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Support Recommendations for

HONDURAN GRAIN MARKETING POLICIES AND PROGRAMS



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SUPPORT RECOMMENDATIONS FOR
HONDURAN GRAIN MARKETING
POLICIES AND PROGRAMS

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EXECUTIVE SUMMARY OF MAJOR RECOMMENDATIONS

I. Recommendations for Improving Price Stabilization Activities

The Honduran Agricultural Marketing Institute (IHMA) inherited its price stabilization and other marketing activities from the National Development Bank (BNF) in May, 1978. A high proportion of the staff is new and relatively inexperienced. The terms of the law under which it was created (Annex 12) confer upon IHMA major powers and obligations. The immediate tasks are establishment of grain procurement and sales policies and programs for the coming year, implementation of facility expansion programs instituted by BNF, and development of appropriate operating procedures.

The major long-run challenge lies in clarification of the specific policies which are to be implemented. IHMA must institutionalize long-term approaches toward meeting policy goals which at present are not completely clear. Long-term response patterns toward meeting internal operating needs must be developed.

While the tasks which lie ahead are challenging, there is reason to be optimistic. There is a healthy respect on the part of IHMA's staff for the magnitude of the undertaking. Moreover, there is an extraordinary will to succeed in the challenge. Staff members may be inexperienced, but they appear to be diligent and resourceful. Given the technical assistance already programmed by FAO and the Swiss Consulate and that under consideration by USAID, there is reason for optimism. There is a clear need, however, for USAID assistance to complement the resources in IHMA and those to be provided by FAO and the Swiss Government.

The following specific recommendations are divided into two categories: those which will require support from USAID, and those which can be met entirely from IHMA's present resources. Specific USAID support recommendations for technical assistance and participant training are summarized in Summary Table 1, with page references indicating where more detailed identification of needs appears in the text of the report. Page references following each item in the summary are included for the same purpose.

A. Items requiring USAID support

1. A feasibility analysis to determine optimum location, size type and design of new storage facilities should be made before additional capital funds are obligated (p. 11).
2. Weather data should be made available for computer analysis to aid in storage design and operation analysis (p. 11).
3. A detailed study of existing grain price discounts in wholesale markets should be made and used as a basis for possible revision of IHMA grading and pricing schedules (p. 14).

4. Purchase prices and release triggers for 1979 need immediate attention. The possible need for imports during the next few months should be evaluated as soon as possible (p. 16).
5. Long-term price guidelines for buying and selling grains must be developed. Possible use of imports and exports for completing domestic programs should be explored (p. 17).
6. IHMA should play a leadership role in assistance aimed at improving the efficiency of the private sector. Assistance possibilities include custom drying and storage, timely release of market information, technical assistance to the trade and formulation of industry regulations (p. 18).
7. Training of IHMA staff is a priority need. Support is recommended for short-term training abroad and in-country. Long-term training of an academic nature is needed for technical and economic staff (pp. 19-20).
8. There will be a continuing need for technical support to assist IHMA in developing training and operating programs (pp. 19-20).
9. IHMA may need limited USAID support in its development of activities related to FAO technical support and the Swiss post-harvest loss programs (p. 21).

B. Items to be supported primarily by IHMA:

1. Gathering drying cost data and assessment of relative merits of solar, natural air and mechanical drying systems (pp. 11 and 12).
2. Rotate grain stocks regularly (p. 12).
3. Study and correct problem of unloading delays (p. 13).
4. Survey, budget and make repairs to electrical systems (p. 13).
5. Study and resolve surface water drainage problems at new facilities (p. 13).
6. Remove heated air driers from storage buildings (p. 13).
7. Provide for training of maintenance personnel and repair parts stocks in new equipment contracts (p. 13).
8. Determine mycotoxin levels in Honduran grains. These tests can be made in the Costa Rican Grain and Seed Research Laboratory (p. 14).
9. Publish and advertise purchase and release prices and price guidelines (p. 16).

10. Reconsider policy of purchasing grain only from farmers (p. 16).
11. Continue activities in Central American Common Market (p. 16).
12. Gather grain market intelligence in neighboring countries (p. 16).
13. Train central staff in relevant locally-available courses such as accounting, marketing, personnel, management, etc. (pp. 19-20).

SUMMARY TABLE 1
SUMMARY OF RECOMMENDED USAID TECHNICAL ASSISTANCE AND TRAINING SUPPORT FOR IHMA

TECHNICAL ASSISTANCE

Personnel	Calendar Period for Completion			Major Functions
	Ncxt 6 mo.	6-18 mo.	Beyond 18 mo.	
1. Grain Marketing Economist(p. 10)		12 pm	12 pm	Facility feasibility, grain merchandising, price and marketing policy
2. Grain Storage Engineer(p. 11)		2 pm		Feasibility, sizing and design
3. Grain Marketing Economist(p. 11)		2 pm		Feasibility analysis
4. Storage Research Engineer(p. 11)		*		Computer analysis of drying alternatives
5. Specialist in Grades and Standards(p. 14)		1 pm		Refinement of grain grade standards and discounts
6. Grain Marketing Economist(p. 16)	1 pm			Procurement and sales prices and policies (1979)
7. Grain Marketing Economist(p. 16)	1 pm			1979 import policy and inventory control
8. Grain Marketing Economist**(p. 17)		1 pm	1 pm	Pricing policy analysis
9. Grain Marketing/Storage Specialist(p. 18)		1 pm	1 pm	Development and regulation of private sector
10. Traffic/Inventory Control Specialist(p. 19)		1 pm	1 pm	Design centralized inventory control system and traffic management policies
11. Grain Marketing/Storage Specialist(p. 19)		1 pm	4 pm	Assist with annual training course for facility managers
12. Post-Harvest Technical Specialist(p. 21)		2 pm	2 pm	Support IHMA in loss control training and field programs (including Swiss project)

PARTICIPANT TRAINING

Personnel	Calendar Period for Completion						Activity
	1979	1980	1981	1982	1983	1984	
<u>Academic</u>							
1. one engineer(p.20)		2 py	2 py	2 py	2 py	2 py	M.S., engineering
2. one biologist(p. 20)		2 py	2 py	2 py	2 py	2 py	M.S., biology
3. one economist(p. 20)		2 py	2 py	2 py	2 py	2 py	M.S., economics
<u>Short Term</u>							
1. 3 IHMA staff(p.19)	18 pw	18 pw	18 pw	18 pw	18 pw		KSU summer short course
2. 17 facility mgrs. (p. 19)	34 pw	34 pw	34 pw	34 pw	34 pw		Grain storage marketing short course

*Included in (2). **Combine with (6) if possible. pw = person-weeks; pm = person-months; py = person years

II. Recommendations for Technical Support of Agricultural Marketing Policies and Programs

The recognized need for major effort to enhance the capability of Honduran government agencies to provide technical support for agricultural policies and programs emerged while the KSU team was in country (see page 23). Time did not permit adequate study of these needs and the requirements for meeting them; the team supports the recommendations of the Ministry of Natural Resources for USAID to request a second Kansas State University team of two agricultural economists (marketing policy) during February 1979 to assist with such study.

The preliminary recommendations included in Part Two and summarized here are designed to help the newly appointed Honduran Commission for Marketing Policy Analysis and the USAID staff in their task of developing recommended plans for technical support of agricultural marketing policies and programs. They should be interpreted as guides by these groups and by the requested KSU marketing policy team, with the recognition that they will be superseded by the recommended plans that are to be developed.

In contrast to the recommended technical assistance and participant training included in Summary Table 1 (which are within the scope of the existing AID/KSU contract), the preliminary recommendations included in Summary Table 2 are beyond the scope of the existing AID-supported resources at Kansas State University. It is probable that technical assistance and academic training resources will need to be drawn from other U. S. universities (and from the USDA), in order to support development of marketing policy and program analysis in Honduras.

The six categories of analytical functions shown in the first column of Summary Table 2 correspond to those in Part II B of the report; the referenced pages contain discussion related to the recommendations in each category. The starting dates shown in Summary Table 2 reflect early priority for the first two categories, and implementation of the remaining functions beginning in July, 1980.

Implementation of the preliminary recommendations would require estimated additional professional staff in the Ministry of Natural Resources (or other government agency) of eight persons starting July 1979, twelve persons starting July 1980, three starting July 1981, and seven starting July 1982. The total program is estimated to require 27 persons with M.S. training and six with Ph.D. training. To the extent that trained professionals are not now available in the country, plans must be made for participant training in advance of these dates.

The estimated requirements for technical assistance include five long-term resident specialists--two starting in July 1979 and three starting in July 1980--plus U. S. university home-office analytical support equivalent to an additional specialist-year. The estimated additional short-term technical assistance includes (in person-months) nine during CY 1979, 16 during CY 1980, 25 during CY 1981, and 12 during CY 1982, for a total of 62 over the four-year period.

SUMMARY TABLE 2
 SUMMARY OF PRELIMINARY RECOMMENDATIONS FOR STAFFING AND TECHNICAL ASSISTANCE
 TO SUPPORT AGRICULTURAL MARKETING POLICIES AND PROGRAMS

Functions and Reference Pages	Probable Location	Additional Professional Staff		Probable Needed Technical Assistance			
		Number and Type	Starting Date	Type and Duration	Long Term Starting Date	Short Term Person Months	Period
1. Current supply, demand and price data (35)	Planning Directorate, MNR and/or Bureau of Stat. and Census	5 Analysts (MS)	July 1979	USDA Specialist 18 months	July 1979	12	1979-80
2. Production costs; supply and demand projections (36)	Sector Analysis Division, MNR	3 Economists (MS)	July 1979	Ag. Economist 24 months	July 1979	3	1979
		3 Economists (MS)	July 1980				
3. Marketing patterns and systems (37)	New Marketing Unit	1 Economist (PhD)	July 1980	2 Marketing Economists 24 mo. each	July 1980	18	1980-82
		4 Economists (MS)					
		1 Industrial Eng. (MS)					
		3 Economists (PhD)	July 1982				
		3 Economists (MS)					
1 Feed Technologist (MS)							
4. Analytical framework (38)	Sector Analysis Division and New Marketing Unit	2 Economists (PhD)	July 1980	Policy Analyst 24 months Home Office Staff 12 months	July 1980	9	1980-81
		1 Economist (MS)					
5. Linkages and interfacing (38)	Sector Analysis Division and New Marketing Unit	(included in above)		(none)		8	1981
6. Implementation and evaluation (38-39)	Planning Directorate, MNR	3 Economists (MS)	January 1981	(none)		12	1981-82
		3 Economists (MS)	July 1981				

TOTAL PROFESSIONAL STAFF

6 PhD
 27 MS
 33 Total

150 person-months

62 person-months

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PART ONE

IMPLEMENTATION OF PRICE STABILITY

PROGRAMS FOR BASIC GRAINS

- A. Current Status and Recognized
Needs in IHMA by Function
- B. Recommendations for Action
Programs by Type of Function

A. CURRENT STATUS AND RECOGNIZED NEEDS IN IHMA BY FUNCTION

Governmental intervention in the marketing of basic food grains is centered in the Instituto Hondureño de Mercadeo Agrícola (IHMA). This autonomous governmental agency was created in May, 1978 to assume market intervention activities formerly performed by the Banco Nacional de Fomento (BNF). BNF purchased grain from farmers in repayment of Bank loans and bought grain from other farmers and from middlemen. Grain was sold in turn through regular market channels, through BANASUPRO retail stores (a division of BNF) and to government institutions such as the Army. BANASUPRO stores were established to provide a "yardstick" outlet for low-cost food products.

IHMA, the new marketing agency, has a broad charge (see Annex 12 for a translation of the law under which it was created, and Annex 7 for an organizational chart and other details). IHMA's basic responsibility is stabilization of agricultural prices, and it has apparent wide latitude in determining how this function is to be performed. Within the framework of the enabling law, broad policy guidelines are formulated through the Institute's Board of Directors. The Board is composed of the Institute's Director General (a non-voting member) and ministerial-level government officials.

While IHMA has apparent jurisdiction over all agricultural commodities, involvement to date has been limited to the four basic grain crops--maize, beans, rice, and sorghum. There is no apparent inclination toward expansion of activities to cover additional commodities--at least not during the next two to three years.

A considerable turnover in staff occurred with the transition of responsibility from BNF to IHMA. Most of the Central Office staff members are new to their job. About 40 percent of the procurement/storage center managers are new employees.

1. Selecting optimum locations, types, sizes and timing, of grain storage and handling facilities.

IHMA inherited from the bank (BNF) grain storage, drying, and cleaning facilities or plans for facilities at 17 locations throughout the country. A list of those in existence or under construction, along with their respective capacities is found in Annex 7. Total storage capacity of facilities already built or under construction is nearly 1.5 million quintales, (75,000 MT) divided about equally between silos and bodegas (warehouses). See Annex 5 for conversion factors.

Major terminals are located at Kennedy (Tegucigalpa) and San Pedro Sula. Each of these sites has a major silo complex holding 293,700 quintales and a bodega of 95,000 quintales capacity. Present total storage capacity of each of these sites is 389,600 quintales. In addition, the Las Palmas site at San Pedro Sula has 36,000 quintales of silo storage and 207,000 quintales of bodega space, most of the latter either completed or nearly completed. These estimates and those to follow are based on the best information available. There was some question as to accuracy of some of the data, part of which came from BNF records, part from IHMA. Most of the older storage

facilities at remaining sites are upright steel bulk bins, with much smaller supplementary bodegas. Construction of larger bodegas is underway at three sites, however: Comayagua (105,000 quintales), Cerro de Hule (150,000), and Tocoa (63,800).

Each of the facilities has heated air drying and cleaning equipment. The terminals at San Pedro Sula and Kennedy each have continuous-flow heated-air driers rated at 384,000 quintales per month and cleaning equipment rated at 96,000 quintales per month. An additional locally-made forced-air drier of unknown capacity was in place at Kennedy. Steel bins at sites inspected by the team had drying floors, heated-air driers and aeration equipment. Batch driers were in place at bodega sites. Aside from the terminals, major drying capacity is found at Danlí (24,960 quintales per month); Comayagua (18,432); Tocoa (18,432); and Las Palmas, Juticalpa, El Porvenir and Choluteca (15,000 + quintales each). Comayagua and Tocoa have cleaning capability of 96,000 quintales per month each, while Danlí has 39,360 quintales cleaning capacity.

Financing has been arranged and plans drawn up for additional facilities as outlined below:

Storage Capacity of
Planned 1979-80 Facilities

<u>Location</u>	<u>Total Capacity</u> (quintales)
Tocoa	52,800
Choluteca	83,600
Juticalpa	116,600
Danlí	116,600
La Entrada	83,600
	<u>453,200</u>

Storage Capacity of Planned Donor-Supported Facilities

<u>Location</u>	<u>Silo</u>	<u>Warehouse</u>	<u>Total Capacity</u>
	-----	(quintales)-----	-----
Tocoa	52,920	63,945	116,865
Choluteca	52,920	30,870	83,790
Juticalpa	52,920	63,945	116,865
Danlí	52,920	63,945	116,865
La Entrada	<u>52,920</u>	<u>30,870</u>	<u>83,790</u>
	264,600	253,575	518,175

All of these planned new facilities are scheduled to be constructed on sites of existing facilities. None of the plans is so firm that it is not subject to possible change in terms of locations, size or facility type. The first group, planned for completion during 1979 and 1980, apparently has support from several sources of finance. The second group, for which a later completion date is likely, is to be funded from BID (Interamerican Development Bank) loans and other sources of donor support.

The 1979-80 plans call for additions to storage capacity of 453,200 quintales, the donor loan plans for another 518,175 quintales, or total new space of 971,375 quintales, a 66 percent increase over existing storage space.

Drying and cleaning capacities sufficient to accommodate the added 1979-80 storage space are also planned. No decision has been made as to drying and cleaning equipment for the donor facilities. A rice mill with a capacity of two metric tons per hour is planned for either San Pedro Sula or Choluteca.

Recently completed bodegas and those under construction appear to have made maximum use of local materials. They generally have concrete-block walls, concrete floors, asbestos-cement corrugated roofs and structural steel roof supports. Recently-constructed warehouses do not incorporate design features to exclude or impede the entry of rodents. Design features are such that the warehouses could be put to alternative uses. Silo designs contemplated for the new facilities are of the standard metal type. No known study has been made of alternatives such as concrete stave or wood construction.

Facility construction is complicated by the fact that Honduras is in an area of the world which is subject to seismic activity. Three major fault lines are believed to converge near San Pedro Sula, for example.

Appropriate size is a function not only of scale relationships but of feasible transport distances from farm to the procurement/storage centers. Present IHMA policies exclude all sellers other than farmers. Appropriate locations are a function of many factors including climate, consumption patterns and surplus crop production patterns. Cropping patterns appear to be changing in certain areas in ways which may have major implications for facility location. It appears, for example, that much rice land in the southern part of the country is in sugar cane. Considerable land in the area around La Entrada is in tobacco production. It is questionable whether facility investments programmed for these areas can be fully utilized. There has been no known comprehensive economic analysis of the location and size variables.

2. Operation and management of physical facilities.

The general level of facilities management by IHMA is good. Facilities are generally in good repair. It was evident that considerable recent attention has been directed toward maintenance of buildings and equipment.

Grading equipment is standardized and adequate, and persons who are doing the grading appear to be well trained. Some relatively long queues of trucks were observed. The bottleneck apparently was in the grading process.

3. Operation and management of grain procurement programs.

Unlike its Bank predecessor, for the 1978-79 crop IHMA has chosen to buy grain only from farmers. A seller must be a BNF customer or be certified by MNR as a bonafide agricultural producer. Farmers can either deliver their

grain personally, or can hire a commercial carrier. There is no minimum lot size restriction at any of the 17 IIMA receiving and storage centers, including the major bulk terminal facilities at Tegucigalpa and San Pedro Sula. Country buying centers will purchase lots up to 200 quintales; larger lots must be delivered to one of the terminals.

Official purchase prices are established each year prior to planting time for the primera or first crop. A two-tier buying price has been established. Prices are FOB procurement centers, with a single price at each of the two terminals and another somewhat lower price at each of the other centers. Price does not vary seasonally, with the result that IIMA purchases are concentrated at harvest time. The "flat" pricing structure provides no incentive for farmers to participate in the storage function.

Procurements as of mid-January 1979 were running far behind the rate needed to achieve full utilization of storage facilities. Purchases may have been slowed in part by the lack of aggressive procurement activities by managers of buying centers. Managers tend to be oriented toward management of physical facilities and have had little training in grain merchandising. Limiting grain purchases to farmers may be another factor; farmers who reside a great distance from buying centers may be forced to sell through private channels. Other farmers may be tied to private sources of credit. A lack of reliable current market price data makes it difficult to evaluate whether official procurement prices may have been set too low to attract an optimum volume of grain. Basic supply and demand data are extremely limited and have been of unreliable quality.

4. Management and preservation of storage stocks.

The climate of Honduras varies widely from one area to another. Climatic conditions are affected by elevation, proximity to the oceans and wind patterns, and range from relatively favorable to very unfavorable. Basic climatic data are available for nine stations operated by the Department of Meteorology. According to preliminary USAID information, the data have been summarized in a form useful to storage engineers. Although maize is generally received at relatively low moisture content, most drying is with heated air rather than natural air or solar drying equipment.

Housekeeping and sanitation procedures at sites visited were adequate. Insect control appears to be good. Grain condition is being monitored regularly, and overall storage management for maintenance of quality appears adequate.

Turnover rates have been low, an inevitable situation where price stabilization is a major program goal. Some stocks have been kept for as long as seven years, an inordinate length of time.

FAO is supporting the two-year assignment to IIMA of a grain storage engineer and a storage entomologist (both from Colombia). A senior storage engineer from Argentina, also under FAO sponsorship, is to be available for short-term assignments of up to six months total.

5. Operation and management of sales programs.

IHMA sells grain as did the Bank, in the open market, to government institutional buyers and to BANASUPRO. Facility managers are required to sell to any willing buyer; there is no minimum purchase quantity, even at the terminal facilities. Official policy discourages selling large amounts to only a few buyers. Facility managers can also transfer grain to each other and to the central terminals.

A release price at which managers can begin to sell their stocks is pre-established by the IHMA central office. Sales normally do not commence until some weeks or months after harvest.

Not having been trained in merchandising, facility managers have tended not to be aggressive in seeking buyers for their grain. Grain as old as seven years was recently identified in the system. Nor is adequate information relative to local stocks and requirements exchanged between facility managers and between managers and central headquarters. Managers have not always been responsive to sales opportunities even where such opportunities have been clearly identified. In some cases, for instance, rice has not moved out of storage even where official sales prices were lower than market prices. At the same time, rice purchase requests made by facility managers in other areas were ignored.

There appears to be considerable personal risk involved for a facility manager who tries too hard to merchandise his stock of grain. The need to follow local market prices and to obtain the best possible sales price can lead to compromising situations. Legal proceedings have been initiated against some of the Bank's former facility managers. It is not surprising under the circumstances that some managers may have adopted a conservative stance and that grain sales have at times been slow.

Lack of an ongoing and reliable source of basic supply and demand data and limited staff analytical expertise have hampered the Institute's ability to establish optimal release prices. Nor has the stabilization goal been identified with sufficient precision.

6. Establishment and implementation of grain grades and standards.

No comprehensive system of grain grades and standards has been established for Honduras. Grain is often sold by the "carga," a volume measure of variable weight, but usually equal to approximately 200 pounds. Measures vary from one area to another, with no accepted nationwide standard. IHMA, however, has an objective system for evaluating the quality of its purchased grain and a published scale of price discounts for quality deficiencies. Three characteristics are evaluated: moisture level, foreign material, and damaged grain (see Annex 7). Grain is rated as grade A, grade B, or CSM (sample grade) depending on percentage of foreign material and damaged kernels. The cutoff point between grades A and B varies by grain (Annex 7). The damaged grain cutoff point between grade B and grade CSM is 10 percent for each of the four major grains. IHMA accepts only grade A and grade B grain, although official records at the San Pedro Sula indicated a substantial

amount of CSM grain (greater than 10 percent damage) in storage; condition of the latter grain apparently deteriorated subsequent to its purchase. Some CSM grain reportedly has been bought at certain facilities and legal proceedings have been brought against former (BNF) facility managers responsible for the purchases. According to one report, as much as one-third of the grain in one area of the country was rejected because of excessive damaged kernels. Under such circumstances, the 10 percent damage restriction may greatly limit procurement potential.

