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**FOOD SECURITY AND
AGRICULTURAL DIVERSIFICATION
IN GUATEMALA**

**ANALYSIS OF INTERRELATIONSHIPS
AND IMPLICATIONS FOR POLICY**

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VOLUME I

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LIST OF ACRONYMS

BANDESA	BANCO NACIONAL DE DESARROLLO AGRICOLA
CESA	COMITE ESPECIAL DE SEGURIDAD ALIMENTARIA
CLUSA	ASOCIACION NACIONAL DE EMPRESAS COOPERATIVAS
COGAAT	COOPERACION GUATEMALTECA -ALEMANA ALIMENTOS POR TRABAJO
CONAMA	COMISION NACIONAL DEL MEDIO AMBIENTE
DIGESA	DIRECCION GENERAL DE SERVICIOS PECUARIOS
INDECA	INSTITUTO NACIONAL DE COMERCIALIZACION AGRICOLA
INCAP	INSTITUTO DE NUTRICION DE CENTRO AMERICA Y PANAMA
IICA	INSTITUTO INTERAMERICANO DE CIENCIAS AGRICOLAS
INTA	INSTITUTO NACIONAL DE TRANSFORMACION AGRICOLA
ICTA	INSTITUTO DE CIENCIAS Y TECNOLOGIA AGRICOLA
PNUD	PROGRAMA DE LAS NACIONES UNIDAS PARA EL DESARROLLO
PMA	PROGRAMA MUNDIAL DE ALIMENTOS
PRODAC	PROGRAMA DE DIVERSIFICACION AGRICOLA Y COMERCIALIZACION
SEGEPLAN	SECRETARIA GENERAL DE CONSEJO NACIONAL DE PLANIFICACION AGROPECUARIA Y DE ALIMENTACION

RECOMMENDATIONS

The first recommendation is to seek mechanisms to generate an explicit, comprehensive and coherent definition of economic goals and policies for Guatemala. There is sufficient professional and technical capacity in the country to develop a general policy framework. This could have a significant effect on policy efficiency and resource use consistency.

It is important to study ways of alleviating the plight of the poorest segment of the population who have seen their food security and nutrition conditions affected by the economic crisis and adjustment. This is important not only from a social standpoint, but also from a political economy point of view. Coming presidential elections will determine the future viability of current economic policy. Thus, even though the agricultural sector may not have special influence in deciding macroeconomic policy, policy makers should be aware that the perceptions of small farmers and landless rural workers could be crucial to the future viability of current policy.

Continuation of current macroeconomic policy could have positive medium and long term effects on food availability. This will occur if there is more efficient allocation of domestic resources and the benefits of the country's comparative advantages are exploited in the external as well as the domestic markets. However, it is important that there be a continuous monitoring of external markets by some entity--public, private or mixed--to avoid negative effects on the domestic economy. Resources should be allocated to provide professional and technical capabilities to this entity.

As previously stated, the access to food dimension of food security is essentially a distributional matter in a country with such a highly skewed

income distribution as Guatemala. From a long run perspective, a definitive solution to Guatemala's food security and malnutrition problems at the individual level necessitates the resolution of basic issues relating to the population's access to resources. Required is a medium and long term policy addressing crucial problems including the expansion of agricultural frontiers, land property, access to credit, minimum wages, and access to education, health and social security. These are matters requiring serious and immediate attention.

It is important for Guatemala to formulate a clear and comprehensive agricultural policy, oriented to facilitate the development of the sector and improve the living conditions of rural population. Consistency of this framework with the country's development goals and macroeconomic policy is crucial. A policy group should be established and supported to formulate the needed policies for Guatemala's agricultural sector. Special attention should be given to the role of food security and agricultural diversification goals and strategies within the general policy of the sector.

It is recommended that a study group be formed to seriously study the problems of land distribution and access to land in Guatemala. A professionally and technically capable, and politically sensitive and representative group should address these crucial matters for Guatemala's future development. This group should propose strategies and programs that, apart from being politically viable, could facilitate an economically and socially improved approach in using the country's land resource in the future.

Irrigation programs, especially those geared to provide water to small farmers, should be vigorously supported with funds and other resources, since they can significantly affect production and income generating capacities of

disadvantaged groups in the rural population. These programs should be coordinated with extension programs, marketing improvement efforts and commercialization strategies.

To improve production and productivity among small farmers and basic grain growers it is necessary to provide them with new locally improved seeds. ICTA should be provided the necessary resources to develop the required genetically appropriate seeds for local cultivation.

The current fertilizer program should be continued so long as the private sector fertilizer import, mixing and distribution system remains uncompetitive. The government should study fertilizer market conditions and implement corrective efforts to make it more competitive and efficient. This could allow for some of the program to be taken over by the private sector. Close monitoring of prevailing prices in the market is needed to reduce and eliminate oligopolistic practices of domestic fertilizer importers and mixers.

The current wheat policy has so many unusual and contradictory efficiency and distributional effects across sectors in the economy and society, that a serious and comprehensive study is recommended. A technically capable group should study the wheat policy, paying special attention to its implications for the market structure of the milling-importing industry, the country's current account of the balance of payments, income support to small and indigenous domestic farmers, and changes in consumption patterns and their relationship to long-run food security.

It is also recommended that a technical study be conducted to thoroughly analyze the current conditions and future perspectives of the livestock and milk production sub-sectors. The study should especially consider food security implications of these sub-sectors, and propose medium and long-run

strategies for their development. These strategies should be consistent with the agricultural sector's general policy framework.

To reduce seasonal grain price fluctuations and improve market efficiency, an agricultural commodity exchange (bolsa de productos agropecuarios) is an interesting option for Guatemala. It is recommended that a study of other Latin American countries' successful experiences be made (Colombia, Ecuador), and mechanisms developed to create an agricultural exchange (bolsa) in Guatemala. A bolsa could significantly improve the efficiency of agricultural markets, increasing the transparency of market activities, diminishing market distortions, and making available market information on prices, quantities and transaction conditions. A bolsa would facilitate trade and permit improved access of medium and small-size farmers to formal marketing. In addition, it would offer an alternative, less expensive way, to implement government policy on basic grains support prices, to manage government imports and exports of agricultural products, and to handle government emergency stocks of agricultural commodities.

It is also recommended that support to existing agricultural marketing programs like the producers' fairs now supported be extended.

The nature, magnitude and urgency of Guatemala's food security problems require that they be promptly addressed by an interdisciplinary group of professionals, technicians and politicians from different ministries as well as the private sector. The nation requires broad-based participation in the formulation of a clear, comprehensive and coherent policy of food security. This is important not only from a social and a political point of view, but also from the perspective of creating the preconditions for long-run development of Guatemala. A critical issue within this policy is to define

comprehensive short, medium and long run strategies to accept, manage and administer external food aid and food donations. A major purpose of these strategies should be to make food donations self-eliminating in the medium run.

To make food security an achievable goal for Guatemala in the long run, it is essential to develop demographic policies, strategies and programs to reduce the rate of growth of the population. A way of moving towards external food aid elimination would be to impose a condition requiring that some proportion of any food aid should be tied to population programs in the future. Obviously, these demographic programs need to be carefully studied to be compatible with Guatemala's cultural, ethical, social and political background.

The current policies determining public services provision and distribution requires review to focus public services to those in greatest need. Special emphasis should be placed on making public services available to the rural population, which faces the greatest poverty, but also offers the greatest marginal benefits for each additional unit of services provided.

A number of policies and programs are required to reinforce sustained income growth from small-scale crop diversification, and to reduce the food security risk at the household level:

a) Marketing strategies aimed at improving efficiency in the functioning of domestic and international marketing channels, including: (1) investment in rural infrastructure, transportation facilities and marketing organizations, and (2) provision of current market information to diversified farmers, including prices, transportation rates, etc.

b) Appropriate technological innovation in small-scale staple food

production to increase productivity and reduce the need of maintaining food security levels based upon own production as well as increase food availability at the household level. Research and extension activities should be targeted at the smallest farmers to provide more realistic opportunities for their increased participation in small-scale crop diversification programs, thus increasing the compatibility between staple food and non-traditional crops.

c) Rural credit programs are essential components of a long-term, comprehensive crop diversification program for small farmers. Credit is required to assist the financing of higher input costs and of on-farm infrastructure investments and to provide funds for household liquidity.

d) An enhanced and enlarged extension effort should not be limited to more traditional agriculture extension activities. If subsistence farmers are to become efficiently integrated in the commercial economy they must also have managerial and administrative capacities. They need to understand the workings of commercial markets and know how to manage cash flow, protect themselves against market risk, know where to obtain information related to production decisions, etc.

e) Conditions need to be created which permit the smallest farmers to participate in small-scale crop diversification programs with low risk margins. Evidence suggest that the highest relative income gains from diversification are obtained among the smallest farmers. This reduces income disparities among small farmers. At the same time, these farmers also have less access to crop diversification programs. Criteria based on maximizing the short term success of crop diversification programs should play a minor role, and may actually be self defeating. Selection criteria for

participation may have to be differentiated according to farm size, location and length of participation. Provision of income guarantees needs study. The initial higher delivery costs of credit and extension to the smallest farms may well be justified by the marginal economic and distributional gains.

f) Farmer organizations such as cooperatives might also play a more important role in relation to crop diversification in the small farm sector. While the role of cooperatives in agricultural diversification was not analyzed in this study, cooperatives may offer opportunities to capture economies of scale by vertically integrating production, processing and marketing functions, thus providing increased economic returns to diversified farmers.

g) Public crop diversification programs could be much better coordinated at the local level with similar programs executed by non-governmental organizations. Such coordination and sharing of experiences is likely to improve the operational efficiency of all crop diversification programs. This should reflect the government's policy of promoting community participation, by inviting organized community groups to participate in decision making with public sector and non-governmental agencies.

h) The government should provide legal and full land titles to those who own land in the Highlands. Legal counseling should be made available on a regular basis at the municipal level, and such services should be staffed by legal personnel who speak and understand local indigenous languages.

i) Development of rural financial institutions, which are highly accessible to rural small farmers, will provide opportunities to capture savings generated by increased income from crop diversification. When such savings are made available to local community groups to finance community

development projects, the economic benefits of crop diversification are spread among the rural poor. This may imply, for example, an expanded role for the "cajas rurales", in accepting deposits in addition to administering loans.

