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Office of Rural Development

An Evaluation of the PL480 Title 1 Programs In Honduras

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AN EVALUATION OF THE PL480 TITLE I PROGRAMS IN HONDURAS

Report of
Winrock International Institute for Agricultural Development
Study Team

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Executive Summary

Honduras has had extensive experience with PL 480 Title I programs. Since 1975 they have brought more than 400,000 tons of wheat to the country, and in recent years the Title I imports have risen rapidly, so that they now account for about 80 percent of the total annual imports of wheat. The local currency generated by the sale of these imports plays a major role in the funding of the programs of the Ministry of Natural Resources (MNR).

This report attempts to evaluate the Title I experience in Honduras from a number of perspectives: its contributions to consumption and nutrition, its effects on the prices faced by Honduran farmers, its role in the government budget and the balance of payments, and its contributions to developmental efforts in Honduran agriculture.

In terms of consumption, wheat is increasingly important in the Honduran diet. Imported wheat now represents about 28 percent of the volume of the apparent consumption of the two main domestic grains for human consumption, corn and rice. It provides about 12 percent of the country's daily protein intake, and 10 percent of the calories. The consumption patterns of wheat are strongly biased in favor of urban population groups and upper income groups. Wheat cannot be grown economically in Honduras, but if it were completely replaced by domestic grains, then corn production would have to increase by one-third, or rice production four-fold, and then their output levels would have to expand rapidly each year to keep pace with demand. That is not a likely scenario in the near term.

It is clear that the presence of the PL 480 Title I imports on concessional terms is a net economic benefit for Honduras. The main issues are not whether the program is beneficial to Honduras, but rather i) what is the distribution of benefits and costs, and ii) whether the PL 480-funded projects and the self-help measures are as effective as the might be.

It also is clear that considerable amounts of wheat imports would occur in the absence of Title I. There is a well-established demand

function for wheat in Honduras. It is difficult to quantify the effect of the concessional terms on the volume of imports, for those terms are not reflected in the consumer price. Because of the pressure to raise additional revenues for the Government's budget, it is likely that Title I has been used to increase the wheat imports over what they would have been otherwise (and one consequence is a declining real consumer price of wheat flour). In the authors' opinion, the presence of Title I has not increased wheat imports over what they would have been by more than by a marginal amount.

The report finds reasonably reliable statistical evidence that the wheat imports have reduced farm gate prices of corn, by reducing the demand for corn. The cause appears to be as much the declining real administered price for wheat flour as the volume of wheat imported. This effect would have occurred with or without PL 480, owing to the existence of commercial imports of wheat, but no doubt the presence of PL 480 made the effect somewhat stronger.

Farm prices would be less affected by the wheat imports if the government were to raise the internal price of wheat charged to the millers and, to a lesser extent, the price of flour charged to consumers. In recent years, the millers have received a windfall gain in the form of sharply lower nominal and real world market prices for wheat, while the domestic ex-mill price of flour has declined less markedly in real terms.

Effectively, there are three subsidies inherent in the wheat imports: i) that which is caused by the overvalued exchange rate, ii) that which is attributable to the Honduran practice of not charging millers the full handling costs between port and mill; and iii) that which is attributable to subsidized world market prices. The first two subsidies can be influenced by Honduran domestic policies. For example, the internal prices of wheat could be raised to compensate for the overvaluation of the exchange rate.

In Honduras, wheat is consumed mostly by urban groups and by higher-income groups. According to recently-tabulated evidence from a 1979 survey, the urban poor consumed eleven times as much wheat as the rural

poor did, per person per day. And the upper-income urban groups consumed 27 times as much wheat as the rural poor. While wheat consumption no doubt is more widespread now, still it is proportionately more important in the urban and higher-income diets.

In overall terms, the beneficiaries of the program are consumers (proportionately more the urban and higher-income consumers), farmers with the very smallest holdings (up to 2 hectares), the government budget, and the balance of payments. Those affected adversely by the program are farmers with more than 2 hectares. Small farm households are beneficiaries of higher volumes of wheat imports because the corn price is reduced, and those households spend more each year on purchase of corn than they earn from sales of their corn harvests.

The local currency revenues generated from the Title I sales appear to be used as general budget support by the Honduran Government, for there is no clear programmatic focus in the expenditures of those revenues. In spite of the Title I revenues, the budget of the Ministry of Natural Resources (MNR) has been declining in both absolute and proportionate terms in recent years. The share of the total general government budget represented by the gross MNR budget fell from 14 percent in 1980 to less than 6 percent in 1985. Thus it also appears that the Government is compensating for MNR's receipt of Title I funding by reducing its regular allocations from the budget. Title I now represents about one-third of the net MNR budget, after allocations to the agricultural parastatals have been deducted, and more than half of the net MNR budget funded by domestic sources.

However, the importance of Title I in the MNR budget has not led to a perceptible strengthening of the institution. On the contrary, average regular salary levels have declined, and the availability of supporting funds, for travel to the field and for other operational expenditures, also has declined. The program of contracting with some MNR staff at higher salaries through Title I does not appear to have improved the performance of the institution, and in any case that program is not sustainable in the long run.

An analysis of the development projects funded by Title I shows that the Title I/III projects have been the most effective. They have had the greatest impact on export crops; in fact, MNR expenditures as a whole have had little impact on domestic staple crops to date. When the balance of payments contributions of the Title I/III programs are taken into account, they emerge as easily the most effective of the Title I programs.

Chapter 1

THE SETTING AND THE SCOPE OF THE EVALUATION

1.1. Introduction

Honduras has had more than a decade of experience with both PL 480 Title I and PL 480 Title II programs, as well as with other kinds of international programs that deal with food aid. In 1985, the authorized amounts of food aid under these programs were $15 million under Title I, $3.6 under Title II, and about $6.2 under other programs, primarily the World Food Program of the FAO and the food aid programs of the European Community. In recent years, Title I has accounted for about 15 percent of the total USAID loans and grants to Honduras.

Title II programs have provided food to Honduras under grants, but Title I has financed the import of staple foods under concessional loans. In all the Title I agreements in Honduras, the interest rate has been set at 2 percent during the grace period and 3 percent in the post-grace period. The grace period was 1 or 2 years in the initial agreements, and in recent years it has been set uniformly at 10 years. Another important difference between the two programs is that Title I generates local currency proceeds for the host government, whereas Title II does not. Under Title I, the imported foods are sold by the Honduran Government to the private sector, and the proceeds from those sales are regarded as revenues for the government's budget.

The Title II programs are the oldest of the food aid programs, going back to the 1960s. Title I aid originated as a form of disaster relief, to help compensate for the damage caused by hurricane Fifi in 1974 and the drought of 1975. That first agreement was signed on March 5, 1975,

and it brought into Honduras 10,000 tons of rice and 10,020 tons of wheat. None of the subsequent agreements included rice, or any other commodity except wheat. A total of about 400,000 tons of wheat has been imported under Title I. By contrast, the Title II agreements have provided for the import of more than 15 different agricultural commodities, mostly corn, non-fat dry milk, wheat, wheat flour mixed with soya, and soybean oil. However, their total value has been much lower than that of the Title I programs. Tables 1, 2 and 3 show the amounts and values of commodities imported under both titles since 1970.

Honduras also has made use of an adjunct program to Title I, called Title I/III. Essentially, that program allows for forgiveness of the external debt on Title I imports if the local currency proceeds from those imports are used for development-oriented projects or policies in agriculture that are approved by the USAID Mission in Honduras. A Title I/III agreement was signed in June of 1982 to cover project activities during the period 1982-84. While regular budgetary disbursement reports must be filed with USAID by the Honduran Government under Title I, the Title I/III requirements go further and specify that evaluations of the project activities also be carried out. Thus, Title I/III has a more specific orientation toward development projects than Title I does, although the Title I legislation assumes that the local currency generations will in general be used in ways that promote development.

The broad purposes of the Title I (and Title I/III) programs have been fourfold: the help alleviate malnutrition, to ease the balance of payments burden of the host country, to provide additional governmental revenues, and to promote agricultural development. In Honduras, all four

objectives have been mentioned in the corresponding agreements between the Honduran and American Governments.

Over the period 1975-86, Title I agreements have been signed in nine years. Because it has been common practice to amend the initial agreements, there have been a total of 15 agreements, from March 5, 1975 to March 15, 1986. The total amount of local currency (lempiras) generated has been about 160.5 million lempiras. The outstanding amount of external debt that has resulted from these agreements was 114.1 million lempiras, as of December 31, 1986.

This evaluation is concerned only with PL 480 Title I, and with the related programs under Title I/III. A companion report is being prepared by another evaluation team on Title II in Honduras. The structure of this report is as follows: the remainder of this chapter provides some additional background information on the way the Title I programs function in Honduras and on the nature of Honduran agriculture; chapter 2 investigates the effects of the programs on food consumption and production in Honduras; chapter 3 assesses the programs' effects on the balance of payments and the government budget; and then chapter 4 discusses the relation between these programs and the development of Honduran agriculture. Chapter 5 offers a summary of the findings and concludes with some recommendations.

1.2. The Mechanisms of Title I in Honduras

In each year's budgeting of the USAID/Honduras program, a recommendation on Title I is made to USAID/Washington. The responsible Washington officials, via an interagency committee chaired by the U.S.

Department of Agriculture, may accept the recommendation or modify it (Sidman et al., 1984, annex C). Their decision is communicated to Tegucigalpa by cable and then the implementation of the program proceeds.

Prior to these steps, negotiations take place between the Honduran Government and USAID/Honduras. For the Government, the main parties participating in the decision are the Secretaria de Hacienda y Credito Publico and the Secretaria de Recursos Naturales. The former is involved in its capacity of overseer of the public budget and the latter in its capacity of designer and administrator of agricultural development projects. For USAID/Honduras, the offices involved are the Development Finance Office and the Office of Rural Development. As Title I imports have been exclusively wheat since 1975, the Government also receives informal communications from the wheat millers as to the expected demand for wheat flour and the current milling capacity.

After these negotiations are completed, and the relevant Washington offices have contributed to the decision, a sequence of steps is initiated with the signing of the official agreement between the Government and USAID. After the signing, a Purchase Authorization is issued by the Commodity Credit Corporation (CCC) for the purchase in the U. S. of the commodities, the Honduran Government requests the CCC to issue a Letter of Commitment to an American bank, and then the Honduran Agricultural Marketing Institute (IHMA) enters into a contract with the U. S. exporters, subject to approval of the contract price by the CCC. Then a Letter of Credit is issued by a Honduran bank and the commodities are shipped; by regulation, 50 percent of the quantities must be shipped in U. S. flag carriers.

After the commodities arrive in Honduras, they initially are the property of IHMA, acting for the Government, and then in the case of wheat, IHMA sells the imported quantities to the millers. In principle, the millers are obliged to pay all port charges and inland freight, but in practice they pay the cif import price plus 5 lempiras per ton. The millers in turn sell the wheat flour to wholesalers at regulated prices. Since 1975, the international prices of wheat have declined sharply relative to other prices, and that decline has been partly, though not wholly, transmitted to Honduran consumers by the device of raising the regulated price of flour at a slower rate than the general inflation rate. As a consequence, the real price of wheat flour within Honduras has declined some 45 percent since 1975.

The millers do not have to pay the Government immediately for their wheat, but they are required to pay interest on the implicit loan. Normally they pay an interest rate close to, but slightly below, the corresponding bank rate for comparable commercial loans. In 1986, for example, the millers were paying a 16 percent interest rate when the comparable commercial rate was 17 percent. The interest proceeds are added to the revenue generation from the wheat sales as contributions to the public treasury. Typically, the interest proceeds increase the total revenue generation by about 8 percent.

The agency responsible for allocating the PL 480 budgetary receipts is the Secretaria de Hacienda y Credito Publico. Those funds are to be allocated to public sector agricultural institutions, primarily to the Secretaria de Recursos Naturales but also to several other institutions, such as the public agricultural bank (BANADESA), IHMA, the Honduran

Coffee Institute, farmer cooperatives, the Institute of Agrarian Reform (INA), and others. The Secretaria de Recursos Naturales makes recommendations to Hacienda regarding the distribution of the PL 480 proceeds, but Hacienda makes the final decisions. Given that PL 480 funds are mixed in with other funds, and that Hacienda has the final control over the size of each Ministry's budget, it is difficult to confirm whether in fact the PL 480 funds have been allocated to agricultural institutions, in the sense of increasing their budgets over what they would otherwise have been. This issue is taken up further in chapter 3 below.

The amount of wheat imported under the Title I agreements has been growing very rapidly. The average amount of wheat authorized for import under the 1975 and 1976 agreements was 12,500 metric tons; under the 1985 and 1986 agreements, the average was 81,000 tons. Honduras also imports considerable amounts of commercial wheat. Over the 1975-86 period, the authorized Title I imports of wheat have amounted to about 46 percent of all wheat imports; see Tables 4 and 5. (Frequently the authorized amount differs somewhat from the landed amount, but not by enough to change that calculation significantly.) Of the total wheat imports, about 1 percent has been accounted for by donations, from the Title II program, the European Community, the World Food Program of the FAO, the Argentine Government, and the French Government. Thus PL 480 Title I imports represent slightly less than half of the purchased (non-donated) wheat. However, the Title I imports are the most rapidly growing component, and in the last three years they have represented about 80 percent of all purchased wheat.

1.3. Basic Economic Characteristics of Honduran Agriculture

Honduras is a highly agricultural country. About 60 percent of the population lives in rural areas, about 27 percent of GDP originates in primary agriculture (Table 6), and nearly half of GDP is agricultural if the food processing and agricultural marketing sectors are included in the definition of agriculture. Agriculture is by far the main source of foreign exchange earnings in the Honduran economy.

Over the 1970-86 period, real GDP in agriculture expanded at a 2.6 percent annual growth rate, vs. 3.2 percent for total real GDP. Since 1980 real growth in the entire economy has slowed, to 0.9 percent per year, and agriculture, with a 2.1 percent growth rate since 1980, has expanded more rapidly than the rest of the economy.