A standard scale of moisture discounts is in effect; the price discount for moisture content above 14 or 16 percent, depending on grain type is equivalent the difference in weight of the excess moisture in the grain. No additional discount is levied to reflect drying costs for wet grain.

7. Management of grain import and export programs.

IIMA is the official Honduran government grain exporting and importing agency; it is also charged with regulation of commercial export and import traffic. Grain has at varying times been imported as well as exported. Some imports have been commercial purchases, others have been under PL-480 programs. Some of the trade has been official, some apparently has consisted of unauthorized shipments across borders with neighboring countries. Relatively long and open borders make regulation of such trade difficult if not impossible. Although quantity and quality of grain supply and demand information is extremely limited, evidence suggests recent prices in Nicaragua and Guatemala have been higher than in Honduras, with resulting net outflows of grain.

Although a "common market" trade agreement is in effect among Central American countries, inability of participants to reach agreement as to specific prices and other terms of trade has rendered the treaty largely ineffective.

Considerable difficulty has been experienced in planning grain imports and exports so as to contribute to price stability objectives. Time lags between identified needs, orders, and final deliveries have resulted recently in grain ordered to supplement short harvests being delivered during the following bumper harvest period.

8. Technical assistance and support of private sector development.

IIMA has no existing programs in support of private sector grain marketing development. Studies have been initiated, however, to determine industry needs and Institute capabilities and definite interest in pursuing action programs as expressed by IIMA officials.

9. Licensing, supervision and regulation of grain marketing and processing organizations.

The Institute has no present regulatory role except in the sphere of imports and exports where it is the licensing agency for all transactions.

10. Dissemination of marketing information to producers, consumers, and marketing agencies.

Although IEMA collects and analyzes basic quantity and price data for its own use, it has played a passive role in making data and analyses available to the public. No program of information dissemination is in effect. Advertisement of its own buying and selling prices, especially the latter, has generally been ineffective.

11. Planning to support functions 1 through 10.

Overall planning is effected through the Planning Department at Central headquarters. Careful planning is required for both short-run operational requirements and long-run facility investment and program needs. Lack of an adequate central source of reliable information has forced the Planning Department to collect and process certain of its data needs and to generate much of its own forecast requirements. A limited technical staff is a definite handicap to these efforts. The basic price-setting function, in particular, is badly handicapped by unreliable forecasts.

Limited policy guidelines also pose planning problems. For example, the question of whether IEMA procurement prices should be set to cover farmers' production costs and, if so, which cost items and for which farmers has not been adequately resolved.

12. Staff development and administration to support functions 1 through 10.

The IEMA central headquarters staff is made up of people who appear to be capable, highly motivated and alert to problems and needs. Many, however, are new to their job and lack analytical or practical experience in dealing with problems of a large and complex grain handling operation. Plans are underway to enroll staff personnel in the government's Professional Institute at Tegucigalpa. The Institute has a pre-established curriculum, however, and does not provide courses aimed at the specific needs of grain marketing and storage specialists and managers.

Facility managers have varied backgrounds and work experience. Some 40 percent have been hired since IEMA was organized in May, 1978. Many are former teachers, agronomists, or accountants. Most have high school level educations. The Bank had an inservice management training program, and IEMA plans to establish a similar program. The Bank sent seven or eight people to the international grain storage and marketing short course at Kansas State University; IEMA hopes to send some of its people.

13. Inventory information and control to support functions 1 through 10.

Careful records of purchases, stocks and sales are kept at each facility. Standard inventory procedures are used and appear to be adequate for purposes of inventory control at that level. Copies are forwarded to central headquarters where summary reports are compiled. Such records provide adequate information for planning and support for operational functions. The information

appears not to be used, however, for optimizing flow patterns among the various IBMA facilities.

14. Transportation and traffic management to support operations.

IBMA has no transport capability of its own. Sellers must deliver grain to the Institute's facilities, and buyers must make their own transport arrangements. Transport equipment must be contracted for shipments within IBMA's system of facilities. Problems have been encountered at times in obtaining transport services during peak demand periods.

No organized system is in place for analyzing transport requirements and for effecting minimal-cost shipments from one facility to another. Nor has there been a systematic analysis of the implication of transport costs for optimal facility locations.

Facility managers have not been trained in traffic management. Systematic procedures for anticipating and coordinating transportation requirements are not in effect at procurement centers nor at the central office.

15. Other administrative functions to support operations (financing, accounting, legal, etc.)

The team lacked the expertise for a careful evaluation of these activities and did not seek to determine their current status or needs. These are important functions, however, and should not be overlooked in the overall planning process.

B. RECOMMENDATIONS FOR ACTION PROGRAMS BY TYPE OF FUNCTION

The conclusions and recommendations which follow are presented on a functional basis. Where recommendations cut across two or more functions, details are included under the area of major emphasis. Technical assistance or training activities are recommended in support of a number of specific needs. Much of the need for technical assistance will be met by FAO's assignment to IEMA of a storage engineer for two years, a storage entomologist for one year and a senior storage engineer for short-term periods of up to six months. Additional short and long-term assistance is required, however.

An economist is needed to complement the FAO resources. A senior marketing economist, one with experience in grain marketing problems in less developed countries, should be fielded by about July 1, 1979, to work directly with IEMA and with the FAO team for a period of two years. This economist would provide technical assistance as needed, specific assistance as indicated under recommendations below, and would be the coordinator of U. S. donor assistance efforts for IEMA. Where technical assistance recommendations are not identified specifically in terms of specialization, timing, and so forth, the economist should be able to supply these detailed recommendations based on on-the-scene perceptions of need.

1. Selecting optimum locations, types, sizes and timing of grain storage and handling facilities.

There is reason to question whether locations, sizes and designs called for in facility construction plans are optimal. No thorough cost-benefit analysis has been made in support of either the donor plans or the facilities planned for the 1979-80 period. Grain facilities generally should be located either near production or consumption centers. Storage in producing areas assures that grain will not be "out of position," and grain stored in consumption centers will insure continuous food supplies for these centers.

Specific location depends on regional patterns of consumption and production, location of existing facilities, road conditions and climatic conditions. Grain probably should not be stored at all along the north coast because of adverse climatic conditions. Road conditions are improving rapidly, but transportation constraints should be considered when locating and sizing facilities. The possibility of earthquakes is an important sizing factor. Other things equal, larger numbers of smaller facilities are appropriate in areas subject to earthquakes. Relatively high costs of delivery from farm to market also mitigate against larger facilities.

The major "type" question is whether new storage should be in bulk or bags. Climatic conditions influence this choice since it is somewhat easier to maintain quality of bulk grain under adverse conditions. It appears, however, that capital costs of bag warehouses are about one-half those of bulk silos. Furthermore, warehouses are more flexible, as they can be put to alternative uses more easily than can silos. Operating costs of bag facilities may be higher, but inventory turnover rates are low in Honduras and the cost difference may not be significant since additional labor is required to empty the bags and refill them again as grain is moved in and out of bulk

storage. The appropriate type of facility may be dependent on the potential for natural air drying, since air drying is more effective in bulk storage. Natural air drying is less costly than heated air drying and would conserve foreign exchange. No thorough analysis has been made of the relative costs of the two facility types under Honduran conditions.

Recommendations.

- (1) A thorough feasibility analysis should be conducted as soon as possible to insure that planned new facilities are properly located, sized and designed. All costs, including those of facility operation, quality maintenance, and transportation, must be considered under each alternative. Important considerations include:
 - (a) Relative costs and benefits of bag and bulk storage.
 - (b) Relative costs and benefits of alternative drying methods.
 - (c) Relative costs and benefits of alternative designs. For example, the potential for using wood or concrete stave silos should be evaluated.
 - (d) Concrete steps leading to loading docks in recently-completed warehouses allow entry of rats. New facilities should be designed so as to exclude rodents.
 - (e) Facilities should be designed so as to withstand earthquakes. Design features should offer protection against quakes up to 6.0 on the Richter scale.

Additional technical support required for the feasibility study is estimated to include an engineer for two person-months and a grain marketing economist for two person-months. Support would be coordinated by the long-term marketing economist identified on page 10.

- (2) Storage conditions and appropriate design features to meet storage needs can be better evaluated if basic weather data available at the Weather Bureau is coded on computer tapes. If this has not already been done, support should be provided to complete the task. A program for evaluation of the coded data is available at KSU and could be run on either the KSU or the MNR computer. The latter is recommended, as it would more fully develop local capabilities for future use of the program. Short-term technical assistance needs will be identified and programmed by the long-term marketing economist (Section I,B). Assistance requirement of about two person-weeks is anticipated (engineer identified in Section I,B,1,(1)).

2. Operation and management of grain storage facilities and stocks.

Present facility management is generally good. However, continued attention should be directed toward maintenance of facilities. Sanitation and housekeeping were good at sites visited by the team; no major problems were detected.

Grain storage conditions in the southern area of the country are favorable because of low humidities. Only rice should require drying, and natural air

drying should be the most economical method for this crop. Except in the southern area, average relative humidities are high enough to cause some problems. Grains will require drying before storage in many cases, but sun drying or natural air drying should be considered as alternatives to high-temperature drying. Locations near the north coast, e.g., Tela, may need to be avoided for any medium or long-term storage.

In most areas, aeration of bulk grain will require careful management to avoid rewetting. Grain can probably be stored in bag warehouses at most locations without excessive rewetting and resultant mold damage. High temperatures throughout the year promote insect growth, making good inspection and control systems necessary.

Some grain is being dried to a lower moisture level than necessary. A range of 13.5 to 14 percent for maize should be safe for bulk storage; drying costs and breakage would be reduced as result.

Recommendations.

- (1) Climatic conditions and drying needs should be monitored carefully. Only as much moisture should be removed in drying as is required for safe storage.
- (2) Storage should be avoided in areas where climatic conditions are adverse.
- (3) Operating cost data for drying grain are needed to evaluate sun, natural air and heated air drying systems. It appears likely that sun or natural air systems can be employed at considerable cost savings in most locations.
- (4) Assuming this has not been done, weather data available at the Weather Bureau should be placed on magnetic tape to facilitate quick and easy retrieval and analysis. When available for analysis, the data should be used to
 - (a) determine probable mold problems in bag and bulk storage and formulate appropriate storage management programs.
 - (b) analyze applicability and costs of alternative drying systems. Technical assistance requirements for weather data analysis are outlined above in Section I,B,1,(2).
- (5) The need for grain cleaning and the degree of cleaning required should be studied. Cleaning necessitates emptying and filling bags; costs of these operations are eliminated where cleaning is not performed. Present private trade discounts for uncleaned grain should be investigated to determine the extent to which consumer preferences dictate cleaning (see Section I,B,3(1) for details).
- (6) Grain stocks should be rotated regularly. Most grain should not be kept for more than a year. Movement of grain from surplus to deficit areas should be scheduled for times when road conditions are favorable (see Section I,B,6(2) for inventory management recommendations.)

- (7) The problem of unloading delays at receiving facilities should be studied with view toward reducing waiting time.
 - (8) All electric motors should be protected with overload devices to prevent the motors from burning out. An inventory of needed control and wiring repairs should be made and budgeted.
 - (9) Surface drainage of water appears to be inadequate at some of the new facilities. Immediate attention should be directed toward assessment of responsibility for and resolution of this problem.
 - (10) Heated air dryers are fire hazards and should be located outside of buildings in which grain is stored.
 - (11) Contracts for new equipment should be written with provisions for training of IHMA maintenance people. Recommended stockages of spare parts should also be supplied by contractors.
3. Establishment and implementation of grain grades and standards.

The presently-employed grading factors of moisture, foreign material and damaged grain are the most important quality factors. Presently-used foreign material and damaged grain discounts appear to be reasonable, but should be compared to levels found in local wholesale markets to determine whether IHMA standards are unduly strict for Honduran conditions.

Moisture discounts appear not to be far from correct but need some adjustment. For example, when grain is dried, moisture is lost and the price of one unit of undried grain should be less than the price of one unit of dry grain. The formula is:

$$P_1 = P_2 \frac{(100 - M_1)}{(100 - M_2)}$$

where:

M_1 = moisture, % wet basis of grain before drying

M_2 = moisture, % wet basis, of grain after drying

P_1 = price for wet grain

P_2 = price for dry grain

Given the present IHMA price for Grade A maize at Tegucigalpa and San Pedro Sula of L13.50 for up to 14 percent moisture, the price for up to 24 percent moisture should be:

$$\begin{aligned} P_1 &= L13.50 \frac{(100 - 24)}{(100 - 14)} \\ &= L11.93 \end{aligned}$$

This formula accounts only for the loss of weight. The present offering price of L11.95 accounts for the weight loss but not for drying costs. Existing price discounts for moisture give the farmer no incentive to deliver dry grain since IHMA is absorbing the entire drying cost.

Appropriate discounts for foreign material are not too difficult to establish. One percent of foreign material represents loss of one percent of nutritive value and the price should be discounted by one percent.

Including both insect and mold damaged kernels in the same grading factor is a questionable practice. Insect damage results in a loss of weight and is penalized accordingly. Mold-damaged kernels, however, may contain a mycotoxin; if so, they should be assessed a heavier penalty. A publication of the KSU Food and Feed Grain Institute, "Development of Grain Grades in Developing Countries," discusses this subject in detail.

Recommendations.

- (1) Samples of grain, together with their respective selling prices, should be obtained in wholesale markets. Data collection should cover major wholesale markets across the country and extend over a period of about one year. The samples should be graded, keeping insect, mold and broken kernel damage separate. A multiple regression analysis should be undertaken to establish the extent to which price is affected by each of the quality variables.

The study will indicate not only the present quality of grain in commercial channels, but will also provide appropriate discount rates to be applied to each of the various grading factors. Resulting IHMA discounts would be comparable to those used by the private trade. Results of the analysis will also be helpful in determining whether grain received by IHMA should be cleaned.

Technical assistance required includes a person experienced in evaluating grain grades and grade/price relationships for one person-month. This assistance should be divided between pre- and post-data collection.

- (2) IHMA should measure its actual drying costs over various moisture ranges and reduce offering prices by the amount needed to cover drying costs as well as weight losses. This should be done for various ranges of moisture because it is more costly to dry from say 15 to 14 percent than from 23 to 22 percent moisture.
- (3) Tests should be made to determine whether mycotoxins are present in mold-damaged grain. Such tests will have to be run outside the country; arrangements will need to be made with a laboratory such as the one at the University of Costa Rica (see also Section I,B,7). If mycotoxins are present, penalties of as much as 4 percent should be levied against moldy grain.

4. Operation and management of grain procurement and sales programs.

The purpose of IHMA and its role in development of the agricultural sector are not completely clear. The nature of appropriate procurement and sales programs will depend in part on whether farm-level prices are to be supported above equilibrium levels or simply stabilized within some range of allowable fluctuation. Also critical is whether consumer prices are to

be subsidized or only stabilized. These questions need to be resolved at the cabinet level of government, based on analysis of alternatives by MNR (see Part Two).

The Institute's larger facilities were not designed to serve small sellers and are not well suited for that role. Moreover, limiting grain purchases to direct sales by farmers may make it difficult or even impossible to buy grain in quantities sufficient for the Institute to fulfill its price stabilization role. Some farmers may be unable to transport their grain to distant IHMA buying centers even though not doing so may deprive them of badly needed BNF credit. Present grain grades and standards may limit potential volume even further; preliminary evidence suggests that the 10 percent damage limit may be excessively stringent (see Section I,B,3 for detailed recommendations). Finally, managers tend to focus attention on preservation of grain stocks and are not aggressive in grain buying and selling, further handicapping merchandising operations.

Establishment of appropriate policies and programs is hampered by lack of reliable data describing location and extent of surplus and deficit areas. Limited data and analytical capabilities are serious handicaps to establishment of appropriate purchase prices and release triggers. Procurement prices must be established prior to planting time, must be well publicized and must be consistent over time if they are to be used as forward prices to facilitate planning by farmers and others. Price levels must be in keeping with stabilization goals, but must also be consistent with IHMA's capabilities.

A flat pricing structure is not adequate. Prices should vary seasonally and geographically in keeping with costs of storage and transportation. Allowance should be made for the fact that there may be areas where harvest patterns do not coincide with average patterns for the country. Near La Entrada, for example, maize was no more than in the tasselling stage in mid-January, whereas it was long since harvested in most other areas. These variations in local harvest patterns offer the potential for substituting transportation for storage--a possibility which needs further study. At the same time, staggered harvest patterns may reduce seasonal price differences and thereby limit the storage margin that IHMA can expect.

It is important that selling be timed to support price stabilization objectives. Clear selling guidelines are needed to protect managers and to encourage them to be aggressive. Availability of grain must be well advertised. Pre-established selling triggers are essential; their design needs careful analytical attention. Limited data and analysis pose limitations to the kinds of triggers which can be used in the near term.

Purchases and sales of grain in world markets, if properly timed, can contribute to price stabilization objectives. It is inevitable that some trade will occur. Borders with neighboring countries cannot and should not be closed to trade. Over the long run, foreign trade can provide benefits from specialization. Honduras should specialize in production of commodities for which it has the greatest comparative advantage. It is essential, however, that domestic pricing policies be consistent with market conditions in neighboring countries; present market intelligence efforts are inadequate for the task.

The potential for domestic price stabilization through imports and exports can easily be overstated, however. The pipeline of grain imports and exports cannot be turned on and off quickly or easily. Imports to meet domestic shortfalls may arrive too late to be useful; their arrival might even coincide with the next bumper harvest and thereby destabilize prices. It is clear that domestic reserves, in addition to adjustments in foreign trade, are needed if price stabilization goals are to be fulfilled.

Recommendations.

- (1) Purchase prices and release triggers for the 1979 crop must be established very soon. Purchase prices, in particular, should be set prior to planting time which will begin in late April or May. IHMA should move ahead immediately with data assembly and preliminary analytical efforts, recognizing that limited time and data call for a limited and expedient analysis. Production cost data available from the MNR sector study should be obtained.

IHMA will need short-term technical assistance in performing this extremely important task. One marketing economist will be needed for one month during April and early May to assist with the price analysis.

- (2) Clear grain purchase and release guidelines based on analysis recommended in (1), above, should be published and advertised to protect facility managers and to encourage timely procurement and sale of grain (see Section II,B).
- (3) Immediate attention should be directed toward determining possible import requirements for the coming year. If imports will be needed prior to the next harvest, immediate action will have to be taken. Technical assistance in the form of a grain marketing economist (one person-month) is required.
- (4) Facility managers should receive training in grain merchandising (see Section I,B,6, "Staff Development," for details).
- (5) IHMA should reconsider its policy of buying grain only from farmers.
- (6) Honduran representatives should be sent to regular meetings of the Central American Common Market, with a view toward exchanging market information.
- (7) A system should be established for the ongoing collection of timely market intelligence in neighboring countries.
- (8) The basic role of IHMA must be clarified. Long-term programs of price stabilization must be in keeping with broader policy guidelines established at the Ministerial level. Section II, B of the present report contains detailed recommendations for an assessment of overall agricultural marketing policy.

- (9) Based on the needed guidelines from the Ministry, IHMA should establish ongoing price guidelines and mechanisms for establishment of prices and other terms of trade for each new crop. Technical assistance will be required to meet these needs. The long-term (two-year) marketing economist identified in the introduction to Section I,B, above, can provide much of the needed assistance and can act as a liaison in identifying the need for and timing of additional short-term specialists. Two man-months of such short-term assistance should be funded.
- (10) A plan should be developed for programming exports and imports in furtherance of basic price stabilization goals. Technical assistance to meet this goal can be supplied by the marketing economist identified in the introduction to Section I,B.

5. Support of private sector development.

IHMA has unique personnel and facility resources and potential access to donor assistance for support of private sector grain market development. Facilities could be used as demonstration sites for illustration of the latest techniques for storage, drying or cleaning. IHMA engineers might organize workshops in these same subjects. Staff economists or financial specialists could share their expertise with farmers, private grain traders and processors. Custom services could be provided. Feed manufacturers could be assisted in developing least-cost rations; importers and consumers could be given assistance in making most effective use of grain. The possibilities are nearly endless.

As the Honduran grain marketing system continues to grow and develop, the need for establishment and enforcement of nation-wide grades and standards, weights and measures, contractual provisions and terms of trade generally will become critical. The need for forward contracting and other means for integrating the various system elements and for a more objective and impersonal transactional system will grow.

IHMA may or may not be the proper focus for development and enforcement of an appropriate regulatory framework. The Institute clearly has unique technical expertise and experience. On the other hand, there is potential conflict of interest in an operational grain marketing agency having the concurrent role of regulating its competitors.

Control of marketing margins implies control of costs as well as control of profits. Marketing costs might be reduced by provision of improved services to middlemen. IHMA should strive to reduce unloading times at its facilities, seek to standardize weights and measures, and might reduce risks involved in handling high moisture grain by providing custom drying services. Continued direct grain purchases from farmers will also have a salutary effect on the competitive market environment.

IHMA assembles for its own use certain basic grain market supply and demand data. Other data are obtained from other government agencies such as MNR and the Bureau of Census. A system for the regular and timely

dissemination of information of value to farm producers, to consumers and to processors and other marketing groups would be useful. Coordination between IHMA and other information-generating agencies is needed to assign direct responsibility for this function, to minimize duplication of effort and to assure timely release of important information. An interministerial committee has been established to evaluate this need. Once the committee's task is completed, IHMA's role should be clarified. Ideally, information released should be in a directly usable form and should have evaluative as well as objective content.

Recommendations.

- (1) IHMA should explore possibilities for providing custom drying and warehousing services to farmers and to the private grain trade.
- (2) IHMA should draft plans for the timely public release of market information in a form most useful to farmers, traders, processors and others in need of market news.
- (3) IHMA should consider development of an educational arm capable of providing technical assistance to farmers, traders, processors and others who store and handle grain.
- (4) The need for industry-wide regulations should be studied carefully and plans made for lodging regulatory authority in some governmental body. It would be logical and appropriate for IHMA to take the lead in initiating such studies.

In each of the above areas the recommended long-term marketing economist (Section I,B) will be available to provide technical assistance and to identify possible additional assistance requirements. In addition, the services of a grain marketing and storage specialist (two person-months) are recommended.