EXECUTIVE SUMMARY

This study assesses the impacts of Guatemalan economic and agricultural policies relating to agricultural diversification and food security. The central purpose of the analysis is to assist policy makers of the Ministry of Agriculture and AID/Guatemala in better understanding the impact of sector-specific and other policies on agricultural diversification and food security in the country.

Diversification of Guatemalan agriculture has taken place at a rapid pace over the past decade. A large number of small highland farms that traditionally produced only food grains now also produce vegetable and fruit crops for the international market. Rapid development in the production and export of non-traditional agricultural products has changed the structure of Guatemala's agriculture, enhanced national export capacity, markedly increased incomes of many farm families and contributed significantly to the employment of rural labor.

Guatemala's food security situation has deteriorated in recent years; there are deficiencies in both global food availability and individual access to food. Annual per capita cereal consumption increased from 120 to 145 kilograms from 1983 to 1987, but virtually all of the increase was derived from imports of which a significant portion were in the form of food aid. The increasing dependence on food aid points to a lack of a sustained capability of the country to provide domestically grown basic cereals to a growing population.

Per capita income levels are indicators of a population's access to food. An estimated 71 percent of Guatemala's population in 1980 lived in some

state of poverty, 40 percent in extreme poverty. Though no current data are available, it is unlikely that the poverty situation has improved during the 1980s. In 1987, the daily cost of a basic goods basket was estimated at nearly three times the minimum wage.

Changing food intake patterns indicate a deterioration in diet quality. Between 1965 and 1987 foods from animal sources dropped from eight to four percent of total daily energy intake, while energy from vegetables and potatoes increased from 1.7 to 4.5 percent. These data imply that acute and chronic malnutrition has increased during the past two decades.

Food security and agricultural diversification are high priorities of the government. However, there are notable differences in the formulation, interpretation and implementation of needed policies and strategies among government agencies and officials. This results in unclear national policies and strategies and poorly coordinated programs, with the consequent wastage of scarce resources.

The Guatemalan food and agricultural sector is not beset with government interventions to the extent found in many developing nations. With a few notable exceptions, the government plays a limited direct role in the food and agricultural economy and the sector operates relatively free and unencumbered by constraining policies, structures and market interventions. Several potentially perverse policies exist by law, but due to insufficient implementation resources, have little or no impact on the agricultural sector.

Agricultural sector policies are characterized by low level government. While this benefits the sector by reducing market interventions and distortions, the almost inconsequential magnitude of government programs and public investment in agriculture impacts negatively on the entire sector,

especially on food security.

The national wheat policy and policies related to commercial imports and distribution of fertilizers stand out as the most notable policy-sourced distortions affecting the sector. National wheat policy maintains domestic wheat prices at levels considerably higher than border prices, resulting in an income transfer from consumers to producers. This could be viewed as an income distribution measure given that bread is consumed primarily by the urban middle and upper income population and wheat is produced by small Highland farmers. Commercial fertilizer imports are regulated via import licenses and result in supply restriction. Supply restriction under prevailing oligopolistic fertilizer market conditions results in high fertilizer prices for Guatemalan farmers.

Government financed irrigation works appear to be potentially high pay-off social investments. But the great paucity of other public investment and government programs in agriculture poses a number of difficulties for advancing agricultural diversification and very serious problems for improving food security in the medium and long term horizons. Three matters require immediate attention: the land problem is a critical issue central to national food security; low agricultural productivity is a major obstacle to advancing agricultural diversification, increased national food production and improved food security, and; improved management of natural resource is essential in assuring long term sustainability of agriculture. Moreover, land titling services, marketing infrastructure, enhanced small farmer credit access, operational rural savings institutions, effective technology generation and dissemination systems, and irrigation facilities are additional examples of investments requiring greater public participation.

Agricultural diversification is compatible with food security. The Guatemalan strategy of crop diversification by introduction of non-traditional crops and expanding secondary food crop and livestock production in the Highlands is sound. Evidence indicates that there is potential for further diversification in the small farm sector. At the same time there are risks which may affect the food security of Guatemala's rural poor. Complementary public policies, programs and investments are required to reduce or eliminate income and food security risks of agricultural diversification.

In addition to recommendations relating to public investment programs, it is recommended that domestic capabilities be organized to formulate a clear and comprehensive agricultural policy oriented to facilitate the development of the sector and improve the living conditions of rural population; address the land distribution and land access problems; study, research, define and develop policy alternatives and strategies relating to national food security and agricultural diversification, and; analyze and monitor international market conditions for non-traditional export products.

Food security and agricultural diversification are conditioned by the macroeconomic policy framework. The limited available evidence suggests that recent macroeconomic policy has been generally positive for both food security and agricultural diversification. The focus of the current administration's monetary policy has been to reduce external disequilibria caused by loss of international reserves in the early and mid 1980s. This could be characterized as tight, but cautious. Excess liquidity has been reduced without profound shock to the economy. There is no evidence of recessive bias in the policy. On the contrary, economic activity, employment and real wages have recovered since 1986. The employment and wage effects of the policy have

clearly contributed positively to food security.

As with monetary policy, the exchange rate policy efforts have concentrated on eliminating external accounts disequilibria and international reserve losses. The exchange rate was unified in mid 1988, eliminating serious distortions resulting from the previous multiple rates. Perhaps no other policy correction had greater positive impacts on non-traditional agricultural exports and thus agricultural diversification. The direct impacts of exchange rate reform on basic grain production are less clear. Food security however, has clearly been enhanced via the income and employment effects resulting from expanded agricultural exports.

Credit policy is a subset of monetary policy. In August 1989, interest rates were freed of controls, which a significant policy liberalization. The supply of credit extended to the agricultural sector has been restricted under the current administration, but the relative share of credit made available to basic grain or non-traditional crop production has not been reduced, at least partially because the great bulk of agricultural credit goes to traditional export production. In terms of food security and agricultural diversification, the primary credit problem is the lack of mechanisms to provide small-scale farmers with access to credit.

Recent fiscal policy measures have had the objective of reducing the public deficit. Tight fiscal policy has also significantly reduced government programs and public investments in many areas, including those affecting food security and agricultural diversification. The government faces serious difficulties on the revenue side of the fiscal picture and attention must be given to revenue generating measures.

International trade policy has the multiple objectives of trade barrier

liberalization, export diversification and promotion. There is no clear evidence that these policies have as yet notably affected either food security or agricultural diversification. Based on the rationale of food security, Decree 40/74 requires special licenses to export basic grains. This non-tariff trade restriction has had little effect on food security, due to lack of international border control.

I. INTRODUCTION

1.1 Purpose of Report. This study analyzes Guatemalan economic and agricultural policies relating to agricultural diversification and national food security. The central purpose of the study is to assist policy makers of the Ministry of Agriculture and AID/Guatemala in better understanding the impact of sector-specific and other policies on agricultural diversification and food security in the country. The study reviews a broad array of policies at the macro and sector levels, highlighting those policies that bear most directly on national objectives of food security and agricultural diversification.

A further purpose of this study is to define and assess the interrelationships of policies oriented to enhancing food security and agricultural diversification. Some central questions: Are the objectives of agricultural diversification and food security contradictory? Complementary? What are the trade-offs between the costs and benefits of policies designed to further food security and agricultural diversification objectives?

1.2 Methodology, Scope and Limitations of Analysis. The study was conducted over a seven week period from mid September to late October 1989. One analyst was involved full time over the entire period; the input of the other analysts varied from two weeks to six weeks during the study period.

A considerable number of previous studies were intensively reviewed and information and data obtained from public documents, private sources and from numerous in-depth interviews with persons in the private and public sectors and international agencies. Time and resource limitations precluded original data collection and quantitative analyses. The analyses are thus descriptive and in some cases rely on the conclusions of other studies.

The analysis focuses on those agricultural sector and macroeconomic

policies, as well as on other policies that most directly relate to agricultural diversification and food security issues. Issues regarding agricultural diversification and food security are very complex in Guatemala and involve many economic, social, political and welfare considerations that can be treated only superficially in this report.

There is a great paucity of serious economic policy analysis research in Guatemala. The near total lack of such research is the principal reason this study cannot address a number of very complex policy issues in a more insightful manner.

1.3 Report Organization. The report is presented in two separate volumes: Volume I has the central part of the work, and Volume II contains the appendices. Following this section, Chapter two discusses national and sector goals and attempts to define what food security and agricultural diversification imply in the Guatemalan policy making setting. Chapter three presents a summary table with an inventory of the policies that promote the objectives of food security and diversification. Chapter four assesses the policies and programs relating to food security. Chapter five addresses the agricultural diversifications policies.

