and 39 that follow show how the Small Farm Sector accounts for approximately 190,000 manzanas of production of corn, 35,000 manzanas of beans, 5,000 manzanas of rice, and 120,000 manzanas of sorghum.

TABLE 37

ESTIMATE:
TOTAL MANZANAS OF BASIC GRAINS PLANTED BY FARMERS WITH ACCESS TO LESS THAN 3 MANZANAS (2 HECTARES) OF TILLABLE LAND

CROP	TOTAL MANZANAS 2/	% OF TOTAL 1/ SMALL FARMERS	ESTIMATED MANZANAS SMALL FARMERS
Corn	287,270	65% +	190,000
Beans	64,440	50% +	35,000
Rice	13,600	35%	5,000
Sorghum	170,000	70%	120,000

Sources: 1/ From 1970-71 Agricultural Census Data
2/ From Anuario de Estadísticas Agropecuarias, MAG, 1973-74.

We assume that the present demand for cash inputs from this sector is about half of what it would be if there were no financial contraints (credit contraint). We also assume, based on our observations in areas where small farmers occupy first class land, that if there were no credit contraints, they would employ inputs at very close to the median level of current CENTA recommendations. This class of small farmer is counterbalanced by those who occupy near-marginal lands where the levels of use of inputs would likely be low even if the financial restraint were removed. We present three sets of demand schedules based entirely on basic grains production in the small farm sub-sector.

Level I : Is our best estimate of the present rates of use of hibred seed, fertilizers, insecticides, fungicides, and herbicides. Relatively high rates of use by small farms with access to Class I and II lands is counterbalanced by low rates of use among small farmers who occupy Class III and above lands.

Level II : Is the anticipated level of demand if production credit were universally available to small farmers.

Level III: Is the anticipated level of demand if small farmers who occupy Class I and II lands and the better types of Class III lands were to employ inputs at the highest rates currently recommended by CENTA.

TABLE 38

ESTIMATED PRESENT AND POTENTIAL USE OF FERTILIZERS, INSECTICIDES, FUNGICIDES AND HERBICIDES BY SMALL FARM SUBSECTOR

FERTILIZERS (Metric Tons)

Crop	Manzanas	Level I	Level II	Level III
Corn	190,000	14,250MT	28,500MT	57,000MT
Beans	35,000	1,800MT	3,500MT	4,300MT
Rice	5,000	1,000MT	1,500MT	2,000MT
Sorghum	120,000	---	---	6,000MT
Totals; Fertilizers		17,050MT	33,500MT	69,300MT

INSECTICIDES (Kilograms 50% active material)

Crop	Manzanas	Level I	Level II	Level III
Corn	190,000	190,000Kg.	285,000Kg.	380,000Kg.
Beans	35,000	35,000Kg.	70,000Kg.	105,000Kg.
Rice	5,000	10,000Kg.	10,000Kg.	10,000Kg.
Total Insecticides		235,000Kg.	365,000Kg.	495,000Kg.

FUNGICIDES (Kilograms 50% active material)

Crop	Manzanas	Level I	Level II	Level III
Beans	35,000	---	35,000Kg.	70,000Kg.

HERBICIDES

Crop	Manzanas	Level I	Level II	Level III
Rice	5,000	10,000 Lit.	15,000 Lit.	15,000 Lit.

SOURCE: Contractor's Estimates.

TABLE 39

ESTIMATED AVERAGE USE OF PURCHASED INPUTS/MANZANA

BASIC GRAINS, SMALL FARM SECTOR

CROP	INPUT	LEVEL I	LEVEL II	LEVEL III
CORN				
	Certified Seed lbs/Mzs. (Hibred)	10 lbs.	15 lbs.	20 lbs.
	Fertilizer Kilos/Mzs.	75 Kg.	150 Kg.	300 Kg.
	Insecticides Kilos/Mzs.	1 Kg.	1 1/2 Kg.	2 Kg.
BEANS				
	Fertilizer Kilos/Mzs.	50 Kg.	100 Kg.	150 Kg.
	Insecticides Kilos/Mzs.	1 Kg.	2 Kg.	3 Kg.
	Fungicides Kilos/Mzs.	___	1 Kg.	2 Kg.
SORGHUM				
	Fertilizers Kilos/Mzs.	___	___	50 Kg.
RICE				
	Fertilizer Kilos/Mzs.	200 Kg.	300 Kg.	400 Kg.
	Insecticides Kilos/Mzs.	2 Kg.	2 Kg.	3 Kg.
	Herbicides Liters/Mzs.	2 Lit.	3 Lit.	3 Lit.

SOURCE: Contractor's Estimates.

The small farmers share of the agricultural supply market in El Salvador will be relatively small even under the most optimistic projections about the level of future use of inputs for the Basic Grains crops. In the forseeable future the export crop sector (cotton, coffee, and sugar) will continue to be the dominant source of demand for agricultural inputs.

TABLE 40

TOTAL POTENTIAL USE OF PURCHASED INPUTS BY SMALL FARM SUB-SECTOR AS A PERCENTAGE OF TOTAL 1973 IMPORTS

PRODUCT	TOTAL IMPORTS 1973	LEVEL I	LEVEL II	LEVEL III
Fertilizer MT	353,000MT	4%	8%	16%
Insecticides Kgs. and Liters	18,861,141	1%	2%	3%
Fungicides Kgs. and Liters	146,689	--	24%	47%

SECTION VII:

CONCLUSIONS AND RECOMMENDATIONS

A. Conclusions

1. Satisfying the Demand of the Small Farmer Sub-Sector for Agricultural Inputs.

When considering any program which aims to improve the economic condition of low income farmers in El Salvador, the present and future availability to this sub-sector of agricultural inputs should not be considered a limiting factor. This is the conclusion we draw from the estimates developed in the preceeding section of this report.