6. Staff functions to support operations.

Staff support functions are vital to the efficient operation of a complex organization such as IHMA. Planning is highly important for an agency faced with monitoring, evaluating and stabilizing markets for basic food commodities. IHMA is a relatively new agency without performance history, making it somewhat difficult to evaluate its capabilities. It is clear, however, that the planning staff is small and relatively inexperienced, that it is forced to work with incomplete data of questionable reliability and that time is growing short for establishment of support prices for the next crop. Plans for new facilities need careful evaluation if serious errors in type and location of facilities are to be avoided.

Other staff functions such as Inventory Information and Control and Transportation and Traffic Management are also critical. Little has been done at the central office level to coordinate either of these activities.

Many staff members, including facility managers, engineers, biologists, economists and other specialists, are relatively new and inexperienced

employees. Training needs exist throughout the organization.

Recommendations.

- (1) Careful plans must be made as soon as possible for new facility development (Section I,B,1) and for grain procurement and sales policies (Section I,B,4). As indicated previously, services of a long-term marketing economist (two years, starting about July 1, 1979) as well as short-term technical assistance for a marketing economist and storage engineer (specific needs to be identified by above marketing economist) will be required to supplement the capabilities of the Planning Department.
- (2) A centralized system of inventory control should be established to coordinate flows of grain among IHMA facilities. Such a system would assure that grain requirements throughout the country are met promptly and at the lowest combination of storage, handling and transportation costs. Services of the marketing economist (Section I,B) will be helpful in setting up the system. Short-term technical assistance (one person-month) of a grain marketing specialist with experience in inventory and traffic control is also recommended.
- (3) Efficient utilization of transportation services requires careful planning whether vehicles are owned or contracted. Technical assistance services of the inventory control/traffic specialist identified in item No. 2 above will be required for one person-month. The coordinator of transportation activities at Institute headquarters and each of the facility managers should receive training in traffic management. Such training might best be accomplished during the annual in-country short course recommended under item No. 4, above.
- (4) Three or four warehouse managers or other staff members should be sent to the June-July, 1979 short course in grain marketing at Kansas State University. Upon their return the graduates should work in cooperation with other IHMA staff and with the marketing economist (Section I,B), in setting up a training program for all IHMA facility managers. Merchandising activities should be given special emphasis in the program. A two-week course each year for the next five years is recommended. The assistance of an economist and a storage specialist (two person-weeks each per year) will be required in support of the training.
- (5) Over the longer term, training activities aimed at upgrading staff planning capabilities are essential. IHMA should proceed with its plans for inservice training for central staff, facility managers and employees. Inservice training must be established as an ongoing activity. New employees must be provided with appropriate instruction. Periodic refresher training along with dissemination of new ideas and procedures are essential activities.
- (6) IHMA is encouraged to follow through in its plans for training staff at the Professional Institute at Tegucigalpa. The nature of courses

offered at the Institute should be explored further, however, to assure that the training will meet IHMA's needs.

- (7) Consideration should be given to training engineers, biologists and economists at the M.S. level to ensure that the personnel needs of IHMA and other Honduran agencies will be met in the future. Training for five engineers, five biologists and five agricultural marketing economists during the next five years is a reasonable goal.

7. Cooperation with related grain storage and marketing activities.

FAO. The technical assistance to IHMA being provided by FAO is very timely and should be extremely helpful. The experienced engineers and quality-control biologist (introductory comments, Section I,B) can provide valuable guidance and assistance in making improvements in operations and in planning for expansion of facilities. They should work as members of the team which will be studying problems of location, size, and feasibility of proposed new facilities.

Swiss Post-Harvest Project. The recent agreement between the Swiss Consulate and MNR to initiate a major program of post-harvest loss reduction is highly commendable and should yield outstanding benefits. The program is very well planned, well financed and well staffed.

Although the program is aimed primarily at identification and reduction of on-farm losses, many of the same basic storage principles apply at the commercial level as well. Development of good farm storage practices will help assure high quality grain for IHMA. If a pricing system is developed which includes a time (storage) margin, the need for additional IHMA storage facilities may be reduced, and may lead to a more rapid turnover of stocks.

Costa Rican Grain and Seed Research Institute. This relatively new Institute is a part of the University of Costa Rica. It has received support from the local USAID Mission and will be receiving further USAID support through a cooperative agreement with Kansas State University. Some of the facilities available are unique in Central America and may be useful to IHMA (and to the post-harvest project). For example, good laboratory equipment and trained personnel are available for mycotoxin analysis. It is difficult to send samples of grain to either the U. S. or England for such analyses because of import and quarantine restrictions.

Central American Common Market and ROCAP. Although Central American Common Market activities have not developed as rapidly and as extensively as originally envisioned, IHMA should participate actively in the organization (see also Section I,B.4). Consideration must be given to neighboring country prices as IHMA sets its own pricing policies, and it would be highly desirable if each country could be made aware of what neighboring countries were planning. Any country which attempts to stabilize prices at a level much higher or lower than adjoining countries runs the risk of unwanted imports or exports.

ROCAP has unique capability for supplying technical support services. ROCAP specialists have specialized expertise as well as intimate knowledge of local and regional conditions.

Recommendations.

- (1) Continued cooperation with above groups is highly recommended. Each has unique capabilities for supporting marketing or other post-harvest activities.
- (2) IHMA should maintain close contact with the Swiss project to support the project wherever possible and to keep abreast of technical developments which have application in the commercial field.
- (3) USAID support of the Swiss project in the form of short or long-term training assistance (through KSU courses) may be needed. USAID-supported technical assistance to supplement that being provided by the Tropical Products Institute may also be required. The long-term marketing economist will be in a position to identify these needs as they develop and to program whatever support is called for. Technical assistance to be provided by one post-harvest technical specialist for one person-month should be budgeted.
- (4) Technical support services available from ROCAP should be used wherever appropriate.

PART TWO

TECHNICAL SUPPORT FOR AGRICULTURAL MARKETING
POLICIES AND PROGRAMS

- A. Current Status and Recognized Needs in
MNR by Function
- B. Recommendations for Action Programs by
Type of Function

A. CURRENT STATUS AND RECOGNIZED NEEDS IN MNR BY FUNCTION

The assessment of the current status and recognized needs presented in this section represent the study team's interpretation of reports by Honduran government officials and first-hand field observations. The crucial need for information and analysis to support marketing policy decisions and operational planning first emerged on January 11 in a working conference at IHMA with Director of Operations, Sr. Jose A. Samra, Director of Planning, Sr. Virgilio Galvez and their staffs (see Annexes 2 and 3). This need was discussed and verified at a follow-up conference on the same date with the Director of Sectoral Planning in MNR, Sr. Carlos A. Zelaya and with Mr. William H. Janssen and his staff at USAID.

Following preparation by the study team of the outline of key functions by Honduran public agencies (see Annex 10) and discussion of preliminary team recommendations with administrators of IHMA, a conference was scheduled for the study team and USAID officials with Minister Rafael Leonardo Callejas, MNR and Director General Rene Ardon M., IHMA to discuss the needs and alternative strategies for meeting them. The conference was held on January 18 with Vice Minister Guillermo Sevilla G., MNR presiding (the Minister was called to Cabinet meeting) and attended by Director General Ardon and Deputy Director Enrique Paredes of IHMA, Director Zelaya and Deputy Director Hernando Palma, Sectoral Planning, MNR, together with William H. Janssen, Leonard Kornfeld, T. David Johnston, Luis H. Zelaya and KSU team members Phillips and Anderson on the USAID side.

The conference resulted in consensus of the priority need for enhanced analytical capability to support marketing policies and operational activities, following the general outline of functions prepared by the KSU team. The need for a unit within the Honduran government, perhaps within the Planning Directorate of MNR, was discussed. The need to identify specific analytical activities and to develop work plans to accomplish them was recognized. The Ministry agreed to name a Commission to work with USAID officials in accomplishing these tasks. USAID agreed to request additional short term help from KSU during February 1979 to assist. The KSU team agreed to prepare a draft of the current status under each of the 20 supporting functions (the present section) for use by MNR and the Commission prior to departure to USA from their current assignment. Dr. Johnston was designated as coordinator with the Commission from the USAID side.

1. Collection, analysis and dissemination of current market prices, quantities, stocks and flows.

Some of this information is being assembled and disseminated by the Ministry of Natural Resources (MNR), but on a scale of 1 to 100, the present effort might equal about 5. The need for additional effort is recognized, and plans are approved for some expansion of effort.

The strongest series now available is represented by the average monthly wholesale and retail prices by region (see Annexes 7 and 11), particularly those for the basic grains. However, even this series is released much too late to be of maximum benefit.

The average prices received by farmers are much less reliable than wholesale and retail prices, even for the basic grains. Efforts are needed to improve the system of collection, tabulation and release of this series, and to extend it to other commodities.

Very little information is collected on marketable quantities, either in specific markets or at the farm level by department and region. The need for such information is clearly recognized by MNR and by potential user agencies.

Information on stocks and flows of grains and other agricultural commodities is not now assembled on a regular basis. A pilot study of the collection and tabulation of such information has been completed, and plans are underway to obtain key inter-department flow data through a system of collection at the security check points along major roads throughout the country.

2. Conduct of crop surveys, tabulation and analysis of data, preparation and dissemination of crop forecasts, and related outlook affecting market supplies.

The generation of reliable crop estimates of areas harvested, yields and production by region still represents a major problem in Honduras. By law, the official estimates are the responsibility of the Bureau of Statistics and Census of the Ministry of Economics. For the past three years, the published estimates have not come out until several months after the dates due and needed, and have been off by as much as 30 percent or more, so that the problem has become a major political issue. The Ministry of Natural Resources and user agencies such as INMA and BNF have had to develop separate estimates from secondary data. The MNR has worked closely with the Bureau of Statistics and Census in attempts to improve the estimates, but so far without success.

A priority interim effort is underway currently (January, 1979) by the Planning Directorate of MNR to assist Statistics and Census to correct and improve the sample frame, to develop systems of cross checks and otherwise improve the procedures for developing and releasing the estimates. The primary focus of this effort is more accurate current estimates, but it is anticipated that the effort will be the first step toward a reliable sample frame and accurate estimates in the years to come. AID is supporting the MNR in this effort, including TDY technical assistance through USDA Crop Reporting Service specialists assigned to ROCAP.

It seems clear that improvement of the crop estimates must be given continued priority attention over the next two years or more, a recognition that is widely shared by Honduran government officials. Top priority must be given to the basic grains, but the estimates need to be extended to additional agricultural commodities as well.

3. Collection of data and analysis of demand conditions, preparation and dissemination of outlook reports on demand and utilization of basic grains.

An increasing amount of this information is being assembled by the Planning Directorate of MNR in connection with the agricultural sector analysis work.

Although still crude, some of the structural models are working fairly well, and are capable of generating realistic estimates and checks on statistical projections of demand and utilization. Those directly involved in this work believe that the "front end" investment in model building has been made, and that additional efforts to improve and expand the models, and to make intelligent application will result in high pay-off.

These efforts are still far short of being able to produce complete outlook and situation reports for the basic grains and other key commodities, and priority should be given to expanding efforts toward developing this capability. Complete, accurate and timely outlook situation reports are badly needed by IHMA as well as by many other public and private agencies serving Honduran agriculture.

4. Analysis and projection of shifts in cropping patterns affecting the location and concentration of agricultural production.

The regional agricultural sector model used by the Planning Directorate of MNR addresses key factors bringing about shifts in cropping patterns, and can be used to develop projections of changes in production concentration for the basic grains and other major farm enterprises. There is need to refine the model and to up-date some of the coefficients used. In the meantime, the existing model can be used to develop projected production patterns for publication and distribution to agencies needing this information.

Additional data collection and analysis will be needed to identify and project shifts in production patterns within regions. Most of the existing data base for the agricultural sector model is not disaggregated to the provincial and municipality levels, and the need for disaggregation is recognized. Currently, study is being given to the feasibility of designing the agricultural sample frame on a municipality basis. If this can be done, disaggregation of production projections will be facilitated.

It is recognized that effective planning for optimum size and location of marketing facilities requires projections of production concentration within regions. Pending disaggregation of the model it may be desirable to conduct special field studies of shifts in production for key commodities, at least in some regions of the country.

5. Analysis of factors affecting production costs, and preparation and dissemination of annual cost of production reports for agricultural enterprises.

Most of the information necessary for preparation and publication of annual cost of production reports by major agricultural enterprise by region has been developed in connection with the agricultural sector analysis in the Planning Directorate of MNR. So far, no such reports have been prepared, and the desirability for doing so is recognized. This could be done by assigning existing technical staff to this task--a course which seems feasible upon the return of MNR staff economists now completing advanced degrees in the USA.

In the absence of such reports by the MNR, staff economists in agencies such as IHMA and BNF which require this information must continue to devote much time to the development of current estimates of production costs. This results in needless duplication of effort by one of the country's more scarce resources, and is likely to result in less reliable estimates for policy support than would be possible if uniform cost of production data were available to all user agencies from the MNR.

6. Analysis and projection of shifts in demand factors and development of demand projections by commodity and market.

As with cost of production data, much of the information for demand projections by commodity and market has been developed in the agricultural sector analysis by the Planning Directorate of MNR. Thus far, the Ministry has not prepared and released projections, even for the basic grains, but could do so without too much additional effort.

It appears that market demand projections for key agricultural commodities are needed for effective operational planning by a number of public and private sector agencies in the country. As with reports of production costs and supply projections, the publication of demand projections could be produced at relatively little additional cost, providing substantial additional benefit from the "front end" investment already made in the sector analysis work by the Planning Directorate of MNR.

7. Analysis of factors affecting farmers' production response and estimation of supply response to alternative price and non-price incentives, including impacts of competition for agricultural inputs.

This is an area for which very little reliable information is available to IHMA or to other agencies charged with responsibilities requiring such information. It appears that the process of fine-tuning the agricultural sector models already has produced much valuable supply response information, and will be producing more in the immediate future. Those familiar with the sector models have the competence for structuring them as simulations to predict quite accurately the probable production response by region to alternative sets of possible price and non-price incentives.

Given the political as well as economic importance of knowing the response that can be expected with alternative minimum prices and other incentives, the potentially high payoff from this kind of analysis is widely recognized. It would appear that serious consideration should be given to assigning high priority to work in this area.

8. Analyses of marketing functions, channels, costs and margins for agricultural commodities and processed products therefrom.

Very little systematic analysis of marketing functions, channels, costs and margins has been done by the Ministry of Natural Resources or by any of the Honduran public agencies concerned. Some semi-sporadic analyses have been made of marketing functions and channels for the basic grains and for selected produce commodities such as oranges and potatoes. Only in the case

of major industrial and export crops are systematic analyses of marketing functions, channels, costs and margins maintained on a regular basis.

It appears that the lack of consistent overall analysis in this area, and in the other marketing support functions represented by numbers 9-15 below, traces in part to the fact that no unit in MNR or other Ministry of the government has been assigned this responsibility. As a consequence, IHMA and other agencies charged with market intervention have been seriously handicapped.

Probably the most comprehensive one-time analysis of the existing marketing systems for the basic grains and other key commodities was completed in 1975 by a Canadian consulting firm under CIDA support (see Annex 9, references 4-6). While useful as a benchmark, the study does not meet the total needs of government policy makers and program planners, and few of the findings and recommendations have been implemented. As result, confusion continues regarding the proper role of the government in food system development and market intervention to the benefit of Honduran farmers and consumers. It would seem that the time is ripe for planning and initiation of systematic analyses in this area, not only for the basic grains, but for other food products as well.

9. Analyses of market organization, structure, conduct, and performance for agricultural marketing and processing industries.

Except for occasional "brush fire" efforts, apparently virtually no analyses have been made of market organization, structure, conduct and performance of agricultural marketing and processing industries by Honduran government agencies. The need for such analyses seems to be recognized, but the lack of understanding of analytical procedures coupled with the lack of top level government support seems to have prevented much being done.

Both policy makers and program implementing agencies have been handicapped because they have not had the results of market conduct and performance studies. Operating "in the dark" as they have had to do, successful marketing policies and programs have occurred more by luck than by design, and probably have not occurred as frequently as they might have.

Starting from the present level of effort, the MNF and other ministries cannot expect to move into all areas where gaps exist at the same time, and this area may be one that will have to be delayed a few years as higher priorities are assigned to areas more directly complementary with the agricultural sector analysis. However, the potential pay-off is very high, and careful consideration and evaluation should be given to developing competence in this area of market analysis.

10. Analyses of physical and institutional infrastructure affecting the development and performance of marketing systems for agricultural products.

In Honduras as elsewhere, it is probable that the performance as well as the development of marketing systems for agricultural products is constrained

by elements of the physical and institutional infrastructure. Apparently virtually no systematic analysis has been made to identify such constraints nor to measure their impacts, either in MNF or elsewhere in the Honduran government. Priority is being given to the development and improvement of public market places for farm produce, but the decisions regarding the type, location, size and function of such facilities appear to have left something to be desired. The same can be said of some of the grain handling and marketing facilities transferred to IHMA from BNF. Marketing considerations have been reflected in the development of roads, bridges, etc., but apparently not on a systematic basis.

Even less consideration seems to have been given to the interdependence between institutional infrastructure and market development. Neither policy makers nor implementing agencies have had the benefit of systematic analysis to define the consequences of alternatives.

Key staff members in the Planning Directorate of MNR are aware of the analytical tools which might be used for this kind of analysis, and how such tools could be used as simulations to predict in advance the consequences of alternatives. They understand how such modelling could be integrated with the existing agricultural sector models. It would seem to be a matter of determining the relative priority for such work and then establishing a work plan, including the needed technical assistance, to implement the analysis.

11. Analyses of existing and alternative technologies in agricultural marketing and processing industries, including internal and external factors restricting efficiency.

Some analysis of appropriate technologies in agricultural marketing and processing industries is being done in Honduras, including that supported by USAID. In the full sense, appropriate technology analysis involves much more--assessing all alternative levels and types of technology against the complete local setting of specific total food systems--analysis of the fixed cost-variable cost relationships (envelope cost functions of alternative technologies) against the prevailing risks of less than full capacity utilization--alternative means of developing the human resource to manage the most efficient technology--and so on. So far little has been done to link the results of this kind of work with systematic studies of marketing margins and costs or to simulations of probable results of possible alternative policies and programs.

In this broader context, appropriate technology analysis reflecting internal and external factors limiting efficiency can be very productive indeed. Specific analyses of this nature are recommended for IHMA's consideration (see recommendations section on implementation of price stability programs for basic grains). Similar analyses are needed in other segments of the total marketing and processing system for the basic grains, and for the marketing-processing systems for other foods produced by Honduran farmers.

As suggested above under function No. 8, the appropriate unit for this function needs to be given thought, because no critical mass of talent for such analysis has yet been developed. Some of the work can best be done in

the program implementation agencies such as IHMA, but it would appear that a central unit for this and other marketing system analysis is needed.

12. Analytical concepts and procedures reflecting changing structural relationships in the markets and marketing systems for Honduran agricultural products.

This function involves the development and testing of appropriate models capable of addressing the consequences of changing structural relationships in the marketing system. As with the agricultural sector models, basic computer models are available for transfer to Honduras as part of technical assistance programs, but they must be structured and tuned to fit Honduran conditions. This function needs to be closely linked to Nos. 8-11 and 13-15, because the model building is of little use without functions to produce the appropriate data and without a built-in system to bring the findings from the analytical tools to the direct service of policy makers and program planners.

The relative priority to be assigned to the function of model building depends upon decisions regarding the total context for analysis of markets and marketing systems. Apparently the needed computer capability is available, and much of the staff development and experience gained in the Planning Directorate of MNR with the agricultural sector models is directly transferable. If models can be developed and applied first to high priority needs so that success stories can be demonstrated, this will create interest, support and impetus for additional and more complex model development. This approach would seem to be much more feasible than an intensive multi-year model building effort at the start of the marketing analysis activity.

13. Short, intermediate and long term projections of the impacts and results of established policies and programs on markets and marketing systems for agricultural products.

Once the appropriate empirical analyses have been institutionalized and the analytical tools and models made operational, highly useful information can be reported to policy makers, program designers and implementing agencies. Short term, intermediate term and long term projections of the impacts and results of existing policies and programs represent one set of such information. Such projections can be specific to the marketing systems for each commodity group and each region of the country. Furthermore, if properly structured, they can project the incidence of the impacts as between small farmers, medium and large farmers, marketing agencies, low income consumers and high income consumers.

No such systematic projections exist at present, and some time will be required to institutionalize the capability to produce them. In the interim, it will be necessary to continue the more piece-meal techniques to develop the projections which policy makers and implementing agencies must have. Techniques now being used can be refined by multiple regression and other statistical procedures to build a gradual transition to more and more complete and accurate projections to assist the development of agricultural marketing systems and programs. This process will be facilitated if some centralization

is given to the development of the analytical capability to support marketing policies and programs.

14. Identification of major impediments and constraints limiting the effectiveness of the existing marketing system, and development of promising alternative policies and programs for removing these impediments.

The probable major impediments and constraints limiting the existing marketing system will be indicated by the shadow prices and marginal cost matrices accompanying the outputs from programming models for the projections indicated in function No. 13. These probable impediments then can be examined and analyzed to be sure that they are actually restricting marketing efficiency. Simulation solutions can be run to see how much more marketing efficiency would be obtained were each of the impediments no longer in existence.

Such analysis provides the basis for formulating alternative possible policies and programs for removing these impediments, and for developing cost estimates for implementation of each of the possible alternatives. This information then provides the basis for the next step (function No. 15).

Pending development and use of the models, preliminary economic analysis using micro-economic techniques can be employed to identify apparent constraints and impediments, and to measure the probable consequences of each, at least in general terms. It is probable that some of this kind of analysis will be highly useful pending the time when the full model is operational.

15. Analysis of probable results of promising alternative policies and programs for improving existing marketing system.

As with the pattern already experienced in the agricultural sector analysis work, this function is a direct outgrowth of function Nos. 12, 13, and 14 above. The models used to describe the existing marketing systems and project the results of existing policies and programs can be restructured to work as simulations to predict the consequences of alternative sets of policies and programs. This capability gives the country's leaders the opportunity to consider a wide range of alternatives by experimenting with the model rather than with the welfare of the nation's people. By doing so, they can select the most effective set of policies and programs for actual implementation, thereby greatly reducing the political and economic risk of being wrong. Thus, this function has high priority once the prior functions of market and marketing system analysis have been developed.