Volume II has five appendixes. Appendix A contains a brief overview of Guatemala's economy, and overview of social indicators, a description of the agricultural sector development, an overview of the food security system, and a description of the policy setting. Appendix B consists of tables and figures used in the report. Appendix C is a list of bibliographical references. Appendix D is a list of persons contacted. Finally, Appendix E is a brief background of the team.

II. DEFINITION OF THE ISSUES

2.1 National Objectives and Goals. In a 1988 policy document entitled "Leveraging Development: the Guatemalan Strategy", (Black Book) the government states that the principal goal of Guatemala is to create a new social model that will assure all Guatemalans a better quality of life". While a detailed definition of what this "new social model" comprises is not given, the same document does indicate that the foremost objective of the government is to create a "new society" where every Guatemalan has the "full opportunity to participate in the country's growth and achieve his or her full potential, as well as reap the benefits of individual and community efforts." The attainment of this objective is predicated on increased reliance on the work of local community organizations and the tapping of new ways and means for transferring resources and technology to the people. Thus, this blueprint for socio-economic development places a greater reliance on local self-help, which in turn implies a need for a decentralization of decision-making processes.

The broad outlines of the policies, strategies and programs required to attain the above national development objectives are given in the same document. Among the latter, emphasis is to be placed, ostensibly on the following:

1. The pursuit of sustained economic growth with a comprehensive, enhanced program of social investment
2. The dissemination of this growth throughout society;
3. An increase in the international competitiveness of Guatemalan products;
4. Streamlined governmental macro-economic management;
5. Increased regard for environmental considerations; and

6. The pursuit of regional political and economic harmony.

The main policy concerns of this study--food security and agricultural diversification--are included among the government's strategic considerations, though with varying emphasis and weight. In the case of food security, indirect references are made regarding the need to pursue this goal as part of the social investment strategy. Agricultural diversification policies and programs, however, are explicitly noted in the same document, as a preferred conscious strategy to attain increased productivity and export market penetration, especially for non-traditional commodities.

Food security is generally regarded as an important national goal by the numerous government officials consulted on this matter, but there is a lack of consensus as to what this entails and how it should be pursued. There is, however, a general appreciation that more should be done to improve the food security situation of the Guatemalan population.

With respect to agricultural diversification, there is a definite tendency to regard such actions as a strategy geared primarily to increase exports, which in turn would improve the balance of payments. However, agricultural diversification has also been recognized by a number of government officials as a means to improve technology and resource allocation (especially for small-scale farmers) and to increase rural incomes. It is obvious, that these goals can be pursued through agricultural diversification, even in the absence of export-orientation.

2.2 Agricultural Sector Goals. The Ministry of Agriculture, (USPADA) postulates that the three basic elements of Guatemala's agricultural policy are: a) diversification of those commodities capable of competing in external markets, a) food security, and c) support to small- and medium-size

agricultural producers. The main development goals of the country's agricultural sector are to:

1. increase sectoral income;
2. attain an equitable distribution of sectoral benefits;
3. improve agricultural labor remuneration; and
4. reach a stable level of sectoral growth and development.

In order to attain these goals the following action-oriented means or strategies must be pursued: a) develop the food system and attain self-sufficiency; b) expand and diversify agricultural and agro-industrial exports; c) support and develop agro-industries, d) increase and consolidate the basic production infrastructure, especially with respect to irrigation works and rural roads, e) protect and rationally manage all natural renewable resources, and f) provide land to peasants by acquiring land through free-market purchases. In turn, the above development actions are to be embodied in and carried out through the following programs:

1. Irrigation;
2. Diversification and Commercialization;
3. Food Security;
4. Renewable Natural Resources;
5. Agricultural Land; and
6. Government support.

The goals of the agricultural diversification and commercialization program are to generate foreign exchange and to increase rural employment and incomes.

The goals of the food security program are to attain self-sufficiency and independence in the production and distribution of basic foods. In turn,

the achievement of food security entails reaching the following objectives:

a) markedly improving the food and nutritional status of the population, especially the low income groups; b) establishing a contingency reserve of food stocks, to serve as regulating instruments in cases of emergencies; and c) regulating and coordinating production, import and donations of basic foods.

2.3 Food Security Strategies. Among Guatemalan government officials sometimes within the same agency, there are different perceptions as to what food security policy is and how to attain it. On the one hand, some officials equate food security with self-sufficiency in the production of basic foods, with particular emphasis on basic grains, such as corn, beans and rice. These officials tend to concentrate on reaching certain production goals with respect to basic grains, with little attention paid to the distribution of these commodities or to aspects of access by low income households.

On the other hand, other officials conception of food security emphasizes the ability of the target groups (or the population as a whole) to gain access to an adequate minimum level of food. These officials tend to emphasize strategic actions which maximize access especially by disadvantaged groups though with little regard given for actions designed to increase food supplies and improve food distribution. In line with current evolution of the concept of food security, food security strategies should consider aspects of production, distribution of and access to, basic food supplies. (9)

Government officials in Guatemala also differ in their perceptions about food security policy with respect to government involvement regarding the ways and means to attain it. There are those who conceive of food security as a fundamental task of government, which should thus intervene at the production,

distribution and consumption levels, to assure that given food and nutrition objectives are met, with respect to both rural and urban dwellers. Other government officials believe that too much government intervention in the name of food security can be counterproductive since inefficiencies and distortions introduced through such intervention can ultimately act as disincentives to the production and commercialization of basic foods. Thus these latter officials feel intervention should be kept at a minimum, and should be primarily directed towards protecting the most vulnerable population groups.

2.4 Agricultural Diversification Strategies. Most government officials interviewed conceive of agricultural diversification as a conscious and significant move away from the production of basic and traditional export commodities and towards the production of vegetables and fruits for external markets. This rather narrow conception of agricultural diversification, when accompanied by equally short-sighted policy implementation strategies, detracts from some of the other developmental objectives that can be furthered through diversification, including technical modernization, improved resource allocation (especially labor) among peasant farmers, improved income and nutrition standards of the farm family, and increased national foreign exchange earnings.

III. INVENTORY OF MACROECONOMIC AND AGRICULTURAL SECTOR POLICIES AFFECTING FOOD SECURITY AND DIVERSIFICATION OF AGRICULTURE

Table 3.1 presents a summary of the policies that promote the objectives of food security and diversification. These policies are classified into: I. Macroeconomic and II. Agricultural Policies. The table presents a breakdown of each, indicating the purpose of the policy, the institution responsible for implementation, impacts on food security, and impacts on agricultural diversification.

GUATEMALA: INVENTORY OF MACROECONOMIC AND AGRICULTURAL SECTOR POLICIES AFFECTING FOOD SECURITY AND DIVERSIFICATION OF AGRICULTURE

POLICY	PURPOSE OF POLICY	INSTITUTIONS	IMPACTS ON FOOD SECURITY	IMPACTS ON AGRICULTURE DIVERSIFICATION
I. MACROECONOMIC POLICY				
MONEY POLICY	<ul style="list-style-type: none"> -Tight monetary expansion -Reduce monetization via fiscal deficit, credit expansion and foreign debt. -Reduce aggregate demand inflationary pressure -Comply agreements with IMF. 	<ul style="list-style-type: none"> -Monetary Board -Bank of Guatemala 	<ul style="list-style-type: none"> -Neutral effect on access to food. No evidence of economic contraction affecting employment, salaries and incomes. -Positive effect on access to food and food availability. On access to food via food prices; On food availability via input prices and expectations of price increases. -Possible medium and long-run positive effect and food access. As long as it contributes to recuperate historic rates of growth that result in reducing employment and increasing real wages and incomes. 	<ul style="list-style-type: none"> -Possible medium and long-run positive effect. Via reduction of inflation and expectations of price increases.
CREDIT POLICY	<ul style="list-style-type: none"> -Tight credit expansion -Reduce credit to finance fiscal deficit -Reduce aggregate demand inflationary pressure -Increase domestic savings. -Improve investment resource allocation across the economy -Increase competitiveness in the financial system. -Comply agreements with IMF. 	<ul style="list-style-type: none"> -Monetary Board -Bank of Guatemala -Banesa -Private Banks and Financial Institutions 	<ul style="list-style-type: none"> -Neutral on food availability. No evidence of reduction in basic grains production due to credit constraints. -Neutral on access to food. No evidence of significant activity contraction due to credit limitations. -Possible medium and long-run negative effects on food availability if credit reductions preclude increases in basic grains productivity among small farmers to cope with area reductions due to diversification. -Possible medium and long-run positive effects on food availability and access to food. On food availability if larger domestic savings increase financing for food production and investment in agricultural commercialization. On food access if domestic savings increase domestic investment rates and enhance global activity, employment and real wages and incomes 	<ul style="list-style-type: none"> -Neutral. No evidence of restriction to diversification expansion due to credit shortages. -Possible medium and long-run negative effects on diversification expansion. If credit becomes a limiting factor. -Possible medium and long-run positive effects on diversification expansion. Via improvements in allocation of investment resources and exploitation of country's comparative advantages.
EXCHANGE RATE POLICY	<ul style="list-style-type: none"> -Reduce country's external vulnerability and balance of payments deficits. -Reduce losses in country's foreign reserves. -Line-up the real exchange rate with Guatemalan economy's performance and international markets conditions. -Reduce export disincentives from an artificially over-valued currency. -Promote the exploitation of country's comparative advantages, and induce structural changes in the economy to grasp the benefits of international trade. -Eliminate inflationary pressures from the exchange market. -Reduce capital out-flows. -Comply agreements with IMF. 	<ul style="list-style-type: none"> -Monetary Board -Bank of Guatemala 	<ul style="list-style-type: none"> -Neutral effect on basic grains production. No evidence suggesting negative effects on total basic grains production. -Positive effect on contingency food security. Via reduction of external sector's vulnerability. -Possible positive effect on traditional agricultural export. Due to real exchange rate devaluation. -Possible negative effect on access to food. There is evidence suggesting that changes in social, working and feeding patterns from the changing agricultural production structure could have had negative effects on individual nutrition and food security. -Possible medium and long-run positive effects on access to food. Via income increases to export-oriented diversification, and/or reduction in rural employment. -Possible medium and long-run negative effects on food security. Theoretically, new patterns in family working habits and family incomes use induce by export-oriented activities in agricultural, could be detrimental to family and individual food security. 	<ul style="list-style-type: none"> -Positive effect on inducing agricultural diversification. -Positive medium and long-run effects in increasing diversification, specially the export-oriented one. If realistic exchange rate is by contained.