The only conditions we can forsee which would change this conclusion are the following:

- World shortages of fertilizers and agricultural chemicals which are much more acute than those experienced in 1973-75.

- A withdrawal of the private sector from the fertilizer business in El Salvador.

- Gross mismanagement of the BNA Fertilizer Import Program.

2. Providing Agricultural Inputs to the Small Farm Sector on a Timely Basis and at a Reasonable Cost.

The data displayed in Section V of this report indicate that the agricultural input marketing system as it has been developed by the private sector is structurally efficient. In our judgement a reasonable share of the cost-reductions associated with these efficiencies is passed on to all agricultural consumers including the small farmer.

One measure of whether or not the price of a particular input is reasonable is to compare prices with neighboring countries. In Guatemala in April of this year 20-20-0 fertilizer sold for Q15.00 (Quetzales) per quintal retail or the equivalent of ¢82.50 per 100 kilo sack, the common sales unit in El Salvador. At the same time it was selling at retail in El Salvador for ¢69.00 per sack or approximately 15% less. After allowing for a 5% higher import tax, the remainding 10% Guatemalan difference can be attributed to the lower costs of handling, bagging, and transporting fertilizers in El Salvador - i.e. structural efficiencies.

Another way to decide whether or not prices are reasonable is to postulate what prices would be if the importer-wholesaler and the retailer engaged in profitless operations. Several of the importer-wholesalers indicated that they would be very happy if they earned 4% net profit on fertilizer sales. The effective net profit to retailers is 1% on consignment sales. If this 5% profit were eliminated a corn producer employing the maximum amounts of fertilizer currently being recommended by CENTA would effect a savings of only ¢9.00/manzana or 0.6% of his estimated gross return.

The prices of agricultural inputs in El Salvador are determined more than by any other factor by world prices and by the competitiveness or non-competitiveness of the principle factors in the world market. Many products, especially chemicals, are price-fixed. For example, the retail prices of two Du-Pont products Benlate, a commonly used fungicide, and Lannate, a popular systemic insecticide are retail price-fixed throughout the hemisphere. The quoted retail prices of Benlate and Lannate in Homestead, Florida, Zacapa, Guatemala, and Ahuachapán, El Salvador are the same not withstanding the differential cost in moving these products from U.S. plant to ultimate points of consumption.

When considering any program which aims to improve the economic condition of low income farmers in El Salvador, the condition of reasonable prices for agricultural inputs should not be considered a limiting factor. Neither should timeliness of availability. The chief factor affecting timeliness of availability to this class of farmers is whether or not they have the purchasing power at the time they need the inputs.

The only conditions we can forsee which would change these conclusions are the ones we outlined under availability of agricultural inputs.

3. The Possible Consequences of Direct Government Intervention in the Agricultural Inputs Marketing Sector.

This year, 1974-75, the Government of El Salvador (GOES) has become directly involved in the importation and direct distribution of agricultural inputs. The BNA imported 30,966 metric tons 1/ of fertilizer which was intended to be distributed directly as credit in-kind to individual and group borrowers.

Whatever the GOES longer range policies with respect to the importation and distribution of agricultural inputs, a strong argument can be made for the one time direct intervention which was effected this crop year. Given the chaotic supply and price situation in fertilizers from late 1973 through early 1975, it was reasonable for the GOES to doubt whether the private sector would provide enough fertilizer to meet both the needs of the commercial (export) sector and the traditional (basic grains) sector. Two high priority GOES goals depended upon securing adequate supplies of fertilizers for basic grains producers, most of whom are small farmers.

__ Attain national self-sufficiency in basic grains production

__ Increase the incomes of small farmers

It is the bank's (BFA) intention, supported by unequivocal statements of GOES policy (See Section III), to stay in the fertilizer business and to increase its total imports of all agricultural inputs at a rate of 30% per year for the next two years. If we assume that growth in demand for all agricultural inputs in El Salvador will be 4% per year for the next three years, the BFA, if it holds to the 30% annual expansion goal, will control approximately 20% of the total agricultural inputs market by the end of 1978. We use and emphasize the word "control" because the farmers to whom they extend production loans will be obligated to purchase their input needs from the bank as in-kind loan proceeds.

The possible consequences of public sector intervention on this scale, according to the independent judgment of the contractor's study group which carried out this review are the following:

Possible Positive Consequences

1. Farmers who are eligible B.F.A. borrowers would have access to two alternative sources of agricultural inputs, the public sector and the private sector. This competitive situation would work to the farmers' advantage.

2. BFA borrowers, including the target group of farmers, could secure their agricultural inputs at lower prices. This assumes that the BFA would not squander its 12% advantage* through mismanagement.

1/ Table 16, page 34.

Advantages of BFA by comparison to Private Sector	
Does not pay import duty	5%
Does not pay stamp tax, 1% wholesale, 1% retail	2%
Operate at break-even point	5%
	12%

3. BFA stocks of fertilizers could serve as a hedge against shortages.

Potential Negative Consequences

1. Low income farmers could end up with no choices among sources of inputs because they would be obligated to purchase inputs from BFA as a stipulation to obtaining production credit.

2. Large numbers of independent local retail farm stores could close down because they cannot compete with subsidized BFN prices. In those localities where small farmers would no longer be served by such stores there would be no place for them to go to meet their in-the-course of the growing season needs to purchase small quantities of selected inputs.

3. The numbers of private companies operating as importer-wholesalers would be reduced. With fewer companies involved, the remaining companies would be more likely to engage in cooperative price fixing arrangements.

4. Accute temporary shortages of key inputs could occur because the private sector would adopt conservative advance ordering policies and the burden of inventory maintenance would be thrown on the BFA.

5. The BFA's reputation will be tarnished if it mismanages an import and distribution program. This in turn could set back the BFA's program to provide agricultural credit to low income farmers.

We are particularly concerned with the effects of BFA intervention in the marketing system on the rural based and in most cases independently owned, agro-servicios (retail agricultural supply stores).