In the transition period, it will be desirable to develop some enhanced capability to predict the consequences of alternative policies and programs by partial analysis techniques. Not only will the results be of immediate use, but also they will aid in the fine tuning of the modelling techniques for analysis of the results of alternative policies and programs which could be initiated in Honduras.

16. Development of linkages and procedures for interaction between (1) policy analysts measuring the predicted consequences of alternatives and (2) Honduran policy makers and program implementators.

Certain linkages and procedures are now in place between policy analysts and policy makers (1) within MNR, (2) between ministries and (3) between MNR and implementing agencies such as IHMA and BNF. Perhaps the existing linkages are best illustrated by those to the sector analysis group in the Planning Directorate of MNR.

The existing linkages and procedures need to be strengthened and improved so that policy makers can make more effective use of analytical capabilities available to them, even for the sector analysis and other analytical work now in place. This need will become more and more crucial as the analytical capability is enhanced and broadened to include agricultural marketing systems as well as agricultural production. The development of effective linkages and procedures is no easy task, but guidelines exist and technical assistance can be found for help with the task.

One way to test the adequacy of the linkages is by listing of the requirements for smooth and prompt execution of functional steps Nos. 17-20, below. For example, the linkages are adequate when policy makers can ask the analytical staff specific "what would happen if" questions, and the analytical staff can spin the models and come back the next week with precise and clearly presented answers to those questions.

17. Use of the analytical tools and procedures to obtain predicted consequences of alternative policies and programs posed by Honduran political leaders and Government officials.

The sector analysis unit and operating models within the Planning Directorate are soon going to be in position to determine answers to just these kinds of questions relative to some dimensions of the agricultural sector. As the above functions Nos. 1-16 are developed, the analytical units will be able to answer a much wider range of policy and development program questions. If the linkages and procedures are established properly, the questions will be posed by those responsible for determining policies and programs, having confidence that they will get prompt and accurate answers. The analysts will be sure that they do get prompt and accurate answers from the models and present them clearly, knowing that the results are being used effectively for sound policies and development programs in Honduras.

Even if all the previous procedural steps are accomplished, this step will not come automatically. Specific attention must be given to making the function operate effectively. Technical assistance by analysts with first hand experience in the development of the function in other countries can be very productive in this connection.

18. Development of master plans for implementation of selected price policy and marketing programs for agricultural products.

Once a wide range of alternatives has been analyzed, and the most effective

sets of policies and programs have been determined in functional step No. 17, the same analytical staffs and models can be used to help develop master plans for implementation of the selected policies and programs. The techniques for development of the master plans are not greatly different from those now in use, but the availability of vastly more of the right kind of information for doing so greatly enhances the process.

There will be a continued need for master plans at all levels of government activity for the development of agriculture and agricultural marketing, from those at the Ministry level to those of the operating divisions of implementing agencies such as IHMA. The difference will be that they are much more nearly true master plans, with programs at all levels working together. Marketing policy guidelines will support fully operating programs by both public and private agencies. Total marketing systems for agricultural commodities will function as food systems in the true sense of the term.

19. Assistance in implementation of continuing price policy and marketing programs as prescribed in the master plans.

It is not the role of those providing technical support for marketing policies and programs to implement the chosen policies and programs. This is the role of the implementing agencies such as IHMA. Still, implementation of effective policies and programs must result from the analysis and planning, or the latter are of no real value. In order to insure effective implementation, staff analysts need to be available for consultation and assistance to those responsible for policy and program implementation, and the results of their analysis need to be made available to implementing agencies without restriction.

Specific attention must be given to building and maintaining effective linkages between the analytical units and the implementing units in order for this to happen. This linkage needs to be developed first and foremost at the planning level--directly between the policy analysts in the Ministry planning directorate and the analyst-planners in the planning division of implementing agencies such as IHMA. Strong two-way linkages are needed here, and should be on a continuing basis. The linkage is working effectively when the administrators of the implementing agencies feel that they have the same access to the Ministry analysts as they do to the planning staff in their own agency.

The other important linkage for effective implementation is at the management level--directly between administrators of the responsible implementing agencies and the Ministers and other senior government officials who have determined what the marketing policies and programs are to be. This too needs to be a strong two-way linkage designed to facilitate interfacing without restriction.

20. Monitoring, reporting and evaluation of agricultural price policy and marketing programs.

Monitoring, reporting and evaluation of the detailed implementation program activities is the direct responsibility of the implementing agencies.

Summary reports should flow up to the top administrators of these agencies to support performance evaluation and operating decisions, and policy oriented matters should be reported by the administrators to the Minister-level officials of government who function as the board of directors for the implementing agencies. This type of monitoring and reporting thus flows directly upward through the line organization of the implementing agencies. It is the mechanism which provides those determining marketing policies and programs with information to measure the effectiveness of the implementation programs. The marketing policy and program analysts at the Ministry level are not involved in this mechanism for reporting and evaluation except as they may be called on by their line-organization superiors for specific evaluation and counsel.

In addition to this mechanism, a parallel system of monitoring and evaluation is needed to track the effectiveness of the marketing policy and program decisions themselves. Its purpose is not performance evaluation, but rather broad program and policy evaluation. The summary monitoring and reporting to support this mechanism needs to flow through the planning staffs of the implementing agencies to the analyst staff of the marketing unit at the Ministry level--the reverse flow of the linkage outlined for function No. 20, above. From the analytical market unit, the monitoring and evaluation then flows up through the line organization of the Ministry in which the marketing unit is housed.

B. RECOMMENDATIONS FOR ACTION PROGRAMS BY TYPE OF FUNCTION

The conclusions and recommendations in this section are intended as guidelines for the development of a work plan to build competence in carrying out those analytical functions which are deemed to be most needed by Honduran government officials. The development of such work plan is beyond the scope of work and available time of the KSU study team. The team supports the recommendation of the Ministry of Natural Resources and USAID that KSU deploy a second study team of two agricultural economists (marketing policy) to Honduras in February 1979 to assist with the development of the work plan.

Recommendations are made for enhancing the analytical competence to support marketing policies and programs with respect each of the 20 functions included in Part Two, Section A. Recommendations pertaining to the first three functions are included in subsection No. 1. Those pertaining to functions 4 to 7 are included in subsection No. 2. Those pertaining to functions 8 to 11 are included in subsection No. 3. Those pertaining to functions 12 to 15 are included in subsection No. 4. Those pertaining to functions 16-18 are included in subsection No. 5. Finally, those pertaining to functions 19-20 are included in subsection No. 6.

It is hoped that this grouping of recommendations will assist the Honduran Commission for Marketing Policy Analysis determine workable priorities and organizational patterns (see page 23). Because they are closely related to the data needs and analytical competence of agricultural sector analysis, the first seven functions might best be integrated with plans for enhancing the sector analysis capability in the Planning Directorate of MNR. Functions 8-11 are distinct to the marketing subsector, and might best be lodged in a new unit to deal with marketing policy analysis. Functions 12-15 draw on information from all of the previous functions, and will require close coordination between the sector analysis unit and the new unit for marketing policy analysis. Functions 16 to 20 parallel comparable functions needed for sectorial policies and planning, but are distinct to agricultural marketing. These functions will require effective linkages and interfacing between the various analytical units in MNR and other ministries, between these units and the planning units in the implementing agencies such as LIMA, and between these units and policy makers at all levels of government.

1. Collection, analysis and dissemination of current supply, demand and price information.

Government planners and implementing agencies alike must have this kind of information on a regular and timely basis if they are to perform effectively. The same information is needed to support the remaining functions for marketing policy analysis. The collection, analysis and dissemination of the information clearly are the responsibility of public agencies--private industry cannot perform such functions effectively.

It is recommended that first priority be given this area, and that the work plan for marketing policy analysis be designed to insure accurate and timely reports at the earliest possible dates. Among the types of reports needed, the following priority is recommended:

- (1) Current crop estimates of acreage, yield and production by department and region for the basic grains
- (2) Current crop estimates for the basic grains by municipality
- (3) Average monthly wholesale market prices for the basic grains by market
- (4) Current daily and weekly wholesale market prices for the basic grains by market
- (5) Average monthly retail market prices for the basic grains by market
- (6) Average monthly market prices received by farmers for the basic grains by department and region
- (7) Monthly stocks of grain by position (farm, first handlers, wholesalers, processors, IHMA) by department and region
- (8) Current situation reports of demand conditions and price outlook for the basic grains by market
- (9) Current situation and outlook reports on marketable surplus and flows of basic grains by department and region
- (10) Current daily and weekly retail market prices for the basic grains by month
- (11) Reports 1 through 10 in this order for other key agricultural commodities

Additional budgetary support, technical assistance and participant training by USAID will be needed to assure that these reports become a reality at the earliest possible date. Expertise of the type and quality available in the U. S. Department of Agriculture Statistical Reporting Service will be most helpful to the Planning Directorate of MNR, the Bureau of Statistics and Census and other Honduran agencies directly involved.

The KSU team estimates that the additional staffing requirements for these functions will include five professional analysts with M.S. or equivalent plus supporting statistical and clerical staff. Preliminary estimates of technical assistance include one long term specialist for 18 months plus 12 person months of short term assistance.

2. Cropping patterns, production costs, supply response and demand projections.

Careful analysis, evaluation and projection by department and region of (1) farm production costs for alternative farm enterprises, (2) shifts in cropping patterns, (3) shifts in demand patterns, and (4) production response to alternative levels of price supports are essential to support planning by IHMA and other public implementing agencies as well as by private industry. This information is prerequisite to (1) determining the proper number, type, size and location of storage and marketing facilities, (2) the appropriate price support levels, (3) proper design of procurement and sales programs, and (4) design of programs for public and private marketing industry development.

The fact that so far the needed reports are not being prepared is a serious handicap to IHMA, to BNF, to farmer cooperatives and to private grain processors and handlers. For example, the planning staff in IHMA is having to direct much of its attention to developing "stop gap" rough estimates of the most crucial lacking information.

The quantitative information and analytical models for conducting the needed analysis, evaluation and projections are available in the Sector Analysis Division of the MNR Planning Directorate. Because of this capability, the Sector Analysis Division can develop much more accurate reports on (1) farm production costs, (2) shifting cropping patterns, (3) shifting demand patterns, and (4) production responses that can be done by IHMA or other implementing agencies. Furthermore, because the same kinds of reports are needed by ministry officials and by a number of implementing agencies, it is much more efficient to produce them at the Ministry level. The nature, content and timing of the needed reports should be clearly identified by IHMA and other implementing agencies so that work plans can be developed to insure that the reports prepared by the Sectorial Analysis Division will meet their needs.

It is recommended that first priority be given to the preparation of those reports in these four areas which can be generated from information and working models now available in the MNR sector analysis unit. It is recommended that second priority be given to enhancing the capability within the MNR Planning Directorate to produce increasingly accurate and detailed reports in these four areas, and to extending them to additional crop and livestock products.

The team believes that following an intensive effort to plan and structure the needed reports, regular periodic reports in the four areas based upon existing analytical capability can be produced by two or three M. S. trained professionals backed with supporting statistical, computer and clerical staff. If such professionals are available, technical assistance should be needed only for planning and structuring the reports.

Additional technical assistance is recommended to support development of capability to produce reports of greater depth, accuracy and disaggregation, and to extend coverage to additional commodities. Such assistance might best be provided by a long-term specialist for 18 to 24 months plus three person-months of specialized short term assistance. The number of M.S. trained professionals will need to be increased to a total of at least five or six, with corresponding increase in supporting personnel.

3. Analysis of Marketing Patterns and Systems.

No organized marketing analysis unit has yet been formed in the Ministry of Natural Resources or elsewhere in the Government. None of the functions 9 through 11 is being carried out on a systematic basis (see pages 27-29). This information is essential to support development sound marketing policies and efficient marketing programs, both at the Ministry level and within IHMA and other implementing agencies.

The KSU team recommends that following the higher-priority recommendations outlined in subsections 1 and 2 above, resources be devoted to the development of analytical capability to perform these functions. The probable order for such development is as follows:

1. Organization of a unit for agricultural marketing analysis within the Planning Directorate of MNR or other appropriate directorate of government.
2. Development of capability for continuing analysis of marketing functions, channels, costs and margins, with first applications to the basic grains and other major foodstuffs.
3. Building of capability to analyze the impacts of physical and institutional infrastructure affecting development and performance of Honduran marketing systems, with first applications to the basic grains and other major foodstuffs.
4. Development of capability to analyze the impacts of existing and alternative marketing and processing technologies, with first applications to the basic grains and other major foodstuffs.
5. Development of capability to analyze market organization, structure, conduct and performance, with first applications to the basic grains and other major foodstuffs.

The team anticipates that at least five professional agricultural marketing economists will be required at the outset, and that this number will need to be doubled within two or three years after the program is started. In addition, at least one industrial engineer and one food technologist will be needed, either within the marketing unit or deployed to the unit from other Directorates of the Ministry. Probably one-third of the professional staff should have Ph.D. degrees and the other half M.S. degrees or equivalent. Because of the time lag involved, the needs for degree training should be anticipated, and participants selected and deployed for training as early as possible.

The team anticipates that the requirements for technical assistance to support development of analytical capability in these areas will include at least two resident senior agricultural marketing economists for three to four years plus additional short term specialists for specific commodities and/or specific marketing functions.

4. Development and use of analytical concepts and procedures for evaluating marketing policies and programs.

The development of competence in analytical functions Nos. 12 through 15 (pages 29-30) can proceed concurrently with development of those functions outlined in No. 3, above. The basic analytical concepts and models can be conceptualized, installed and tested in the same manner as was done for the agricultural sector analysis, drawing heavily on computerized tools that have been applied successfully in the USA and elsewhere. If this process of developing the analytical concepts and procedures for marketing analysis can be viewed and organized as an extension of those for agricultural sector analysis, the process will be facilitated greatly. The skills already developed in sector analysis can be extended to marketing analysis, and the two kinds of analysis can be made to complement one another effectively. Likewise, if there can be effective interaction between those directing the marketing analyses outlined in No. 3 above and those developing the analytical concepts and procedures, properly-structured working models for marketing

analysis can be in place in much less time than was required to develop those for the agricultural sector analysis.

Once developed, the use of the marketing models to perform functions 13 to 15 (pages 29-30) should be the responsibility of the marketing analysis unit described under No. 3 above, with the model developers serving as consultants to the unit on a continuing basis. Prior to the time fully-operative models are available, these analytical functions will need to be performed by multiple regression and other partial analysis techniques. The same working arrangement between the marketing analysts and the model builders can be used for this type of interim analysis.

The KSU team estimates that at least three additional agricultural marketing economists skilled in quantitative analysis will be required for functions 12 through 15. They will need the technical assistance of at least one resident specialist plus substantial "home office" technical support from a U. S. Land Grant University with a good library of operating computer models for marketing systems analysis in developing countries.

5. Development and use of linkages and procedures to evaluate alternative policies and develop master plans.

The KSU team suggests that development of appropriate linkages between the marketing analysis unit and those responsible for marketing policies and programs can best be stimulated by a five or six person task force of Honduran government officials representing both policy makers and marketing analysts. Such task force might best be chaired by a line administrator such as the Director or Deputy Director of Planning in MNR. The task force would need to devote relatively intensive effort for four or six months at the start. Once the task force has developed a plan and it has been put into operation by the administration, monthly meetings of the task force might suffice.

The use of the mechanism that is developed to evaluate alternatives and establish effective marketing policies and programs is an ongoing process performed jointly by the marketing analysts and those responsible for determining policies and programs. Obviously, the evaluation of alternatives must be done by the same analysts in the marketing unit (recommended above), the Sectoral Analysis Division and in other government agencies. The precise organization and division of functions among individual analysts would be defined by the suggested task force.

A short-term technical assistance team of two or three members is recommended to support the task force of Honduran officials. The team members should have experience and skills in helping to build effective linkages for policy support in other developing countries of the world.

6. Providing assistance in implementation and evaluation of programs.

These final two functions must be performed effectively if the full potential benefits from the recommended marketing unit (and from the Planning Directorate as a whole) are to be realized. The KSU team anticipates that performance of these functions will require about three additional full-time

professionals with appropriate supporting staff for the basic grains, and further staffing as more commodities are added to the scope of marketing analysis. It is possible that one or more staff positions now in the MNR Planning Directorate already relate to marketing programs and can be used to help fill this need.

It is probable that in addition to the long-term technical assistance assignments recommended above, up to twelve person-months of short-term technical assistance will be needed over the next four years in the areas of marketing program implementation and evaluation.

ANNEX 1

TERMS OF REFERENCE FOR KSU TEAM

- (A) Work with IHMA, Ministry of Agriculture, and other appropriate GOH agencies to evaluate their present programs, facilities and future plans.
- (B) Review past market studies and programs as to their relevancy to the current environment.
- (C) Recommend to GOH/USAID an appropriate course of action to develop future programs including the establishment of necessary marketing policy, planning capabilities and grain handling facilities.

ANNEX 2

TEAM ITINERARY

- January 7 - Travelled to Tegucigalpa, Honduras.
- January 8 - Briefing by USAID Agriculture Offices and staff; meeting with Director General and staff of Instituto Hondureño de Mercadeo Agrícola (IHMA); inspected "Kennedy" facilities at Tegucigalpa; studied existing marketing reports.
- January 9 - Detailed discussions with IHMA staff; read and analyzed existing marketing study reports.
- January 10 - Meeting with Director of Planning, Ministry of Natural Resources, (MNR); continued discussions with IHMA staff; continued evaluation of previous studies.
- January 11 - Meetings with USAID Agriculture Director and staff; IHMA staff, and Director of Planning, Ministry of Natural Resources. Pfof met with officials of GOH Meteorology and Geology officials and made further inspection of IHMA storage facilities at Kennedy.
- January 12 - Inspected IHMA grain storage facilities at Catacamas and Tocoa, and cooperative facilities supported by German Technical Assistance and those supported by Mennonite Technical Assistance at Catacamas. Met with Principal of National Agricultural College at Catacamas.
- January 13
14 - Phillips and Anderson inspected IHMA grain storage facilities at Comayagua, San Pedro Sula and La Entrada. Inspected agricultural cropping patterns and crop conditions enroute. Pfof inspected IHMA facilities at Choluteca and crop situation in surrounding rice-growing area.
- January 15 - Conferred with USAID Agriculture Officer and staff; prepared outline of recommendations for support of IHMA and MNR activities.
- January 16 - Discussed tentative recommendations with IHMA Director and staff and with MNR Planning Director; discussed sample frame program with MNR Planning Director, MNR Statistics Director and staff, and ROCAP Advisor.
- January 17 - Preparation of final report.
- January 18 - Report preparation; presentation of team findings and recommendations to Minister and Vice Minister of MNR, Director General and Deputy Director General of IHMA and USAID Agriculture Officers.
- January 19 - Finalized report and submitted it to USAID.
- January 20 - Returned to United States.

ANNEX 3

TEAM CONTACTS

William H. Janssen, Assistant Director for Rural Development, USAID/Honduras

T. David Johnston, Agricultural Economist, USAID/Honduras

Lawrence Klassen, USAID/Honduras

Leonard Kornfeld, USAID/Honduras, Contractor

Monty Wallace, USAID Regional Office for Central America and Panama

Aaron Williams, USAID/Honduras

Luis H. Zelaya, Agricultural Economist, USAID/Tegucigalpa

Rafael Leonardo Callejas, Minister of Natural Resources

Guillermo Sevilla G., Vice-Minister of Natural Resources

Víctor Cáceres, Director of Statistics, MNR

Carlos A. Zelaya, Director of Sectoral Planning, Ministry of Natural Resources
(MNR)

Hernando Palma, Deputy Director of Sectoral Planning, Ministry of Natural
Resources

René Ardón M., Director General, Instituto Hondureño de Mercado Agrícola
(IHMA)

Enrique Paredes, Deputy Director General, IHMA

Virgilio Gálves, Director of Planning, IHMA

Juan Ramón Cruz R., Analyst, Department of Planning, IHMA

Ricardo Mondragón O., Analyst, Department of Planning, IHMA

Israel Gonzáles, Director, Department of Administration, IHMA

Arturo Mejía, Director, Department of Finance, IHMA

Roger Pérez, Personnel Administrator, IHMA

José A. Samra, Director, Department of Operations, IHMA

Enrique Romero, Manager, Stock Preservation, IHMA

Sr. Thompson, Manager, Procurement and Sales, IHMA

Roberto Tejada, Manager, Maintenance and Supply, IHMA

Jose Bonerges, Acting Facility Administrator, Tocoa

Arnaldo Castellanas T., Facility Administrator, San Pedro Sula

Cesar Augusto Ferrena C., Facility Administrator, Kennedy (Tegucigalpa)

Ramiro Riera, Director, Escuela Nacional de Agricultura, Catacamas

Marco A. Zuniga, Professor of Physics, National University of Honduras

Chief Meteorologist, Meteorology Department, Tegucigalpa

ANNEX 4

ACRONYMS FOR AGENCIES IN HONDURAS

BANAFOM	- Banco Nacional de Fomento (National Development Bank)
BID	- Inter-American Development Bank
BNF	- Banco Nacional de Fomento
CAR	- Comisión Agrícola Regional (Regional Agricultural Commission)
CONSUPLANE	- Consejo Superior de Planificación Económica (Superior Council for Economic Planning)
CPA	- Comisión de Política Agrícola (Agricultural Policy Commission)
DIFOCOOP	- Dirección de Fomento Cooperativo (Directorate of Cooperative Development)
ENA	- Escuela Nacional de Agricultura de Catacamas (National Agriculture School)
FAO	- Food and Agriculture Organization of the United Nations
GIDA/ALC	- Grupo Internacional Para Desarrollo Agrícola en América Latina y El Caribe
GOH	- Government of Honduras
IFIC	- Instituto de Formación y Investigación Cooperativista (Cooperative Institute of Research and Training)
IHMA	- Instituto Hondureño de Mercadeo Agrícola (Honduran Agricultural Marketing Institute)
IHMER	- Instituto Hondureño de Mercadeo Agrícola (Honduran Institute of Agricultural Marketing)
KSU	- Kansas State University
MNR	- Ministry of Natural Resources
MRN	- Ministerio de Recursos Naturales (Ministry of Natural Resources--MNR)
ROCAP	- Regional Office for Central America and Panama
USAID	- United States Agency for International Development

ANNEX 5

CONVERSION FACTORS FOR
HONDURAN WEIGHTS, MEASURES AND CURRENCY

1 Quintale (qq)	=	100 pounds
	=	0.04535 Metric Ton (MT)
1 lb	=	0.01 qq
1 MT	=	22.05 qq
1 Carga	=	Approximately 200 lbs
1 lb	=	Approximately 0.005 Carga
1 Manzana	=	1.69 Hectares (ha)
1 ha	=	0.5917 Manzana
US \$1	=	2 Lempiras (L)
L.1	=	US \$0.5

ANNEX 6

SECRETARIAT OF EXTERIOR RELATIONS
OF THE
REPUBLIC OF HONDURAS

AGREEMENT BETWEEN THE GOVERNMENT OF THE REPUBLIC OF HONDURAS
AND THE SWISS NATIONAL COUNSEL

R E L A T I V E

To a project of reduction of post-harvest losses in Basic Grains in Honduras.