FISCAL POLICY

- Reduce fiscal deficit and its inflationary pressure.
- Reduce fiscal indebtedness to the financing system.
- Line-up fiscal revenues with government expenses.
- Change tax system's structure to increase revenues, and improve economy efficiency and the distribution of income.
- Focus government expenditures to disadvantaged groups.
- Increase region and local participation in public funds allocation.
- Comply agreements with IMF.

-Executive Branch
-National Congress
-Ministry of Finance
-National Technical Budget Directorate

- Negative effects on food security. Via shortages in public investment and programs, specially of those related to health and education.
- Possible positive effects on food security. Due to the efficiency improvements obtained from the constitutional 8% of public resources accruing directly to municipalities, and the new regionalized format of government budget.
- Possible medium and long-run positive effects on food security. Via efficiency improvements from better focus of government's programs, as well as from the regionalization of resource allocation decisions.
- Possible medium and long-run negative effects on food security. Fiscal revenues shortages due to planned tax and tariff reductions could require postponement of urgently needed public investment (also no more revenue increases from past tax reform can be expected).

- Negative effects on diversification. Cuts in public investment affect needed infrastructure for diversification.
- Possible medium and long-run negative effects on agricultural diversification, specially on that oriented to external markets. Postponement of overhead public investment could be critical to diversification.

INTERNATIONAL TRADE POLICY

- Improve external sector vulnerability and country's balance of payments.
- Reduce distortion for international trade.
- Reduce tax, tariff and duties affecting efficient intersectoral and intertemporal allocation of resources across the economy.
- Improve country's exploitation of its comparative advantages, and grasp the benefits of trade.
- Insert the country within an increasingly global and interdependent world economy.

-Executive Branch
-Ministry of Finance

- No evaluation is availability.
- Possible medium and long-run negative effects on food availability. Existing limitations to basic food exports can constraint the production and commercialization in the near future.

- No evaluation is availability.
- Possible medium and long-run positive effect on diversification, specially that orient export. Trade liberalization and improvement in infrastructure could be critical to future developments.

II. AGRICULTURAL
SECTOR POLICY

PRODUCTION POLICIES

"U" POLICIES

SEER	-Reduce rural unemployment and underemployment. -Increase agricultural labor employment and rural population's level of income.	-Ministry of Labor and Social Welfare -Ministry of Agriculture.	-Neutral impact on access to food. Evidence suggests that minimum wage law has little influence on rural wages and employment.	-No impact.
LAND	-Redistribution of land resources.	-INTA -CONATERRA	-No impact.	-No impact.
FERTILIZERS	-Improve basic grains and other crops production and productivity.	-Ministry of Agriculture. -DIGESA	-Positive effect on food availability. Evidence suggest a significant effect on other crop production. -Positive effect on access to food. Via increases in farm production profitability.	-Positive effect on diversification. Via increases in diversified crops profitability.
SEED	-Improve basic grains and other crops production and productivity.	-Ministry of Agriculture. -ICTA.	-No impact. Evidence indicates that low coverage has preclude potential positive effects.	-No impact. Evidence indicates that low coverage has preclude potential positive effects.
CREDIT	-Financing basic grains production.	-BANDESA.	-Positive effect on food availability. Via financing small farmers activities. -Positive effect on access to food. Via financing small farmers activities.	-No impact. Evidence suggest that low coverage has preclude potential positive effects.
	-Financing agricultural production.	-Private Banks and financial institutions.	-Possible positive effect on food availability. Specially via financing processing plants.	-No impact. Evidence suggest that low coverage has preclude potential positive effects.
IRRIGATION	-Increase agricultural productivity and production. -Improve small farmers' incomes	-Ministry of Agriculture. -DIGESA.	-Positive effect on food availability and access to food. Evidence suggest a significant productivity effects in small-size land holdings.	-Positive effect on diversification. Via improvement of land resource capabilities.

PRODUCT POLICIES

BASIC GRAINS	-Support basic grains farm-level prices. -Support small farmers income. -Stimulate basic grains production	-Ministry of Agriculture. -ICTA. -DIGESA.	-Non-significant impact.	-No effect
LIVESTOCK	-Stimulate livestock production.	-Ministry of Agriculture. -DISEPE.	-No impact. Low coverage.	-No effect
NON-TRADITIONAL EXPORT PRODUCTS	-Stimulate production of non-traditional agricultural commodities. -Improve agricultural current account balance.	-Ministry of Agriculture. -PROBAC.	-Neutral effect of food availability. Evidence suggests that the negative impact of basic grains area reductions could have been balanced by indirect positive impact on productivity.	-Positive impact on agricultural diversification and non-traditional exports production.
MARKETING POLICIES				
PRODUCERS PRICES	-Support farm gate prices. -Support farm incomes	-Ministry of Agriculture. -INDECA.	-Neutral effect on food availability and access to food. Due to low coverage and lack of resources.	-No effect.
CONSUMERS PRICES	-Reduce market intervention. -Reduce market inefficiencies. -Reduce production disincentives.	-Ministry of the Economy. -INDECA.	-Negative effect on access to food, specially in urban areas. Evidence suggest that the basic basket costs/average income ratio has increased during the last decade.	-Possible positive effect. Via price increases in the domestic marketed proportion of non-traditional commodities.
TRADE POLICIES	-Control basic grains domestic supply. -Facilitate external trade.	-Ministry of the Economy. -Ministry of Agriculture.	-Possible negative effect on basic grains availability and food security. Via disincentives created by trade restrictions (requirements of basic grains export licences).	-Positive effect. Through facilitation of exporting occasions.

IV. ASSESSMENT OF POLICIES AND PROGRAMS RELATING TO FOOD SECURITY

The purpose of this section is to assess the impact of policies and programs relating to food security on certain issues identified in the SOW. The issues identified in the SOW were: a) qualitative and quantitative restrictions on agricultural exports and imports; b) price controls on food products; c) price stabilization; d) donated food; e) public sector programs to provide input to farmers at "more favorable prices"; f) public sector marketing programs; and g) other policies not classified in (a) through (f).

4.1. Quantitative and Qualitative Restrictions on Agricultural Imports and Exports. The current administration has implemented an open trade policy intended to place Guatemala in the world economy and to increase its competitiveness in international markets for a broad range of products. The goal is to reduce the country's vulnerability resulting from dependence on a few basic export commodities. As part of this policy, the government has gradually decreased export taxes, and is currently negotiating a reduction in tariff protection, while at the same time studying the feasibility and effects of implementing an across-the-board reduction in export and import tariffs and duties.

The present administration has also created various agencies devoted to the export promotion, including the National Council for Export Promotion and the National Commission for Export Coordination. In addition, a new Directorate General of Foreign Trade charged with export promotion was recently established within the Ministry of Economy. To date, effects of these policies on exports, imports and trade liberalization have not been ascertained.

Under certain conditions, food security could potentially be affected by

restrictions on basic grain exports; decree 40/74 requires special export licenses to export basic grains. This non-tariff trade restriction would appear--on the surface--to constrain basic grain production incentives. However, in practice, these restrictions appear to have little if any effect on basic grain exports and production.

To describe and assess the wide array of sector policies, regulations and controls relating to foreign trade of agricultural products, production and capital inputs is beyond the scope of this report. Virtually every agricultural commodity and agricultural input has--at least on paper--highly specific restrictions of one sort or another in addition to restrictions of a generic nature. Various ministries are involved in these restrictions and some products require the equivalent of duplicate licenses, permits or related documentation from multiple governmental entities. (83) A product-by-product review and impact assessment would be a major research task.

To summarize briefly, sector trade policies are implemented primarily via import and export authority and/or licenses. In general, licenses are obtained through the Ministry of Economy and authorities through the Ministry of Agriculture, one of its entities such as INDECA and/or an officially recognized private producer association. No product is typical, and the bureaucratic labyrinth to obtain official import or export permissions is not standardized. (83)

4.2 Price Controls on Food Products. The government is currently committed to a non-intervention price policy, which translates to an absence of fixed price ceilings. As a result, the number of products which have price ceilings has been reduced over time, shrinking from more than 400 items in 1986, to fewer than 10 in 1989. Products currently under price control are

wheat flour, beef and poultry meats, milk, Incaparina, oats, vegetable oils; and pastas. (30, 44, 83) Not under price control are those commodities which make up a substantial portion of the low income diet, notably corn flour and beans.

There is no empirical evidence regarding either positive or negative effects of consumer price controls, i.e. price ceiling controls are not binding. It is virtually universally believed that they are ineffective, i.e., not binding, and that prices of products under control vary with market conditions. The public effort and budgetary cost of attempting to control price ceilings is quite insignificant; the Ministry of Economy employs a total of 12 inspectors for Guatemala City.