As we stated in Section V. Retailing, the hand that fed the infant may be about to chop off its head. There is no question that the ordenes de entrega system employed by ABC served as a powerful stimulus to establish retail farm stores. Although many of the store owners whom we interviewed complained that their commissions on this business were too low, on the other hand loss of this trade in especie was cited as the principal reason for going out of business or contemplating such action.

When a high BFA advisor was asked why this system had been abandoned he replied that many of the retail farm supply stores which were certified to honor the specie (ordenes de entrega) short-changed the farmers on weights and quality. It is perhaps fitting to note at this point that some clients could be getting short-weighted under the new direct intervention system. At the time of this study an anonymous offer of 2,000 qq., of BNA fertilizer was made on the open market.

B. RECOMMENDATIONS

1. No USAID loan funds should be employed to finance the importation of agricultural inputs, if such imports would drastically upset the present competitve balance that currently exists within the Agricultural Inputs Marketing Sector.

2. No USAID loan funds should be employed to finance public-sector investments in facilities for handling or storing agricultural inputs.

3. If the BFA could be persuaded to give the ordenes de entrega system a new lease on life, loan funds should be channeled to retail store owners for the construction of storage facilities.

4. If the GOES maintains its policy of intervention in the agricultural input marketing system it would be preferable to have this enterprise run by an independent state corporation than by the BFA.

ANNEX A

AVERAGE CIF PRICES PAID BY EL SALVADOREAN IMPORTERS FOR FERTILIZERS JANUARY 1974 - JULY 1975 IN U.S. DOLLARS IN METRIC TONS.

MONTH & YEAR	PRODUCTS	
	AMMONIUM SULFATE	20-20-0
January, 74	N.D.	N.D.
March	¢ 98.85	¢ 159.50
May	98.55	187.51
July	156.78	186.90
September	157.10	N.D.
November	N.D.	N.D.
January, 75	169.50	N.D.
March	173.02	250.81
May	121.34	255.00
July	102.00	N.D.

ANNEX B

AVERAGE CIF PRICES PAID BY EL SALVADOREAN IMPORTERS FOR SELECTED PESTICIDES - JANUARY, 1974 - JULY, 1975 IN SALVADOREAN COLONS

MONTH & YEAR	PESTICIDES			
	ALDRIN 2.5 %	DIPTEREX 95 %	HEDONAL 72	ANTHRACOL
	HUNDREDWEIGHT	KILOGRAM	GALLON	KILOGRAM
January, 74	₡ 17.94	N.D.	N.D.	₡ 2.70
February	18.34	N.D.	N.D.	3.25
March	19.50	₡ 5.86	₡ 19.86	N.D.
April	N.D.	N.D.	12.75	N.D.
May	N.D.	6.64	N.D.	N.D.
June	N.D.	N.D.	16.09	N.D.
July	20.92	N.D.	N.D.	4.50
August	20.92	N.D.	N.D.	4.53
September	N.D.	N.D.	N.D.	N.D.
October	21.35	N.D.	N.D.	4.51
November	21.34	N.D.	N.D.	4.50
December	N.D.	N.D.	N.D.	N.D.
January, 75	23.86	N.D.	18.13	N.D.
February	23.64	10.79	N.D.	6.86
March	23.85	10.78	N.D.	N.D.
April	23.17	N.D.	N.D.	N.D.
May	N.D.	10.78	N.D.	N.D.
June	23.86	N.D.	24.51	N.D.
July	N.D.	10.91	38.01	N.D.

ANNEX C
- Translation of -
PLAN DE DESARROLLO AGROPECUARIO - 1973 - 1977
MAG - CONAPLAN - San Salvador - October, 1972

Policy for Supply of Inputs and Machinery - Pgs. 46-47

Around 70% of the increases in agricultural production must stem from increments in productivity. This by itself, demostrates the importance that inputs will have in the period of the Plan and the need for their supply to meet the following conditions:

1. That there exist normal distribution in all of the areas of production.

2. That inputs be of high quality, in agreement with the prevailing standards; and

3. That they be available at the level of the producers at fixed prices.

The extension of the use of agricultural machinery will be governed by strict regulations, due to the displacement of labor that an uncontrolled increase would produce.

In general, the principle instruments considered by the Policy of Supply of Inputs and Machinery are the following:

1. an active participation by the State in the control and commercialization of the inputs; this should be reflected in such important aspects as fixing of prices of the principle inputs - like fertilizer and feeds - and the direct importation by the ABC (BFA) and other credit institutions of the inputs required by the producers that they assist,

2. a greater participation by users in the commercialization of inputs will be stimulated, in such a way that the high profit margens of middlemen will be reduced; and

3. the importation of agricultural machinery will be limited, especially those that have as an end the displacement of labor and are not essential for the increase in yields from the sail.

Use of the Inputs - Pgs. 125

1. Introduction:

As stated earlier, one of the most limiting factors that the country has that impedes the expansion of agricultural production is land.

This makes it necessary to exploit rationally and at the same time introduce technical improvements in a massive form.

Despite the growth experienced by some agricultural inputs in the past decade, their use is still deemed to be insufficient, above all in essentially technological products such as: improved seeds, fertilizers, and concentrate feeds.

This increase will be more significant in the livestock sub-sector where the use of inputs will be increased by 40 percent between 1973 and 1977; whereas in the agricultural sub-sector the increase will be only 25 percent in the same period. These increases, in part, come from the increase in planted land, but mainly from the increase in technological improvements that will have to be carried out in the agricultural sector, in order to reach the goals proposed by the Plan.

The greater dynamics in the use of inputs that are observed in the cattle headings correspond to the effect of cattle promotional programs propitiated by the Plan.