The government of the Republic of Honduras (herein called "government") and the Swiss National Counsel (herein called Swiss or Switzerland), wishing to tighten the bonds of friendship which already exist between the two countries, in the hope of completing a project of technical cooperation, agree to the following:

FIRST ARTICLE

The objective of the present agreement is the realization of the project of post-harvest loss reduction of basic grains in Honduras (herein called "project") by the contracting parties.

SECOND ARTICLE

The execution of this agreement will be insured by the Swiss Office of Cooperation for Development (COSUDE), and through the Ministry of National Resources on the Honduran side.

THIRD ARTICLE

The central objective of this project is to reduce the loss of basic grains after harvest, especially at the level of the small farmers and

rural organizations, so as to qualitatively and quantitatively better their nutritional intake, and so they may benefit from the sale of good-quality surplus grain.

To achieve this objective, a more precise method of evaluating post-harvest losses will be necessary. Likewise, research in reduction of post-harvest losses must be incorporated into the National Program of Agricultural Research of the Ministry of Natural Resources, to develop the techniques and methods which may then be passed on to farmers through the Agricultural Extension Program of the Ministry.

To reach those objectives, the parties are committed to apply the Plan of Operation attached to this agreement, and which forms an integral part of the same.

FOURTH ARTICLE

Toward the end of achieving realization of the activities described in Article 3, the contracting parties commit themselves to:

a. On the part of the Swiss

- make available and compensate three resident experts for a total of 78 expert-months;
- finance the costs of project direction and control and of technical support by consultants within the framework of the project, up to a total of 27 consultant-months;
- finance a program of scholarships and post-graduate work up to the non-reimbursable total of 200,000 Frs., or about 200,000 Lempiras;
- finance the costs of short courses and seminars up to the total non-reimbursable amount of 240,000 Frs.;

- provide the material and equipment necessary to the implementation of the project, up to the total non-reimbursable amount of 270,000 Frs.

b. On the part of the Government

- make available the necessary personnel and sites for the executions of the project;
- finance the costs of carrying out the project;
- to assure the smooth operation of the project, take the necessary measures for the proper inter-institutional and inter-program coordination within the normal activities of the Ministry and the evaluation, research, and extension activities related to the project;
- facilitate and cooperate with the experts and consultants made available by Switzerland, in particular granting without charge the entrance and exit visas requested by the Swiss authorities;
- assume the responsibility for any charges brought against the specialists sent for the project by Switzerland within the framework of the present agreement, as well as whatever damages said specialists may cause within this framework, unless said damages had been caused intentionally, or result from grave negligence;
- extend to the experts and consultants sent by Switzerland the benefits available to other international agencies of bilateral cooperation in development;
- exempt the material and equipment sent by Switzerland from all custom duties, taxes and import obligation, and of sale and purchase taxes in the country.

FIFTH ARTICLE

The present agreement will become effective when signed, and will remain in effect for three years.

It may be extended or modified by agreement between the two parties.

Negotiations relative to its eventual extension will be initiated by both parties at least three months before its expiration.

Made in Tegucigalpa, Central District, the 6th day of December 1978, in two original copies.

For the Government of Honduras

For the Government of Switzerland

PLAN OF OPERATION of the Project of Reduction of Post-Harvest Losses in Basic Grain in Honduras

1. Preface

The Government of Honduras, with the cooperation of the International group for Agricultural Development for Honduras and the Caribbean (GIDA/AIC), prepared an analysis of the situation of basic grains after harvest.

In said study, the necessity of carrying out a project of reducing losses of grains after harvest, emphasizing management and on-farm storage, was determined.

2. Introduction

The present project forms a part of a general program aimed at reducing substantially the losses in basic grains and at guaranteeing that proceeds from the crop will accrue to producers. The initiative has been established for the technical cooperation of the Swiss Government in the

areas mentioned above. Said cooperation will continue after the initial 3 years, with a change in emphasis to give major support to the development of cooperatives and associations of producers, such that better grain storage, processing, and marketing can be provided by farmers.

The executive agency for the project is the Ministry of Natural Resources through the office of Sectoral Planning and the Programs of Research (PNIA) and Extension.

Essential to the success of this program is the participation of the Ministry of Natural Resources as well as the cooperation of the National Agrarian Institute (INA), the National Development Bank, the Institute of Honduran Agricultural Marketing and the Office of Promotion of Cooperatives. Such cooperation will be necessary so that all programs and policies which affect the post-harvest system maintain the same direction, and such that no competing objectives develop between agencies.

3. Methods of Execution

The project will consist of 4 areas of strictly coordinated activity:

- Evaluate post-harvest losses;
- Research efficient methods and techniques to reduce the losses;
- Train extensionists and pass on positive research results to the farmers;
- Develop human resources.

The execution of the project will begin with a 3-6 month preparatory phase, involving preparation of a more detailed plan of operation.

This phase will be carried out by both parties with the support of the British Tropical Products Institute in London.

3.1 Evaluation

Objective: Estimate with increasing precision the post-harvest losses of basic grains, determining causes and extent of qualitative and quantitative losses.

Goal: Carry out an evaluation throughout the first year, simultaneously training local personnel; establish a permanent system of periodic evaluations. At the start of the project, priority will be given to the Central-Eastern Region, where a preliminary evaluation will be made.

3.2 Research Activity

Objective: Find effective techniques and methods of reducing post-harvest losses at the level of the producer; incorporate the research in post-harvest loss reduction of basic grains into the National Program of Agricultural Research, which forms part of the General Office of Agricultural Operations (herein called (PNIA)).

Goal: The first year the research activities will be established in the Eastern-Central Region, where, on the basis of the most relevant problems--identified by the preliminary evaluations--the design of the necessary trials will proceed. Replicas of the trials will be placed on producers' farms when this is judged necessary and convenient.

Extension of the program to other regions will be accomplished as available resources and the preparation of personnel permit.

3.3 Extension Support Activities

Objective: Train extension persons in post-harvest loss reduction methods and techniques; effectively transmit the positive results of the research.

Goal: Whenever there are positive proven research results, short courses for the extensionists will be organized, in which methods and techniques will be taught.

Also, short-courses of technical training in reduction of post-harvest losses in basic grains will be given to representatives of groups of rural people and small farmers (associations, cooperatives, informal groups, etc.) (After the first eight months.)

Likewise, short-courses will be given for employees of companies that handle basic grains so that they may be familiar with the means of reducing losses, as well as the identification of causal agents and the quantitative evaluation of said losses. (After the first eight months.)

By the time the extension support activity is incorporated, the reorganization of the National Extension Program will be in effect.

3.4 Human Resource Development Activities

Objective: This activity has as its objective to insure the institutional capacity to perform in a permanent and sustained way, the other activities of the project.

Goal: Train a sufficient number of technical personnel through scholarships and post-graduate work, short-courses and seminars, both abroad and in-country. This training will be continuous and will begin in the first year of the project.

4. Obligations of the Contracting Parties

4.1 On the Part of the Swiss

- a. Make available and compensate the following personnel:
 - For the evaluation activity, one Agricultural Economist, or Agronomist with knowledge of statistics, for 18 months, that is, 2 months of training, 12 months full-time, and 2 months/year the 2nd and 3rd year.
 - For the research activity, one expert in the biological aspects of the conservation of grains, for 36 months.
 - For extension support, one expert in post-harvest grain handling, with an academic background in administration, agricultural economics, or grain technology, for 24 months.
- b. Finance the costs of management and technical support short-term assistance by consultants as the needs of the project dictate, up to a total of 27 consultant-months. For example, these occasional temporary consultants could cover the following aspects:

- Loss evaluation
 - Food technology
 - Agricultural engineering
 - Grain management or agricultural economics
 - Organization of cooperatives
 - Rural agro-industrial management
- c. Provide necessary funding for the development of human resources necessary for carrying out the project, up to the total, non reimbursable amount of 200,000 Frs. These funds will permit the financing of:
- a minimum of 4 post-graduate scholarships (for example, in grain technology, storage engineering, food technology);
 - a minimum of 5 short-term scholarships for special studies (Tropical Products Institute type).
- d. Cover the costs of the short-courses for farmers, private industry, and extensionists, and the background seminars for Honduran Project personnel.
- e. Provide the supplies indicated in preliminary list of materials attached to this plan of operation, and which form an integral part of the same, up to the total, non-reimbursable amount of 270,000 Frs.

4.2 On the Part of the Government

- a. Make available to the project the following personnel:
- For the evaluation activities: an economist, agricultural engineer, or agricultural economist as the national in charge; statistical, survey, and data processing personnel as necessary.

- For the research activity; an agricultural engineer and an agricultural economist from PNIA, one of them being the national in charge of the activity, plus the technical and support personnel from the PNIA that may be necessary to carry out the program. Also, nationals studying abroad will be incorporated into PNIA as they return, unless their incorporation into other participating agencies for the project is deemed more appropriate.
- b. Provide the office facilities and supporting services for the project personnel, and warehouses for storing supplies. Likewise, make available the laboratories and experimental plots of PNIA.
- c. Within the framework of the project, finance the costs of:
 - office materials
 - customs matters
 - operation, maintenance, and repair of vehicles
 - local transport for consultants financed by Switzerland
 - data processing and interpretation
- d. Exclusive use for this project of personnel, supplies, and equipment financed by Switzerland.

PRELIMINARY LIST OF SUPPLIES

- Four-wheel drive vehicles (2)
- Van, with film projector, demonstration equipment, etc.
- Sampling, measuring, and analysis instruments
- Laboratory equipment
- Field equipment for analysis, measurement, and assays
- Laboratory material (chemicals and other)
- Materials for field trials of field scale and/or experimental scale (construction materials, applicator equipment and materials, grain inventories, etc.)
- Documentation

ANNEX 7

INFORMATION AND DATA PROVIDED BY IHMA

Organizational Chart

Current Storage and Conditioning Capacity by Location

Grade Factors and Discount Schedules

Population by Region, 1974

Harvested Area, Yield and Production, 1957-58 to 1977-78

Estimated Production and Utilization, 1978-79

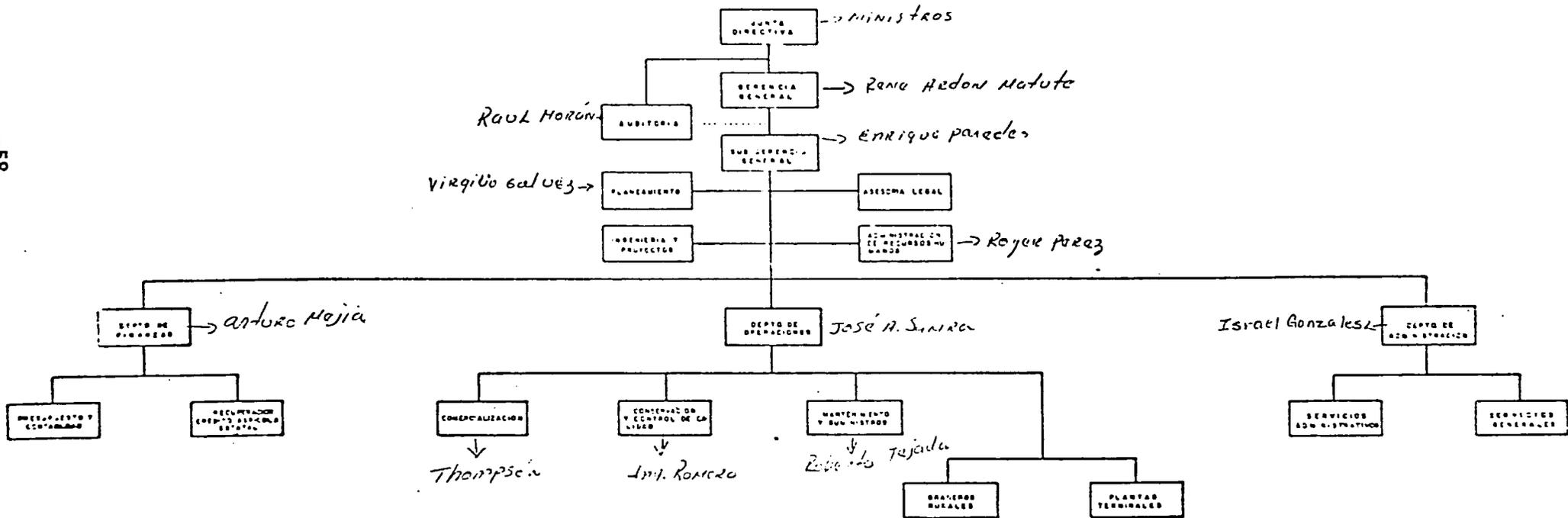
Estimated Monthly Harvest Patterns by Region, 1978-79

Average Monthly and Annual Market Prices, 1965-66 to 1977-78

Minimum Support Prices, 1965-66 to 1978-79

INSTITUTO HONDUREÑO DE MERCADEO AGRICOLA (IHMA)

ORGANIGRAMA FUNCIONAL



CAPACIDAD DE ALMACENAMIENTO Y CAPACIDAD MENSUAL DE PROCESAMIENTO DE LAS PLANTAS
TERMINALES Y GRANEROS REGIONALES DEL (EN QUINTALES)

IHMA

CENTRO Y REGION	CAPACIDAD DE ALMACENAMIENTO EN:			CAPACIDAD MENSUAL DE:			CAPACIDAD MENSUAL DE PROCESAMIENTO		
	Silos	Bodegas	Total	Secado	Limpieza	Pesado	Un Turno	Uno Y Medio Turno	Dos Turnos
Silos San Pedro Sula(3)	293,700	95,900	389,600	384,000	96,000	96,000	96,000	144,000	192,000
Granero Las Palmas(3)	36,000	207,000 ^{1/}	243,000	15,000	15,360	46,080	15,000	22,500	30,000
Silos Kennedy(6)	293,700	95,900	389,600	384,000	96,000	96,000	96,000	144,000	192,000
<u>SUB-TOTAL</u>	623,400	398,800	1,022,200	783,000	207,360	238,080	207,000	310,500	366,000
Granero Juticalpa(5)	10,400	---	10,400	15,360	3,600	48,384	3,600	5,400	7,200
Granero Catacamas(5)	5,600	200	5,800	9,600	3,600	48,384	3,600	5,400	7,200
Granero Danlí(6)	13,600	600	14,200	24,960	39,360	48,384	24,960	37,440	49,920
Granero El Porvenir(3)	5,600	1,000	6,600	15,360	3,600	23,040	3,600	5,400	7,200
Granero Comayagua(2)	20,600	105,000 ^{1/}	125,600	18,432	96,000	46,080	18,432	27,648	36,864
Granero Olanchito(4)	10,400	---	10,400	9,600	3,600	23,040	3,600	5,400	7,200
Granero Choluteca(1)	14,000	1,600	15,600	15,360	3,600	48,384	3,600	5,400	7,200
Granero El Negrito(4)	5,600	1,000	6,600	5,760	3,600	48,384	3,600	5,400	7,200
Granero Tela(3)	12,700	1,000	13,700	9,600	3,600	48,384	3,600	5,400	7,200
Granero Puerto Cortés(3)	3,000	10,000	13,000	3,360	3,600	46,080	3,360	5,040	6,720
Granero La Entrada(7)	5,600	1,000	6,600	5,760	3,600	48,384	3,600	5,400	7,200
Bodega Cerro de Hule(6)	---	150,000 ^{1/}	150,000	3,360	3,600	46,080	3,360	5,040	6,720
Granero Quimistán(7)	5,600	1,000	6,600	5,760	3,600	48,384	3,600	5,400	7,200
Bodega y Granero Tocoa(4)	---	63,800 ^{1/}	63,800	18,432	96,000	48,384	18,432	27,648	36,864
<u>TOTAL</u>	736,100	735,000	1,471,100	943,704	1,394,472	857,856	307,944	470,916	615,888

^{1/} Incluye bodegas nuevas, finalización mas o menos Diciembre de 1978.

INSTITUTO HONDUREÑO DE MERCADERO AGRICOLA

TABLAS PARA DETERMINAR LA CALIDAD DE LOS GRANOS BASICOS.

<u>GRANO</u>	<u>FACTOR</u>	<u>CALIDAD " A "</u>		<u>CALIDAD " B "</u>	
MAIZ BLANCO Y AMARILLO.	MATERIA EXTRAÑA GRANO DAÑADO	HASTA	3.0%	DE 3.1	a 5.0%
		HASTA	5.0%	DE 5.1	a 10.0%
FRIJOL ROJO Y NEGRO.	MATERIA EXTRAÑA GRANO DAÑADO.	HASTA	4.0%	DE 4.1	a 7.0%
		HASTA	7.0%	DE 7.1	a 10.0%
ARROZ GRANZA (TODOS LOS - RINDIMIENTOS).	MATERIA EXTRAÑA GRANO DAÑADO.	HASTA	3.0%	DE 3.1	a 6.0%
		HASTA	7.0%	DE 7.1%	a 10.0%
SARGO BLANCO Y ROJO.	MATERIA EXTRAÑA GRANO DAÑADO.	HASTA	3.0%	DE 3.1	a 6.0%
		HASTA	7.0%	DE 7.1	a 10.0%

ajo!

INSTITUTO HONDUREÑO DE MERCADEO AGRÍCOLA

GRANEROS DE TEGUCIGALPA Y SAN PEDRO SULA

MAIZ BLANCO Y AMARILLO

TABLA DE DESCUENTO

1978 - 1979

<u>HUMEDAD %</u>	<u>CALIDAD</u> <u>"A"</u>	<u>CALIDAD</u> <u>"B"</u>
22.1 - 24	L. 11.95	L. 11.55
20.1 - 22	12.20	11.80
18.1 - 20	12.50	12.10
16.1 - 18	12.90	12.50
14.1 - 16	13.20	12.80
12.0 - 14	13.50	13.10

INSTITUTO HONDUREÑO DE MERCADEO AGRÍCOLA

GRANEROS REGIONALES

MAIZ BLANCO Y AMARILLO

TABLA DE DESCUENTO

1978 - 1979

<u>HUMEDAD %</u>	<u>CALIDAD</u> <u>"A"</u>	<u>CALIDAD</u> <u>"B"</u>
22.1 - 24	L. 11.00	L. 10.65
20.1 - 22	11.30	10.95
18.1 - 20	11.55	11.20
16.1 - 18	11.95	11.60
14.1 - 16	12.20	11.85
12.0 - 14	12.50	12.15

als.

INSTITUTO HONDUREÑO DE MERCADERO AGRICOLA

GRANEROS DE TEGUCIGALPA Y SAN PEDRO SULA

FRIJOL ROJO Y NEGRO

TABLA DE DESCUENTO

1978 - 1979

<u>HUMEDAD %</u>	<u>CALIDAD "A"</u>	<u>CALIDAD "B"</u>
22.1 - 24	L. 26.30	L. 25.30
20.1 - 22	26.90	25.90
18.1 - 20	27.60	26.60
16.1 - 18	28.35	27.35
14.0 - 16	29.00	28.00

GRANEROS REGIONALES

FRIJOL ROJO Y NEGRO

TABLA DE DESCUENTO+

1978 - 1979

<u>HUMEDAD %</u>	<u>CALIDAD "A"</u>	<u>CALIDAD "B"</u>
22.1 - 24	L. 25.35	L. 24.50
20.1 - 22	25.95	25.10
18.1 - 20	26.60	25.75
16.1 - 18	27.30	26.45
14.0 - 16	28.00	27.15

als.

INSTITUTO HONDUREÑO DE MERCADERO AGRÍCOLA

GRANEROS DE TEGUCIGALPA Y SAN PEDRO SULA

ARROZ GRANZA

TARLA DE DESCUENTO

1978 - 1979

100 LIBRAS DE ARROZ EN GRANZA CON RENDIMIENTO DE 65% Y MAS EN ORO

HUMEDAD %	CALIDAD "A"	CALIDAD "B"
22.1 - 24	L. 19.50	L. 19.00
20.1 - 22	20.00	19.50
18.1 - 20	20.45	19.95
16.1 - 18	21.05	20.55
14.1 - 16	21.50	21.00
12.0 - 14	22.00	21.50

100 LIBRAS DE ARROZ EN GRANZA CON RENDIMIENTO DE 60 A 64.9% EN ORO

22.1 - 24	17.75	17.30
20.1 - 22	18.20	17.75
18.1 - 20	18.65	18.20
16.1 - 18	19.15	18.70
14.1 - 16	19.60	19.15
12.0 - 14	20.00	19.55

100 LIBRAS DE ARROZ EN GRANZA CON RENDIMIENTO DE 50 A 59.9% EN ORO

22.1 - 24	16.00	15.60
20.1 - 22	16.35	15.95
18.1 - 20	16.75	16.35
16.1 - 18	17.25	16.85
14.1 - 16	17.65	17.25
12.0 - 14	18.00	17.60

als-

INSTITUTO HONDUREÑO DE MERCADEO AGRICOLA

GRANEROS REGIONALES

ARROZ GRANZA

TABLA DE DESCUENTO

1978 - 1979

100 LIBRAS DE ARROZ EN GRANZA CON RENDIMIENTO DE 65% Y MAS EN ORO		
HUMEDAD %	CALIDAD "A"	CALIDAD "B"
22.1 - 24	L. 18.65	L. 18.15
20.1 - 22	19.10	18.60
18.1 - 20	19.60	19.10
16.1 - 18	20.15	19.65
14.1 - 16	20.60	20.10
12.0 - 14	21.00	20.50

100 LIBRAS DE ARROZ EN GRANZA CON RENDIMIENTO DE 60 A 64.9% EN ORO		
22.1 - 24	L. 16.90	L. 16.45
20.1 - 22	17.30	16.85
18.1 - 20	17.70	17.25
16.1 - 18	18.20	17.75
14.1 - 16	18.60	18.15
12.0 - 14	19.00	18.55

100 LIBRAS DE ARROZ EN GRANZA CON RENDIMIENTO DE 50 A 59.9% EN ORO		
22.1 - 24	L. 15.10	L. 14.70
20.1 - 22	15.45	15.05
18.1 - 20	15.80	15.40
16.1 - 18	16.30	15.90
14.1 - 16	16.65	16.25
12.0 - 14	17.00	16.60

als.