For the purposes of this report, the two salient facts about growth performance in Honduras are i) real GDP per capita has declined since 1970, contributing to lower average levels of nutrient availability (Garcia et al., 1987); ii) agricultural output also has expanded less rapidly than the population, thus leading to increasing reliance on imported sources of food. Wheat has been leading the increase in imports, but also imports of powdered milk and soybean meal (for animal feed) have been growing rapidly.

Another trend of interest is that, in spite of the increasing levels of food imports, the net agricultural balance of payments has improved dramatically in the past decade. From 1975 to 1984, it increased from 110 million lempiras (exports less imports) to 846 million lempiras. Most of that improvement was attributable to external price effects, but

there have been significant volume increases in the exports of pineapples, other fruit, seafood, sugar, tobacco, beef, and palm oil.

As these facts suggest, the structure of Honduran agriculture is dominated by export products. Bananas alone comprise 30 percent of the sector in terms of value of output, and together with coffee they comprise 50 percent. The four main products, bananas, coffee, beef and corn, account for roughly two-thirds of sector output, and the first three of those four are export products.

The main staples are corn, rice and beans, followed by plantain, cassava, potatoes and sorghum (consumed directly in some very poor areas). Except for rice, production of these staples has been declining or growing only very slightly (less than one percent per year); see Table 7. Only a very small amount of wheat is grown in Honduras, and the consensus is that Honduran wheat has both an absolute and a comparative disadvantage (Secretaria de Recursos Naturales and USAID/Honduras, 1981). Imported wheat has compensated for the insufficiency of domestic grains, primarily of corn. In 1975-77, the imports of wheat (in volume) were about 14 percent of the production of corn and rice together. By 1984-86, that share had risen to 22 percent.

Corn production is constrained by low average levels of input use and therefore low average yields. Rice production is constrained by the fact that relatively little of the country's irrigation potential has been tapped. When new irrigation areas are opened, rice tends to be a major crop there, but it is estimated that so far only 15 percent of the irrigable lands now receive irrigation.

A contributing factor to the sluggish performance of agriculture has been the adverse terms of trade. As measured by the sectoral GDP deflators, agricultural prices increased somewhat more rapidly than non-agricultural prices from 1970 to 1978, but since then the reverse has been true, and strongly so. From 1978 to 1986, agricultural prices increased by 31 percent while non-agricultural prices increased by 78 percent (Table 8).

These trends essentially have been determined by trends in world market prices. Nominal protection remains insignificant for most products in Honduras. The only four products for which there appears to be a measure of protection, positive or negative, are rice, corn, milk, and sugar. According to data provided by the World Bank, the nominal protection on corn averaged about -8 percent in three recent years. For rice, it has been about +20 percent. Sugar enjoys a high positive protection rate, and milk, a negative one.

These conclusions are based on the official exchange rate. There is continuing evidence of a slight degree of overvaluation of the lempira—the Banco Central de Honduras estimates it at about 15 percent in very recent years—so that factor would reduce the positive protection rates and impose negative protection on most products.

In spite of the unfavorable price trends in the aggregate, Honduran producers continue to vary their output patterns in response to changes in relative profitability. They have increased their output of some products at a very rapid rate for sustained periods. Recent data are not available for all crops, but the following annual growth rates of production for selected crops illustrate the ability of Honduran

producers to respond to market opportunities. For the period 1970-86, from Banco Central data: oil palm, 15.5 percent; coffee, 5.7 percent; rice, 9.2 percent; sugarcane, 5.0 percent; and tobacco, 4.5 percent. From the estimates of the Secretaria de Economia y Comercio, for 1970-84: cotton, 13.4 percent; tomatoes, 18.8 percent; pineapples, 33.3 percent; cantaloupe, 18.7 percent; and sesame, 12.2 percent. Thus while the aggregate performance of the sector has not been encouraging, many components of the sector have been much more dynamic.

Chapter 2

TITLE I AND HONDURAN FOOD CONSUMPTION AND PRODUCTION

2.1. Overview

This chapter presents the findings of the study in regard to the effects of Title I imports on the economic welfare of farmers and consumers in Honduras. The first issue examined is the nature of the PL 480 legislation as it is relevant to the delivery of food to countries like Honduras. Second, the aggregate effect of the wheat imports on consumers is reviewed, and the nutritional contribution of the wheat imports is assessed. Third, via statistical analysis the effect of Title I wheat on domestic corn prices and production is estimated. Fourth, based on these findings and other information, the distributional consequences of PL 480 wheat are assessed--the gainers and losers are identified. And fifth, some issues of pricing policy regarding imported wheat are defined and discussed. The chapter ends with a summary of the conclusions regarding Title I and the domestic market.

It can be said at the outset that the acquisition of imported food, especially a staple food, on concessional terms is a net benefit for the Honduran economy. It would be a benefit for any economy, all the more so for one in which malnutrition is a present and growing concern. The main issues are not whether Title I is beneficial, but rather what is the nature of the benefits and their approximate magnitude and distribution. Some of the benefits are realized through fiscal and balance of payments channels, and those are discussed in the following chapter. Here the focus is on the individual agents in the economy: producers, consumers and intermediaries.

2.2. Some Aspects of the PL 480 Legislation

The PL 480 legislation contains a large number of provisions governing issues such as the financial terms of the Title I loans, the selection of recipient countries, the selection of commodities, the role of self-help measures in the recipient countries, the channels by which the commodities may be shipped (both within the U.S. and to the recipient countries), and the adequacy of storage facilities in the recipient countries.

Section 401(b) of the PL 480 Act requires that adequate storage and handling facilities be available in the importing country, and that the import of PL 480 commodities not constitute a disincentive to domestic agricultural production. This latter clause, commonly known as the Bellmon amendment after the former Senator who formulated it, has given rise to a number of analytic determinations of the impact of PL 480 on the domestic markets of the host countries.

Another important clause is found in Sections 103(c) and (n), which require that Title I sales not disrupt exisiting commercial export sales from the U.S. or third countries. To implement this clause, "usual marketing requirements (UMRs)" are established that represent the average annual volume of commercial imports over the preceding five years. The Title I imports must be additional to this volume, i.e., must not displace it.

In practice, it is not uncommon that the UMR requirement be waived, as in fact has occurred in the case of Honduran Title I imports in each of the last four years. Careful reflection on the clauses in the

legislation reveals why waivers must be sought: the UMR requirement and the Bellmon amendment are in conflict with each other. It is logically impossible to satisfy them both.

If the UMR requirement is waived and Title I imports displace part or all of existing commercial imports of the same item, then by definition the domestic supply-demand balance has not been altered at all, and there can be no effect on the domestic market. Thus the condition of the Bellmon amendment is satisfied. If, on the other hand, the UMR requirement is respected and all Title I imports are additional to existing imports (or rather, to imports that would have occurred in that year in the absence of Title I), then the total domestic supply will be enlarged by the Title I imports. And if the total domestic supply is larger than it otherwise would be, and the government does not intervene to accumulate stocks, then by definition the market-clearing equilibrium price must be reduced, because private demand never is perfectly elastic.

The government may regulate prices, and thus the direct effect on the market may be suppressed, but nevertheless the increased availability of the good in question will affect prices of other, substitute goods. This result will occur because of the operation of the household budget constraints in the aggregate, and because of the non-satiation theorem of the economic theory of consumer behavior. Therefore, if the UMR requirement is observed, then necessarily the condition of the Bellmon amendment must be violated.

The reasons for mentioning this circumstance in the context of this study are two: i) Since it is impossible to satisfy both of these conditions simultaneously, priorities must be established in order to

determine which of the conditions to observe. And given the concern expressed in the PL 480 Act for promoting agricultural development in the recipient country, it is suggested that the priorities be derived from that goal of furthering development. ii) Since it sometimes will be the case that domestic market effects are incurred, it is important to review the incidence of those effects; i. e., the distributional effects of Title I imports may provide a better basis for regulating their volume than the overall effects do.

Perhaps at some point in the future the PL 480 legislation will be revised to eliminate this internal inconsistency, but in the meantime these considerations will continue to be relevant for the formulation of Title I programs. For that reason this report reviews alternatives that may be in conflict with either the UMR requirement or the Bellmon amendment, and also for that reason some attention is given to assessing the distributional effects of Title I in Honduras.

2.3. Title I and Consumption and Nutrition in Honduras

Over the period 1975-86, total wheat imports from all sources increased by 6.8 percent per year. Rice production increased by 7.8 percent, and corn production by 1.1 percent. The population growth rate was 3.5 percent. Hence the importance of both rice and wheat in the average diet have been increasing rapidly. In 1986, the apparent daily consumption per capita of each of these products was as follows: corn, 0.31 lbs.; wheat, 0.10 lbs.; and rice, 0.05 lbs. (These calculations are based on Garcia et al., 1987, plus more recent information on production from the Banco Central; a five percent wastage factor is assumed for

wheat, plus an eighty percent wheat-to-flour conversion factor.) While in 1986 wheat represented 24 percent of the supply of its main substitutes (corn and rice), it represented about 28 percent of the apparent consumption of the substitutes. The difference is attributable to the facts that part of the corn and rice are destined for seed, that there is shrinkage in the corn after it passes the farm gate, and that part of the corn is purchased for industrial use and livestock feed.

Thus wheat has become an important part of the staple diet in Honduras. It is consumed basically in three forms: bread, pasta, and pastries. On the basis of cross-sectional survey data for 1979, Garcia et al. (1987) found that in Honduras the per capita consumption of wheat rises with income, urbanization and family size. The role of this last variable is somewhat curious, for while it is evident that total family consumption of wheat should rise with family size, it is not obvious a priori that its per capita consumption should rise with family size. Their estimated income elasticity of demand for wheat is +0.39. The same study found a negative income elasticity of demand for corn (-0.20), so that corn is an inferior good for consumers.

These facts imply that future demand for wheat will continue to grow relative to demand for corn, regardless of the role of PL 480 imports. In the absence of PL 480 imports, the Government might choose to restrict imports of wheat, either as a mechanism for rationing scarce foreign exchange or as a move toward a greater degree of food self-sufficiency. But in the absence of such policies, and in the absence of significant price changes, it is clear that wheat demand would grow, for wheat is an important part of the structure of consumption in Honduras, and its

consumption is highly correlated with the dynamic variables urbanization and per capita income.

After corn and sugar, wheat is the third largest source of calories for Hondurans, and after corn it is the second largest source of protein (Garcia et al., 1987). The three principal grains together provided about 44 percent of the calorie availability in 1984 and about 43 percent of the protein availability. Wheat's share alone was about 10 percent for calories and 12 percent for protein. However, corn is about twice as cost effective as wheat as a source of nutrition, measured in terms of the lempira cost of a calorie and a gram of protein obtained from each product. Partly for this reason, wheat consumption is proportionately and absolutely much higher in the upper income strata, as discussed below.

If the caloric contributions of wheat were to be provided instead by domestic grains, corn production would have to increase by one-third or rice production would have to increase by almost four-fold. And then the production of those grains would have to continue to increase over time in line with demand increases. Clearly such a prospect is not feasible in the short or medium term. There are, however, possibilities for improving the growth rate of domestic grain production; they are discussed in chapter 5 below.

2.4. The Effects of Wheat Imports on Domestic Prices and Production

Given the importance of wheat in the total supply of grains in Honduras, and the arguments presented in section 2.2 above, it would appear quite possible that the imports of wheat have influenced domestic

grain prices and production. That possibility is investigated statistically in this section, but first the basic time trends on prices are noted.

Tables 9 and 10 show the nominal and real consumer prices of selected principal foods. From 1970 to 1975 (in several cases until 1978) the real consumer prices tended to increase, and thereafter they decreased sharply. For example, from 1975/76 to 1985/86 the real consumer price of corn declined by 35 percent, of chicken 29 percent, and of tomatoes 39 percent. For wheat, the decline was one of the largest, at 41 percent. The price of wheat declined relative to that of every other principal food except cabbage. The movements in the price of wheat appear to have been driven by international price movements, except for the past two to three years, when the continuing decline in nominal wheat prices has not been transmitted to Honduran consumers.

Another important trend is that for almost every product the farm gate price has declined relative to the consumer price. That implies that real farm gate prices have dropped by even larger percentages than the real consumer prices have. For corn, the farm gate-to-consumer price ratio has fluctuated, but it 1986 it was at the same level as in 1975. International prices of corn also have exhibited a downward trend in the last decade, but the fact that corn recently has had negative nominal protection in Honduras (ch. 1) suggests that other factors may also have been at work in determining the domestic price. A statistical investigation has been carried out to test the hypothesis that one of those other factors was the price (and availability) of wheat.

The relation between the wheat price and the corn price is indirect and must be derived from the basic supply and demand relationships for corn. The first aspect of those relationships to note is the timing of the price effects. The current year's demand certainly is influenced by the current price, but the same cannot be said for supply. Farmers usually react with a lag to prices, but even without taking that factor into account there is a lag because the current year's supply of corn was mostly harvested in the fall of the previous year. Therefore we may write the supply equation for corn as

$$(1) \qquad Q_s(t) = aP^b(t-1)$$

where Q_s is the quantity supplied, P is the real price of corn, and a and b are parameters of the supply relationship. The lag in (1) is important in deriving the equation to be estimated, as will be seen below. The corresponding demand relationship is

$$(2) \qquad Q_d(t) = k[P(t)]^u[PW(t)]^v[Y(t)]^wN(t)$$

where Q_d is the quantity demanded, PW is the real price of wheat, Y is real per capita income, and N is population. The lower case letters, except t, are parameters of the demand function. In this specification, it is assumed that wheat is the main substitute for corn and that the other substitutes can be ignored without significantly distorting the parameter values in the equation.

Since farm gate price and the consumer price of corn have not had divergent trends over time, either one may be used in both equations.

$Q_s = Q_d = Q$ under market clearing conditions, so the demand function can be rewritten, dropping the time indexes, as follows:

(3) $$Q = kP^{u}PW^{v}Y^{w}N.$$

Since the price variable is lagged in the supply function, the reduced form equation for the price of corn may be derived directly from (3):

(4) $$P^{u} = Q/kPW^{v}Y^{w}N$$

where now Q may be represented empirically by the quantity of corn supplied. Equation (4) implies

(5) $$P = (k^{*})^{1/u}Q^{1/u}PW^{-v/u}Y^{-w/u}N^{-1/u}$$

where $k^{*} = 1/k$. Equation (5) in turn yields the equation to be estimated:

(6) $$P = hQ^{e}PW^{m}Y^{n}N^{z}$$

where $h = (k^{*})^{1/u}$
$e = 1/u$
$m = -v/u$
$n = -w/u$
and $z = -1/u = -e$.