2. Projection of the Use of Agricultural Inputs - Pages 129-134:

A. Analysis of the Tendencies and Composition of Inputs - Totals

The total values of agricultural and livestock inputs showed an accumulated annual growth of 6.2 percent of the Plan 1973/77. Nevertheless, during the period of the Plan 1973/77 it will be 6.9 percent. On the other hand, the value of agricultural production only experienced an increase of 5.0 and 5.3 percent in the same periods; the aforementioned signifies that inputs will have a direct participation related more each time to the value of production; in effect in 1971 the value of the same represents 19.4 percent of the value of production and will reach 20.7 percent in 1977.

The need for improved seed was projected according to the increase of area planted for each heading and the improvement in the quantities used per unit of surface. Fertilizer projections were made taking into consideration the specific needs of each crop and the newly fertilized areas, including those in improved pastures. In the case of pesticides, the criteria used were those of the technical recommendations and doses for the adequate control of plagues and diseases of the different crops.

The evolution that the total use of inputs shows, reveals some essential aspects that deserve commentary. These will be a significant improvement in the level of technology of agriculture as will as livestock through a greater and more adequate utilization of fertilizers, improved seeds, pesticides, etc., and at the same time there will be a substantial in-

crease in the use of feed for livestock and the implementation of appropriate disease preventive measures for the herd. The headings that underwent the most change in the period are: fertilizers, day old chicks, and concentrate feeds that increase around 50 per cent between 1971 and 1977.

A change in the structure of the use of the principal inputs will be produced. The participation of agricultural inputs in the total inputs of the sector experienced a reduction in its relative participation that goes from 66 per cent in 1971 to 62 per cent in 1977. However, livestock increases it's participation rising from 34 per cent to 38 per cent between 1971 and 1977 respectively. The aforementioned is an indication of the inputs that the Plan intends go give to livestock without neglecting agriculture as such.

The previous numbers are an indication of the technological effort that must be made in the agricultural sector to achieve the goals proposed in the Plan.

The inputs can come from the same sector or from other sectors. It is a fact that as the sector develops, there is a greater dependence on inputs coming from the other sectors of the economy; such is the case of chemical fertilizers, pesticides, veterinary products, machinery and equipment.

B. Analysis of the Tendency and Composition of the Agricultural Inputs

The need for inputs for the agricultural sub-sector will increase at an accummulated annual rate of 5.3 per cent between 1971 and 1977 and 5.8 per cent between 1973 and 1977.

The agricultural inputs that will have the greatest growth will be fertilizers and pesticides.

Fertilizers will experience the greatest growth; between 1973 and 1977 they will show an annual accummulated increase of 10.3 per cent. The accelerated growth is explained fundamentally by the massive incorporation of areas that have not used adequate fertilizer practices. For example, there are crops like rice where it is estimated that in 1971 only around 57 per cent of the total planted areas was fertilized; in 1977, the fertilized area should reach 80 per cent of the total planted surface. If this does not hold true, it will be impossible to reach the projected increases of yields. Other crops such as corn, sorghum , beans, and sugar cane must also experience an increase in the percentage of fertilized surface.

In reference to the use of pesticides, there will be no significant increase as far as their application per unit of area, but the increases will come from the expansion of planted area and their rational use. This group of products is made up of: insecticides, acaricides, nematicides, and gungicides. Considering all pesticides as a group, their use will grow at an accummulated annual rate of 3.5 per cent between 1973 and 1977.

As far as seeds, the increase in the physical volume of this input is explained basically by the subtitution of criole seed for seed with better genetic quality, as are the improved seeds whose use has a high priority in the Plan. This heading will experience an accumulated annual growth of 3.0 per cent between 1973 and 1977.

This increase will come from the greater utilization of improved seed in basic grains, horticultural crops, and vegetative material for fruit crops, due to the fact that the increase in planted area will be very slight.

In reference to inputs for maintenance and operation of agricultural machinery, there will only be a slight increase which is due to the fact that the Plan proposes a very restrictive policy for the use of machinery in order to reduce the displacement of labor caused by machinery.

Analyzing in overall terms, the use of inputs per unit of area, an increase is seen for the period of the Plan. The utilization of inputs per planted hectare will experience an increase of 27 per cent in the period 1971-1977, and 19 per cent between 1973 and 1977.

D. Policy for Supplying Inputs - Pages 214-217

The greater use of physical inputs bought outside the sector is an essential component of modern technological agriculture that tends to elevate the productivity of the soil and available labor This is especially true in countries with agricultural frontiers, as is the case of El Salvador

This requires that the users have at their disposition a good supply of inputs especially at planting times. This makes it necessary to define clearly the form in which the public sector will contribute to these proposals for supplying.

1. Actual situation

The production as will as the commercialization of agricultural inputs has been demonstrating some deficiencies that can be summarized in the

following aspects:

a. The production and commercialization of inputs has traditionally been in the hands of the private sector. The public sector has not had a defined policy, has not controlled the activities of private importers, nor has acted directly in the production and commercialization, with the exception of the participation of MAG in the production of improved seed for corn.

b. One of the problems that has most affected inputs has been price levels; for example, fertilizers have been subject to constant price rises and fluctuations, the imported ones as well as those produced nationally. It is true that prevailing factors in the international market may have influenced these price level fluctuations, that have reached up to 90 per cent from one year to another, but it is no less true that to a higher degree they are due to the excessive profit margins obtained by national producers and importers that work with monopolistic tendencies. The only company that produces fertilizers, markets its own production, and distributes imported products, also enjoys tax exemptions. This allows them to obtain marketing margins that reach up to 57 per cent of the price paid by the farmer.

c. Veterinary products, concentrated feeds, seeds and agrochemical products have also been affected by considerable variations in sales price to the consumer.

d. No methods of quality control for inputs have existed; this has caused permanent complaints about alterations in their quality.

e. An indiscriminate importation of agricultural machinery has existed in the country; this has yielded an inventory of the most diverse brands produced throughout the world. This obligates the importing firms to maintain a large stock of replacement parts, with high investment and operations costs, that result in rises in the prices paid by farmers. In some cases, agricultural machinery has been imported that is not apt for the idiosyncracies of Salvadorean agriculture.