4.3 Price Stabilization. In general, agricultural producer prices have been allowed to vary freely in response to market forces. However, there are instances in which price control measures have been utilized, i.e., the setting of a fixed, single price for wheat and of guaranteed prices for maize, rice and beans, the latter in response to producer's demands for protection from seasonal price declines. (62, 78, 79, 80)

The payment of a fixed price to wheat producers constitutes a special case within the agricultural sector. The price is fixed and revised each harvest, based on negotiations between the Wheat Producer's Guild, the Millers' Association and the Ministries of Economy and of Agriculture. The most recent negotiations resulted in a subsidy to wheat producers estimated at 60 percent over border prices. (26, 80, and conversation with Iliana Pinto, October 26, 1989).

The negotiated price paid to domestic wheat producers takes into account domestic cost of production and the prices of imported wheat and of the

various flour mixtures produced by domestic millers. The domestic wheat price is maintained at a higher level than that of imported wheat placed at local mills. However, the high domestic price does not appear to have had any significant incentive effect on increasing domestic wheat production. Supply appears to be highly inelastic due to climatic and technical constraints. (26, 67)

The pricing policy for wheat is unique in Guatemala and highly unusual for a developing nation. As a result of the policy, a considerable income transfer flows from middle and upper income urban consumers to small farmers; wheat products in Guatemala are consumed almost exclusively by middle and upper income urban consumers and wheat is produced by some 30,000 small Highland farmers. The three parties in the annual wheat price negotiations have identical objectives, i.e., the maintenance of high domestic wheat prices; producer profits increase directly with price, miller-importer profits increase as the spread between domestic and imported wheat prices widens (they capture the economic rent of the price spread) and, the government reduces foreign exchange expenditures by curtailing domestic wheat demand. The only direct losers are the wheat consumers. Indirectly, of course, there are social costs of domestic wheat production; resources used in producing wheat could, in principle, be used to produce other goods.

The producer prices for rice, maize and beans, are set by the National Agricultural Marketing Institute (INDECA), following its policy of determining annual guaranteed prices. Ostensibly, the objective of this policy is to protect producer interests by assuring them a certain minimum return (Table 40). (62, 80) In practice, the policy of guaranteed prices to producers of basic grains has not been effective; INDECA has not purchased any notable

amount of these products in the last few years. In addition, the institution has routinely published its pricing policies late into harvest, thus having little or no impact on actual market prices. (62, 80)

Prices for fruits and vegetables are wholly determined by the interplay of free market forces. Price formation occurs at domestic marketing centers. Export prices for these products are determined in the international market. Excess supplies and the rejects from the export market, are re-routed into the domestic market, where they are priced according to prevailing supply and demand conditions. (76)

From the foregoing, it is apparent that agricultural producer prices are determined by the free interplay of market forces (except in the case of wheat) which leads to seasonal product price variations and to annual production fluctuations. As a consequence and counterbalance to this situation, food security goals and policies have placed emphasis on promoting retail price stabilization for basic commodities. (62)

In principle, government intervention in the market for agricultural products takes place primarily through guaranteed prices and the purchasing, selling and distribution of basic grains. However, as indicated above, in recent years, INDECA pricing policies have been ineffective. INDECA has not had the financial resources required to affect any notable intervention in the market. For example, INDECA was only able to buy about 300 thousand hundredweight of the 1983 and 1984 harvests, out of a total production of over 22 million hundredweight. Similarly, from 1986 to 1988, INDECA's purchases did not surpass 70 thousand hundredweight. INDECA made no purchases in 1985.

Some observers feel the publication of its minimum price exerts a positive psychological impact on the market, and that its intervention through

purchases, (even when these are minimal), has a moderating effect on the prices of affected products. (62, 80) There is no evidence to support or refute this position and no evidence to indicate that INDECA has in any way influenced producer or consumer prices of basic grains or products derived from basic grains.

Over the past five years, INDECA's budget has totaled 38 million quetzales at constant 1988 prices. About 90 percent of this amount is attributed to price stabilization measures. As a recent AID-supported study concluded, this is equivalent to Q.79.00 for each quintal of basic grain purchased from farmers. (62)

There are indications that INDECA has a greater impact on the prices of imported basic grains than on local production. Since 1986, more than 90 percent of the corn handled by INDECA has been imported (partly from food aid and partly from sales under PL-480). In 1987, INDECA handled a million hundredweight of corn, representing about four percent of total domestic production. It is estimated that such a large volume of imports could effectively reduce local prices by 10 percent, if a price elasticity of demand of $-.40$ is assumed (an elasticity estimated by the AID/Guatemala supported evaluation of PL 480 Title I by Sparks Commodities, July 1989). It should be noted that imported corn is of a yellow variety, generally used by the poultry industry, which consumes approximately 80 percent of this commodity. When undertaking this activity, INDECA competes directly with local commercial maize producers. (62, 80)

INDECA is charged with responsibility for technical assessments of the applications for import and export licenses of basic grains. This assessment is taken into account by the Ministry of Agriculture, which makes the final

decision on grain imports and exports. Such a decision seeks to maintain a balance between the supply and the demand of basic grains. However, the lack of reliable data, as well as political pressures, routinely enter the decision process, which at times, leads to the granting of unnecessary import licenses, or to the denial of export licenses which could potentially redound in benefits to the country. (62)

4.4. Donated Food. Even though food donations constitute a fundamental component of food security in Guatemala, the country does not have a policy related to their management and coordination. There is abundant evidence as to the deleterious effects that food donations can have on a country's domestic production incentives. Moreover, there is empirical evidence that food donations have had negative effects on the production of various crops in Central America. In Guatemala, milk production is often cited as an example of how food donations can practically destroy a productive agricultural subsector.

Among government officials at different levels of Guatemala's Ministry of Agriculture there is clear perception regarding the negative effects that food donations can have for the country's agriculture. The same perceptions prevail in other ministries and government agencies.

In September 1987, in the context of a seminar organized by the Ministry of Urban and Rural Development, a document containing the main elements for a national policy on food aid was detailed ("Basis for a National Policy for the Use of Food Aid"). The basic ideas of what food security is, and how to coordinate the country's food security goals with food aid were given detailed treatment. However, a formal final policy document was never issued. There is evidence that there were inter-agency conflicts relating to the control of

food donations, thus precluding the formulation of the needed policy.

The consistent way in which food donations have been handled in Guatemala over the last decade suggests that the implicit policy is: "Take whatever is offered". Such a practice is not rational and could also be very risky for Guatemala's food security in the long run. The country needs to assess what have been the effects of past food donations on national agriculture and food security, and what future effects will be if food aid continues to grow at the pace of the last decade (a recent draft paper partially addresses some of these issues; see reference 73, "PL 480 Title I Evaluation for Guatemala, July 1989).

Food donations need study and analysis not just from a production point of view. New consumption habits developed from indiscriminate food aid could have very negative social and political effects in the long run, if family incomes and the country's resource endowments are unable to sustain them. (consumption of bread and other wheat flour products has grown 4.7 percent annually since 1980). Moreover, from an access-to-food viewpoint, there is evidence indicating that much of the food aid received in the Central American region does not reach the most needy and malnourished.

From empirical analysis, it is clear that Guatemala's dependence on foreign food aid in basic grains, vegetable oil and wheat has increased significantly in recent years. The medium and long term implications of this increased dependence can be serious for the country's food availability aspect of its food security. A part of food aid is used to improve rural infrastructure. If these investments do not yield effects that impact production and productivity of basic grains, then food availability could be affected, the supply-demand gap augmented and food aid dependence increased.

4.5 Public Sector Programs to Provide Inputs to Farmers at "More

Favorable Prices." It is an objective of the Government to improve access to and provide fertilizers at reasonable prices to small-and medium scale agricultural producers. The policy originated in 1986 in an attempt to provide sufficient adjustment time for the agricultural sector to recuperate from the negative impacts of fertilizer price increases resulting from exchange rate adjustments. The explicit objective was to avert reductions in agricultural production as a consequence of a decrease in productivity. (76, 83) An unstated, implicit objective was to counter real or perceived oligopolistic elements in the fertilizer and agro-chemical markets. The intent was to supply approximately 10 percent of the market and direct the program to small and medium scale farmers and farmer groups, especially those producing grains, fruits, and vegetables. This program was carried out under the Food Security Program.

In 1986, 30 thousand metric tons of agro-chemicals were distributed under the program. Sixty percent of this amount was purchased in the international market and the rest was provided by the Government of Italy as a grant. The 35,000 metric tons purchased at the parity exchange rate of 1:1 represented 60 percent of the fertilizer used for corn by approximately 82 percent of the peasant corn producers. However, when only those peasants that produce corn, beans, and wheat are considered, the corresponding percentage was 73 percent. (78) In 1988, the government received a grant of 450,000 hundredweight and purchased 384,000 hundredweight in the international market. A small portion of this fertilizer was used in 1988, but most was distributed during 1989. (76)

After the first year (1986), imports of fertilizers under this program

paid all import duties and complied with all normal purchasing requirements. The farm price was determined by accounting for all expenses plus a "reasonable" profit margin so as to not negatively affect the traditional agro-chemical market. The current intent and impact of the program has been to improve small farmer access to fertilizer rather than to undersell commercial distributions.