From (2), u is the own-price elasticity of demand for corn, v is the cross-price elasticity with respect to wheat, and w is the income elasticity. Therefore, the expected signs of the parameters in (6) are $e < 0$, $m > 0$, $n < 0$ (since corn is an inferior good!), and $z > 0$.

Equation (6) was estimated in log-linear form. Owing to problems of multicollinearity, the regression tests did not yield a significant value for the population parameter z, so that term was dropped from the equation. The initial statistical result was as follows over the period 1974-86:

(7) $$\ln P = 14.608 - 0.934 \ln Q + 0.358 \ln PW$$
$$(-2.635) \qquad (2.473)$$
$$- 0.076 \ln Y$$
$$(-0.195)$$
$$R^2 = 0.847, \quad \text{adj. } R^2 = 0.816, \quad F = 16.596$$

The parameters in equation (7) have the expected sign, and the equation as a whole is statistically highly significant, but the main problem with the equation is the lack of significance of the income parameter. Substituting total real GDP in place of per capita GDP did not lead to a significant parameter value either. Multicollinearity was not the cause of the problem in this case. To test the sensitivity of the equation's other parameters to this problem, it was re-estimated without any income variable, yielding the following result:

(7a) $$\ln P = 13.906 - 0.907 \ln Q + 0.365 \ln PW$$
$$(-2.928) \qquad (2.739)$$
$$R^2 = 0.846, \quad \text{adj. } R^2 = 0.832, \quad F = 27.522$$

The own-price and cross-price parameters appear to be reasonably robust. On the basis of these results, it can be said that 10 percent change in the real price of wheat will lead to approximately a 3.6 percent change, in the same direction, in the real price of corn. (The real prices were derived by deflating by the consumer price index.)

By substituting the inverse demand function for wheat for the term PW, it is possible to specify that the real price of corn is a function of the quantity of wheat imported and of income and the quantity of corn supplied. Therefore the variable PW in the foregoing equations can be replaced with QW, the quantity of wheat imported. When this step was taken, the following statistical result was obtained, also for 1974-86:

(8) $$\ln P = 15.362 - 0.867 \underset{(-2.622)}{\ln Q} - 0.319 \underset{(-2.922)}{\ln QW} - 0.137 \underset{(-0.388)}{\ln Y}$$

$$R^2 = 0.868, \quad \text{adj. } R^2 = 0.842, \quad F = 19.736$$

The parameters of this equation also are significant statistically, again except for the income coefficient. Therefore once again the test was made of re-estimating the equation with no income term, with the following result:

(8a) $$\ln P = 14.159 - 0.823 \underset{(-2.679)}{\ln Q} - 0.326 \underset{(-3.172)}{\ln QW}$$

$$R^2 = 0.866, \quad \text{adj. } R^2 = 0.854, \quad F = 32.270$$

Fortunately, the parameters again appear quite stable. In equations (8) and (8a), the coefficient of the term log QW implies that each ten percent increase in the quantity of imported wheat reduces the real price of corn by about 3.2 percent, relative to what it would have been otherwise. (In some circumstances, the year's supply-demand balance might have led to an increase in the real price of corn, except for the influence of the imported wheat; hence the qualification "relative to what it would have been otherwise.")

It may be asked how the farm gate price of corn (which is the price used here) can vary in response to market forces when IHMA is setting guaranteed prices and effecting purchases at those prices. That is a valid question, but there are two responses: First, the nominal and real average farm gate prices have in fact fluctuated over time, and the real price has shown a distinct downward trend. Second, a recent analysis of IHMA's operations has concluded that in the case of corn IHMA's price

-setting operations do not move the farm gate price materially away from its equilibrium value in each year as determined by market forces (Garcia et al., 1987, ch. 6). Thus, the foregoing results on the determinants of the corn price seem reasonable on other grounds as well as being statistically valid.

Within the limitations of the existing data it has not been possible to develop a statistically acceptable supply function for corn. However, studies in many developing countries have shown that farmers are price-responsive, even in subsistence areas (see, for example, Askari and Cummings, 1977). Given that Honduran farmers have reallocated resources sufficiently to produce high output growth rates of some crops (ch. 1), there is no reason to assume that they are not also price-responsive. For individual staple crops, the estimated short-run supply elasticities tend to fall in the range of 0.2 to 0.5. Taking 0.3 as an illustrative value, equation (8) would imply that each ten percent increase in wheat imports reduces the domestic corn supply by 0.96 percent, over what it would have been. As wheat imports have been growing at about 6.2 percent per year since 1975, this relation implies that the wheat imports have reduced the growth rate of corn output by about 0.6 percentage points per year--or, they have cut the corn output growth rate more than by half (see Table 7).

These numbers appear reasonable but they are only indicative. Among other things, for this reasoning to be correct it must be assumed that the Honduran Government would have allowed the corn price to rise significantly in the absence of growth in wheat imports. That is a doubtful assumption; very likely a significant rise in the price of corn would have led to irresistible pressures to allow more imports of either

corn or wheat. What does seem to be true, however, is that marginally less wheat, or a higher domestic price of wheat, would have led to a somewhat higher price of corn and somewhat more domestic production of corn. In other words, at the margin there are policy options in the management of Title I imports, and some of those options could lead to elimination of negative component in the nominal protection on corn. These issues are explored further in section 2.6 below.

There is another reason for limiting the policy options to marginal changes in the quantity of wheat imported, and that is that the wheat imports have not been imposed arbitrarily on the Honduran market, but rather they have arisen in response to clear signals of market demand. The demand has arisen in large part because of the insufficiency of domestic grain supplies. Of course the imports in turn have further dampened the growth of those supplies, but to a large extent the demand for wheat exists independently of the presence of Title I programs. Garcia et al. (1987) estimated a demand function for wheat (ch. 6, section 6.3) which shows that the imports of wheat are related strongly to income levels and to relative prices. Thus the commodity issues in the Title I program are not only questions of supply management of grains, but they also are questions of demand management.

2.5. The Distributional Consequences of Wheat Imports

In section 2.3 it was mentioned that per capita wheat consumption in Honduras rises with income levels and with the degree of urbanization. Garcia et al. estimated a cross-sectional wheat demand function in which both those variables had very significant coefficients. As an illustration of the effect of urbanization, it may be noted that the

urban poor (defined as those households in the largest cities with less than 100 lempiras of income per month) consumed in 1979 11 times as much wheat as did the rural poor, per person per day. And the urban rich (households with more than 1000 lempiras per month) consumed 27 times as much wheat as the rural poor did. For the urban rich, consumption of wheat products was about 80 percent of their consumption of corn products (by weight), whereas for the rural poor, the consumption of wheat products was about one percent of the corn consumption. No doubt the consumption of wheat has spread more widely in rural areas since the date of that information, but nonetheless it is clear that the use of wheat products is largely an urban phenomenon, and it is highly skewed toward the upper income groups. Households in the highest income stratum (of five strata) in urban areas consume 2.7 times the wheat, per capita, that households in the lowest stratum do. In rural areas, the corresponding ratio for the highest and lowest income strata is 7.7 times.

Therefore the direct, commodity-related benefits of wheat imports go primarily to urban groups, and proportionately more to middle and upper income groups. Following earlier comments, it should be added that those benefits are not necessarily all Title I benefits, for it is likely that comparable quantities of wheat would be imported in the absence of Title I programs. The effects on the government budget, the balance of payments, and the portfolio of agricultural development projects <u>are</u> clearly Title I benefits, for they would not have occurred in the absence of Title I programs.

There also are indirect commodity-related effects of the wheat imports. To the extent that those imports have depressed the domestic price of corn, then the economic welfare of consumers and producers of

corn has been affected. In this case, for consumers, a reduction of the corn price has the opposite distributional effect from the wheat imports themselves: rural consumers are benefitted more than urban consumers, and poor consumers more than the rich. For example, in 1979 in urban areas, the households of the lowest stratum obtained 809 calories per person per day from corn products, while those of the highest stratum obtained only 337 calories per day. In rural areas, the corresponding figures were 876 calories for the lowest stratum and 601 for the highest (Garcia et al., 1987, Tables 4-18 and 4-20). Thus a reduction in the corn price reduces the food cost for all households but in a progressive way and in a way that favors rural areas.

In general, agricultural producers are affected adversely by declines in the corn price, but that is not the case for all groups of producers. It has been shown that producers with the smallest size of holding spend more on purchases of corn than they receive from sales of corn, and therefore their net economic welfare is improved with a decline in the corn price (Garcia et al., 1987, ch. 7). The effects are small in magnitude--the average farm household with less than 2 hectares might gain about 4 lps. per year at 1976 prices (8 lps. at 1986 prices) from a ten percent decrease in the price of corn, but nevertheless they are positive.

Thus the distributional picture is one in which the gainers from wheat imports are all classes of consumers and the smallest-scale producers, and the losers are the medium and larger-scale producers. Some consumers gain more from the availability of the wheat itself, and others from a lowered price of their corn consumption. The wheat benefits are distributed regressively, and the corn price benefits progressively.

There are two other classes of benefits associated with wheat imports. One of them derives from exchange rate policy, and the other from price-setting practices for ex-mill wheat flour. It is generally conceded that the Honduran lempira is somewhat overvalued; in fact, the Central Bank constructs its own indexes of the rate of overvaluation. The current rate of overvaluation may lie somewhere in the neighborhood of 15 percent. Thus the exchange rate policy confers an implicit subsidy on consumers of imported products, in this case a regressive subsidy to consumers of wheat. To the extent that border pricing determines the domestic price of corn (if nothing else it seems to set an upper bound on the domestic price), then corn consumers and producers also are affected by the overvaluation, in a way which is parallel to the case analyzed above of a 10 percent decline in the corn price.

In recent years the wheat price benefits have not been fully realized by Honduran consumers because the Government has not transmitted to the domestic retail market the declines in the world price. Since 1982 the Honduran ex-mill price of wheat flour has been fixed at Lps. 0.50 per lb., but in that period the fob Gulf port price for U. S. wheat exports has declined by 35 percent (from $161 per MT, annual average for 1982, to $105 per MT as of April, 1987, according to USDA figures).

At the same time, the price paid by millers for wheat, PL 480 wheat and commercial wheat, has dropped in proportion to the decline in the world market price. Hence the millers have received a substantial windfall gain that could have been directed, alternatively, to the government budget or to consumers. The millers are subsidized in another way, and that is via the procedures for cost recovery on imports of wheat. According to the PL 480 agreements, the millers are required to

pay all unloading and port charges plus inland freight. In practice, they pay a flat fee of L.5.00 per MT, and that is considerably below the total port and freight charges.

Hence in overall terms, the main beneficiaries of wheat imports, and the associated policies, are urban consumers and well-off consumers, to a lesser extent rural and poor consumers, millers, and smallholding grain farmers. The losers are, as noted, medium and larger-scale farmers, and there also is an implicit loss to the public treasury and consumers in recent years that is associated with the failure to revise the domestic wheat price and the cost recovery procedures. This issue is taken up further in the next section.

2.6. Pricing Policy on Wheat Imports

The Honduran Government has at its disposal three instruments of pricing policy for wheat: the regulated wholesale price of wheat flour, the price charged to millers for imported wheat (which is imported by IHMA), and the fee levied on millers for handling the imported wheat. As noted, the wholesale price of flour has declined substantially in real terms since 1975, but it would have declined even more had the international price movements been fully transmitted to the domestic market. On the other hand, the prices paid by millers for whole wheat have moved directly in parallel with the movements in cif prices. Thus the only group in Honduras to benefit from the recent changes in world market conditions has been the wheat millers. While the millers deserve a fair return on their investments, it is not plausible that this outcome is the result of a conscious, purposive policy. It is more likely that

it has occurred as a result of insufficient analysis and direction of policy. As the PL 480 agreements are designed in part to promote the development of Honduran agriculture, the spirit of those agreements would be better fulfilled by channelling some of the windfall gain from world price changes to the public treasury, and from there into agricultural development projects. This could be done simply by raising the price for wheat that IHMA charges to the millers, and also by raising the fee for handling costs.

Thus one purpose of pricing policy can be to improve the fiscal benefits, and ultimately the agricultural development benefits, from Title I wheat. Another purpose is related to domestic demand management for grains. While wheat fills an important need in regard to consumption and nutrition, there is a consensus that Honduran development prospects would be better served if a greater part of that need could be filled by domestic grain production--by corn and rice (and perhaps additional products such as potatoes and cassava). While the role of wheat cannot be taken over by domestic grains in the foreseeable future, at least policies can attempt to create an environment such that a greater proportion of the future demand for grains is met from domestic supplies. Development projects are important in this regard (see chapter 4), but pricing policies also play a role.

A pricing policy consistent with this orientation would be to add the implicit foreign exchange premium to the wheat price, so that wheat consumption no longer is subsidized by the exchange rate policy. Another optional policy would be to price wheat at the border according to a moving average of international prices, which would have the effect of

blocking the transmission to the Honduran market of some of the international subsidies to wheat. For example, a five-year average of the wheat price, fob Gulf ports, for 1982-86 was $144 per MT, vs. an average price of $110 in 1986 and a price of $105 as of this writing.

A disadvantage of such a policy would be that it penalizes (via both the wheat price and the corn price) poorer consumers and the poorest farmers, but. as noted, the negative effect on the latter group would be small in magnitude. This tradeoff has to be evaluated by policy makers, but from the most recent National Development Plan (SECPLAN, 1987, p. 26) it appears clear that policy makers wish to encourage greater reliance on domestic supplies of grains.