2. Objectives of the Policy for Inputs

In order to contribute to the increase in agricultural yields, the policy for the supply of inputs should meet in terms of priorities the aspects related to quality, quantity and price of inputs. Because of this, the objectives defined for this policy area:

a. To assure a supply of inputs of good quality and on good terms for all producers.

b. Reduce the actual marketing margins in such a way that the actual prices that producers pay will be lowered.

c. Stimulate through action from the private sector the greater use of inputs.

3. Definition of Some General Aspects of the Policy for Inputs

The following can be mentioned:

a. In the future it will be the responsibility of the public sector to define the policy of supplying inputs to the agricultural sector.

b. The State will participate as actively as possible in the regulation and control of the production and marketing of inputs. Without prejudice to this, these activities will continue to be private, but the action of the public sector will be limited to looking for rational marketing margins.

c. The private sector will promote and foment the organization of farmers. A measure of this type could contribute to the reduction of marketing margins and permit the products to be obtainable at lower prices for the farmers. This direct participation in the importation and distribution of inputs will require agricultural producers to organize themselves in cooperatives that represent the interests of the different levels of farmers.

d. Due to the need to increase agricultural employment, it will be necessary to avoid an irrational importation of machinery and chemical products (herbicides) that might cause massive displacements of the labor force.

4. Instruments

In order to execute the basic elements of the policy for input supply, a series of instruments will be utilized, among them are the following:

a. In the long range, an annual fixing of maximum sales prices for different inputs will be sought by the state through the Ministry of Agriculture and Livestock and the Ministry of Economy. In the first stage it will only be possible to fix the prices of fertilizers and concentrate feeds.

b. A strengthening on the part of the Ministry of Agriculture of the system for controlling the norms of quality, that will guarantee the quality and results of the products acquired by the producers.

c. Direct importation of inputs required by some public institutions - such as ABC (BFA) for its users.

d. The promotion and fomenting of associative groups for small and medium size farmers, so that they can participate in the marketing process.

e. Technical assistance from the State which should be aimed at achieving a greater and more rational use of inputs by the farmers.

f. Credit granted to farmers should be given in good terms, in such a way as to permit them to obtain an adequate supply of inputs for agricultural activities.

g. The regulation by the public sector of the importation of agricultural machinery. The use of machinery that displaces labor should be curtailed via direct control, taxes and measures of fiscal and financial management.

h. The regulation of use of herbicides in such a manner as to not produce a substitution of labor. It is estimated that the actual level of consumption of these products should be maintained.

i. The creation of the necessary infrasctructure for adequate distribution and to promote the bulk marketing of inputs whenever possible.

j. The modification and amplification of the prevailing legal regulations in order to permit the execution of the aforementioned measures.

ANNEX D
- Translation of -
PLAN OPERATIVO DEL SECTOR AGROPECUARIO - 1974
MAG - CONAPLAN, San Salvador

C. Policy for Inputs - Page 21

During 1973, the policy for prices as well as the one for input supply lay fundamentally in the private sector; only in the field of retail level distribution did the public sector have some participation. That which most characterized inputs during 1973 was variations in price that some of them underwent. In effect, those inputs of greater incidence within the sector experienced some variations up to 40 per cent between 1972 and 1973, such as occurred with some concentrate feeds and injections.

According to available information, the factor that most influenced the increase that the prices of inputs experienced was the variation of prices for raw materials in the international markets.

Among the actions taken by the public sector, the following should be mentioned:

1. Seeds: Through the National Center for Agricultural Technology, a program to supply hybrid corn seed was carried on. This institution, jointly with the General Direction of Economy and Agricultural Planning, established a quota for internal consumption of hybrid corn seed based on production obtained so that the producers could count on adequate quantities for planting.

2. Fertilizers: Through the Bank of Agricultural Promotion (BFA) contracts were formalized with local distributors with the object of assuring the opportune supplying of fertilizers and pesticides to the users from this institution.

3. Livestock Inputs: With the object of guaranteeing supply for direct use in livestock and for the elaboration of concentrate feed, the Ministry of Agriculture and Livestock fixed quotas for internal consumption of molasses and cottonseed meal. Nevertheless, no adequate controls for compliance were established. This permitted the exportation of molasses and cottonseed meal. Due to this, the suppliers stopped supplying cattlemen and feed factories at some times of the year provoking immediate rises of prices, especially for molasses.

Within the actions taken by the Public Sector it is worth mentioning the the promulgation of the "Law on the Control of Pesticides, Fertilizers, and Products for Agricultural Use" whose purpose is to regulate production,

marketing, distribution, ecportation, and use of these inputs.

Nevertheless, for lack of the respective reglamentation that would make said law operative, many of its dispositions have not been complied with, especially those related to use, quality supply and prices of agricultural inputs.

C. Policy for Inputs - Page 42

The purpose of this policy consists in supplying opportunely and at favorable prices the agricultural producer with the necessary quantities of the principal inputs, in view of the fact that the increases in production should basically come from an improvement in yield levels.

C. Policy for Inputs - Pages 85-87

The primary objectives of this policy will be to proportion an adequate and opportune supply of inputs and at prices fair for the producer, being that the programmed growth of the agricultural sector in 1974 will in great part be due to the increase in yields of different crops. Because of this, it is desired that public sector institutions have greater participation especially in the marketing stage of inputs.

Among the actions to be taken, the following can be mentioned:

1. MAG will regulate the exportation of inputs and as a general rule a policy of non-authorization will be maintained for exportations of products that are inputs for the sector, nevertheless, in special cases the exit of some inputs will be permitted when technical studies show that supply is assured and that exportation will not cause an increase in internal price levels.