With respect to other agro-chemicals, MAGA recently implemented the "Casa del Agricultor" Project, which distributes small amounts of chemical products and tools (received from grants or purchased in the market) at (perhaps) somewhat lower prices than those prevailing in the market. There are 27 "casas" of this type distributed throughout the country. The impact of this program is unknown given that it was initiated only recently and no studies or evaluations have been made. (83)

The government's fertilizer policy deserves attention due to the potential impact on private sector incentives and agricultural productivity. Clearly, the government has less than complete confidence that market forces in the domestic fertilizer supply industry are competitive. While an analysis of the industry has not been conducted, there is rather strong empirical evidence that the industry tilts strongly toward an oligopolistic structure. This conclusion is reached given the very small number of firms in the industry, the powerful political influence of GREPAGRO, the industry trade association and the inherent scale economies in the importing, handling and mixing of bulk fertilizers. Moreover, there apparently is political influence involved in obtaining fertilizer import licenses. It appears that the market structure results in a restriction of fertilizer supplies and thus oligopoly pricing. Pinto estimates the price impact of the market structure at 60

percent, i.e., Guatemalan farmers pay 60 percent more for fertilizer than they would pay under competitive market conditions (conversation with Iliana Pinto on Policy Analysis Matrix, October 26, 1989).

Fertilizer is a critical agricultural input in Guatemalan agriculture. Very little is known about the structure of the fertilizer market and the impacts of market structure on fertilizer prices. Given this lack of knowledge it is naive to suggest that the government fertilizer sales program oriented to small farmers is either a negative or a positive policy for the enhancement of food security and agricultural diversification. The matter requires far more analysis before definitive statements can be made regarding the efficacy of fertilizer policy implementation.

4.6 Public Sector Marketing Programs. Guatemala's public marketing infrastructure for agricultural products includes INDECA'S basic grains storage and distribution installations consisting of: six regional silos; 25 purchasing depots; and nine distribution centers. The total storage capacity amounts to 85 thousand metric tons, but given INDECA's limited operations, only a tiny percentage is utilized. INDECA also has some grain handling and drying equipment used at less than 75 percent capacity because of lack of maintenance. About 25 percent of INDECA'S marketing infrastructure is near or in the capital. (36, 62) The government has recently established a trust fund in BANDESA for use by producers' organizations. These funds are to be made available for building or improving marketing infrastructure. There are also plans for construction of a Capital City Wholesale Center, which would include storage and distribution facilities, as well as neighborhood markets in the Guatemala City metropolitan area. The required feasibility studies for this center have been completed and are being assessed. (12, 36, 62, 78, 83,)

Serious deficiencies plague Guatemala's agricultural export marketing infrastructure and hinder exports. Primary obstacles to agricultural exports relating to marketing infrastructure are:

1. All of Guatemala's main ports are in need of upgrading including installations, equipment and administrative procedures;
2. The international Airport at Guatemala City needs additional improved handling and storage facilities for air freight, especially for perishable commodities;
3. The country's highways and access roads require better maintenance;
4. The railroad system is in a state of disrepair;
5. The country's custom and port facilities are inadequate;
6. There is an over-concentration of the total storage and distribution capacity (for agricultural products) in or near the capital;
7. Communication services are in dire need of upgrading;
8. There is a paucity of well-qualified professionals in the fields of export promotion and management;
9. There are no budgetary allocations which are specifically earmarked for preferential use in the construction or improvement of agricultural marketing infrastructure; and
10. There is a dire need to upgrade the procedures and operational systems related to the country's marketing infrastructure.

The Ministry of Agriculture has recently implemented a program of Farmers' Fairs and Mini-Fairs designed to bring producers into direct contact with consumers. Although this program has not been evaluated, it is believed to have yielded positive results. This appears to be true in the case of

fruit and vegetable marketing in Guatemala City and in the main provincial cities, where these fairs are regularly held. In 1988, more than 250 fairs and mini-fairs were held and in 1989 about 650 fairs were planned for all major cities and 480 mini-fairs planned for smaller cities elsewhere in the country (12, 36, 62, 73, 78).

4.7 Other Policies

4.7.1 Basic Grains. Traditionally, basic grains comprise the five primary food products consumed by the country's population: corn, beans, rice, sorghum, and wheat. The first four are produced locally, for the most part, with the balance being covered, in recent years, by small, but growing amounts of imports. In the case of wheat, internal demand has been complemented by increasing imports, which now account for two-thirds of total consumption. By Government decree, sesame seed, soybeans, and other oilseeds were recently added to the official list of basic grains. The production of basic grains is closely tied to food security given that these are an integral part of the basic food basket of the majority of Guatemalans. (78, 82)

Existing agricultural policy, both overall and within public sector institutions considers everything concerning basic grains production an integral component of the Food Security Program.

The policies that have been formulated are geared to enhance profitability and capital formation in food production activities, thus stimulating a progression from subsistence to commercial agriculture. Among the instruments put forth to achieve this are programs and projects such as: the Artisanal Seed Program, the Improved Seed Production Program; the Supply of Inputs at Reasonable Prices Program; and, the Technology Generation and Transfer project. Efforts are being made to improve the conditions in which

basic foods are produced, stored and distributed through the Family Silos Project and through the consumer food distribution network. There are plans to improve inter-institutional coordination as a means of improving crop forecasting, and to increase credit for basic grain production. (76, 78)

The institutional mechanisms were put in place with the formulation of the 1971-75 National Agricultural Development Plan, when specific policies were established to promote basic grain production and revamp the corresponding government implementation machinery. These policies and their respective implementation instruments continue to the present time.

Institutions such as ICTA, DIGESA, and INDECA, were created and continue to implement these policies. However, the effectiveness of these institutions has been decreasing, to the point of extinction in some cases, and their impact on technology generation and transfer has declined. Nevertheless, it is generally accepted that producers of basic grain production were probably better able to withstand the economic crisis due, ostensibly, to the support provided by these government institutions. (12, 62, 78)

During the past few years, budgets of government institutions have been seriously cut back, forcing a re-draft in programs and a reduction in program coverage. Only those programs and projects with their own funds i.e., resources generally obtained from foreign assistance have been retained. Programs most adversely affected--in terms of magnitude--by the budget reductions are those of INDECA and BANDESA. As noted previously these two entities absorb the bulk of public funds directed to the agricultural sector. (12, 62, 80)

The management of basic grains imports and exports is a delicate and controversial matter. The opening and closing of the import/export doors can

be real disincentives to basic grains production if export opportunities are denied or if imports are inappropriately utilized to regulate the domestic market. It should be noted, for example, that there have been many applications for basic grains' exports but few licenses have been granted. Nevertheless, there are indications that very substantial amounts of Guatemalan basic grains have been illegally conveyed to neighboring countries when local prices favor such movements. (62, 80)

The extent to which basic grain export controls (in practice, export prohibitions) hinder production incentives is not known. Available data obscure more than they reveal. The matter deserves careful analysis. Exports of basic grains from Guatemala to Salvador, Nicaragua and Mexico and vice versa appear to take place even when national price differentials would not appear to favor such movements. This is probably due to temporary price phenomena caused by local shortages in the importing nation or local surpluses in the exporting nation. Most likely, transportation availability and costs are the major explaining factors, but because local market data and information are unavailable, this remains an untested hypothesis.

4.7.2 Seed. Guatemala has no identifiable national seed policy. In terms of public involvement in agricultural seeds, ICTA is involved in developing new varieties of basic grains, soybeans and some warm-weather vegetables. ICTA develops foundation seed and distributes it to producers (who are members of a seed-producers guild) who are obligated to reproduce and market the seeds. DIGESA, and to a far lesser extent, DIGESEPE, are involved in seed distributions to farmers. There is also the "Artesanal Seeds" Project, through which peasants produce their own selected seeds under the supervision of extension technicians. (12, 76, 83)

No evaluations of public seed programs are available. However, it is clear that improved seeds have increased the productivity of basic grains, especially wheat, corn and rice. Also, to a lesser degree, seeds for soybeans, sorghum and some vegetables may have positively impacted production under the Project for the generation and transfer of technology and seed production (PROGETAPPS).

The only notable private involvement in agricultural seeds is the direct import and distribution of vegetable seeds and some corn, grain sorghum and rice seeds and the production and export of some vegetable seeds under contract production for international firms. Private sector involvement in grain seeds is limited to corn, grain sorghum and rice and is oriented almost exclusively to large commercial producers of these grains.

There is a strong rationale for public involvement in the development and the multiplication of many types of seed used in Guatemala. First, like fertilizer, seed is a critically important agricultural input. Second, for most seed required for basic grain production in the country there are few, if any, incentives for private sector participation.

The example of wheat seed is illustrative. Wheat seed used in Guatemala is all open pollinated and thus farmers can grow their own seed for the following season's crop; there is rarely need to purchase seed. Commercial firms are not excluded from the market for improved wheat seed in Guatemala, but because there will be few repeat customers, all development costs plus profits must essentially be captured in one sale per customer which is obviously not viable.

The same situation prevails for beans; for most rice and for most corn produced in the Highlands. While corn produced exclusively for the market

(primarily in the Pacific Coastal regions) is usually an imported hybrid variety, such corn is a small proportion of total production. Highland corn and bean varieties consist of criollo and selected improved strains adapted to local conditions. Commercial firms supply virtually no corn or bean seed for Highland production. The Highlands have a multitude of microclimates, each requiring different site specific varietal characteristics. The resulting small markets for any given variety of corn or bean seed in the Highlands essentially precludes profitable commercial sales. In sum, there are few opportunities for commercial firms in the private sector to enter the seed business for Highland bean and corn varieties in Guatemala and capture adequate profits. The limited public involvement in agricultural seed production and distribution likely has very high payoffs.