To some extent, the frozen wholesale price of flour in recent years has implicitly represented this kind of pricing policy; what is needed is an explicit statement of purpose of the wheat pricing policy and greater consistency between the prices to millers and the prices ex-mill. The way to achieve such consistency would be to establish a new price to millers, perhaps along some of the lines indicated, and then to calculate an appropriate margin for milling, allowing for a fair return to millers, and on that basis set the wholesale price of flour. Both prices in the future would then be adjusted periodically as world market prices shift.

Some alternative cif prices would be as follows:

i) A fifteen percent higher price, for the foreign exchange premium;

ii) A price approximately 37 percent higher to represent a moving average of the world price of the last five years.

iii) A price approximately 58 percent higher to represent both of the previous effects (1.37 x 1.15 = 1.58).

If the either of the latter alternatives were adopted, it might be desirable to implement it over two or three years, to avoid undue disruption of markets and consumption patterns.

The regulated wholesale flour price would have to be recalculated accordingly, as noted. In all cases, the increase in the flour price would be proportionately much less, in view of the windfall gain that has accrued to millers in recent years. In case i) the flour price would not be raised at all, and in case ii) only slightly.

An alternative approach would be to start at the consumer level with a policy of demand management for grains and, for example, to raise immediately the consumer price of wheat flour 15 percent to eliminate the implicit subsidy that is effected through the exchange rate. Then it would be necessary to work back to calculate a price of wheat to millers which allowed them a fair return. At minimum, the price to millers in this case would have be increased by more than 15 percent. If it is assumed that they perceived a fair return in 1982, before the recent international decline in wheat prices began, then their price should be raised about 50 percent if the flour price were raised 15 percent.

These alternatives represent a policy framework in which the Government uses pricing policy as an instrument to attempt to achieve certain goals, and in which quantities imported are determined by market demand, given the price levels. A price increase of one of the larger of the above magnitudes would reduce wheat demand and hence wheat imports somewhat, but the imports would continue to be substantial and would continue to increase from the new base. Policy makers would not be deciding how much wheat consumers are entitled to have, but they would

reserve the right to set the price, and then let consumers make their own decisions.

There is one final issue concerning the pricing of wheat. The Government now follows the practice of varying the wholesale price of flour across the mills, for the same grade of flour, ostensibly in order to reflect the different costs of milling. This policy has the subsidiary effect of rewarding inefficiency by allowing the less efficient mills to receive a higher price. Honduras needs to encourage efficient allocation of all its resources, so it is recommended that the PL 480 agreements contain a clause requiring uniform ex-mill pricing. The less efficient mills then would have to improve their operations or reassign their capital and labor resources to other activities.

There is a different, but related, concern about the wheat milling. Under present practices, wheat flour is a substitute for corn in the daily diet, in fact a rather strong substitute. To a limited extent, that relationship of substitution could be changed into one of complementarity. This result could be brought about by admixing a small percentage of corn into the milled wheat. Other countries have experimented successfully with the addition of other grains and oilseeds in the milling of wheat. In the Honduran case, such a policy would increase the demand for corn at the margin and reduce slightly the need for imported wheat, hence benefitting Honduran farmers. It is beyond the scope of this report to investigate further that possibility, but it is recommended that it be investigated in light of its potential benefits to Honduran farmers, without prejudicing the interests of consumers.

2.7. A Note on Causality in the Estimated Equa

In equations (7a) and (8a) the real price of corn has been posited as the dependent variable, and among the explanatory variables are the real price of wheat and the volume of wheat imported. It may be asked whether the causality runs the other way, that is, whether the wheat variables are functions of the domestic real price of corn in Honduras. In the case of equation (7a), the answer is straightforward: the real price of wheat is exogenous, because it is given by world market conditions, and therefore the causality can run only one way, in the direction of the wheat price influencing the domestic corn price.

In the case of equation (8a), the situation is a bit different. In principle, the quantity of wheat imported could respond to domestic market conditions, as reflected in the corn price. However, in that case, the relationship between the wheat volume and the corn price should result in a parameter with a positive sign: the higher the domestic corn price, the greater the imports of wheat. This sign would be expected because, if the wheat volume were to respond to the corn price, the only plausible theoretical model under which that would occur is a model of consumer demand. The higher the corn price faced by consumers, the more they would demand (import) wheat. Producers of corn certainly would not import wheat.

But in fact the statistical sign of the relationship is negative, as shown in equation (8a). Therefore that equation does not support the causal hypothesis that wheat imports respond to the corn price, but rather the reverse, that the corn price reacts to the volume of wheat imports.

Earlier work (Garcia et al., 1987) showed statistical support for the hypothesis that wheat imports do in fact respond to domestic demand conditions, but those conditions are determined by per capita incomes, the degree of urbanization, and the real wheat price, not the corn price. In part, it has been the low real administered prices of wheat that have induced the large increases in wheat imports. Table 10 shows that the real price of wheat flour dropped by 43 percent from 1975 to 1986. That drop undoubtedly had an effect on Honduran consumption habits as regards wheat.

Chapter 3

FISCAL AND BALANCE OF PAYMENTS EFFECTS OF TITLE I

3.1. Introduction

This chapter presents a few basic figures on the fiscal and balance of payments effects of Title I, and it also discusses the allocation of the local currency generations over institutions and the budgetary role of those generations. Some of the key figures were given in chapter 1, and here they are reviewed in more detail. The discussion of the budgetary role leads into issues of allocations for development purposes, but those issues are taken up more fully in chapter 4.

The fiscal and balance of payments effects touch on two of the four principal goals of the Title I program.

3.2. Title I and the Government Budget

One way of measuring the contributions to the budget is via the amount of funds contributed from Title I operations. As noted in chapter 1, the 15 Title I agreements signed from 1975 to 1986 have provided about 160.5 million lempiras for the Honduran public treasury. Most of that amount has been provided in the more recent years. Final data on the 1986 generations of local currency were not available for this report, but for 1982-85 the amount was 100.1 million lempiras. For this period, those generations correspond to 1.5 percent of the general government budget of Honduras (presupuesto general de la republica); see Table 11. As a share of domestic revenues, the Title I generations for the same period represent 2.2 percent.

Neither of these percentages is very high, but Title I plays a much more important role relative to the budget of the Secretaria de Recursos Naturales (or MNR, in its English acronym). For 1982-85, the Title I generations amounted to 19 percent of the total MNR budget, and 33 percent of that part of the MNR budget which comes from domestic revenues. However, typically a large portion of the MNR's gross budget is transferred to other public agencies in agriculture (IHCAFE, INA, BANADESA, producer cooperatives, etc.). For the 1982-85 period, the amount transferred was 40 percent of the gross MNR budget. Therefore, of the net MNR budget, the Title I currency proceeds represented 32 percent (again for 1982-85), and of the net MNR budget funded from domestic revenues, Title I represented 56 percent (Table 12). These clearly are very significant shares. (Note that the foreign funding in Tables 11 and 12 includes sources other than Title I.)

The presence of Title I funding has not prevented the MNR budget from declining sharply in both absolute and relative terms. The share of the total general government budget represented by the gross MNR budget fell from 14 percent in 1980 to less than 6 percent in 1985. In that period, the general government budget increased by 718.8 million lempiras (in current prices), and the gross MNR budget decreased by 54.0 million (also in current prices). A similar pattern is evident in the net MNR budget, although there the decline was sharpest after 1981 (Table 12). From 1980 to 1986, the net MNR budget declined by 37 percent in real terms (deflated by the consumer price index). From 1981 to 1986, it declined by 43 percent in real terms.

As one of the purposes of Title I is to increase the effectiveness of agricultural development programs in Honduras, it may be asked whether

the declining budgets of MNR are consistent with that purpose. Size alone is not a criterion of effectiveness of MNR as an institution, but the quality of the staff and the structure of the budgetary expenditures are. One of the issues is the availability of operating funds for non-personnel expenditures (gasoline and vehicle repairs, office supplies, materials for field activities, etc.). It is well known that at present the operating funds are extremely scarce and that many technicians sit in their offices for lack of funds to go into the field. The circumstances leading up to this situation can be seen in the figures on the salary budgets of MNR (Table 13), when compared with the total budgets. From 1980 to 1986, in current prices the salary budget increased from 19.3 million lempiras to 28.5 million lempiras, while the net overall budget was declining from 75.9 million to 69.4 million. (Note that the net overall budget was 91.3 million in 1981 and 87.1 million in 1982.) Therefore the funds available for non-personnel expenditures declined by 28 percent in current prices, and in real terms (deflated by the consumer price index) they declined by 50 percent over the 1980-86 period.

Given that the availability of operating funds always has been a concern, the situation today clearly is extreme in that regard. In effect, the management policies of MNR have given greater priority to employment in the public sector than to ensuring the effectiveness of the staff and the programs. Given those employment policies, it can be said that the decline in MNR budgets has weakened the institutional effectiveness of MNR. Alternatively, it can be said that the employment policies should have adjusted to the declining availability of budgets, even if that would have meant dropping some programs entirely.

The other dimension of overall budgetary policy is the salary levels, which are intimately related to staff quality. The 1981 agreement on Title I/III required the MNR to raise its average salary levels as part of an effort to increase the quality of the staff. That requirement could not be fulfilled by the Honduran Government, so later it was formally deleted from the agreement. In its place, a program was undertaken to hire some professional and managerial staff on contracts funded by Title I, to provide more attractive salary levels. In 1986, the cost of those contracts represented 19 percent of the total regular salary budget of MNR and 30 percent of the regular salary budgets for managerial, technical and teaching personnel (Table 14). In effect, a two-tier system has been created within the ministry, with some of the staff perceiving higher levels of remuneration for being on contract with programs supported by Title I, and the bulk of the staff, even at higher levels, remains on regular salary scales.

The regular salary levels have declined in real terms. In 1980, the average annual salary for managerial, technical and teaching personnel was L.9746, in 1980 prices. In 1986, the corresponding salary, also in 1980 prices, was L.8391. For university-trained professionals, the comparable figures were L.16,083 in 1980 and L.12,490 in 1986. Thus, while a cadre of higher-paid professionals has been created, for the majority of the staff real incomes have declined, and for all staff the availability of operating funds has declined. Also, on average, MNR salaries are lower than those of other economic ministries. From this evidence, it is clear that, on the whole, the effectiveness of MNR as an institution has declined, in spite of the presence of Title I programs,

and that its personnel management and budgetting policies warrant careful review.

Table 15 shows the distribution of Title I and Title I/III funds over institutions for the period 1982-1986. Nine institutions have received funding from these sources. It is evident that, apart from the Secretaria de Recursos Naturales, the main priorities in allocating these funds have gone to BANADESA, the Instituto Nacional Agrario, IHMA, and the umbrella organization for cooperatives, DIFOCOOR. As commented earlier, IHMA is not charging millers the full cost of handling the Title I wheat imports, and so raising that charge should reduce, if not eliminate, the need to allocate some of the local currency generations to IHMA.

When Tables 14 and 15 are viewed together, it is clear that there is little if any programmatic focus to the Title I funding. The funding has been used for a wide variety of activities. For the most part Title I appears to have served as a generalized budgetary resource for the public agricultural institutions. (Ironically, the Title I/III funds have been even more widely dispersed over institutions than the Title I funds have, but they have been more focussed by program.) And, as noted, there is little evidence that the Title I programs have led to strengthening of Honduran institutions, apart from enabling the contracting of some higher-level staff of the MNR at higher salaries.

The question arises as to whether Hacienda has reduced its regular budgetary allocations to MNR to compensate for the availability of Title I (and Title I/III) funds. This is a question which cannot be answered

firmly without knowing Honduran cabinet-level policy in recent years, but the evidence points to an affirmative answer. The decline in the real budgets of MNR is so sharp that it seems doubtful it was the consequence of a conscious policy; it seems likely that the institutional weakness of MNR has hampered its ability to defend its own budgets and that a series of ad hoc decisions led to its proportionate (and real) decline in the public sector. MNR revenues from domestic sources declined by 39 percent in real terms over the period 1980-86 (Table 11). Interestingly, its allocations of foreign revenues from all sources declined even more sharply during that period.

Whatever the reasons for these developments, the concerns over lack of sufficient operating funds and over real declines in the regular salary structure lead to the conclusion that MNR has grown weaker in recent years, in spite of the fiscal support from Title I.

3.3. Title I and the Balance of Payments

The Title I loans to Honduras generally have accounted for a very small part of Honduras' external indebtedness. The cumulative outstanding Title I external indebtedness of 114.1 million lempiras (Table 4) amounts to 1.9 percent of the country's total external indebtedness (Table 16). While Honduras' external public debt has grown rapidly in recent years, the Title I programs cannot be said to have contributed materially to that development. At the same time, the concessional terms in the Title I agreements have meant a considerable savings of foreign exchange for Honduras. At commercial rates that have prevailed in the 1980s, Honduras would be paying $6-9 million per year in

interest on that debt, vs. nothing now and eventually about $1.7 million per year. Also, the principal repayment would have been accelerated considerably under commercial terms. Thus the balance of payments savings have been important contributions of the program.

On the other hand, it should be recognized that the concessional component of Title I loans is less now than it was in the early 1980s, when world interest rates were much higher. Hence the relative attractiveness of Title I to Honduras has diminished somewhat, although it still is a factor. Also, it must be borne in mind that other sources of food aid are available that are completely donated. In 1985 and 1986, Honduras received 29.9 million lempiras worth of donated food just from the European Community and the World Food Program (data from SECPLAN). Unfortunately, these facts may work against attempts to strengthen the institution-building or policy aspects of the Title I programs.

Chapter 4

TITLE I AND THE DEVELOPMENT OF HONDURAN AGRICULTURE

4.1. The Programs Supported by PL 480 Local Currency Generations

The previous chapter reviewed the institutional allocation of the PL 480 local currency generations, and this chapter reviews the specific programs that have been supported with those funds. The development contributions of the Title I/III programs are assessed, and then some statistical analysis is presented regarding the effects of both Title I and Title I/III expenditures.

Table 17 provides a list of all the programs and projects supported with Title I funds during the period 1982-1987, and Table 18 does the same thing for Title I/III activities. The topical diversity of the Title I activities is very wide. As noted above, these funds appear to be perceived as generalized budget support for on-going activities; the authors of this report found no one in the Honduran Government who disputed that view.