2. Importation of sufficient quantities of those inputs that permit proportioning to farmers of materials necessary to take best advantage of the land's resources will be promoted.

3. The Bank of Agricultural Promotion (BFA) will carry out direct importations of inputs and will establish a distribution chain at the national level, in order to assure supply of formulas required by its users to satisfy their demands. It will also reach direct agreements with some distributing companies.

4. The National Center of Agricultural Technology and the Salvadorean Institute for the investigation of Coffee will establish technical criteria to permit the use of formulas that respond to the results of soil analysis and to nutritional requirements of different crops,

keeping in mind the objective to reduce the costs of production of the farmers.

5. The CENTA will carry out investigations to permit the determination of a rational use of pesticides in the farming of cotton. Simultaneously, an educational campaign will be carried out among the producers of this crop.

6. To strengthen the execution of the aforementioned actions, a massive educational campaign will be carried out with the idea that the necessary knowledge about utilization of inputs reach the producers. This campaign will acquire a special relevancy due to the high price levels that are forseen for the majority of the inputs during the final months of 1974.

7. The MAG gives high priority to the supply of improved seeds. Due to this, the production of seeds for those headings considered essential, such as basic grains, will be reinforced to assure maximum availability.

   CENTA will produce seed directly, but will also resort to agreements with private producers who will be given the necessary technical assistance.

   Also, in certain products, for example beans, the CENTA will establish mechanisms jointly with the IRA in order to establish centers for the sale of seed.

   For 1974 CENTA will have under its control the following volumes of improved seed:

Beans ----------	2,686	hundredweight
Corn ----------	50,000	"
Rice ----------	894	"
Sorghum ----------	456	"

8. MAG will oversee the supply of livestock inputs, especially cottonseed meal and mollasses, for which agreements will be made with the principle producers and sellers for prices as well as supplying.

9. Through its dependent offices, the Ministry of Agriculture and Livestock will oversee the compliance with the Law for Control of Pesticides, Fertilizers and Products for Agricultural Use.

ANNEX E
-Translation of -
PLAN OPERATIVO DEL SECTOR AGROPECUARIO - 1975
MAG - CONAPLAN, San Salvador

4. Inputs - Pages 15-28

During 1974, agricultural producers incurred expenses for the inputs of 298.7 million colons. This represents an increase of 55.7 per cent with respect to the previous year. The high increase of paid expenditures was caused fundamentally by increases in prices. In some production headings, mostly those of internal consumption, lesser quantities of fertilizers and other chemical products were used due to reduced supply throughout the agricultural year.

Fertilizers, whose prices rose more than 100 per cent, stood out within the general rise of prices of agricultural inputs. Among them, ammonium sulphate, one of the most used fertilizers, experienced an increase of 158 per cent.

With respect to pesticides, the average increase of 60 per cent was due to the rise in price of ethyl and methyl parathions which are widely used in commercial agriculture, especially with cotton.

The heading "improved seeds" showed a less variation than the rest increasing only 19 per cent. This was due to the limited use of this input especially in basic grains as a consequence of limited supply to farmers.

In the agricultural sub-sector the value of inputs utilized reached 176.8 million colons which signifies an increase of around 70 per cent in relation to 1973. Expenditures incurred for fertilizers and pesticides were basically responsible for this increase.

Expenses for inputs incurred by livestock producers were 121.9 million colons; this represents an increase of 39.7 per cent over the previous year. The headings experiencing the greatest increases were, in this order: fertilizers, pesticides, veterinary products, and concentrate feeds.

C. Policy for Inputs - Pages 28-29

The purpose of this policy is that agricultural producers be provided, opportunely and at favorable prices, the principle inputs.

Nevertheless, this objective was impeded by factors such as :

1. The scarcity and high price of petroleum in the world market which raised the cost of raw materials used in the elaboration of some agricultural inputs.

2. Restrictions on exportation of phosphoric rock and the increase of its price by the producer countries.

3. Hoarding of inputs.

On the other hand, a general price rise for all agrochemical products was experienced, standing out above all, the nitrogen fertilizers. Ammonium sulphate and urea were quoted at 158 and 108 per cent higher respectively compared to the previous year. The formulated fertilizers, of common use in agriculture, experienced increases of approximately 90 per cent. Among the most used pesticides, as are the ethyl and methyl parathions, increases were registered that oscillated between 44 and 188 per cent.

Veterinary products experienced price rises of nearly 60 per cent. Improved seeds are those that varied least in price - around 50 per cent.

To offset, in part, the effect of these factors, the public Agricultural Sector put into action a series of measures, among which the following can be pointed out:

1. The prohibiting of exportation of fertilizers, especially ammonium sulphate.

2. In order to supply it's clients with the principal fertilizers, the Bank of Agricultural Promotion distributed approximately 433 thousand hundred weights of formulated and nitrogen fertilizers.

3. Soils were tested to determine the optimum needs of chemical nutrients for each crop and to achieve the rational use of the different fertilizers.

4. With respect to distribution of improved seeds, CENTA worked in direct production as well as in certification of basic grain seed.

5. Adequate quotas were fixed for molasses and cottonseed meal used in production of concentrate feeds and direct livestock consumption.

C. Policy for Inputs: Pages 55-56

The policy for inputs is of great importance if the planned goals are to be achieved. It will be necessary to carry out the Plan during 1975 with the objective being to attain availability of all inputs that farmers need in their productive efforts, in the place and at opportune times, and to avoid exaggerated increases in their prices.

3. Goals for the Use of Inputs - Pages 80-81

In order to satisfy the planned production goals for this year, the agricultural sector will need inputs of an estimated value of 310.3 million colons. This represents an increase of 3.9 per cent over the incurred expenditures of the past year. The aforementioned increase is relatively modest due to the expected drop produced by cotton, a highly technified crop.

Within the total necessary inputs, the Agricultural Sub-Sector will utilize 190.4 million colons. This will signify an increase of 6.7 per cent with respect to 1974.