INSTITUTO HONDUREÑO DE MERCADEO AGRICOLA

GRANEROS DE TEGUCIGALPA Y SAN PEDRO SULA

SORGO

TABLA DE DESCUENTO

1978 - 1979

HUMEDAD %	CALIDAD "A"	CALIDAD "B"
22.1 - 24	L. 10.20	L. 9.85
20.1 - 22	10.45	10.10
18.1 - 20	10.65	10.30
16.1 - 18	11.00	10.65
14.1 - 16	11.25	10.90
12.0 - 14	11.50	11.15

GRANEROS REGIONALES

S O R G O

TABLA DE DESCUENTO

1978 - 1979

HUMEDAD %	CALIDAD "A"	CALIDAD "B"
22.1 - 24	L. 9.30	L. 9.00
20.1 - 22	9.50	9.20
18.1 - 20	9.75	9.45
16.1 - 18	10.05	9.75
14.1 - 16	10.30	10.00
12.0 - 14	10.50	10.20

als.

H O N D U R A S

POBLACION TOTAL, URBANA Y RURAL, POR REGION.-
SEGUN CENSO NACIONAL DE POBLACION Y VIVIENDA
DE 1974

POBLACION

<u>REGION</u>	<u>URBANA</u>	<u>RURAL</u>	<u>TOTAL</u>	<u>%</u>	
1. Sur.	52,803	269,730	322,533	12.14	12.14
2. Central.	56,838	223,636	280,474	10.56	10.56
3. Nor-Occidental.	301,142	437,239	738,381	27.78	27.78
4. Norte.	55,212	210,637	265,849	10.01	10.01
5. Olancho.	23,778	102,669	126,447	4.76	4.76
6. Centro Oriental.	305,767	251,327	557,094	20.97	20.97
7. Occidente.	37,639	328,531	366,170	13.78	13.78
TOTAL.	833,179	1,823,769	2,656,948	100.00	
%	31.36	68.64	100		

SERIE HISTORICA DE PRODUCCION, SUPERFICIE COSECHADA Y RENDIMIENTO DE GRANOS BASICOS
PERIODO 1957-58/1977-78.

PRODUCTO: ARROZ GRANZA Y SORGO.
 (MILES DE MZ/MILES DE QQ.)

A Ñ O	ARROZ GRANZA			S O R G O		
	SUPERFICIE COSECHADA	PRODUCCION	RENDIMIENTO QQ./MZ.	SUPERFICIE	PRODUCCION	RENDIMIENTO QQ./MZ.
1957-58	14.3	317.4	22	66.3	1.040.1	16
1958-59	13.0	281.5	22	63.8	1.034.9	16
1959-60	13.0	296.1	23	62.9	1.054.3	17
1960-61	13.5	279.9	21	61.4	1.061.9	17
1961-62	13.0	263.0	20	57.9	1.033.4	18
1962-63	13.8	272.0	20	60.2	1.106.5	18
1963-64	12.2	233.4	19	60.3	1.140.0	19
1964-65	11.6	217.4	19	60.2	1.171.4	19
1965-66	11.2	203.1	18	86.2	972.5	11
1966-67	6.5	117.4	18	51.5	1.056.9	21
1967-68	9.9	180.6	18	45.6	961.3	21
1968-69	8.8	159.7	18	47.3	1.022.4	22
1969-70	7.8	142.3	18	47.7	1.055.5	22
1970-71	13.7	291.4	21	47.2	1.040.6	22
1971-72	17.2	220.0	13	39.1	743.4	19
1972-73	18.3	367.6	20	80.0	868.7	11
1973-74	20.9	419.2	20	78.9	856.6	11
1974-75	31.9	639.8	20	76.6	1.206.1	16
1975-76	29.7	762.6	26	79.8	1.152.6	14
1976-77	20.0	378.5	19	76.0	909.4	12
1977-78	22.0	451.0	21	89.2	750.8	8

- 1/ SEGUNDO CENSO NACIONAL AGROPECUARIO.
 2/ ENCUESTA AGRICOLA DE GRANOS BASICOS.
 3/ CIFRAS PRELIMINARES DEL TERCER CENSO AGROPECUARIO
 4/ ENCUESTA DE PRONOSTICOS DE COSECHA DE GRANOS BASICOS
 5/ CIFRAS PRELIMINARES ENCUESTA DE PRONOSTICOS DE COSECHA

FUENTE: DIRECCION GENERAL DE ESTADISTICAS Y
 CENSOS Y *DIVISION DE CEREALES ENF.

SERIE HISTORICA DE PRODUCCION, SUPERFICIE COSECHADA Y RENDIMIENTO DE GRANOS BASICOS

PERIODO 1957-58/1977-78.

PRODUCTO: MAIZ Y FRIJOL
-(MILES DE MZ/MILES DE QQ.)

AÑO	M A I Z			F R I J O L		
	SUPERFICIE COSECHADA	PRODUCCION	RENDIMIENTO QQ./MZ.	SUPERFICIE COSECHADA	PRODUCCION	RENDIMIENTO QQ./MZ.
1957-58	520.9	4,758.3	9	82.2	685.7	8
1958-59	355.0	5,136.3	14	88.3	760.0	9
1959-60	365.6	5,448.0	15	89.5	794.4	9
1960-61	349.7	5,360.4	15	95.0	869.2	9
1961-62	361.5	5,696.8	16	99.4	936.6	9
1962-63	382.1	6,181.8	16	102.1	988.7	10
1963-64	377.3	6,266.3	17	110.4	1,098.7	10
1964-65	400.5	7,336.2	18	124.7	1,274.6	10
1965-66	399.7	6,211.0	16	94.0	860.8	9
1966-67	389.0	6,963.8	18	102.6	1,104.5	11
1967-68	403.4	7,394.8	18	113.7	1,254.5	11
1968-69	415.1	7,783.0	19	122.5	1,384.4	11
1969-70	389.8	7,477.2	19	104.3	1,205.4	12
1970-71	377.0	6,017.9	16	108.1	865.6	8
1971-72	381.1	6,200.0	16	103.9	770.0	7
1972-73	449.9	6,470.0	14	98.3	700.0	7
1973-74	459.3	7,546.9	16	96.4	695.3	7
1974-75	474.6	7,161.1	15	110.9	942.5	8
1975-76	474.1	7,896.8	17	105.5	714.6	7
1976-77	419.0	6,700.0	16	123.0	980.3	8
1977-78	587.6	8,408.5	14	122.7	766.6	6

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- 1/ SEGUNDO CENSO NACIONAL AGROPECUARIO.
- 2/ ENCUESTA AGRICOLA DE GRANOS BASICOS
- 3/ CIFRAS PRELIMINARES DEL TERCER CENSO AGROPECUARIO
- 4/ ENCUESTA DE PRONOSTICOS DE COSECHA DE GRANOS BASICOS
- 5/ CIFRAS PRELIMINARES ENCUESTA DE PRONOSTICOS DE COSECHA.

FUENTE: DIRECCION GENERAL DE ESTADISTICAS Y CENSOS Y
* DIVISION I, CEREALES BNT.

PRODUCCION COMERCIALIZABLE DE MAIZ COSECHA 1978-79

87,092

Región	PRODUCCION NETA			CONSUMO DIRECTO		
	Total Grano Cosechado 1/	Pérdidas Post-Cosecha 2/	Total grano Seco y Limpio 3/	Auto-Abastecimiento 4/	Semilla 5/	Producción Neta Comercializable 6/
1) SUR	489,064	24,453	394,919	237,934	19,154	137,831
2) CENTRAL	469,615	23,421	379,214	206,967	13,139	159,108
3) NOR-OCCIDENTAL	4.192,145	209,607	3,335,157	544,464	70,949	2.769,744
4) NORTE	369,409	43,470	702,048	196,187	10,980	494,831
5) OLANCHO	1.582,340	79,117	1.277,740	93,243	13,255	1.166,192
6) CENTRO-ORIENTAL	631,463	115,3	509,907	410,995	13,618	85,294
7) OCCIDENTAL	1.572,135	73,47	1.269,499	270,077	26,424	972,598
TOTAL:	9.806,171	400,308	7.918,434	1.959,917	172,519	5,756,048

- 1/ Quintales de grano húmedo y sucio (I=5%, H=20-25%).
- 2/ Estimado en 5% del total cosechado.
- 3/ Quintales de grano limpio y seco (I=2% o menos, H=12-15%); Se asumió en general que el total de grano limpio y seco resultante equivale al 85% del total de grano cosechado, menos las pérdidas Post-Cosecha: 0.85 (Total-pérdidas). $1 - 2 \times 0.85$
- 4/ Se estima en 0.39 quintales por hectárea sembrada.
- 5/ Se estimaron en 0.39 Quintales por hectárea sembrada.
- 6/ Expresado en quintales de Maíz con I=2% y H=15% o menos.

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PRODUCCION COMERCIALIZABLE DE FRIJOL, COSECHA 1978-79
(EN QUINTALES)

Región	Producción Neta		Consumo directo.			Producción Neta comercializable 6/.
	Total grano cosechado 1/	perdidas Post-Cosecha 2/	total grano Seco y Limpio 3/	Auto-Abastecimiento 4/	Semilla 5/.	
1) SUR	17,724	836	15,996	40,244.	2,353	26,601
2) CENTRAL	132,930	6,647	119,969	33,373	12,835	73,756 ✓
3) NOR-OCCIDENTAL	283,584	14,179	255,935	65,210	12,125	176,596 ✓
4) NORTE	44,310	2,216	39,999	31,437	1,200	6,704
5) PLANCNO	194,964	9,743	175,955	15,321	2,131	151,493 ✓
6) CENTRO-ORIENTAL	132,930	6,646	119,970	37,496	7,200	74,500 ✓
7) OCCIDENTAL	79,758	3,933	71,931	22,277	5,200	11,573 ✓
<u>TOTAL:</u>	836,200	44,310	799,795	272,093	70,204	477,424

1/ Quintales de grano sucio y húmedo (I=3%, H=20%).

2/ Estimado en 5% del total cosechado.

3/ Quintales de grano limpio y seco (I=1%, H=16%); se asumió en general que el total de grano limpio y seco resultante equivale al 95% del total de grano cosechado menos las pérdidas Post-Cosecha:0.95 (Total pérdidas).

4/ Se estimó en 0.13 quintales percapita al año.

5/ Se estimó en 0.55 quintales por hectárea sembrada.

6/ Expresado en quintales de frijol con I=1% y H=16% o menos.

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PRODUCCION COMERCIALIZABLE DE ARROZ GRANZA COSECHA 1978-79

(EN QUINTALES)

<u>REGION</u>	<u>Total grano cosechado 1/</u>	<u>Perdidas Post-Cosecha 2/</u>	<u>Total grano seco y limpio 3/</u>	<u>Auto abastecimiento 4/</u>	<u>Semilla 5/</u>	<u>Producción neta comercializable 6/</u>
1.- SUR	214400	1,072	17,312	--	683	16,629
2.- CENTRAL	58,000	2,943	47,610	--	2,464	45,146
3.- NOROCCIDENTAL	230,430	11,524	125,113	--	7,323	173,725
4.- OCCIDENTAL	104,000	6,700	100,205	--	4,509	109,696
5.- NOROCCIDENTAL	53,000	2,600	43,280	--	2,751	41,261
6.- OCCIDENTAL	5,000	269	4,323	--	234	4,094
7.- OCCIDENTAL	32,150	1,601	25,969	--	1,323	24,646
TOTAL:	536,000	26,000	432,619	--	19,632	414,254

- 1/ Quintales de grano sucio y humedo (I=5%, H=20-25%)
- 2/ Estimado en 5% del total cosechado
- 3/ Quintales de grano limpio y seco (I=3%, H=13%), se asumió en general que el total de grano limpio y seco resultante, equivale al 85% del total de grano cosechado menos las perdidas post-Cosecha.
- 4/ Se asumió 1.2 quintales por hectárea sembrada
- 5/ Expresado en quintales de Arroz Granza con I= 9-15 y H= 13-14%.

PRODUCCION COMERCIALIZABLE DE SORGO, COSECHA 1978-79
(EN QUINTALES)

REGION	PRODUCCION NETA		CONSUMO DIRECTO		PRODUCCION	
	Total grano cosechado 1/.	perdidas post-Cosecha 2/.	total grano seco y limpio 3/	auto-abastecimiento 4/	semilla 5/	Producción neta comercializable 6/.
1).- SUR	508,337	29,415	478,922	40,000	5,211	423,113
2).- CENTRAL	126,356	9,318	117,038	30,000	2,244	108,526
3).- NPP-OCCIDENTAL	1,647	52	1,595	100,000	20	103,103
4).- NORTE	13,931	577	13,354	17,000	163	26,000
5).- BLANCO
6).- CENTRO-ORIENTAL	303,408	15,170	288,238	75,000	2,411	183,710
7).- OCCIDENTAL	51,750	4,009	47,741	1,000	732	12,451
TOTAL:	1,175,343	58,751	948,848	358,239	11,911	578,738

1/ Quintales de grano sucio y húmedo (I=5%, H=20-25%)

2/ Perdidas Post-Cosecha estimados en 5% del total cosechado.

3/ Quintales de grano limpio y seco (I=5% o menos, H=12-15%) se asumió en general que el total de grano limpio y seco resultante equivale al 95% del total de grano cosechado menos las perdidas Post-Cosecha: 0.05 (total perdidas).

4/ 3.10 porcapito al año.

5/ Se estimaron 0.75 quintales por hectárea sembrada.

6/ Expresado en quintales.

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MAIZ: DISTRIBUCION REGIONAL DE LA PRODUCCION POR MES DE COSECHA CICLO 1978-1979

Mes de Cosecha	REGION No. 1		REGION No. 2		REGION No. 3		REGION No. 4	
	Producción Esperada (qq)	Distribución Porcentual (%)	Producción Esperada (qq)	Distribución Porcentual (%)	Producción Esperada (qq)	Distribución Porcentual (%)	Producción Esperada (qq)	Distribución Porcentual (%)
Septiembre	194,691	40	30,752	6	193,800	5	92,552	11
Octubre	--	--	88,471	13	1,336,604	32	277,655	32
Noviembre	19,313	4	86,201	14	609,088	15	114,324	13
Diciembre	51,370	10	113,314	24	243,172	6	48,566	6
Enero	115,756	24	134,523	29	68,603	2	--	--
Febrero	35,150	7	1,310	--	123,121	3	16,249	2
Marzo	--	--	17,573	4	500,311	13	19,499	2
Abril	--	--	--	--	170,529	4	42,248	5
Mayo	--	--	13,199	3	23,471	1	64,997	7
Junio	--	--	9,736	2	593,593	9	191,999	21
Julio	7,355	1	--	--	304,580	7	--	--
Agosto	10,538	1	--	--	--	--	10,538	1
TOTAL	489,064	100	469,615	100	4,192,145	100	869,409	100

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MAIZ: DISTRIBUCION REGIONAL DE LA PRODUCCION POR MES DE COSECHA CICLO 1978-1979

Mes de Cosecha	REGION No.5		REGION No.6		REGION No.7		TOTAL	
	Producción Esperada (Qq)	Distribución Porcentual (%)	Producción Esperada (Qq)	Distribución Porcentual (%)	Producción Esperada (Qq)	Distribución Porcentual (%)	Producción Esperada (Qq)	Distribución Porcentual (%)
Septiembre	--	--	33,094	14	44,534	3	642,623	7
Octubre	622,454	39	--	--	400,302	28	2,740,933	28
Noviembre	637,232	40	323,272	51	113,756	8	1,864,322	19
Diciembre	116,251	3	89,500	14	689,173	42	1,302,145	14
Enero	100,75	7	18,351	15	287,291	17	769,173	8
Febrero	--	--	2,476	--	12,279	1	190,232	2
Marzo	74,117	5	689	--	40,228	3	843,514	9
Abril	3,021	--	3,392	1	19,653	1	236,632	2
Mayo	23,571	1	--	--	--	--	116,515	1
Junio	--	--	--	--	3,507	--	597,273	6
Julio	--	--	6,159	1	--	--	326,533	3
Agosto	--	--	24,463	4	--	--	101,573	1
TOTAL:	1,582,346	100	631,453	100	1,573,133	100	9,406,172	100

FRIJOL: DISTRIBUCION REGIONAL DE LA PRODUCCION POR MES DE COSECHA CICLO 1978-79

Mes de Cosecha	REGION No.1		REGION NO.2		REGION No.3		REGION No.4	
	<u>Producción Esperada</u> (QQ)	<u>Distribución Porcentual</u> (%)						
Septiembre	7,296	37	29,157	22	19,647	7	1,910	4
Octubre	--	--	--	--	42,568	16	726	2
Noviembre	1,042	5	22,152	16	3,583	1	--	--
Diciembre	4,689	23	32,994	24	9,554	3	--	--
Enero	1,971	10	25,557	19	75,216	27	2,813	6
Febrero	135	1	2,013	1	39,410	14	--	--
Marzo	--	--	671	1	32,244	11	26,112	59
Abril	--	--	671	1	7,165	3	11,248	26
Mayo	--	--	--	--	9,554	3	--	--
Junio	--	--	--	--	--	--	--	--
Julio	--	--	--	--	18,009	6	458	2
Agosto	4,890	24	21,698	16	26,195	9	725	1
<u>TOTAL:</u>	19,823	100	134,913	100	283,145	100	43,992	100

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FRIJOL: DISTRIBUCION REGIONAL DE LA PRODUCCION POR MES DE COSECHA CICLO 78-79

Mes de Cosecha	REGION No.5		REGION No.6		REGION No.7		TOTAL DEL PAIS	
	<u>Producción</u>	<u>Distribución</u>	<u>Producción</u>	<u>Distribución</u>	<u>Producción</u>	<u>Distribución</u>	<u>Producción</u>	<u>Distribución</u>
	<u>Esperada</u>	<u>Porcentual</u>	<u>Esperada</u>	<u>Porcentual</u>	<u>Esperada</u>	<u>Porcentual</u>	<u>Esperada</u>	<u>Porcentual</u>
	(QQ)	(%)	(QQ)	(%)	(QQ)	(%)	(QQ)	(%)
Septiembre	21,847	11	29,340	22	7,773	10	116,970	14
Octubre	3,178	2	7,694	6	221	--	54,347	6
Noviembre	13,623	7	2,586	2	3,907	5	46,993	5
Diciembre	15,489	8	13,465	10	19,174	25	295,986	11
Enero	75,894	39	35,010	27	19,174	26	235,896	27
Febrero	44,917	23	18,178	14	12,250	16	116,921	13
Marzo	6,196	3	--	--	--	--	65,222	7
Abril	1,548	1	--	--	--	--	80,633	2
Mayo	--	--	--	--	532	1	9,554	1
Junio	--	--	--	--	--	--	532	--
Julio	--	--	3,189	2	1,999	3	23,655	3
Agosto	<u>11,916</u>	<u>6</u>	<u>51,586</u>	<u>27</u>	<u>10,438</u>	<u>14</u>	<u>97,348</u>	<u>11</u>
<u>TOTAL;</u>	194,608	100	131,1081	100	75,468	100	883,957	100

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CICLO 1973 - 1979

ARROZ: DISTRIBUCION REGIONAL DE LA PRODUCCION POR MES DE COSECHA

Mes de Cosecha	REGION No.1		REGION No.2		REGION No.3		REGION No.4	
	<u>Producción</u>	<u>Distribución</u>	<u>Producción</u>	<u>Distribución</u>	<u>Producción</u>	<u>Distribución</u>	<u>Producción</u>	<u>Distribución</u>
	<u>Esperada</u> (QQ)	<u>Porcentual</u> (%)	<u>Esperada</u> (QQ)	<u>Porcentual</u> (%)	<u>Esperada</u> (QQ)	<u>Porcentual</u> (%)	<u>Esperada</u> (QQ)	<u>Porcentual</u> (%)
Septiembre	--	--	--	--	192,304	44	60,917	43
Octubre	210	1	20,528	36	65,421	28	59,533	45
Noviembre	14,083	67	17,636	31	95,421	29	3,970	1
Diciembre	5,727	32	18,327	32	--	--	--	--
Enero	--	--	--	--	--	--	7,843	3
Febrero	--	--	--	--	--	--	--	--
Marzo	--	--	--	--	--	--	--	--
Abril	--	--	--	--	--	--	--	--
Mayo	--	--	--	--	--	--	--	--
Junio	--	--	--	--	--	--	--	--
Julio	--	--	--	--	--	--	--	--
Agosto	--	--	--	--	--	--	--	--
TOTAL	21,020	100	57,052	100	233,046	100	132,426	100

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CICLO 1978 - 1979

ARROZ: DISTRIBUCION REGIONAL DE LA PRODUCCION POR MES DE COSECHA

Mes de Cosecha	REGION No.1		REGION No.6		REGION No.7		TOTAL DEL PAIS	
	Producción	Distribución	Producción	Distribución	Producción	Distribución	Producción	Distribución
	Esperada	Porcentual	Esperada	Porcentual	Esperada	Porcentual	Esperada	Porcentual
	(QQ)	(%)	(QQ)	(%)	(QQ)	(%)	(QQ)	(%)
Septiembre	---	---	---	---	---	---	163,721	36
Octubre	42,715	76	353	6	---	---	109,135	35
Noviembre	5,431	15	5,063	25	---	---	121,536	23
Diciembre	5,058	9	357	5	22,111	3	52,187	13
Enero	---	---	179	3	---	---	9,021	2
Febrero	---	---	---	---	---	---	598	---
Marzo	---	---	---	---	---	---	---	---
Abril	---	---	---	---	---	---	---	---
Mayo	---	---	---	---	---	---	---	---
Junio	---	---	---	---	---	---	---	---
Julio	---	---	---	---	---	---	---	---
Agosto	---	---	---	---	---	---	---	---
Total:	56,204	100	5,962	100	2,303	100	536,198	100

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SORGO: DISTRIBUCION REGIONAL DE LA PRODUCCION POR MES DE COSECHA

<u>Mes de Cosecha</u>	<u>REGION No.1</u>		<u>REGION No.2</u>		<u>REGION No.3</u>	
	<u>Producción Esperada</u>	<u>Distribución Porcentual</u>	<u>Producción Esperada</u>	<u>Distribución Porcentual</u>	<u>Producción Esperada</u>	<u>Distribución Porcentual</u>
	(QQ)	(%)	(QQ)	(%)	(QQ)	(%)
Septiembre	--	--	--	--	--	--
Octubre	--	--	--	--	--	--
Noviembre	23,532	4	22,364	12	--	--
Diciembre	70,597	12	3,727	2	--	--
Enero	294,154	50	106,229	57	1,647	100
Febrero	200,024	34	54,046	29	--	--
Marzo	--	--	--	--	--	--
Abril	--	--	--	--	--	--
Mayo	--	--	--	--	--	--
Junio	--	--	--	--	--	--
Julio	--	--	--	--	--	--
Agosto	--	--	--	--	--	--
<u>TOTAL:</u>	<u>538,307</u>	<u>100</u>	<u>186,366</u>	<u>100</u>	<u>1,647</u>	<u>100</u>

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SORGO: DISTRIBUCION REGIONAL DE LA PRODUCCION POR MES DE COSECHA

<u>Mes de Cosecha</u>	<u>REGION 4</u>		<u>REGION 6</u>		<u>REGION 7</u>		<u>TOTAL PAIS</u>	
	<u>Producción Esperada</u>	<u>Distribución Porcentual</u>						
	(QQ)	(%)	(QQ)	(%)	(QQ)	(%)	(QQ)	(%)
Septiembre	--	--	--	--	--	--	--	--
Octubre	--	--	6,058	2	--	--	6,058	1
Noviembre	--	--	--	--	618	1	46,714	4
Diciembre	--	--	--	--	9,615	12	84,139	7
Enero	13,531	100	207,348	69	44,984	55	669,893	57
Febrero	--	--	87,987	29	26,172	32	368,229	31
Marzo	--	--	--	--	--	--	--	--
Abril	--	--	--	--	--	--	--	--
Mayo	--	--	--	--	--	--	--	--
Junio	--	--	--	--	--	--	--	--
Julio	--	--	--	--	--	--	--	--
Agosto	--	--	--	--	--	--	--	--
TOTAL:	13,531	100	303,403	100	81,789	100	1,175,043	100

HONDURAS, GRANOS BASICOS: PRECIO PROMEDIO AL POR MAYOR */
1969 a 1977

\$CA por TM

AÑOS	Maíz	Frijol	Arroz Oro	Sorgo
1969	63.67	158.65	230.83	52.26
1970	77.56	221.29	155.51	73.21
1971	66.57	159.48	320.21	67.81
1972	74.87	172.34	280.39	67.81
1973	86.90	259.86	257.79	104.32
1974	98.72	273.13	340.95	106.81
1975	163.01	282.47	456.88	160.73
1976	111.37	299.89	487.27	113.44
1977 **/	181.88	340.74	504.79	184.79

*/ Pagado en la ciudad capital

**/ Precio promedio de enero a junio

PROMEDIO MENSUAL Y ANUAL DE PRECIOS DE MERCADO AL POR MAYOR EN HONDURAS

PRODUCTO: ARROZ CLASIFICADO.-PERIODO: 1965-66/1977-78.