The development objectives of the PL 480 programs are expected to include self-help measures in the area of food production. For Honduras, this implies assistance for the production of staples, corn, sorghum, rice and beans. However, among the product-oriented projects listed in Table 17, only a few are for the specific purpose of promoting the production of staple crops, and those projects account for only 0.5 percent of the Title I local currency expenditures. On the other hand, it is likely that some of the regional development projects and some activities like research and extension would have had some effect on producers of staple crops. Nevertheless, it seems clear that in overall

terms the promotion of domestic production of staples has not had a high priority in the allocation of Title I funds.

The Title I/III funds have been more concentrated by program. They have been disbursed over five major programs: small irrigation projects (7.0 million lempiras), development of agricultural cooperatives (6.8 million lempiras), agricultural research (5.0 million), development of non-traditional export crops (5.0 million), and technical assistance to small farmers (0.5 million). An additional 0.7 million lempiras was spent on administration of the Title I/III program. In the following paragraphs, brief summaries of these programs are offered.

4.2. The Title I/III Programs

1) Irrigation projects for small farmers. This program is intended to expand the country's irrigated area and at the same time diffuse irrigation practices among smallholders. The program was originally organized by the FAO. The means for achieving its goals have included construction of small irrigation projects, training of local experts, and technical assistance to farmer groups in the areas of water management and crop production planning.

2) Development of agricultural cooperatives. This program is intended to strengthen cooperatives which are oriented to the provision of agricultural services or other specific tasks. The instruments utilized under the program are the provision of capital to a savings and loan cooperative, and the provision of equipment and technical assistance to the cooperatives. The main executing agency has been DIFOCOOP, the Office of Cooperative Promotion.

3) Agricultural research. The objective of this program has been to finance the construction of the physical plant and facilities for FHIA (Fundacion Hondurena para la Investigacion Agricola). FHIA is a private, non-profit organization whose goal is to conduct scientific research (agronomic and genetic) for plantain bananas, cacao, citrus crops, and horticulture crops.

4) Diversification of export crops. This program is intended to help open up new markets for non-traditional exports from Honduras, some of which already have shown impressive growth (ch. 1). The means for achieving this objective are marketing studies, technical assistance to small farmers in the area of new products, and credits to agro-industries processing the new products, for both operating and capital costs. The program has been implemented through four agencies: BANADESA, IHCAFE, and the Agricultural Planning Office and the General Office of Agriculture of the MNR.

5) Technical Assistance to Small Farmers. This program is intended to provide technical and organizational assistance to independent farmers and groups of farmers who have received land through the land reform programs. The executing agency has been the Agrarian Reform Institute (INA).

4.3. An Assessment of the Title I/III Programs

This section presents a qualitative assessment of the Title I/III programs, on the basis of field visits, reports compiled in the MNR, and interviews with public officials and other experts. A visit was made to FHIA in La Lima and to a small-scale irrigation project, Guangalola, in Yoro.

As an introductory comment, it should be noted that much of agriculture's capital formation takes place through current expenditures. This is particularly true of areas involving human capital formation, such as agricultural research and extension. Therefore the fact that most of the Title I/III outlays have been current expenditures or credit (Table 18) has no particular significance in general. However, in one area in that table a question does arise about the allocation of expenditures: for the small-scale irrigation projects virtually all the expenditures should take the form of fixed capital formation, at least judging by the experience of other Latin American countries. In the Honduran case, over three-fourths of the irrigation project expenditures have gone for current account outlays. (Outlays for irrigation planning are classified separately.) This raises the question of whether an undue proportion of the project funding is being used to support ministry staff rather than constructing irrigation systems.

Apart from this concern, the field visit to an irrigation project suggested that the irrigation program's approach satisfies the criterion of appropriate or intermediate technologies: use of local labor, low capital costs, and the beneficiaries are smallholders. Given the relatively underdeveloped state of irrigated agriculture in Honduras, there is little doubt that this program will have high returns in terms of promoting development. As a rule of thumb, the presence of irrigation increases the productivity of land three to four times, so the only relevant question is what are the most cost-effective ways to develop irrigation systems, and in general these projects appear to be cost-effective at the field level. Also, project experts are assisting

farmers with studies of appropriate cropping patterns, on the basis of costs of production and market conditions.

Regarding the agricultural research program, the field visit revealed that the Title I/III funds have been invested in the physical infrastructure necessary to support the research, administrative, and communications activities of FHIA. Among other things, this includes the acquisition of experimental fields, the remodelling of old buildings, and the future development of a large communication center, which will include a library, a printing shop, lecture rooms, and conference rooms.

FHIA is a private, non-profit organization, and its research program appears to be modelled on the programs of the international research centers. FHIA began operating early in 1985, in research facilities donated by the Tela company. As assessment of the benefits of a research institution can be conducted only after a relatively long period, say ten years. However, the high professional quality of the FHIA directors and researchers, and their operating plans and decision criteria, point to the likely development of a very cost-effective enterprise. In agriculture, agronomic and genetic research activities almost always have a very high economic rate of return.

Regarding the export diversification program, our assessment is based on interviews with experts of the MNR and also with private professionals. That program has been implemented by two institutions, IHCAFE and the MNR. The role of IHCAFE has been to identify crops that can be substituted for coffee, and MNR's role has been to identify market opportunities and to assist farmers in producing the new crops, with the aid of a special trust fund for that purpose.

The consensus seems to be that IHCAFE moved very slowly in the first years of the program, and also that MNR did not have the technical capacity for carrying out marketing studies. Nor did MNR establish clear cut rules regarding farmers' access to the trust fund. Marketing development probably would be more effective if it were carried out jointly with specialists from the private sector. Thus the program could be improved, but nevertheless it has been successful in promoting the export of cardamon and cocoa.

The program for the development of regional agricultural cooperatives led to the formation of three major new cooperatives. Two of them are focussed on marketing in a very successful way: La Entrada Cooperative and the Fruta del Sol Cooperative are becoming major exporters of greenbeans, cucumbers and other vegetables. It should be noted that the establishment of these cooperatives can lead to the coop members leaving the national agricultural union that they originally belonged to, but nevertheless the unions are actively supporting this program, in part because they receive credit and technical support from the same program.

Regarding the program of technical assistance to smallholders, some experts consider this to have been the most cost-effective of all the Title I/III programs, although it has received the smallest amount of funding. Apparently smallholders were successfully exposed to new agricultural practices, and they learned to organize themselves for specific purposes.

Regarding the program administration, the MNR's Agricultural Planning Office (DPS) is in charge of monitoring the programs and

conducting an ex post evaluation (this year). To date, a DPS staff member has been preparing annual reports on each program on the basis of information submitted to him by the program directors. His work could be more effective if the monitoring were more continuous, and the evaluations were on-going. For this to occur, the DPS would need the appropriate micro-computer equipment, software, and technical assistance, and a generally higher level of funding for monitoring activities.

4.4. A Quantitative Analysis of the Development Effects of PL 480

The foregoing informal assessment suggests that the expenditures of local currency under Title I/III probably have had a measurable positive impact on Honduran agriculture, but that is less likely to be the case for Title I programs, since the latter are less focussed. These hypotheses are tested statistically in this section with data on the development of Honduran agriculture over the 1970-86 period. Tests were conducted separately for staple crops and for export crops. Bananas were excluded from export crops, since their development effectively is independent of sectoral policy. Thus export crops were defined as coffee, sugarcane, plantain, oil palm, pineapple, cacao and tobacco, and staples as corn, rice, beans and sorghum. In each case, the dependent variable was defined as the economic productivity of the crop group, which is the weighted average yield per hectare, where the weights are farm gate prices in a base year. The symbols for the dependent variables are YLDST and YLDEX, for yields-staples and yields-export crops.

The basic determinants of yields, or productivity, have been taken to be public expenditures per hectare, credit per hectare (from public

institutions), and time, as there always is an autonomous time trend in yields. Public expenditures in turn have been defined in alternative ways: total MNR expenditures (symbol MNR), total MNR expenditures less PL 480 generations (MNR-PL), and total MNR expenditures less Title I/III funds (MNR-PLIII). In these last two cases, separate variables were established for all PL 480 funds (PL) and for Title I/III funds (PLIII), to see whether the impact of PL 480-funded programs could be distinguished from the impact of MNR programs in general.

All regressions were carried out in logarithms, except the time variable was expressed in natural form. The first equation for the economic productivity of staples utilized as explanatory variables credit per hectare, total MNR spending per hectare, and time:

$$(9) \quad \ln YLDST = 6.726 + \underset{(1.980)}{0.105} \ln CRED - \underset{(-5.300)}{0.327} \ln MNR + \underset{(5.570)}{0.033} TIME$$

$$R^2 = 0.752, \quad \text{adj. } R^2 = 0.695, \quad F = 13.14$$

This preliminary equation indicates that the availability of credit has a significant, positive effect on yields of staples but that MNR expenditures in general had a negative effect. Also, the autonomous trend in the weighted-average yields was to increase by 3.3 percent per year. The finding about the effect of MNR expenditures cannot be taken too literally at this stage, because for one thing there is multicollinearity between the time variable and the other variables in the equation. But it does suggest that credit programs are more effective than MNR programs in general, as regards staple crops.

The next step was to subtract PL 480 generations from MNR expenditures, and at the same time to correct for the multicollinearity

in the time variable. The correction was accomplished by regressing TIME on all other explanatory variables in the equation, and then including only the residuals (TIMER) from this regression in the yield equation. This procedure was followed in all remaining equations, with a new set of time residuals estimated in each case.

$$(10)\quad \ln YLDST = 6.184 + \underset{(1.200)}{0.001}\ln CRED - \underset{(-4.517)}{0.003}\ln(MNR-PL) + \underset{(0.011)}{0.000019}\ln PL_{t-1} + \underset{(4.139)}{0.033}\,TIMER$$

$$R^2 = 0.742, \quad \text{adj. } R^2 = 0.656, \quad F = 8.619$$

In this equation and all others, the variables representing expenditure of PL 480-generated funds are lagged a year, for they were found to be most significant in that form, and to the extent that PL 480-funded programs have encouraged capital formation, human and otherwise, then prior considerations also suggest those variables should be lagged. In equation (10), the overall PL 480 variable did not have a significant effect on yields of staples, but the negative effect of MNR expenditures remains, even with the correction of the multicollinearity problem. One hypothesis is that in net terms MNR programs have had the effect of diverting resources away from staples to other crops; that hypothesis is explored further in the context of the equations below on export crops.

The next equation isolates the effect of Title I/III programs:

$$(11)\quad \ln YLDST = 6.273 + \underset{(1.429)}{0.001}\ln CRED - \underset{(-4.532)}{0.004}\ln(MNR-PLIII) + \underset{(2.278)}{0.012}\ln PLIII_{t-1} + \underset{(4.286)}{0.042}\,TIMER$$

$$R^2 = 0.760, \quad \text{adj. } R^2 = 0.681, \quad F = 9.520$$

The principal finding from equation (11) is that the Title I/III programs have had a significant, positive effect on the yields of staple crops.

In the export crop equations, the credit variable did not prove to be statistically significant, even when it was corrected by subtracting the excess credit extended to coffee during the boom period 1976-78. For these crops, private sources of credit may be more important than public sources. Unlike the case of staples, MNR expenditures were found to have positive effects on yields of export crops, and the PL 480 programs did also. The basic equations were the following:

$$(12)\quad \ln YLDEX = 6.827 + \underset{(5.034)}{0.0025}\ \ln(MNR\text{-}PL)_{t-1} + \underset{(4.631)}{0.0070}\ \ln PL_{t-1} + \underset{(1.845)}{0.0188}\ TIMER$$

$$R^2 = 0.756, \quad \text{adj. } R^2 = 0.670, \quad F = 13.394$$

$$(13)\quad \ln YLDEX = 6.838 + \underset{(5.061)}{0.0024}\ \ln(MNR\text{-}PLIII)_{t-1} + \underset{(4.019)}{0.0212}\ \ln PLIII_{t-1} + \underset{(1.606)}{0.0149}\ TIMER$$

$$R^2 = 0.774, \quad \text{adj. } R^2 = 0.722, \quad F = 14.836$$

The coefficients in equations (12) and (13) suggest that Title I/III programs have had a higher return (on export crops) than PL 480 expenditures in general, and that the latter have had a higher return than MNR expenditures from domestic funds. The rate of return to Title I/III programs, measured in terms of the economic productivity of export crops, is 2.1 percent, approximately enough to justify the PL 480 interest rates—but of course the loan obligations are cancelled under Title I/III. For the aggregate of Title I and Title I/III, the rate of

return is only 0.7 percent. Nevertheless, these results, and the ones on staple crops as well, strongly suggest that the presence of PL 480-funded programs has raised the overall productivity of MNR programs. Also, the Title I/III programs were the only ones to have had a measurable positive effect on the productivity of staple crops. Thus the statistical analysis suggests that the Title I and Title I/III programs, particularly the latter, have made important contributions to the development of Honduran agriculture.

Chapter 5

SUMMARY AND CONCLUSIONS

5.1. Title I Wheat and the Domestic Market

This chapter summarizes some of the main findings and issues of this study. The summaries are fairly brief in order to highlight the main points; more detail and documentation are found in the preceding chapters and in the tables.

Honduras traditionally has imported large quantities of wheat from commercial channels, but Title I wheat has been growing rapidly in importance. Over the 1975-86 period, Title I wheat accounted for about 46 percent of the non-donated wheat, but that share has risen to 80 percent in the last three years.

Wheat now is a significant source of nutrition in Honduras. By volume, in 1986 the amount of wheat flour consumed was 28 percent of the amount of corn and rice consumed. Wheat is the second largest source of protein (after corn) and the third largest source of calories (after corn and sugar) for Honduran consumers. A previous study has found a well-established demand function for wheat, as a function of prices, income levels and urbanization, so it is clear that without Title I wheat commercial imports of wheat would have continued to grow in the absence of restrictive government policies. The strong growth in demand for wheat is founded in relative price movements, which have seen flour become cheaper relative to almost every other food, in tastes associated with urbanization, and in the insufficiency of domestic supplies of competing grains. The availability of Title I wheat probably marginally increased the total amount imported, but the basic phenomenon underlying the wheat imports is demand-driven.