The expected prices of fertilizers indicate that there could be a drop in price which would cause an increase in their use by farmers. Said inputs will continue to be the most important heading, with an estimated purchasing valued at 89.3 million colons, an increase of 9% over the previous year. The demand for seeds will be of about 17.8 million colons, representing an increase close to 14 per cent. The aforementioned will be influenced by the impulse which the Governmental Sector will give through programs for the production of basic grains.

On the other hand a decrease of 6.6 million colons is foreseen for pesticides due to the decrease in area to be planted in cotton. Because these have a high incidence within the total of agricultural inputs, the decrease in their use will be seen in the total of inputs utilized.

To the contrary of that which will occur to the value of agricultural inputs, it is estimated that the value of inputs related to livestock will increase by 6.6 per cent; as rising from 122.0 million colons in 1974 to 130.0 millions in 1975. More than half of this increase will be due to concentrates feeds which will increase in more than 6.0 million colons due to expansion that has been taken into account in the heading of poultry, swine, and intensive cattle farming.

The increase in improved pastures and the greater technification that is planned for livestock in general will cause increases in other chemical inputs for the sector such as fertilizers for pastures and veteri-

nary products.

C. Policy for Inputs - Pages 97-98

The polcy for inputs will be given priority because reaching the planned goals for this year practically depends upon compliance with it. In past years, the distribution of inputs at the national level, has been subject to serious problems. In part, this has been due to deficient marketing and distribution channels which presently prevail. In order to overcome these limitations, the following steps will be taken.

1. Large quantities of fertilizers will be imported by the Bank for Agricultural Promotion (BFA) in order to assure its users an adequate supply with regard to delivery times and quality.

2. A technical assistance program will be developed in order to achieve the utilization of inputs at opportune times and in adequate quantities, taking into account the type of soil being farmed.

   This program will be especially directed at small and medium sized producers of basic grains. The institutions responsible for the execution of this program will be the National Center for Agricultural Technology (CENTA), through it's extension agents, and the Bank for Agricultural Promotion (BFA) through it's supervisors.

3. The Ministry of Agriculture and Livestock (MAG), jointly with the Ministry of Economy will regulate the exportation of inputs, especially fertilizers, as these are the most important for the sector.

4. A donation granted by the United Nations which consists of four thousand metric tons of formulated fertilizers and US$2.5 million for the importation of agricultural inputs will be used to normalize the supply of inputs in the sector.

5. The State will intervene in the adjustment of prices and the marketing of those inputs that have supply problems or experience inmoderate price rises.

6. CENTA will increase the tillable area dedicated to seed production in order to obtain production of 10 thousand hundred weight of corn, 2 thousand hundred weight of beans, 0.9 thousand hundred weight of sorghum, 0.7 thousand hundred weight of rice, 0.1 thousand hundred weight of potatoes and will also produce seed for other crops such as sesame, kenaf, etc. The necessary technical assistance will be given to private producers to attain this.

7. The major program, with regard to livestock, will be the regulation by the Ministry of Agriculture and Livestock of the exportation of cottonseed meal and molasses in such a way as to avoid internal scarcity of these products. Exportable quantities will be determined once quotas for internal consumption are met; these will be: One million hundred weight of cottonseed meal and 151.3 thousand- 110 gallon barrels of molasses.

ANNEX F
CHARGES LEVIED BY CEPA 1975

A. Paid by Shipping Company

1.	Docking/Undocking - per gross registered ton	¢ 0,34/GRT
	Minimum charge	300,00/boat
2.	Moorage - calculated by length of boat and time	
	One day or less	¢ 4,00/meter of length
	2nd. day or less	3,00 " " "
	More than 2 full days	2,00 " " "
	Minimum charge	200,00
3.	Use of Docking Cables	¢ 1,50/1000 GRT per day

B. Paid by Importers

	OPERATION	SACKED FERTILIZER	LOOSE FERTILIZER
1.	WHARFAGE		
	Specific tariffs, calculated by metric ton	¢ 12,00	¢ 5,50
2.	OFF-LOADING (storage)-specific tariff, calculated by metric tons	5,50	2,50
3.	Transport to Storage areas:		
	No specific charge	-	-

4. Storage

For imported fertilizers 15 days storage in CEPA warehouses is included free of charge. After 15 days the following charges are levied:

Sacked fertilizers - After 15 day cost free period has expired.

First 30 days - ¢ 0,01 per hundredweight

Over 30 days - 0,15 per hundredweight

Loose fertilizers - After 15 day cost free period has xpired.

up to 3,000 M.T. - ¢ 0,18 per day per M.T.

3,000 to 6,000 M.T. - 0,12 " " " "

6,000 to 9,000 M.T. - 0,09 " " " "

over 9,000 M.T. - 0,06 " " " "

ANNEX G
SACKING COSTS - PAID BY CRISTIANI BURKHARD
per sack of 100 Kgs. (220 pounds)

100 Kilo Kenaf sack *	28" x 40"	¢ 1,95
100 Kilo polyethylene liner	30" x 44"	¢ 0,30
Labor		¢ 1,25 **
	TOTAL	¢ 3,50/sack

* Price of sack includes printing of the trademark which, by law, include names of exporter, importer, and distributor, origin of fertilizer, weight, trade name and chemical make-up of major elements.

** Total cost includes 30 days of storage free of charge.

Source : Cristiani Burkhard, S. A.