4.7.3 Credit. The credit policy of the current administration has been characterized by the tightening and control of credit growth as part of the strategy of restraining aggregate demand. At the same time, credit has been carefully monitored to avoid choking off required investment capital. In order to generate internal savings, interest ceilings were initially increased. However, in August 1989, interest rate controls were eliminated. Because private banks have maintained similar rates, the effects of liberalization had not yet materialized as of the date of this report.

The tight credit policy has not reduced real credit volumes to the basic grains sub-sector. A high proportion of total agricultural credit has long been utilized for traditional agricultural export production. With the tightening of credit, traditional export crop production loan volumes were reduced on a real basis while total credit for basic grain production remained at relatively constant real levels. Tight credit policy has thus had a

neutral effect on the production and availability of these commodities.

The main credit problem in agriculture is the lack of mechanisms to provide small-scale farmers access to credit. These farmers produce a high proportion of Guatemala's basic grains. Moreover, basic grains represent--by far--the most important component of Guatemalan's food intake. Thus, increased access to credit for small-scale farmers, could potentially have a significant positive impact on the country's food security.

The public source of agricultural credit for agriculture is the National Agricultural Development Bank (BANDESA) which has a portfolio of only about 30,000 loans. BANDESA lends funds to the entire agriculture sector, but virtually all of the loan volume is absorbed by traditional export agriculture. Due to loan losses and previously fixed interest ceilings the institution has been almost continuously undercapitalized. (86)

The private banking sector is an important credit source for the traditional export agriculture (table 37), but an insignificant provider of credit to other parts of agriculture. The vast majority of credit for basic grains production is provided through informal channels.

From 1980 to 1988, total credit available to the entire agricultural sector declined in real terms by Q123 millions, which represented a six percent yearly rate of decline. In the same period, credit to the crop sub-sector also fell at a six percent annual rate, compared with a contraction of eight percent in credit availability for the livestock sector.

In 1980, private banks accounted for 68 percent of the total credit in the sector, while public entities provided 27 percent and other financial institutions accounted for the remaining amount. By 1988, there was a shift in the relative participation of the government and private banks, while the

weight of other financial institutions remained constant; the proportion of credit granted by private banks dropped (25 percentage points) to 43 percent of the total, while the corresponding proportion granted by BANDESA rose (14 percentage points) to 51 percent of the total (tables 37, 38, 39). In the 1980s, an average of 84 percent of the credit resources destined to the agricultural sector have been devoted to crop production, 14.5 percent to livestock production and the remainder to other agricultural production-- forestry, fishing and hunting (tables 37 and 39).

Total credit devoted to crop production fell in real terms some Q94 million during the 1980-88 period which translates into a six percent annual rate of decline. This reduction reflected in mainly a shrinkage in the credit resources provided by private banks, especially in support of traditional export products and basic grains. The total banking system increased its credit resources for basic grains, in real terms, during the 1980-88 period. Thus, while in 1980, total credit for basic grains production amounted to Q17 millions, by 1988 this had grown to Q19 millions, even though total credit availability in the latter year had shrunk considerably compared to 1987.

These changes which amount to a 1.2 percent yearly growth, could be interpreted as an indication of higher priority to basic grains in the last few years. But it is not at all clear that this shift towards basic grains production credit truly represents a growing concern with food production. During this period there was a significant shift in commercial, large-farm crop production patterns along the Pacific coast. A considerable amount of land previously devoted to cotton shifted to corn and grain sorghum. Producers who formerly used credit for cotton were now using credit for grain production. That this may explain some of the credit increase for basic

grains is supported by the fact that BANDESA has been increasingly financing the production of basic grains in the past few years, but there has not been a notable shift in loan sizes. BANDESA now supplies nearly 90 percent of all credit for basic grains production, an increase from the 76 percent figure of 1980 (tables 37-39). The issue requires additional study.

Credit support for the livestock sub-sector has shrunk considerably, in real terms, from a total of Q39.6 millions in 1980 to Q12.1 millions in 1988, amounting to a two-thirds reduction for the period. On the average, private banks provided about 60 percent of the credit resources. Beef production absorbed most of the livestock credit, accounting for 60 to 80 percent of the total for the sub-sector. Credit resources devoted to poultry production increased in the first half of the decade (by Q12.9 million) up to 1985. However, in the second half, there was a substantial decrease in these resources (which reversed the previous trend) which reflected mainly the elimination of government subsidies to this activity.

As noted above, little official credit flows to the small farm sector, the sector that produces the bulk of all basic grains and diversified agricultural products. Traditionally, over three-fourths of all BANDESA credit volume has gone to large farms--generally traditional export operations--and less than one-fourth to small farms. Moreover, a high proportion of small farm credit is absorbed by small coffee producers. Thus, for all practical purposes, the hundreds of thousands of basic grain producers and the many thousands of farmers producing non-traditional products do not have access to official credit. The various reasons for this are beyond the scope of this report, but clearly, national agricultural credit policy does not contribute to national food security or agricultural diversification.

4.7.4 Irrigation. National water policy (which includes irrigation) has been defined within the framework of the National Reorganization Program which established the Water Commissions, known as CONAGUA. The government has proposed that irrigation be used as a democratic means of modifying established patterns of land and water for peasants with little or no land, who are beneficiaries of land reform programs. It is estimated that irrigation doubles the production potential of peasant farmers by enabling them to harvest two or more crops per year. It also recognizes that irrigation enhances employment opportunities of rural families. (12, 78, 79)

Irrigation works absorbed 43 percent of the resources of the Public Agricultural Sector Investment Program for 1989, constituting by far the best financed activity of the sector. These investments include all of the small-scale irrigation projects which are closely related to crop diversification. (12, 16, 76)

Even though the Irrigation Program is relatively new, as of October 1989, 45 wells had already been drilled for irrigating approximately 900 hectares. Fifteen of these wells were equipped and ready to initiate operations and construction had begun on systems for irrigating 1,100 hectares. Moreover, the Implementing Unit in charge of construction for the Irrigation Project II (that plans to irrigate 4,500 hectares of land) had been established, and advanced studies undertaken for irrigating 10,000 additional hectares.

The potential impacts of this program are great although insufficient time has passed to determine the actual impacts. The main concern of technicians is that even though the construction and infrastructure planning phases are already underway, the program has not progressed to its second

phase, where the operational and production components of these irrigation systems are established. Further, the latter phase will determine the sources and the distribution of capital and the support services required to obtain maximum productivity from these investments. The lack of efficient implementation of the project's second phase could bring about the total failure of its sub-programs and impact very negatively on the peasants to whom these programs are addressed. (12, 81)

4.7.5 Monetary Policy. From the outset of the Cerezo administration, monetary policy has been characterized by a set of adjustment measures geared at reducing the external disequilibrium which led to a persistent loss of Guatemala's international reserves during the 1980s. The monetary policy adopted sought to reach a certain degree of stability, through a cautious set of measures intended to prevent excessive monetization of the economy, while simultaneously fostering aggregate demand and holding down inflation. With these purposes in mind, legal reserve requirements were gradually raised for demand and for savings deposits and restrictions were imposed on the growth rate of investments carried out by banks and other financial institutions.

In addition, the Monetary Board of Guatemala created a special commission dealing with the liberalization of the financial system, and interest rates were increased to promote domestic savings and reduce capital flight. Interest rates were liberalized in August 1989 to allow for a more efficient allocation of investment resources. Another important goal of current monetary policy is to comply with the agreement subscribed to with the IMF, especially with respect to net international reserves and net internal assets, in order to regain access to the required financial support from this and other international institutions in the future.

We find no evidence to suggest that these monetary policies have had any discernible effect on food consumption. However, the recuperation of aggregate levels of activity, employment and real wages that have taken place since 1986, have had a positive effect on food security. In the long-run, monetary policy will continue to have a positive effect on food security if the current contributions to increases in aggregate activity, employment and real wages continue.

4.7.6 Exchange Rate Policy. Exchange rate policy has been directed to eliminate external account imbalances, reduce international reserves losses and abolish the multiple exchange rate system. The unification of the exchange rate in June 1988, amounted to a long overdue real depreciation of the national currency.

The exchange rate policy was instrumental in reducing the existing external accounts disequilibrium. However, up to the present, the balance of payments situation has remained in a state of fragile equilibrium, which could be upset by relatively minor increases in imports or decreases in private capital inflows. The current account deficit has improved recently, but still remains at a high level. An important part of the improvement can be attributed to the expansion of non-traditional exports, which points to a partial, positive effect of the exchange rate policy.

There is no clear evidence that exchange rate policy has brought about any significant change in the production of basic grains. This is in line with previous findings, indicating that production costs of these commodities are inelastic with respect to the exchange rate. This implies that the real exchange rate devaluation had no significant effect on the availability aspect of Guatemala's food security in the last three years. On the other hand, to

the extent that exchange rate policy reduced external imbalances and international reserve losses, it improved food security by reducing the country's vulnerability to temporal domestic supply deficits of basic grains. Even though the estimated exchange rate elasticity with respect to the production of traditional exports crops (coffee, cotton, sugar, bananas, and meat) is believed to be low, the price declines after the devaluation had some positive effects on international competitiveness, which should eventually redound in enhanced food security.

4.7.7 Fiscal Policy. From the beginning, the current administration has been reducing the Central Government's deficit and credit liability with the banking system. Reducing government expenditures in relation to fiscal revenues has been essential to the strategy of controlling aggregate demand and monetary expansion. However, it is obvious that tight fiscal policy imposes a cost in terms of contracted programs which might improve agricultural infrastructure, as well as health and education programs. Thus, to some degree, fiscal policy has negatively affected food security and agricultural diversification. It is important however, to keep in mind that food security problems are so urgent in some geographic areas and with respect to certain disadvantaged groups, that the postponement of needed investments could have severe medium and long-run social and political effects.