Nevertheless, the growing wheat imports, and their declining real price trend, have influenced domestic prices of other goods, principally corn. Honduran corn prices have been somewhat low by international standards, and the wheat imports no doubt have been a contributing factor. Statistical investigations in this report suggest that each ten percent increase in the quantity of wheat imported leads to a 3.2 percent decline in the real corn price, relative to what it would have been otherwise. (The real domestic consumer price of corn declined nearly forty percent between 1975 and 1986, and at the farm gate level the decline was greater.) Also, given the quantities of wheat imported, each ten percent drop in the real price of wheat implies approximately a 3.6 percent drop in the real price of corn. (These two effects, arising from quantities and prices, are not necessarily additive.)

The distributional effects of the wheat imports are generally in favor of the more urbanized and higher-income groups in Honduras, but the associated decline in corn prices has worked in favor of the poorer and more rural consumers, and also in favor of the farm households with the smallest amount of land, as they spend more each year on corn purchases than they receive from corn sales. The biggest losers in proportionate terms are the medium-scale farmers; the largest farmers also face disincentive effects on the production side, but they consume proportionately more wheat.

All these effects would have largely occurred in the absence of Title I programs, so they should be regarded as effects of wheat imports, and not necessarily of Title I.

Another benefit associated with the wheat imports is the implicit subsidy, of perhaps 15 percent, which is conferred by the overvaluation of the lempira. This factor correspondingly adds to the negative protection received by corn producers.

The basic question, which has not been answered by the Honduran Government thus far, is what kind of grain pricing policy is appropriate for Honduras? The management of the Title I imports and their associated prices can be adapted to such a policy, but in the absence of a clear policy Title I imports have responded to market demands, in an economic environment in which the exchange rate policy is somewhat disadvantageous to domestic agriculture.

Therefore one of the recommendations of this study is that the next round of PL 480 discussions be developed into a vehicle for review of Honduran agricultural pricing policy. Such a review would have to be based on analytic documents, to ensure its objectivity, and it might be desirable to convert some of the discussions into round tables or seminars to which representatives of other international agencies are invited. Discussing domestic policy in a bilateral forum always is sensitive, and so the broader the discussions can be made, the more likely they are to be fruitful. Improving the Government's capacity to conceptualize pricing policy (as something more than simply setting the IHMA purchase prices!) would in itself be a worthwhile goal of the Title I programs, consistent with their overall objectives.

Another recommendation is that in such discussions serious consideration be given to a policy of eliminating all negative protection in agriculture. Such a move would be consistent with the Government's

stated goal of increasing self-sufficiency in agriculture. In the absence of more detailed studies, this would imply increasing the domestic price of imported agricultural goods, including PL 480 wheat, by at least 15 percent. Wheat is a special case, owing to the behavior of international wheat prices in recent years, and the associated windfall gains that have accrued to millers, so the 15 percent would apply to flour whereas the price paid by millers for the wheat would have to rise correspondingly by approximately 50 percent.

Such a pricing policy should increase the incentives to domestic grain farmers, and a by-product would be a 50 percent increase in the local currency generations arising from the Title I wheat.

Other recommendations are that the millers be charged the full cost of handling and transporting within Honduras the imported wheat, that a uniform ex-mill price be established for each grade of flour, and that consideration be given to adding small amounts of corn in the milled flour, so that additional wheat demand is translated into additional corn demand as well. Some other possible alternatives regarding wheat pricing policy are reviewed in chapter 2.

Yet another alternative is to channel more of the Title I program through other commodities. The most obvious examples are soybean meal and oil, both of which Honduras has been importing in substantial quantities. To use Title I for this purpose would require waiver of the UMR requirement, but that has been done in each of the last four years for wheat and, as chapter 2 points out, the UMR requirement and the Bellmon amendment are logically in conflict with each other, so it is not possible to satisfy both in any case.

5.2. Fiscal and Balance of Payments Effects

The local currency generations from Title I are not a very significant portion of the general government budget (about 1.5 percent) but they are a significant share of the net budget of the MNR (about 32 percent), and an even higher share of the net MNR budget funded from domestic revenues (about 56 percent). The term net is important in this context, because typically about forty percent of the MNR budget is passed on to other public institutions in the sector.

However, in spite of the Title I contributions the MNR's share of the total government budget has fallen from 14 percent in 1980 to less than 6 percent in 1985. Two important consequences of this decline have been declining real salary structures in MNR and a scarcity of operating funds to enable the ministry's experts to get into the field and otherwise perform their functions. (A small minority of the staff now are hired on contract with PL 480 funds at higher salaries than the regular staff receives, but this fact does not alter the overall picture.) In the circumstances, it is clear that employment levels in MNR have been protected at the expense of the effectiveness of the staff. Indirectly, it appears the Government has compensated for MNR's receipt of PL 480 funds by reducing their domestic sources of funding, although it is difficult to prove or disprove that assertion definitively.

Therefore, it can be concluded that the Title I programs have not been effective in improving the institutional quality of MNR; on the contrary, MNR's effectiveness as an institution has been weakened in recent years. (Both authors of this report had contact with MNR in the

mid- and late 1970s when it was a stronger entity.) Another indicator to this effect is the fact that the Title I funds are spread over a very large number of different activities within the ministry, and they are clearly regarded as general budget support funds by the ministry's staff.

On the balance of payments side, the Title I agreements have meant a considerable savings of foreign exchange for Honduras. In addition to deferred principal payments, there have been interest savings equivalent to several million dollars per year. The Title I/III agreements have meant a direct savings, in cancelled principal obligations, of $12.5 million. In recent years, however, as world commercial interest rates have declined, the concessional component of Title I has diminished.

5.3. Title I and the Development of Honduran Agriculture

Chapter 4 of the study reviews more closely the Title I/III programs, as these are the most specifically oriented to development purposes. Field visits and interviews with many experts led to the conclusion that these programs are generally sound, although there is some question about the initial performance of the export diversification program and also about the allocation of resources in the small-scale irrigation program. In the latter, it appears that more funding could have been allocated to direct construction activities at the field level, instead of being used to support ministry staff. Nevertheless, on the whole these programs clearly have had a positive effect on the development of the sector, and in the case of FHIA they will continue to do so. Especially beneficial components of the Title I/III activities were found in the FHIA program, the program of technical assistance to

smallholders, the small-scale irrigation program, and the regional cooperatives program. The irrigation program is leading to greater domestic production of rice, which helps reduce the demand at the margin for imported wheat.

A statistical analysis was carried out to measure the effects of PL 480 programs, MNR programs in general, and agricultural credit on the productivity of staple crops and export crops (the latter excluding bananas). The results consistently suggest that for both crop groups the strongest positive effects arose from the Title I/III programs. Also, the MNR programs appear to have had positive effects on export crops but not on staples. This finding seems consistent with operational priorities in the MNR; only 0.5 percent of the Title I funds were specifically assigned to programs dealing with the promotion of staple crops.

Therefore the conclusion is that Title I/III has been an effective vehicle for promoting agricultural development--all the more so when its savings of foreign exchange is taken into account. Title I alone has not been as effective, and in general Honduras has not had effective public programs for the promotion of staples which can compete with imported wheat. (The recent AID-supported hillside farming program is not included in this definition of public programs, which mainly is limited to MNR programs.)

Accordingly, one of the recommendations of the report is that Title I/III (or comparable programs) be used more extensively than it has been in the past. Another recommendation is that the successful projects of

Title I/III be reinforced and continued. And perhaps more importantly, a greater proportion of the Title I (and Title I/III) funds should be channeled into training of the MNR staff in areas of investment project design and administration. There is a consensus that this is a weak area in the Honduran public institutions for agriculture, and improvements in MNR staff capability in this area should be translated into future improvements in the effectiveness of PL 480 programs.

At the same time, the study team has doubts about the long-run effectiveness of the higher salaries paid to some MNR staff members via PL 480 funds. Such a policy is not sustainable in the absence of PL 480. A firmer long-run policy would include ministry-wide salary increases, accompanied by reductions in staffing and increases in the proportionate amount of operational funds for travel and othe activities.

5.4. Overall Program Considerations

It seems clear that the project side of Title I/III has been quite beneficial to Honduran agriculture, while the same cannot necessarily be said of Title I. Likewise, the institution-building aspect of the programs has not been notably successful. Yet the nutritional benefits of the programs have been substantial, albeit regressive in the distributional sense. And the balance of payments contributions have been positive. Thus these PL 480 programs are somewhat of a mixture in their results.

The perennial question on PL 480 is the quantity and types of products to be imported, for those issues are the main subjects of the

annual negotiations over the programs. The authors of this report would like to suggest that some other concerns are equally or perhaps more important in terms of their impacts on the Honduran economy: the internal, administered price of PL 480 wheat, the uniformity of the ex-mill flour prices, the need to make greater use of Title I/III (or its equivalent) rather than Title I, and the need to direct more PL 480 funds to the training of MNR staff in various aspects of investment project administration.

Regarding the volume and composition of the imports, first it is clear that wheat imports will continue in substantial volumes even without PL 480. But there would be a loss to the balance of payments and to the public budget. If budgetary criteria are used, it is important not to reduced the total value of PL 480 imports, although the mix of products could be altered, particularly in favor of soybean products. If the disincentive effects on Honduran farmers are weighed, then some reduction in PL 480 wheat imports could be contemplated. An alternative strategy would be to maintain the volume of those imports constant in the next few years, while raising the administered prices on wheat, as discussed. This last strategy would favor improved incentives to farmers while not reducing the total food availability, and the implicit tax in the revised pricing policy would be progressive in the distributional sense.

Table 1. COMMODITY IMPORTS UNDER PL 480 TITLE I, 1975-1986

Fiscal Year	Value ($1000)		Quantity (MT)	
	Wheat	Rice	Wheat	Rice
1975	1,346	3,767	10,020	10,000
1976				
1977				
1978				
1979	1,966		13,490	
1980	595		2,930	
1981	5,096		27,858	
1982	5,234		35,557	
1983	11,122		70,979	
1984	14,445		90,385	
1985	10,037		68,106	
1986	15,000[a,b]		86,000[a]	

[a]Amount authorized on March 15, 1986. [b]Includes funding for 5,000 MT of feed.

Source: Economic Research Service, USDA, and, for 1986, Ministerio de Hacienda, Honduras.

Table 2. COMMODITY IMPORTS UNDER PL 480 TITLE II, 1970-85
(in thousand MT)

Fiscal Year	Corn	Non-fat Dry Milk	Soybean Oil	Bulgar Wheat	Wheat Flour[a]	Wheat Flour w/Soya	Rice	Rolled Oats	Wheat	Cornmeal	Others
1970		1116	176	792				565			
1971	660	1157	96	472	186			407			
1972		1337	105	460	124	23		518			24[b]
1973		554	166	813	186	691		403			
1974			127	1275	491	1551		87			
1975	839	418	569	1412	964	1257	507	752		1697	44[c]
1976	2426	89		3311	2909	1614		141			478[d]
1977	2389	490	435	1007	680	1997	340	123			100[e]
1978	1399	877	442	649	307	2291		81			216[f]
1979	3291	715	576	348	475	2736		92			276[g]
1980	3004	1010	617		557	2791	873	34			
1981	4314	1458	954		509	3251	1303				
1982		1350	1072	227	747	1594	567				
1983	4506	2596	1213	1217	1468		2462		5010		117
1984	3402	2735	1165	395	1490		2086				18
1985	3008	2126	1180	61	1580		1814				56

[a] in grain equivalent [b] eggs in shell [c] sorghum [d] peanut oil and dehydrated potatoes
[e] peanut oil [f] peanut oil and rice-soya blend [g] rice-soya blend

Source: Economic Research Service, USDA.

Table 3. VALUE OF COMMODITY IMPORTS UNDER PL 480 TITLE II, 1970-85
(in thousand $)

Fiscal Year	Corn	Non-fat Dry Milk	Soybean Oil	Bulgar Wheat	Wheat Flour[a]	Wheat Flour w/Soya	Rice	Rolled Oats	Wheat	Cornmeal	Others	Total Value
1970		602	59	52				29				792
1971	46	736	38	33	10			23				888
1972		998	43	36	10	4		28			34[b]	1256
1973		414	65	90	18	148		25				760
1974			71	287	89	459		18				924
1975	118	527	574	286	184	372	4017	206		315	n.a.[c]	6599
1976	337	114		625	406	463		35			507[d]	2487
1977	307	740	331	154	85	566	102	36			107[e]	2428
1978	178	634	347	102	34	614		23			200[f]	2132
1979	474	249	524	72	74	858		27			129[g]	2407
1980	445	351	527		107	1001	325	12				2768
1981	782	594	792		157	1302	602					4229
1982		232	828	52	133	594	168					2007
1983	725	276	852	248	252		715		720		38	3826
1984	578	297	1181	123	261		608				n.a.	3048
1985	443	228	1110	12	255		507				18	2573

[a] in grain equivalent [b] eggs in shell [c] sorghum [d] peanut oil and dehydrated potatoes
[e] peanut oil [f] peanut oil and rice-soya blend [g] rice-soya blend

Source: Economic Research Service, USDA.

Table 4. EXTERNAL DEBT OBLIGATIONS OF PL 480 TITLE I, 1975-1986
(in thousand lempiras, as of Dec. 31, 1986)

Date of Agreement	Loan Amount	Programmed Purchases (in MT)			Loan Period (Yrs.)		Interest Rates (%)		Title I External Debt Profile				
		Wheat	Rice	Feed	Grace	Amort.	Grace Period	Post-Grace	New Principal	Amount Amortized	Net New Debt	Interest Payments	Other Charges
3-5-75	9715	10000	10000		1	19	2	3	9715	5113	4602	2320	
6-9-76	3913	15000			2	19	2	3	3931	1655	2276	808	
2-27-79	3928	15000			1	20	2	3	3928	3928	0	230	
5-22-81	7039	20000			2	19	2	3	7039	1112	5927	671	
6-11-82	9908	29000			2	19	2	3	9908	9908	0	357	206
8-30-82	3967	12000			2	19	2	3	3967	209	3758	271	
12-3-82	9980	34000			2	31	2	3	9980	1468	8512	489	
6-27-83	9881	31000			10	31	2	3	9881	0	9881	609	
12-16-83	5999	17000			10	31	2	3	5999	0	5999	201	
2-24-84	9943	30000			10	31	2	3	9943	0	9943	274	
6-19-84	7956	24500			10	31	2	3	7956	0	7956	174	
7-26-84	5977	18500			10	31	2	3	5977	0	5977	123	
3-11-85	20000	61000			10	31	2	3	19618	0	19618	655	
6-21-85	4956	15000			10	31	2	3	4956	0	4956	0	
3-15-86	30000	86000		5000	10	31	2	3	24694	0	24694	0	
Totals	143162	418000	10000	5000					137492	23393	114099	7182	206

Source: Ministerio de Hacienda y Credito Publico.