(LPS/QUINTAL)

AÑO	PROMEDIO	SEP.	OCTUBRE	NOV.	DICIEMBRE	ENE.	FEBRERO	MARZO	ABRIL	MAYO	JUNIO	JULIO	AGOSTO
1965-66	21.15	16.95	16.68	17.15	16.68	19.16	21.59	23.07	24.25	24.36	24.54	24.76	24.57
1966-67	22.59	24.07	24.21	22.12	23.00	20.58	20.87	21.97	23.80	22.43	22.86	22.77	22.38
1967-68	19.69	21.02	19.76	18.70	18.90	18.25	19.29	19.74	19.40	20.36	22.51	19.79	18.60
1968-69	17.35	19.12	18.10	17.10	16.95	14.58	16.19	17.54	17.30	17.84	17.67	17.67	18.14
1969-70	19.12	18.38	18.03	18.37	18.16	14.18	18.89	19.14	20.14	20.41	20.59	21.53	21.56
1970-71	25.33	21.25	21.08	21.62	21.64	22.07	22.98	24.33	25.27	28.77	32.37	31.47	31.09
1971-72	26.49	29.41	27.77	26.43	25.70	24.17	26.35	25.63	27.84	26.47	26.14	26.05	25.92
1972-73	23.62	25.58	24.64	23.05	22.34	23.13	22.33	22.36	22.67	23.14	26.33	24.59	23.28
1973-74	28.00	23.30	23.18	23.33	23.46	25.60	26.14	26.86	28.76	33.38	35.11	33.45	33.47
1974-75	38.59	36.53	35.99	34.94	35.39	35.18	37.33	38.53	40.83	41.48	41.70	42.65	42.52
1975-76	40.62	42.52	42.05	41.66	41.58	43.76	37.62	38.63	38.23	39.93	39.27	41.80	40.43
1976-77	43.38	40.38	41.00	40.90	38.64	41.03	42.34	43.07	43.47	45.39	47.26	48.21	48.81
1977-78		50.07	50.44	49.28	49.66	50.40	51.48	50.21					

PROMEDIO MENSUAL Y ANUAL DE PRECIOS DE MERCADO AL POR MAYOR EN HONDURAS

Rev

PRODUCTO FRIJOL:- PERIODO 1965-66/1977-78

(LEMPIRAS/QUINTAL)

<u>AÑO</u>	<u>PROMEDIO</u>	<u>SEPT.</u>	<u>OCT.</u>	<u>NOV.</u>	<u>DIC.</u>	<u>ENE.</u>	<u>FEB.</u>	<u>MAR.</u>	<u>ABR.</u>	<u>MAY.</u>	<u>JUN.</u>	<u>JUL.</u>	<u>AGOST.</u>
1965-66	13.78	12.87	12.28	12.09	12.25	13.06	12.70	12.91	13.31	14.81	15.87	16.53	13.78
1966-67	20.41	20.18	24.25	27.21	24.10	15.71	15.05	16.05	18.11	18.60	23.99	22.75	18.97
1967--68	16.97	14.92	18.51	15.93	14.55	14.13	15.10	16.33	17.30	19.72	20.11	20.12	16.93
1968-69	15.66	16.19	16.50	15.67	15.46	12.62	14.75	15.64	16.48	17.02	16.80	16.75	14.11
1969-70	17.96	12.02	13.49	15.83	16.59	14.83	15.70	16.73	19.42	22.25	20.06	30.68	18.01
1970-71	14.18	14.87	13.93	14.50	13.93	12.47	12.50	13.21	13.91	16.02	15.49	15.44	14.18
1971-72	14.05	12.35	11.85	12.56	12.93	12.78	13.24	13.82	14.85	14.52	15.24	17.03	17.34
1972-73	25.27	16.36	19.40	21.06	21.08	20.97	25.61	30.34	31.23	32.17	31.71	30.15	23.34
1973-74	24.65	21.65	21.62	22.24	21.30	20.70	23.53	26.32	24.62	28.19	28.55	29.79	27.32
1974-75	24.75	21.01	21.99	22.17	22.92	21.82	22.32	23.38	24.45	26.94	26.74	33.23	30.09
1975-76	25.87	26.42	25.61	25.92	26.96	24.95	25.16	23.89	23.96	26.33	27.43	27.71	26.14
1976-77	30.81	24.83	25.23	29.04	29.80	29.61	28.50	31.43	33.67	33.66	34.65	35.69	33.72
1977-78	33.37	41.11	51.85	50.55	42.73	44.64	45.13	44.63	45.41	47.44			

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Handwritten notes and corrections:
 1965-66 13.78
 1966-67 20.41
 1967-68 16.97
 1968-69 15.66
 1969-70 17.96
 1970-71 14.18
 1971-72 14.05
 1972-73 25.27
 1973-74 24.65
 1974-75 24.75
 1975-76 25.87
 1976-77 30.81
 1977-78 33.37
 1978-79 41.11
 1979-80 51.85
 1980-81 50.55
 1981-82 42.73
 1982-83 44.64
 1983-84 45.13
 1984-85 44.63
 1985-86 45.41
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 2029-30

PRECIOS MINIMOS DE COMPRA PARA GRANOS BASICOS

PERIODO 1965-66/1978-79

(LEMPIRAS/QUINTAL)

AÑO AGRICOLA	MAIZ	F R I J O L		A R R O Z G R A N Z A			SORGO
		ROJO	NEGRO	65% y MAS	60 a 64.9%	50 a 59.9%	
1955-66	6.20	10.50	10.50	9.00	9.00	9.00	--
1966-67	6.50	10.50	10.50	10.00	10.00	10.00	--
1967-68	6.50	13.00	13.00	10.00	10.00	10.00	--
1968-69	6.50	13.00	13.00	9.00	9.00	9.00	--
1969-70	6.00	12.00	12.00	7.00	7.00	7.00	--
1970-71	6.00	14.00	14.00	7.00	7.00	7.00	--
1971-72	6.50	14.00	14.00	10.00	9.00	9.00	--
1972-73	6.50	14.50	13.50	11.00	10.00	9.00	--
1973-74	6.75	15.00	14.00	12.00	11.00	10.00	--
1974-75	9.00	21.00	19.00	15.50	15.50	15.50	12.00
1975-76	15.00	21.00	21.00	18.00	18.00	18.00	8.00
1976-77	11.00	25.00	25.00	17.00	15.00	13.00	9.00
1977-78	12.25	25.00	25.00	20.00	18.00	16.00	10.25
1978-79	13.50	29.00	29.00	22.00	20.00	18.00	11.50

NOTA: Estos precios corresponden a Grano calidad A.- Se exceptúan los años - 1974-75 y 1975-76, que se fijaron porcentajes máximos de humedad (18%), sucio (5%), grano dañado (10%).- Los precios que se presentan a partir del período 1974-75 corresponden a los Graneros de Tegucigalpa y San Pedro Sula, los precios para los graneros regionales se obtienen restándole L. 1.00 a los precios de Tega. y S.P.S. a excepción de Arroz Granza, en el período 1977-78 con rendimiento de 50 a 59.9% que la diferencia es L. 1.20.

rov.

ANNEX 8

DEPARTMENT OF NATURAL RESOURCES
ADMINISTRATION FOR SECTOR PLANNING

PLANS FOR ORGANIZATION AND TECHNICAL
ASSISTANCE FOR THE ADMINISTRATION OF
SECTOR PLANNING

Tegucigalpa, D.C.

1975

Honduras, C.A.

I N T R O D U C T I O N

The present document fills a basic void in the agricultural sector on the subject of Organization for Sector Planning. Included are programming, management and budget; coordination; evaluation; project preparation; agricultural statistics; sector analysis and agricultural marketing studies.

Moreover, it contains a plan for salary supplements for key technical personnel in the Directorate for Sector Planning to aid in retention of present technical personnel, and to strengthen the technical capabilities of the Directorate through contracting of appropriate professionals. This plan will be implemented in conjunction with reforms in position classifications, and revision of salary scales under the Civil Service laws.

In support of the activities listed in the first paragraph, there is a plan for technical assistance which will help to institutionalize these activities.

This document, in addition to documenting the needs of Sector Planning, fulfills the previous funding conditions specified in Section 3.04 of AID Loan Agreement No. 522-T-025.

The following professionals assisted in the preparation of this document: Valentín J. Mendoza A., Carlos Zelaya, Dr. Roberto Castro and Jorge Hernán Galeas, along with the collaboration of all the Department heads in this Directorate. I wish to express my gratitude to each of these professionals for their magnificent cooperation.

SALOMON ORDONEZ
DIRECTOR, SECTOR PLANNING

Tegucigalpa, D.C. November 4, 1975.

AGRICULTURAL SECTOR

The coordinating mechanism for public policies, programs and activities in the agricultural sector is the Committee for Interinstitutional Coordination (COCO) which carries out the development plans for the agricultural sector.

This organization will be staffed as follows: the Secretary of State for Natural Resources who will act as President; the Executive Secretary of the Central Council for Economic Planning; the President of the National Development Bank; the Director of the National Agrarian Institute; the Manager of the Honduran Corporation for Forest Development; the Manager of the Honduran Coffee Institute and the President of the Honduran Banana Corporation. Substitutes for the aforementioned officials will be the officials that immediately follow them in hierarchical order. A more comprehensive description of this organization can be found in Annex 2 of this document.

COCO relies on a Technical Commission to implement its resolutions and to supply a flow of proposals relating to planning, management and budget; evaluation; project preparation; agricultural statistics; sector analysis and marketing. This Commission will be comprised of the heads of the planning offices of the affected institutions, with a Director of Sector Planning from the Department of Natural Resources acting as coordinator. For further details, see Annex 3.

The following annexes are included to provide an overall picture of the budgets and of the personnel resources of all public sector agricultural agencies that will be involved with implementing Agricultural Sector Program 1975-1978, as well as the institutional obligations related to the entire program and specifically to Section 5.04 of AID Loan Agreement No. 552-T-025.

- Annex No. 1 Basic Agreement between the Executor Institutions of Agricultural Sector Program 1975-1978.
- Annex No. 4 Budget of the Directorate for Sector Planning of the Department of Natural Resources for 1975.
- Annex No. 5 Organization Chart of the Directorate for Sector Planning of the Department of Natural Resources.
- Annex No. 6 Work Plan and Budget for the Planning Office of the National Agrarian Institute for 1976.
- Annex No. 7 Work Plan and Budget for the Technical Division of the National Development Bank for 1976.

DEPARTMENT OF NATURAL RESOURCES

PART A

ORGANIZATIONAL PLAN FOR COORDINATION, PLANNING, ADMINISTRATION, EVALUATION
PROJECTS AND MARKETING

(Section 3.04 letter (a) of AID Loan Agreement No. 522-T-025)

Tegucigalpa, D.C. October 31, 1975

DEPARTMENT OF NATURAL RESOURCES
ADMINISTRATION FOR SECTOR PLANNING

The Directorate for Sector Planning, functioning as a technical agency of the Department of Natural Resources, in direct support of the highest decision levels, has as its basic goals the following: to plan, coordinate, evaluate, and carry out specific studies, and to assist the Secretary, the Undersecretary and other administrators and agencies proposed by the Technical Secretary of the Central Council for Economic Planning and based on the National Plan for Agricultural Development. The Directorate will coordinate its activities with the affairs of the Department of Natural Resources, with public implementing agencies and with the Secretary of the Central Council for Economic Planning.

In order to accomplish the aforementioned objectives, the Directorate for Sector Planning will have six departments: 1) Agricultural Statistics; 2) Sector Analysis; 3) Evaluation; 4) Projects; 5) Programming, Management and Budget; and 6) Marketing.

The main functions of the Directorate are as follows:

- 1) To assist the Secretary and the Undersecretary in defining and determining the priorities, strategies, policies, measures and distribution of public resources in the agricultural sector.
- 2) To participate in the formulation of short-term, medium-term and long-term national development plans for the agricultural sector.
- 3) To identify, prepare and design programs, projects and activities for agricultural development in Coordination with regional directorates.
- 4) To recommend measures that will contribute to the improvement of programming, evaluating, coordinating and administrative organization of Department activities, for the purpose of rationalizing the use of resources in established regions.
- 5) To develop the general features of the Secretary of the Central Council for Economic Planning and to assist the executive agencies

of the Department in formulating annual operating plans for the regions.

- 6) To formulate the budget for the Department of Natural Resources jointly with the rest of the agencies of this Department
- 7) To carry out studies of agricultural products of interest in the Department and/or other agricultural agencies in the public sector.
- 8) To make evaluations, in a permanent and systematic way, of programs, projects, and activities of the Department of Natural Resources.
- 9) To collect, tabulate and publish national agricultural and marketing statistics in collaboration with the General Administration for Statistics and Census, thus maintaining a data bank for use by those interested in the agricultural sector.
- 10) To carry out studies on marketing, on marketing infrastructural needs and on the institutional aspects of marketing agricultural and agro-industrial products.
- 11) To issue economic and technical reports that may be requested within the scope of its powers.
- 12) To formulate, manage and coordinate requests for financial and technical assistance, inside the country and abroad, in cooperation with the Technical Secretary of the Central Council for Economic Planning, in order to respond to the real needs of the Department of Natural Resources in particular, and the needs of the public sector agricultural agencies in general.
- 13) To improve the capabilities of the Directorate through training programs and Department fellowships.
- 14) To collaborate with the Coordinator of Human Resources in order to develop training and other programs for improving the Department.
- 15) To provide the Branch Secretary with bimonthly reports, in which activities developed, obstacles encountered and recommendations for overcoming them are summarized.
- 16) Other activities associated with the Directorate that the Secretary or Undersecretary will assign.

DEPARTMENT OF AGRICULTURAL STATISTICS

The Department of Agricultural Statistics has the responsibility to work jointly with the other departments of the Directorate for Sector Planning. The objective of the Department is to collect, prepare and publish statistical information in order to satisfy the data requirements of the Department of Natural Resources in particular and the public sector agricultural agencies in general. In order to accomplish this objective, the following activities must be undertaken:

1. To collect, analyze, present and publish statistical information relating to the agricultural sector.
2. To establish a data bank for the agricultural sector.
3. To produce periodical publications of agricultural statistics.
4. To make the information that has been produced and processed in the Department available to users.
5. To carry out special surveys and investigations to keep abreast of plans in other Departments of the Directorate for Sector Planning.
6. To assist, through demonstrations, the other governmental agencies within the agricultural sector.
7. To assist with computing systems and to prepare computational services needed by the other Departments in the Directorate for Sector Planning.
8. To supervise the collection, evaluation and publication activities for information generated in other agencies of the Department of Natural Resources.
9. To develop and maintain a system of harvest forecasts.
10. To collect and maintain chronological records of production, productivity, internal markets, foreign trade, population, land possession and other aspects considered important.
11. To give bimonthly reports to the Director, in which activities developed, obstacles encountered and recommendations for overcoming them are summarized.

12. To participate in negotiating a contract with the Department of Housing and Public Credit in order to satisfy the computation needs of the Department of Natural Resources.
13. Other activities related to statistics that are assigned by the Directorate for Sector Planning.

In order to accomplish the preceding activities, the Department will have four sections: Direct and Indirect Collection; Analysis and Demonstration; Tabulation and Computation; and Publication of Agricultural Statistics.

DEPARTMENT OF SECTOR ANALYSIS

The main responsibility of this Department is to work jointly with the other Departments of the Directorate for Sector Planning. The objective of this Department is to perfect and maintain a system of integrated economic analysis of the policies and strategies for the plans, programs and projects, so that the objectives of the National Development Plan can be reached in the best way possible, optimizing the use of resources.

In order to insure the fulfillment of this objective, the Department of Sector Analysis will carry out the following activities:

1. To cooperate with the Department of Agricultural Statistics in establishing the statistical information requirements for analysis.
2. To employ the sector analysis system for regions, sub-regions, and specific areas, in perfecting the planning and evaluating systems of the Directorate for Sector Planning.
3. To analyze the policies, strategies, programs and projects of the agricultural development plans that the Secretary of the Central Council for Economic Planning submits for the consideration of the Department for Natural Resources, and to make appropriate recommendations.
4. To assist the Project Department in the economic analysis of its projects, especially those that cover integrated development.
5. To assist the Department of Evaluation in establishing and implementing technical systems for the evaluation of programs and projects being carried out.
6. To assist the Directorate in formulating recommendations for improving institutional coordination, including the coordination of programs for international assistance.
7. To give bimonthly reports to the Director, in which activities developed, obstacles encountered and recommendations for overcoming them are summarized.
8. Other activities related to sector analysis that are assigned by the Directorate.

DEPARTMENT OF EVALUATION

The main responsibility of the Department of Evaluation is to work jointly with the other Departments of the Directorate for Sector Planning. The basic objective is to carry out systematical and timely evaluations of the programs, projects and activities of the Department of Natural Resources, in order to measure the progress achieved, to detect obstacles and problems in its execution, and to propose measures to solve these problems.

In order to accomplish this objective, the Department must carry out the following activities:

1. Design and establish evaluation methods and systems which allow us to make opportune decisions to correct deviations in plans and programmed policies, as well as detect unforeseen problems.
2. Carry out annual impact evaluations, which would satisfy the objectives planned for the Agricultural Sector Program.
3. Carry out periodic evaluations of institutional efficiency.
4. Based on experience acquired through impact evaluations and institutional efficiency evaluations, generalize acquired experience to other programs, projects and activities in the agricultural sector.
5. Make evaluations of the financial aspects as well as the physical process of carrying out programs and projects.
6. Collaborate with the Department of Agricultural Statistics, in preparing the information obtained from the evaluations.
7. Give bimonthly reports to the Director, in which activities developed, obstacles encountered and recommendations for overcoming them are summarized.
8. Carry out other evaluation activities that are assigned by the Directorate for Sector Planning.

PROJECT DEPARTMENT

The main responsibility of this department is to work jointly with the other Departments of the Directorate for Sector Planning. Its basic objective is to insure the quality of the projects which are developed, directly or indirectly, for the Department of Natural Resources and other public sector agricultural agencies.

In order to accomplish this objective, the Department will develop the following activities:

1. Prepare terms of reference for specific projects identified in the National Agricultural Development Plan and for those projects requested by the Directorate.
2. Prepare bidding documents for project studies which will be presented to national and international consulting firms.
3. Evaluate the bids of consulting firms for the completion of studies, and make pertinent recommendations for the selection of these firms.
4. Participate in negotiations for the bidding of contracts with consulting firms.
5. Monitor the progress of contracts that have been awarded to consulting firms.
6. Prior to the official receipt of the studies presented by the consulting firms, make an evaluation of these studies in order to insure the fulfillment of the terms of reference and the quality of the studies.
7. Possibly prepare studies of specific projects, when appropriate personnel and resources exist in the institutions involved in these projects and when there exists a formal financial bond for the execution of the project.
8. Establish and maintain a project inventory for the agricultural sector.
9. Assist the executive or coordinating units, named specifically for carrying out projects or programs with outside financing, in the process of fulfilling the conditions prior to the expenditures.