ANNEX H
TRUCKING CHARGES FROM ACAJUTLA TO THE FOLLOWING PLACES
PRICE PER HUNDRED WEIGHT

Applicable to freights that meet control of weights, cargo and measurements standards on highways.
Provided by SAGRISA

Department of Santa Ana:

Santa Ana	¢ 0,52
Fincas Volcán Sta.Ana	0,78
Finca El Portezuelo	0,58
Chalchuapa	0,65
Santa María	0,78
Coatepeque	0,52
El Congo	0,52
San Cayetano	0,65
El Porvenir	0,78
Aragua	0,65
Montemayor	0,65
El Recreo	0,58

Department of Ahuachapán:

Ahuachapán	¢ 0,65
Atiquizaya	0,71
Fincas de Ahuachapán	0,78
Fincas de Atiquizaya	0,78

Department of La Libertad:

La Libertad	¢ 0,65
Santa Tecla	0,52
Comasagua	0,78
Las Quebradas	0,78
Belmont	0,65
Monteleón	0,52
Casablanca	0,52
Colón	0,52
San Jerónimo	1,04
Miramar	1,04
Talcualhuya	0,78
Opico	0,65

Department of La Libertad:

Tacachico	¢ 0,78
Jayaque	0,65
Aruba	0,52
Cangrejera	0,78
Ateos	0,45
Cuyagualo	0,45
Quezaltepeque	0,58
Fincas de Quezaltepeque	0,78

Department of San Miguel:

San Miguel	¢ 1,30

Department of San Salvador:

San Salvador	¢ 0,52
Planes de Renderos	0,65
Lomas de Candelaria	0,65
San Martín	0,65
Apopa	0,65
Aguilares	0,78
Hacienda de Aguilares	0,78
Nejapa	0,78

Department of Chalatenango:

Nueva Concepción	¢ 1,30

Department of Usulután:

Santiago de María	¢ 1,30
Usulután	1,30

Department of Usulután:

California---------- ¢ 1,30

Department of La Paz:

Zacatecoluca---------- ¢ 1,04
La Herradura---------- 1,04

Department of Cuscatlán:

Cojutepeque---------- ¢ 0,78
Fincas de Cojutepeque--------- 0,78
Monteque---------- 1,04
Suchitoto---------- 1,04

Department of Sonsonate:

Sonsonate---------- ¢ 0,32
Hacienda Tonalá---------- 0,32
El Cacao---------- 0,58
Tasulá---------- 0,58
Plan de Amayo---------- 0,58
Los Lagartos---------- 0,39
Hacienda Chilata---------- 0,58
El Escalón---------- 0,58
El Sunza---------- 0,39
San Isidro---------- 0,39
Armenia---------- 0,39
Puerto Arturo---------- 0,52
Santa Emilia---------- 0,32
La Macarena---------- 0,78
San Blas---------- 0,78
La Majada---------- 0,65
Salcoatitán y fincas--------- 0,52
Caluco---------- 0,58

Department of San Vicente:

San Vicente---------- ¢ 0,97

Department of Cabañas:

Sensuntepeque---------- ¢ 0,97
Ilobasco---------- 0,97

Urban Charges - hundred-weight--- ¢ 0,18

Source: Servicio Agrícola Salvadoreño, S.A.

ANNEX I
ENCUESTA SOBRE INSUMOS AGRICOLAS

Lugar_____ Municipio_____

1) Tipo de propiedad:

Tienda Independiente _____

Subsidiario de Casa Mayorista _____

Cooperativa _____

Institución Estatal _____

Otro _____

2) ¿Ha representado al B.F.A.?_____ ¿Cuándo?_____

¿En qué forma?_____

_____

¿Cómo le resultó?_____

_____

3) ¿Durante el año agrícola pasado, con cuales casas mayoristas trabajó?_____

_____

_____

4) ¿Ha hecho una importación directa de insumos?_____

5) Vende Ud.: 6) ¿En qué volúmenes?:

Fertilizantes simples _____ _____

Fertilizantes compuestos _____ _____

Insecticidas para granos básicos _____ _____

Algodón _____ _____

Café _____ _____

Caña _____ _____

Herbicidas _____ _____

Fungicidas _____ _____

Semilla de:

Maíz _____ _____

Sorgo _____ _____

Arroz _____ _____

Frijol _____ _____

Bombas de espalda _____ _____

7) ¿En qué basa sus pedidos para productos de las casas mayoristas? ___

_____

8) Prepara sus pedidos para productos en: Para entrega en:

Fertilizante simple _____ _____

Fertilizante compuesto _____ _____

Insecticidas _____ _____

Herbicidas _____ _____

Fungicidas _____ _____

Semilla _____ _____

Bombas de Espalda _____ _____

9) ¿Quiénes son las fuentes principales de:

Fertilizante simple _____

Fertilizante compuesto _____

Insecticidas para cereales _____

Herbicidas _____

Fungicidas _____

Semilla _____

Maíz _____

Frijol _____

Sorgo _____

Arroz _____

Bombas de espalda _____

10) ¿Cuánto se cobra por flete de un quintal entre su tienda y

San Salvador?_____ Acajutla?_____

11) ¿Prefiere que las casas mayoristas entreguen los productos?_____

_____ ¿Ud. recogerlos?_____

¿Porqué?_____

12) ¿Cuáles son los factores principales que tiene que enfrentar en preparar los pedidos de productos?_____

_____

13) ¿Cuáles son los términos de pago que exige la casa mayorista para:

Fertilizantes _____

Insecticidas _____

Herbicidas _____

Fungicidas _____

Semilla _____

Bombas de espalda _____

14) Márgenes sobre costo (ganancia bruta) para:

Fertilizantes _____ Insecticidas _____

Herbicidas _____ Fungicidas _____

Semillas _____ Bombas de espalda _____

15) Servicios a los clientes ¿En cuáles formas?:

Crédito (fiado) _____ ¿Para cuánto tiempo? _____

_____ ¿A qué interés/mes? _____

Asistencia técnica _____ En cuáles formas (agrónomos, cursillos, etc.) _____

Comentarios _____

16) ¿Ha vendido a cooperativas? _____

¿Cuáles? _____

¿Con qué forma de pago? _____

Comentarios _____

Control estatal: Sobre calidad _____

Sobre precios _____

Licencias o patentes _____

Otros _____