Table 5. IMPORTS OF WHEAT, 1974-1986
(MT)

Calen. Year	Commercial Imports	Title I	Donations				Total Imports
			Title II	EC	Other	Subtotal	
1974	48,689	n.a.	2,181[a]			2,181	50,870
1975	37,779	10,020	2,376			2,376	50,175
1976	50,118		6,220			6,220	56,338
1977	59,079		1,687			1,687	60,766
1978	62,944		957	998		1,955	64,899
1979	55,206	13,490	827	6,890		7,717	76,413
1980	67,675	2,930	557			557	71,162
1981	34,664	27,858	509	3,506	2,000[b]	6,015	68,537
1982	44,140	35,557	974		5,364[c]	6,338	86,035
1983	*	70,979	7,695	4,000	5,052[d]	16,747	87,726
1984	*	90,385	1,885	739	8,600[e]	11,224	101,609
1985	26,145	68,106	1,641	1,994		3,635	97,886
1986	23,897[a]	80,000[a]	n.a.	n.a.	n.a.	n.a.	103,897[f]

Notes: The commercial import series was constructed by subtracting the Title I imports from a series on total non-donated wheat imports. However, the latter series was available only on a calendar year basis and the Title I series is on a U. S. fiscal year basis. Therefore the imputed amount of commercial imports is likely to be in error in any one year, although the cumulative totals over time should be approximately correct. The asterisk (*) indicates years in which the imputed commercial imports were zero or slightly negative, owing to this difference in the accounting procedures for the two series, but in fact the commcial imports could have been positive in those years (and correspondingly lower than indicated in the previous or following year). The Title II imports are the wheat equivalent of wheat and wheat flour in various forms.

[a]Estimate. [b]From France. [c]From Argentina.
[d]From the World Food Program. [e]From Argentina and the World Food Program.
[f]This total does not include any donated wheat (if such was imported) and is based on preliminary estimates of commercial and Title I imports.

Source: Table 1 and information from the Secretaria de Economia y Comercio, Direccion General de Estadistica y Censos.

Table 6. SECTORAL AND AGGREGATE GDP AT FACTOR COST, 1970-1986
(in million lempiras)

Year	Nominal GDP	Real GDP	Nominal Agric. GDP	Agric. Share of GDP	Real Agric. GDP	Adjusted Real Agric. GDP
1970	1,307	1,172	424	.324	407	367
1971	1,408	1,241	458	.325	444	384
1972	1,532	1,294	492	.321	449	400
1973	1,726	1,368	562	.326	470	434
1974	1,915	1,359	593	.310	429	417
1975	2,022	1,313	597	.295	389	387
1976	2,340	1,401	722	.309	425	435
1977	2,907	1,534	964	.332	449	538
1978	3,401	1,678	1,048	.308	485	531
1979	3,882	1,780	1,135	.292	518	521
1980	4,432	1,839	1,263	.285	539	518
1981	4,691	1,851	1,313	.280	548	507
1982	5,018	1,846	1,381	.275	552	491
1983	5,283	1,827	1,450	.275	567	478
1984	5,601	1,872	1,527	.272	584	483
1985	5,951	1,902	1,618	.272	601	480
1986	6,315	1,938	1,703	.270	610	485

Notes: 1) The real series are expressed in 1966 constant prices.

2) The "adjusted real agricultural GDP" is nominal agricultural GDP divided by the non-agricultural GDP deflator; this construct is an approximate measure of the purchasing power of agricultural incomes over non-agricultural goods and services.

3) In February of 1987, the Banco Central de Honduras issued new national accounts which differed from ther previous ones in both nominal and constant-price values. For the last two years of data in this table, the nominal and real growth rates reported in the new national accounts were applied to the 1984 data from the previous series.

Source: Updated and revised from Garcia et al. (1987), with data from the Banco Central de Honduras.

Table 7. PRODUCTION OF MAJOR CROPS, 1970-86
(MT)

Year	Corn	Beans	Sorghum	Rice	Sugarcane
1970	337,610	45,295	44,454	13,678	950,216
1971	338,591	42,699	46,047	14,622	797,456
1972	339,576	40,103	47,640	15,632	815,266
1973	340,563	37,508	49,234	16,711	833,474
1974	342,561	34,148	40,624	19,913	873,644
1975	343,557	33,299	52,420	21,288	893,156
1976	358,129	32,406	52,271	34,584	913,104
1977	388,566	30,968	43,753	27,519	933,497
1978	419,002	29,529	35,236	20,454	954,346
1979	519,254	43,839	52,998	28,058	1,190,455
1980	345,582	23,527	37,916	24,381	1,411,065
1981	388,217	35,943	52,216	22,462	1,079,782
1982	481,656	42,256	57,645	36,719	2,818,000
1983	379,401	36,225	33,414	21,879	2,838,700
1984	406,813	30,157	44,244	46,229	2,746,608
1985	403,552	30,596	34,871	41,117	2,693,429
1986	389,264	29,690	28,936	48,758	2,693,184
Growth Rate (%)	0.9	-2.6	-2.6	8.3	6.7

(cont.)

Table 7. PRODUCTION OF MAJOR CROPS, 1970-86 (cont.)
(MT)

Year	Bananas	Coffee	Cotton	Plantain	Cassava
1970	874,860	37,984	3,205	110,399	28,341
1971	863,489	39,456	2,053	113,434	26,722
1972	852,265	40,927	2,290	116,469	25,104
1973	841,187	42,399	4,267	119,505	13,860
1974	819,979	41,778	11,847	51,483	11,258
1975	852,779	45,342	5,129	54,057	10,213
1976	886,890	46,814	3,096	56,760	9,265
1977	922,365	48,285	6,350	59,598	8,405
1978	959,260	49,757	11,386	62,578	7,625
1979	1,004,398	59,796	12,937	64,096	8,600
1980	970,721	58,563	23,150	87,463	7,193
1981	929,275	75,347	17,200	92,600	7,086
1982	824,479	72,420	18,620	123,400	6,861
1983	834,221	74,000	16,500	104,900	6,554
1984	944,315	69,351	23,030	106,163	10,202
1985	1,038,279	71,784	18,716	110,979	n.a.
1986	970,130	77,824	13,352	115,795	n.a.
Growth Rate (%)	0.6	4.6	9.3	0.3	-7.0

Source: Secretaria de Economia y Comercio; 1985 and 1986 estimates, and in some cases 1984 estimates, are developed by applying production growth rates estimated by the Banco Central (by crop) to the 1984 (or 1983) level of production from Economia y Comercio, as the latter institution has ceased to issue comprehensive estimates of agricultural production.

Table 8. GENERAL PRICE INDEXES, 1970-86
(1978 = 1.000)

Year	GDP Deflator	Agricultural GDP Deflator	Non-Agric. GDP Deflator	Consumer Price Index	Wholesale Price Index
1970	0.550	0.482	0.586	0.619	
1971	0.560	0.477	0.604	0.632	
1972	0.584	0.507	0.624	0.652	
1973	0.623	0.553	0.657	0.682	
1974	0.695	0.640	0.721	0.769	
1975	0.760	0.710	0.782	0.831	
1976	0.824	0.786	0.841	0.873	
1977	0.935	0.994	0.908	0.946	
1978	1.000	1.000	1.000	1.000	1.000
1979	1.076	1.014	1.104	1.121	1.105
1980	1.189	1.084	1.236	1.324	1.306
1981	1.250	1.109	1.314	1.448	1.372
1982	1.341	1.158	1.425	1.578	1.473
1983	1.424	1.184	1.538	1.709	1.564
1984	1.495	1.224	1.625	1.789	1.580
1985	1.551	1.260	1.711	1.849	1.612
1986	1.620	1.307	1.784	1.930	1.649

Note: The wholesale price index is not available before 1978.

Source: Updated from Garcia et al. (1987).

Table 9. CONSUMER PRICES OF PRINCIPAL FOODS, 1970-1986
(in lempiras per unit indicated)

Year	Grain Corn (lb.)	Red Beans (lb.)	No. 2 Rice (lb.)	Wheat Flour (lb.)	Chicken (lb.)	Fresh Tomato (lb.)	Fresh Milk (bottle)	Bananas (each)	Beef (lb.)	Pork Chops (lb.)	Medium Eggs (dozen)	Medium Potatoes (lb.)	Red Onions (lb.)	Cabbage (lb.)
1970	0.09	0.25	0.25	n.a.	0.99	0.28	0.24	0.02	0.84	0.96	1.13	0.24	0.41	0.24
1971	0.07	0.20	0.32	n.a.	1.02	0.29	0.25	0.02	0.92	1.03	1.10	0.28	0.46	0.25
1972	0.09	0.21	0.33	n.a.	0.99	0.33	0.25	0.02	0.95	1.04	1.14	0.24	0.44	0.27
1973	0.10	0.33	0.30	n.a.	1.07	0.32	0.27	0.02	1.09	1.14	1.15	0.30	0.39	0.28
1974	0.12	0.33	0.39	n.a.	1.25	0.32	0.32	0.02	1.34	1.41	1.31	0.36	0.41	0.26
1975	0.18	0.34	0.48	0.38	1.28	0.33	0.33	0.02	1.31	1.51	1.31	0.34	0.52	0.31
1976	0.13	0.35	0.49	0.38	1.28	0.37	0.35	0.02	1.35	1.56	1.38	0.37	0.58	0.37
1977	0.21	0.44	0.54	0.38	1.32	0.44	0.34	0.02	1.52	1.70	1.42	0.38	0.70	0.35
1978	0.20	0.54	0.63	0.38	1.35	0.43	0.38	0.03	1.70	1.79	1.45	0.36	0.73	0.34
1979	0.20	0.54	0.66	0.38	1.40	0.52	0.40	0.03	2.05	1.95	1.52	0.47	0.84	0.41
1980	0.26	0.90	0.71	0.44	1.49	0.65	0.49	0.04	2.31	2.13	1.86	0.56	0.91	0.51
1981	0.22	0.81	0.76	0.475	1.61	0.66	0.57	0.04	2.70	2.69	1.88	0.59	0.95	0.48
1982	0.22	0.62	0.88	0.50	1.69	0.56	0.61	0.05	2.85	3.00	1.93	0.54	1.11	0.40
1983	0.27	0.66	0.93	0.50	1.84	0.56	0.60	0.06	2.93	3.03	2.02	0.58	1.05	0.45
1984	0.19	0.67	0.85	0.50	1.89	0.55	0.61	0.06	2.95	3.08	1.92	0.56	1.35	0.39
1985	0.21	0.74	0.84	0.50	1.90	0.46	0.64	0.07	2.99	3.09	1.87	0.50	1.13	0.30
1986	0.26	0.70	0.85	0.50	2.13	0.48	0.66	0.07	3.01	3.12	2.01	0.64	1.21	0.36

Note: The cut of beef used here is "tajo de pierna de res."

Sources: Wheat, Secretaria de Economia y Comercio; other products Banco Central de Honduras, Depto. de Estudios Economicos. (Note: this table is an updated version of Table 6.3 in Garcia et al., 1987.)

Table 10. REAL CONSUMER PRICES OF PRINCIPAL FOODS, 1970-1986
(in lempiras per unit indicated, at constant 1978 prices)

Year	Grain Corn (lb.)	Red Beans (lb.)	No. 2 Rice (lb.)	Wheat Flour (lb.)	Chicken (lb.)	Fresh Tomato (lb.)	Fresh Milk (bottle)	Bananas (each)	Beef (lb.)	Pork Chops (lb.)	Medium Eggs (dozen)	Medium Potatoes (lb.)	Red Onions (lb.)	Cabbage (lb.)
1970	0.15	0.40	0.40	n.a.	1.60	0.45	0.39	0.03	1.36	1.55	1.83	0.39	0.66	0.39
1971	0.11	0.32	0.51	n.a.	1.61	0.46	0.40	0.03	1.46	1.63	1.74	0.44	0.73	0.40
1972	0.14	0.32	0.51	n.a.	1.52	0.51	0.38	0.03	1.46	1.60	1.75	0.37	0.67	0.41
1973	0.15	0.48	0.44	n.a.	1.57	0.47	0.68	0.03	1.60	1.67	1.69	0.44	0.57	0.41
1974	0.16	0.43	0.51	n.a.	1.63	0.42	0.42	0.03	1.74	1.83	1.70	0.47	0.53	0.34
1975	0.22	0.41	0.58	0.46	1.54	0.40	0.40	0.02	1.58	1.82	1.58	0.41	0.63	0.37
1976	0.15	0.40	0.56	0.44	1.47	0.42	0.40	0.02	1.55	1.79	1.58	0.42	0.66	0.42
1977	0.22	0.47	0.57	0.40	1.40	0.47	0.36	0.02	1.61	1.80	1.50	0.40	0.74	0.37
1978	0.20	0.54	0.63	0.38	1.35	0.43	0.38	0.03	1.70	1.79	1.45	0.36	0.73	0.34
1979	0.18	0.48	0.59	0.34	1.25	0.46	0.36	0.03	1.83	1.74	1.36	0.42	0.75	0.37
1980	0.20	0.62	0.54	0.33	1.13	0.49	0.37	0.03	1.74	1.61	1.40	0.42	0.69	0.39
1981	0.15	0.56	0.52	0.33	1.11	0.46	0.39	0.03	1.86	1.86	1.30	0.41	0.66	0.33
1982	0.14	0.39	0.56	0.32	1.07	0.35	0.39	0.03	1.81	1.90	1.22	0.34	0.70	0.25
1983	0.16	0.39	0.54	0.29	1.08	0.33	0.35	0.04	1.71	1.77	1.18	0.34	0.61	0.26
1984	0.11	0.37	0.48	0.28	1.06	0.31	0.34	0.03	1.65	1.72	1.07	0.31	0.75	0.22
1985	0.11	0.40	0.45	0.27	1.03	0.25	0.35	0.04	1.62	1.67	1.01	0.27	0.61	0.16
1986	0.13	0.36	0.44	0.26	1.10	0.25	0.34	0.04	1.56	1.62	1.04	0.33	0.63	0.19

Notes: 1) The cut of beef used here is "tajo de pierna de res."
2) The consumer price index is used for the deflation.