10. Give bimonthly reports to the Director, in which activities developed, obstacles encountered and recommendations for overcoming them are summarized.
11. Other activities associated with project study and evaluation that are assigned by the Directorate.

PROGRAMMING, MANAGEMENT AND BUDGET DEPARTMENT

The main responsibility of this Department is to work jointly with the other Departments of the Directorate for Sector Planning. Its basic objectives are: to coordinate the programming for projects, activities and programs which fit the operative plan of the Department of Natural Resources; to formulate and supervise the preliminary budget of the Department based on proposed projects of the respective agencies; to audit the expenditure of budgeted funds.

In order to accomplish these objectives, the Department must carry out the following activities:

1. Formulate annual operative plans for the Department of Natural Resources, in conjunction with other public agencies, based on the plans of the Secretary of the Central Council for Economic Planning.
2. Collaborate with the Technical Secretary of the Central Council for Economic Planning in formulating sector and national plans for agricultural development.
3. Formulate the annual preliminary budget of the Department in conjunction with the rest of the agencies and the Secretary of the Council for Economic Planning.
4. Audit the expenditure of the annual Department budget.
5. Collaborate with the Department of Project Formulation and Analysis in the programming of projects.
6. Orient, coordinate and assist the distinct units that make up the Department of Natural Resources in programming and carrying out projects, programs and activities, as a function of the budget.
7. Give bimonthly reports to the Director, in which activities developed, obstacles encountered and recommendations for overcoming them are summarized.
8. Carry out other activities related to programming, management and budget that are assigned by the Directorate for Sector Planning.

MARKETING DEPARTMENT

The main responsibility of this Department is to work jointly with the other Departments of the Directorate for Sector Planning. The objective of this Department is to carry out marketing studies on the needs of the marketing infrastructure, and on the institutional aspects of the marketing of agricultural products that the programs, projects and activities of public sector agricultural agencies require.

In order to accomplish this objective, the Department will carry out the following activities:

1. Formulate recommendations for price stabilization policies for basic grains, and suggest price policies for new products.
2. Identify agricultural products with internal or foreign market potentials, determining their priorities.
3. Carry out marketing studies for agricultural products, considered in projects under study by the Department of Natural Resources.
4. Study the current marketing systems in the country and suggest alternatives for improving them, with emphasis on products that the Department considers a priority.
5. Cooperate with the Directorate for Foreign and Internal Trade of the Department of the Economy in marketing studies that the Department is carrying out.
6. Collaborate with the Department of Statistics in order to establish a data bank and publish information in its area of competency.
7. Support the Department of Sector Analysis in its marketing studies.
8. Study the feasibility of creating an organization to centralize the marketing activities of agricultural products.
9. Give bimonthly reports to the Director, in which activities are developed, obstacles encountered and recommendations for overcoming them are summarized.
10. Carry out other marketing activities that are assigned by the Directorate for Sector Planning.

ANNEX 9

SELECTED REFERENCES AVAILABLE AT USAID/HONDURAS

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ANNEX 10

OUTLINE OF KEY FUNCTIONS BY HONDURAN PUBLIC AGENCIES

RELATED TO PRICE STABILIZATION AND MARKETING

OF AGRICULTURAL PRODUCTS

- I Implementation of Price Stability Programs for Basic Grains
- II. Technical Support for Agricultural Marketing Policies and Programs

I. Implementation of Price Stability Programs for Basic Grains

1. Selecting optimum locations, types, sizes and timing of grain storage and handling facilities.
2. Operation and management of physical facilities.
3. Operation and management of grain procurement programs.
4. Management and preservation of storage stocks.
5. Operation and management of sales programs.
6. Establishment and implementation of grain grades and standards.
7. Management of grain import and export programs.
8. Technical assistance and support of private sector development.
9. Licensing, supervision and regulation of grain marketing and processing organizations.
10. Dissemination of marketing information to producers, consumers and marketing agencies.

11. Planning to support functions, 1 through 10.
12. Staff development and administration to support functions, 1 through 10.
13. Inventory information and control to support functions, 1 through 10.
14. Transportation and traffic management to support operations.
15. Other administrative functions to support operations (financing, accounting, legal, etc.).

II. Technical Support for Agricultural Marketing Policies and Programs

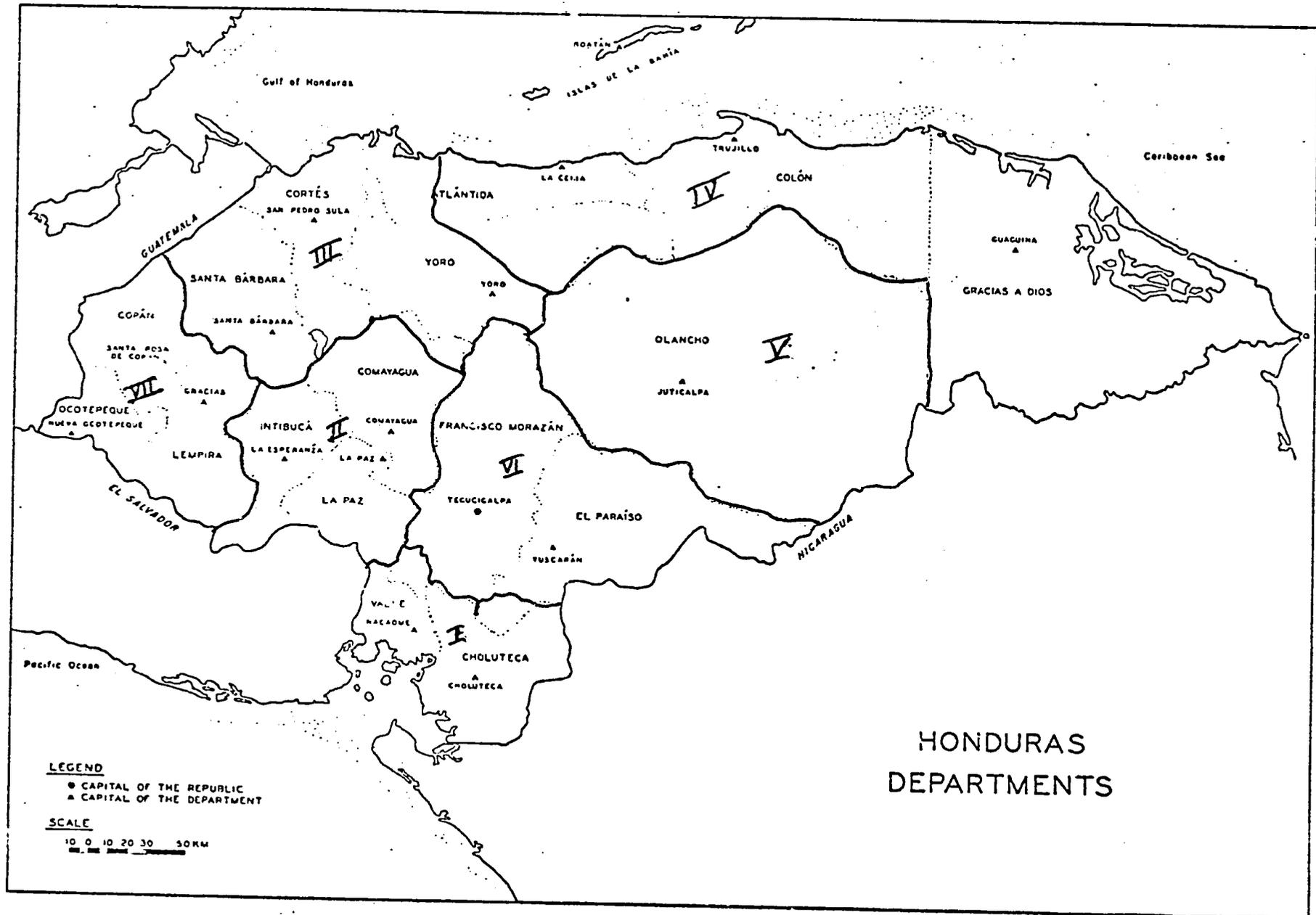
1. Collection, analysis and dissemination of current market prices, quantities, stocks and flows.
2. Conduct of crop surveys, tabulation and analysis of data, preparation and dissemination of crop forecasts, and related outlook affecting market supplies.
3. Collection of data and analysis of demand conditions, preparation and dissemination of outlook reports on demand and utilization of basic grains.
4. Analysis and projection of shifts in cropping patterns affecting the location and concentration of agricultural production.
5. Analysis of factors affecting production costs, and preparation and dissemination of annual cost of production reports for agricultural enterprises.
6. Analysis and projection of shifts in demand factors and development of demand projections by commodity and market.
7. Analysis of factors affecting farmers' production response and estimation of supply response to alternative price and non-price incentives, including impacts of competition for agricultural inputs.

8. Analyses of marketing functions, channels, costs and margins for agricultural commodities and processed products therefrom.
9. Analyses of market organization, structure, conduct, and performance for agricultural marketing and processing industries.
10. Analyses of physical and institutional infrastructure affecting the development and performance of marketing systems for agricultural products.
11. Analyses of existing and alternative technologies in agricultural marketing and processing industries, including internal and external factors restricting efficiency.
12. Analytical concepts and procedures reflecting changing structural relationships in the markets and marketing systems for Honduran agricultural products.
13. Short, intermediate and long term projections of the impacts and results of established policies and programs on markets and marketing systems for agricultural products.
14. Identification of major impediments and constraints limiting the effectiveness of the existing marketing system, and

development of promising alternative policies and programs for removing these impediments.

15. Analysis of probable results of promising alternative policies and programs for improving existing marketing system.
16. Development of linkages and procedures for interaction between (1) policy analysts measuring the predicted consequences of alternatives and (2) Honduran policy makers and program implementators.
17. Use of the analytical tools and procedures to obtain predicted consequences of alternative policies and programs posed by Honduran political leaders and Government officials.
18. Development of master plans for implementation of selected price policy and marketing programs for agricultural products.
19. Assistance in implementation of continuing price policy and marketing programs as prescribed in the master plans.
20. Monitoring, reporting and evaluation of agricultural price policy and marketing programs.

ANNEX 11. REGIONS AND DEPARTMENTS OF HONDURAS



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HONDURAS DEPARTMENTS

LEGEND
 ● CAPITAL OF THE REPUBLIC
 ▲ CAPITAL OF THE DEPARTMENT

SCALE
 10 0 10 20 30 50 KM

ANNEX 12

CONSTITUTION OF THE
HONDURAN INSTITUTE FOR AGRICULTURAL MARKETING (IHMA)

DECREE No. 592

THE CHIEF OF STATE, AND THE COUNCIL OF MINISTERS,

CONSIDERING: that it is the responsibility of the state to see to the best regulation of the marketing of agricultural products, so that the producers receive satisfactory remuneration for their efforts and so that adequate supplies of basic food products are available to the consumer at reasonable and fair prices;

CONSIDERING: that by this proposition it is necessary for the State to participate in the stabilization of market prices and agricultural product supplies, providing efficient production and protecting the consumers:

CONSIDERING: that as a function of the preceding, the Public Administration should be endowed with a specialized institution in this field, having at its disposal adequate legal and financial instruments to reach the goals which are set forth here.

THEREFORE: using the powers conferred upon them by the Decree No. 1 of December 6, 1972,

DECREES:

The following:

CONSTITUTION OF THE
HONDURAN INSTITUTE FOR AGRICULTURAL MARKETING

CHAPTER 1

PURPOSE, HEADQUARTERS AND DURATION

Art. 1 The Honduran Institute for Agricultural Marketing shall be created as an autonomous institution with its own legal status and patrimony,

and which will govern itself by this constitution and these rules and also by the judicial standards applicable to the operations that it carries out.

Art. 2 The purpose of the Institute will be to promote the improvement of the marketing systems for basic grains, securing the stabilization of prices on the national market through direct intervention in the buying and selling of these products inside and outside the country, in order to guarantee an organized and stable market for the producer and an adequate supply for the consumer. In the measure that the country requires it and the resources of the Institute permit it, other agricultural products may be incorporated into the marketing.

Consequently, the Institute will formulate the agricultural marketing policies of the State and will carry them out to the best of its abilities.

Art. 3 The Institute will have its headquarters in the capital of the Republic and will be able to operate in the entire country as well as abroad, opening the necessary agencies and offices.

Art. 4 The duration of the Institute is indefinite and all of its obligations will enjoy the most complete guarantee of the State.

CHAPTER II

ATTRIBUTES AND FUNCTIONS

Art. 5 The duties of the Institute are:

- a) To adopt the necessary means to stabilize prices for basic grains on the national market, to create an incentive for the producers and to adequately supply the consumer.
- b) To promote and carry out the marketing of the other agricultural products, in accordance with the available resources and in conformity with the orders established by the Board of Directors.
- c) To propitiate the regulation of the internal market for basic grains and, when the need arises, for other agricultural products.

Art. 6 In order to fulfill its duties, the Institute is empowered to:

- a) Establish minimum guaranteed prices for buying basic grains from the producers.
- b) Buy and sell basic grains in accordance with the behavior of the internal market.
- c) Import and export basic grains, and limit or control the importation and exportation of these same grains when it is necessary to stabilize prices and maintain an adequate supply for the consumer.
- d) Build, obtain, rent and operate storage, processing, preservation and distribution facilities in order to stabilize prices of basic grains and to improve the marketing of other agricultural products, when this is decided by the Board of Directors.
- e) Offer storage and processing services for agricultural products to individuals, preferably to producers, establishing the limits and conditions within which these operations and services can be carried out.
- f) Issue certificates of deposit and security bonds.
- g) Contract loans inside and outside of the country.
- h) Collect, classify, produce and publish, directly or in collaboration with other institutions, information on production, prices and marketing of agricultural products.
- i) Contribute directly, or in collaboration with other institutions, to the improvement of the marketing system for agricultural products, in particular basic grains.
- j) Provide technical assistance in the area of agricultural marketing to the producers and to private and public institutions.

- k) Participate in expositions and other events which contribute to the improvement of agricultural products.
- l) Orient private initiative in the marketing of agricultural products in order to obtain a better efficiency in this process.
- m) Adopt any other measures that are considered necessary to the goals of the Institute.

CHAPTER III

ASSETS AND RESOURCES

Art. 7 The initial total assets of the Honduran Institute for Agricultural Marketing (IHMA) is made up of all assets and liabilities which the Division of Cereal Preservation and Marketing, a trust of the National Development Bank, holds at the time that this Decree becomes effective.

Art. 8 The initial total assets of the Honduran Institute for Agricultural Marketing may be increased.

- a) The goods and assets that the State and its institutions transfer to it.
- b) The part of the profits that the Institute has obtained and that the Executive powers assign to it on the proposal of the Board of Directors.
- c) The inheritances, legacies and donations that the Institute accepts.
- d) Whatever other incomes, goods and resources are assigned to the Institute or that the Institute acquires under any title.

Art. 9 The Institute will deposit its funds and carry out its banking operations through the Central Bank of Honduras.

Art. 10 The net profits that the Institute obtains annually will go towards accrue to the Public Treasury, except for the part of the profits referred

to in clause (b) of Article 8.

Art. 11 The Institute will be exempt from paying all state, municipal or district taxes, except those dealing with imports and exports of its products, which will remain subject to general legislation.

CHAPTER IV

BOARD OF DIRECTORS

Art. 12 The upper-level administration of the Institute will be the responsibility of a Board of Directors comprised of the following people:

- a) Secretary of State for Natural Resources
- b) Secretary of State for Economics
- c) Secretary of State for Public Treasury and Credit
- d) Executive Secretary of the High Council of Economic Planning
- e) Executive Director of the National Agrarian Institute.

The substitutes for the proprietary representatives will be their respective undersecretaries, except for the Executive Secretary of the High Council of Economic Planning, whose substitute will be named by him from among the officials in the highest ranks of the Secretary, and for the Executive Director of the INA, the Assistant Director will be the substitute.

Art. 13 When the Board of Directors considers it appropriate, it can invite representatives of other public or private organizations to participate in its meetings when studying specific matters.

Art. 14 The Presidency of the Board of Directors will be carried out by the Secretary of State for Natural Resources and, in his absence, the Undersecretary of the same branch, and in his absence by the Secretaries of State in the order established in Art. 12.

Art. 15 The Board of Directors will carry out its functions with complete independence and under its sole responsibility, within the norms established by this Constitution and its rules. Any act, resolution or omission by the Board of Directors which opposes legal dispositions or rules and which causes damage to the Institute, will incur personal responsibility with the individual, the State or third parties, on the part of all the directors present at the respective session, except those who voted against the act in the session when the matter was handled.

Personal responsibility will also be incurred by those who divulge any information whatsoever of a confidential nature on matters discussed in meetings, or by those who make use of any such information for personal gains or to the damage of the State, the Institute or third parties.

Art. 16 No member of the Board of Directors can be present at a session at the time when a matter will be handled in which he or his blood relatives or relatives by marriage have a direct personal interest, or a business in which he is a partner.

Art. 17 The Board of Directors will meet once a month and in extraordinary cases when the President or the majority of the members convenes it. For each complete session the members of the Board of Directors will earn the salary established by the rules.

Art. 18 In order to hold ordinary and extraordinary sessions of the Board of Directors, the presence of at least three (3) of its members is required, and the resolutions will be made by a majority of the votes, but under no circumstances with less than three (3) votes in favor.

Art. 19 In addition to the powers and duties set forth specifically in this Constitution, the Board of Directors will also have the following:

a) To determine and direct the policies of the Institute, and to carry out the administration of these policies.

b) To issue the regulations which are necessary for the operation of the Institute.

- c) To approve the contracts and agreements up to the funding reserved for this purpose.
- d) To approve annually the Work Program of the Institute.
- e) To review, evaluate, and approve the annual report of the General Manager, the Institute budget, the financial state and the execution of the budget through the programs.

Approve the openings of businesses, agencies and offices inside the country and abroad.

Fix the minimum guaranteed prices that the Institute will pay to producers of basic grains, when this measure becomes necessary.

Appoint, suspend or remove the General Manager, the Assistant Manager and the Auditor.

Appoint, suspend or remove officials of the Institute upon proposal of the General Manager.

Authorize the undertaking of consultant services.

Carry out the rest of the functions belonging to it according to the constitution and its rules.

CHAPTER V

GENERAL MANAGER, ASSISTANT GENERAL MANAGER AND AUDITOR'S OFFICE

Art. 20 The administration of the Institute will be the responsibility of the General Manager and, in his absence, the Assistant General Manager.

Art. 21 The General Manager and the Assistant General Manager must be Honduran by birth, at least 25 years old and recognized as honorable and competent.

Art. 22 The following persons may not be either the General Manager or the Assistant General Manager of the Institute:

- a) Blood relatives or relatives by marriage of any member of the Board of Directors.
- b) Bankrupt persons or those who have pending settlements with the State or bankruptcy proceedings.
- c) Those who perform a public duty in an elective office, or who are members of Boards of Directors for political parties.
- d) Those who for some reason are legally incapable of performing the above-mentioned functions.

The obstacle established in clause (a) above will not apply if it should intervene between the General Manager or Assistant General Manager already appointed and a new member of the Board of Directors.

Art. 23 The attributes of the General Manager are:

- a) To propose to the Board of Directors the policies and programs that are necessary to accomplish its goals, and to carry out the decisions that the Board adopts.
- b) To administer the goods and the transactions of the Institute.
- c) To propose to the Board of Directors the appointment or removal of Institute officials.
- d) To appoint, move, promote, suspend or remove Institute employees according to the legal dispositions and applicable regulations.
- e) To submit annually for the approval of the Board, the budget project, the financial state, the norms for carrying out the budget, and a report on the activities accomplished during the previous period, including the balance of the budget.

- f) To adopt, within its powers and duties, all the measures which are indispensable to carrying out the objectives of the Institute.
- g) To elaborate the regulations which are necessary for fulfilling the goals of the Institute and to submit them for the consideration and approval of the Board of Directors.
- h) To attend the meetings of the Board of Directors, with a voice but without a vote.
- i) To carry out the legal representation of the Institute, according to the arrangement of the constitution, laws and resolutions of the Board of Directors. He can delegate his representation, except in those cases in which his intervention is obligatory.
- j) To propose to the Board of Directors for its approval specific programs and projects whose goals are to stabilize prices for basic grains and other products which are within his powers.
- k) To fulfill the resolutions of the Board of Directors; and
- l) To carry out the rest of the functions that are assigned to him in conformity with the constitution and regulations and resolutions of the Board of Directors.

Art. 24 The inspection and vigilance of the accounts and operations of the Institute will be the responsibility of the Internal Auditor, who must fill the same requirements necessary to be the General Manager and who will answer before the Board of Directors. This auditor will report to the Board of Directors on his efforts, or to the General Manager when he considers it appropriate.

Art. 25 At the time that the IHMA enters into action, the National Development Bank will totally liquidate the Division of Cereal Preservation and Marketing.

Art. 26 While the IHMA is initiating its operations, the officials who make up its Board of Directors will act as the Organization Commission, and they will dictate the dispositions and carry out the necessary work for the organization of the Institute, especially concerning the transfer of the assets and liabilities from the Division of Cereal Preservation and Marketing in the National Development Bank, justly and in conformity with the norms of this constitution.

CHAPTER VI

GENERAL DISPOSITIONS

Art. 27 The present constitution will become effective twenty (20) days after its publication in the official newspaper "La Gaceta" and all legal dispositions or regulations that contradict this constitution will be abolished.

Signed in Tegucigalpa, Central District,
this 24th day of February, 1978.

CHIEF OF STATE

JUAN ALBERTO MELGAR CASTRO

Secretary of State for Government and Justice

Juan Angel Arias Rodriguez

Secretary of State for Foreign Affairs

Policarpo Callejas B.

Secretary of State for National Defense and Public Safety

Francisco Ruiz Andrade

Secretary of State for Public Education

Lidia Williams de Arias

Secretary of State for Public Treasury and Credit

Porfirio Zavala Sandoval

Secretary of State for Economics

Benjamin Villanueva

Secretary of State for Communications, Public Works and Transportation

Mario Flores Theresin

Secretary of State for Public Health and Social Assistance

Enrique Aguilar Paz

Secretary of State for Work and Social Previsions

Adalberto Discua Rodriguez

Secretary of State for Natural Resources

Rafael Leonardo Callejas

Secretary of State for Culture, Tourism and Information

Erin O'Connor Bain

Executive Secretary of the High Council for Economic Planning

Arturo Corleto Moreira

Executive Director of the National Agrarian Institute

Fabio David Salgado

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