Sources: Tables 8 and 9.

Table 11. THE BUDGETS OF THE GENERAL GOVERNMENT AND OF THE SECRETARIA DE RECURSOS NATURALES, 1978-1986
(in thousand current lempiras)

Year	General Government			Secretaria de Recursos Naturales		
	From National Revenues	From Foreign Revenues	Total	From National Revenues	From Foreign Revenues	Total
1978	629,604	202,311	831,915	61,703	48,220	109,923
1979	749,542	254,868	1,004,411	79,534	39,699	119,233
1980	905,135	231,631	1,136,766	88,229	72,304	160,532
1981	1,030,816	319,185	1,350,000	73,861	78,048	151,909
1982	1,128,385	423,128	1,551,513	76,416	76,705	153,121
1983	1,180,000	497,033	1,677,033	76,664	74,705	151,370
1984	749,542	774,544	1,524,086	79,534	28,478	108,012
1985	1,410,166	444,732	1,854,898	68,037	38,417	106,454
1986	1,589,762	297,216	1,886,979	78,120	35,870	113,990

Note: Some totals do not add because of rounding.

Sources: Secretaria de Hacienda y Credito Publico; Secretaria de Recursos Naturales.

Table 12. MAIN COMPONENTS OF THE BUDGET OF THE SECRETARIA DE RECURSOS NATURALES, 1978-1986
(in thousand current lempiras)

Year	Transfers to Parastatals			Net Budget of the Ministry		
	From National Revenues	From Foreign Revenues	Total	From National Revenues	From Foreign Revenues	Total
1978	27,753	41,012	68,765	33,950	7,208	41,158
1979	39,049	23,390	62,439	40,484	16,309	56,794
1980	39,117	45,468	84,585	49,112	26,835	75,947
1981	28,355	32,216	60,571	45,506	45,833	91,339
1982	32,710	33,338	66,048	43,707	43,367	87,073
1983	32,421	33,568	65,989	44,244	41,138	85,381
1984	28,707	11,646	40,353	50,827	16,832	67,659
1985	28,843	6,612	35,455	39,194	31,805	70,999
1986	35,631	8,939	44,570	42,489	26,931	69,421

Note: Some totals do not add because of rounding.

Source: Secretaria de Recursos Naturales.

Table 13. REGULAR SALARY BUDGETS OF THE SECRETARIA DE RECURSOS NATURALES, 1980-1986
(in thousand Lempiras)

Category of Personnel	1980		1981		1982		1983	
	Number	Cost	Number	Cost	Number	Cost	Number	Cost
I. Managerial, Professional Staff	1396	13606.0	1396	15486.0	1321	15924.0	1296	15691.4
Top management	2	78.0	2	132.0	2	133.4	2	133.4
Executive staff	20	530.6	20	783.7	16	508.7	18	599.9
Professional staff	432	6947.9	432	7479.2	443	7986.9	436	7899.7
Technical staff	916	5632.4	916	6822.4	841	6925.3	821	6688.7
Teaching staff	26	417.0	26	458.7	19	369.7	19	369.7
II. Administrative, Support Staff	1388	5660.0	1388	6751.5	1491	8458.2	1459	8231.5
Administrative Staff	616	3358.2	616	4052.0	695	5048.4	684	4930.5
Laborers	391	1287.0	391	1548.0	363	1696.1	362	1672.7
Service staff	381	1014.8	381	1151.5	433	1713.7	413	1628.3
III. Total	2784	19266.0	2784	22237.5	2812	24382.2	2755	23922.9

Category of Personnel	1984		1985		1986	
	Number	Cost	Number	Cost	Number	Cost
I. Managerial, Professional Staff	1302	15821.8	1279	15531.3	1271	15546.1
Top management	5	273.4	3	194.2	3	194.2
Executive staff	18	605.2	22	766.1	22	780.7
Professional staff	439	7889.1	428	7680.8	424	7719.9
Technical staff	820	6657.1	807	6522.0	802	6461.5
Teaching staff	20	397.0	19	368.2	20	389.8
II. Administrative, Support Staff	1459	8203.1	1444	8149.3	1454	8275.5
Administrative staff	688	4943.3	686	4928.7	696	5053.7
Laborers	361	1652.6	354	1631.6	353	1627.7
Service staff	410	1607.2	404	1589.0	405	1594.1
III. Total	2761	24024.9	2723	23680.6	2725	23821.6

Notes: Professional staff are defined as those having university degrees; technical staff do not; the staff listed here do not include those under contract with Title I funds.
Source: Secretaria de Recursos Naturales.

Table 14. TITLE I FUNDS USED IN CONTRACTING PERSONNEL IN THE SECRETARIA DE RECURSOS NATURALES, 1982-1986
(in thousand lempiras)

Activity	1982	1983	1984	1985	1986
General Agriculture	0.0	14.9	260.0	369.1	512.6
Research	117.9	136.1	220.3	119.3	1101.8
Extension	0.0	0.0	574.3	833.3	1626.2
Water Resources	0.0	0.0	0.0	114.2	0.0
Soils Research	0.0	0.0	0.0	0.0	71.1
Livestock	0.0	0.0	77.5	225.0	524.4
Human Resources	0.0	0.0	0.0	0.0	407.2
Renewable Resources	0.0	0.0	0.0	91.5	86.8
Sectoral Planning	16.5	0.0	637.4	708.8	382.7
Total	134.4	151.0	1769.5	2461.2	4712.8

Source: Departamento de Contabilidad, Secretaria de Recursos Naturales.

Table 15. ALLOCATION OF TITLE I FUNDS BY INSTITUTION, CUMULATIVE TOTALS FOR 1982-1986
(in thousand current lempiras, disbursed funds)

Institution	Title I/III	Title I	Total
Secretaria de Recursos Naturales	6,976.7	25,025.1	32,001.8
FHIA	5,000.0	0.0	5,000.0
BANADESA	3,544.1	17,000.0	20,544.1
IHCAFE	522.4	0.0	522.4
DIFOCOOP	6,800.0	0.0	6,800.0
Instituto Nacional Agrario	500.0	11,400.0	11,900.0
Secretaria de Hacienda y Credito Publico	94.0	0.0	94.0
IHMA	0.0	8,990.0	8,990.0
SECPLAN	0.0	937.0	937.0
TOTAL	23,467.2	63,352.1	86,819.3

Source: Compiled from information supplied by the Direccion General de Credito Publico, Secretaria de Hacienda y Credito Publico.

Table 16. OUTSTANDING FOREIGN INDEBTEDNESS OF HONDURAS, 1980-1986
(in million dollars)

Year	Public	Private	Total
1980	970.7	416.9	1387.6
1981	1161.6	426.3	1587.9
1982	1551.9	433.9	1985.8
1983	1765.6	396.4	2162.0
1984	2041.4[a]	350.5	2391.9[a]
1985	2538.4	264.8	2803.2[a]
1986	2654.9	276.0	2930.9[b]

[a]Includes exchange rate adjustment.
[b]Does not include the exchange rate adjustment.

Source: Departamento de Estudios Economicos, Banco Central de Honduras.

Table 17.
HONDURAS: PL 480 TITLE I PROGRAMS
PROJECT CLASSIFICATION BY INTENDED RESULTS
1982 to 1987
Ranking order: 1 = Primary focus; 2 = Secondary focus

PROGRAMS Projects	Budget 000 Lps.	PRODUCT ORIENTED			ACTIVITY ORIENTED						RESOURCE ORIENTED		REGIONAL ORIENTED
		Grain	Other Crops	Livest	Resr	Extension	Organizatn	Infrastruc	Mrktg, Credit	Admin, Others	Natural	Human	
FOOD PRODUCTION, CONSUMPTION	1,719												
Pork Production	628			1									
Goat Production	480			1									
Pastures/forage	611			1						2			
PUBLIC SECTOR ADMINISTRAT'N	3,475												
Agricult. Planning Office	775									1			
Agricultural Research Of.	300				2					1			
MNR Administration	400									1			
INA Administration	2,000									1			
COUNTERPART FUNDING	19,689												
Agricultural Sector Progr.	1,230									1			
Dev., Adaptation of Techn.	523				1								
Horticulture	236		1										
Natural Resource Mgt.	1,412										1		
Research and Extension	1,670				1	2							
Small Scale Fishery	454			1									
Integrated Dev.-PRODERO	1,120												1
Integr. Develop., Guayape	2,000												1
Plantain Bananas	350		1										
Milk production	335			1									
Fishery Marketing Study	193			2					1				
Soybean Prod'n and Cons'n	189	1											
Sorghum Production	165	1											
Poultry Production	321			1									
Integr. Rur. Dev. PRODESBA	780												1
Agricultural Extension	1,325					1							
Agricultural Research	2,643				1								
Soil Research	732				1						2		
Nat'l School of Agriculture	1,925									2		1	
Human Resource Development	1,217					2						1	

Table 17.
HONDURAS: PL 480 TITLE I PROGRAMS
PROJECT CLASSIFICATION BY INTENDED RESULTS, cont.
1982 to 1987
Ranking order: 1 = Primary focus; 2 = Secondary focus

PROGRAMS Projects	Budget 000 Lps.	PRODUCT ORIENTED			ACTIVITY ORIENTED						RESOURCE ORIENTED		REGIONAL ORIENTED
		Grain	Other Crops	Livest	Resr	Extension	Organizatn	Infra struc	Mrktng Credit	Admin, Others	Natural	Human	
Renewable Natural Resources	200									2	1		
Techn. Transfer-Communicat.	668					1							
EMERGENCY PROGRAM-INA	3,400												
Food for Work-South Region	3,169											1	
Citrus Emergency-Bajo Aguan	231											1	
NATIONAL AGRICULT. EXTENSION	3,400												
Wages	3,169					2				1			
Per diem/transport. costs	231					2				1			
SECPLAN (Nat'l Planning Of.)	372												
Wages	72									1			
MODICA Project	200												1
PRODERO Project Evaluation	98									2			1
GENERAL OFFICE OF STATISTICS	2,582												
Equipment	1,962							1		2			
Agricultural Survey	950				2					1			
Household Survey	140				2					1			
Population, Housing Census	1,516									1			
CATIE/COHDEFOR/ROCAP	40												
Agricultural Labor	25										1		
Per Diem	35										1		
Maintenance	30										1		
AGRICULTURAL CREDIT-BANADESA	1,700	2	2						1				
IHMA	6,000												
Grain Purchases	5,000								1				
Storage Management	350								1				
Technical Assistance	200								1				
Storage Facilities	400								1				
Accounting	50								1	2			
LAND REFORM-INA	7,500												
1984 Budget	7,500									1			
USAID/IFI COUNTERPART PROJ.	4,425												

Table 1
HONDURAS: PL 480 T: PROGRAMS
PROJECT CLASSIFICATION BY INTENDED RESULTS, cont.
1982 to 198.
Ranking order: 1 = Primary focus; 2 = Secondary focus

PROGRAMS Projects	Budget 000 Lps.	PRODUCT ORIENTED			ACTIVITY ORIENTED						RESOURCE ORIENTED		REGIONAL
		Grain	Other Crops	Livest	Resr	Extension	Organizatn	Infrastruc	Mrktng Credit	Admin, Others	Natural	Human	ORIENTED
USAID/IFI COUNTERPART PROJ.	4,425												
Natural Resource Mgt.	1,530										1		
Marcala Cuascaran Project	1,847										1		
Agric. Research, Extension	470				1	1							
Integr. Rural Dev., Yoro	24												1
Integr. Dev. Project-PRODER	56												1
Rice Project	15	1											
Regional Dev., Guayape	389												1
Regional Dev.-PRODESBA	100												1
PL480 UNPROGRAMMED FUNDS	11,500												
TITLE I TOTALS	81,080												

Notes: Resr = Agricultural Research; Livest = Livestock

Source: Compiled from information from the Direccion de Credito Publico, Secretaria de Hacienda y Credito Publico, and the Direccion de Planification Sectorial, Secretaria de Recursos Naturales.

Table 18. ECONOMIC CLASSIFICATION OF EXPENDITURES UNDER TITLE I/III, 1982-1986
(in thousands of lempiras)

Program	Total Planned Outlay	Current Outlays		Capital Outlays		
		Wages & Salaries	Subtotal	Fixed Capital Formation	Credit	Subtotal
Export diversification	5000	1693	2510	103	1544	1647
IHCAFE	1241	313	524	48	0	48
MNR	3759	1381	1986	55	1544	1599
Cooperative development	6800	2311	3052	822	1752	2574
ANACH	1694	272	506	287	448	735
Coop. Modelo	2014	906	1038	438	1052	1490
FECORAH	92	0	0	0	63	63
DIFOCOOP	1300	646	952	79	0	79
FACACH	1358	451	513	18	189	207
CONACI	342	36	44	0	0	0
Small-scale irrigation	7000	1821	2969	833	2000	2833
Projects	4122	1443	2467	750	0	750
Planning	878	378	502	83	0	83
BANADESA	2000	0	0	0	2000	2000
Agricultural research	5000	n.a.	n.a.	n.a.	n.a.	n.a.
Farmer training	500	313	470	31	0	31
Program administration	700	324	385	0	0	0
TOTAL	25000	6462	9387	1789	5296	7085

Source: Various expenditure reports filed under the PL 480 agreement of June 11, 1982.