The availability of government resources is a prerequisite to the implementation of effective social policies. This administration has increased fiscal revenues from major changes in the tax system. Additional revenues are not expected in the near future from these reforms. Abandoned social programs and long delayed social infrastructure investments require increased government revenues. Since the tax burden in Guatemala is one of

the world's lowest, a comprehensive study should be undertaken to find technically-appropriate and politically-viable ways and means to generate significantly more public revenue. In the long-run, the changes may require a restructuring of the government revenue system to increase potential tax collection and reduce the regressiveness of the current tax structure. These changes could have immense effects on food security.

Government revenues depend heavily on tax collections from trade. Taxes on traditional agricultural exports have traditionally represented an important proportion of total government income. The current administration has reduced export taxes, a measure supported by the IMF, to stimulate investment in agriculture and enhance the sector's exports. However, up to now there is no empirical evidence of the effects of this policy on production and exports. In the long-run, export tax reduction (in conjunction with exchange rate policy), could have positive effects on agricultural exports, and benefit agricultural diversification and food security, via their impact on the production on non-traditional crops. However, a reduction in export tax collections can also significantly constrain the government's ability to finance required agricultural and social development programs, thus negatively affecting food security.

The constitutional provision designating the transfer of eight percent of general government revenues to municipalities has had some beneficial effects on certain specific food security problems. There is some evidence that increased local participation and decentralized resource allocation and utilization have improved efficiency and effectiveness in the implementation of social development programs. Similar medium and long-run indirect effects on food security are expected to ensue from the new budgeting modality

introduced by the current administration, whereby the government budget is regionalized, permitting greater local control over projected investments. Obviously, improvements in the efficiency of implementation of public investments at the local level could have significant beneficial effects on food security.

V. AGRICULTURAL DIVERSIFICATION POLICIES

The income and food security conditions of non-participant rural households are likely to be affected by crop diversification among small farmers. The net effect is uncertain, however, and may be quite location specific. Crop diversification has been shown to create on-farm employment for household and non-household labor, and agricultural wages may rise depending on alternative employment opportunities. For small holder highland farmers, sugar, coffee and cotton plantations have typically offered seasonal, off-farm employment. One objective of crop diversification is reduction of seasonal migration of Highland farmers. Wage effects may be noted on the coastal plantations. With increased incomes among rural laborers, local prices of processed foods and non-food items are likely to increase, particularly in more remote areas. The short-term result may be a change in the caloric content and nutritional quality of diets. Local land values are likely to increase, because crop diversification increases returns to land. This can lead to an increase in land ownership concentration and in the number of landless poor (perhaps depressing agricultural wages in the long-run). While landowners (whether diversified or not) benefit economically from increased land values, non-diversified farmers that rent land bear an economic cost which reduces their income security.

Though little empirical evidence exists in Guatemala regarding the income and food security effects on non-participant households from crop diversification, potentially, rural households may be negatively affected. It is important that these groups be identified and the net effects be known, so that appropriate policies and programs targeted at them can be formulated.

It is doubtful that the production of vegetables will significantly directly contribute to the dietary energy availability of diversified farming households. It was previously noted that vegetables play a minor role in rural diets as sources of calories and protein. Among rural Highland households the production of traditional vegetables consumed in households is generally low. Food and nutrition education programs may increase household vegetable consumption.

No data are available on the price elasticity of demand for vegetables among different urban center income groups. Vegetable consumption, particularly among low-income urban households is a minor source of calorie and protein intake. Improved marketing efficiency could result in an increased urban supply of traditional vegetables. Guatemala City is not accessible to Highland growers in the North-West who seek outlets in small local markets and in Mexico. With improved marketing, these growers could also better access small local markets plus markets in Mexico.

The government has frequently stated in numerous documents that a primary national development objective in the short, medium, and long term, is to increase exports, especially non-traditional products. (83) The principal policy measures formulated to that end are: (83)

1. Creation of the National Council for Export Promotion (CONAPEX) and of the "Single Window", as means for simplifying export procedures;
2. Formulation of an Export Development Plan;
3. Establishment of an export funding system and of an export credit insurance program, providing guarantee funds;
4. Approval of new legislation dealing with industrial incentives and

with the establishment of free zones;

5. Promotion of marketing enterprises;
6. Adoption of "open-skies" and "open-seas" policies;
7. Substantial improvement in port and airport services, as well as in communications;
8. Adoption of incentives for exporters;
9. Estimations of the exportable supply;
10. Provision of technical assistance services; and
11. Active participation in commercial negotiations.

Unfortunately, due to very limited implementation capability, the Government has not acted on the majority of these policies. One of the few programs implemented was the "Creation of a Single Window" which has been favorably accepted by the Private Sector. The Export Plan has not yet been approved; the campaign to support exporters has not been carried out; Congress has not approved the Free Zones Law; and the export guarantee fund and export insurance program have not materialized. Additionally, public investment in infrastructure is not yet specifically directed to export promotion, evidenced, for example, by the inadequacy of international communications.

(83)

The Ministry of Agriculture has a Crop Diversification and Marketing Program (PRODAC) which is an example of an attempt to coordinate the use of government resources to promote diversification, processing, and marketing of non-traditional agricultural products. This program is directed to increasing production and productivity in the sector, and to help increase rural employment and income. Also, the program supports technology transfer and the modernization of marketing systems. (78)

There are other specific projects within the Ministry which deal almost exclusively with agricultural diversification and which directly affect non-traditional products such as the Agricultural Development Project (PDA) and the Technology Generation, Transfer and Seed Production Project (PROGETTAPS). The Diversification Program accounts for 21.6 percent of the total public Agricultural Sector investment for 1989. However, it should be noted that the majority of the Program's funds are earmarked for production credit, in addition to being channeled, less directly, to pre-investment studies of industrial processing of fruits and vegetables. (78)

The Diversification Program provides preferential support to small and medium scale producers. It is directed specifically to the promotion of fruits and vegetables. Ignored are the large-scale producers and other non-traditional products with export and local market potential such as oilseeds, sorghum, corn, beans and flowers. (62, 78, 83)

It is clear that the policies, operational instruments, and investment resources devoted to agricultural diversification have had positive impacts on the sector's development. However, it must be recognized that agricultural diversification derives from a process of change initiated more than fifteen years ago. This makes it difficult to assess the effects of specific policies in generating diversification. Moreover, there is growing concern regarding the long term viability of Guatemalan agricultural diversification; many other countries are adopting the same agricultural development approach and the potential of growing international market saturation is a reality that can not be ignored.

Government credit in support of agricultural diversification has not been significant. However, support in this area might pay high dividends, in

terms of inducing small-scale farmers to produce export crops, and in terms of enhancing food security, through the direct income effect and the indirect, concomitant improvement of their basic grains production technology.

In the long-run the continuation of the current credit policy will probably not create significant production problems affecting agricultural diversification; these needs will likely continue to be supported mostly by private credit. However, an increase in credit accessibility to small-scale farmers would have positive effects on agricultural diversification.

With respect to exchange rate policy, it is clear that the increase in the production of non-traditional agricultural exports came about as a result of underlying changes in the agricultural production structure. Thus, exchange rate policy stimulated export-oriented agricultural diversification, especially in the case of vegetables and fruits.

In the long-run, a realistic exchange rate policy that avoids over-valuation of the Quetzal, will maintain the necessary incentives for agricultural diversification and export-oriented crop production.

Agricultural diversification is compatible with food security. The Guatemalan strategy of crop diversification by introduction of non-traditional crops and expanding secondary food crop and livestock production in the Highlands is sound. Evidence indicates that there is potential for further diversification in the small farm sector. At the same time there are risks which may affect the food security of Guatemala's rural poor. Complementary public policies, programs and investments are required to reduce or eliminate income and food security risks of agricultural diversification.

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**FOOD SECURITY AND
AGRICULTURAL DIVERSIFICATION
IN GUATEMALA**

**ANALYSIS OF INTERRELATIONSHIPS
AND IMPLICATIONS FOR POLICY**

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APPENDIX A

A.I BRIEF OVERVIEW OF GUATEMALA'S ECONOMY

A.1.1 1950-1980: Period of Stability and Changing Economic Structure.

The Guatemalan economy was very stable during the three decades of 1950 to 1980. Gross Domestic Product (GDP) grew at an average rate of 5 percent per year for the entire period. Monetary expansion was moderate, with the M1 money aggregate growing at an annual rate of 9 percent and inflation at 3.3 percent per year. (2) The country's balance of payments accounts showed strength, and foreign reserves grew at an average rate of 10 percent per year, reaching US\$ 700 million or 10 percent of GDP in 1979. (2)

The official exchange rate was constant for the entire period, at the rate of one quetzal per US dollar, and there is no evidence that this parity led to any serious over or undervaluation of the national currency. (2) Holdings of national currency increased from less than 5 week's income in the early 1950s, to about 5.5 week's income in 1979. Financial markets developed strongly during the period as shown by an increase in Bank debits from 5 to 17 percent of GDP, and in the debts to the banking system from 6 to 16 percent of GDP. (2)

Guatemala has always depended very heavily on agriculture. Agriculture accounted for more than 25 percent of GDP and was the primary source of the growth of the economy during the period. However, during this period there was a clear shift in the structure of the economy, with the manufacturing sector increasing and the agricultural sector decreasing their proportional contributions to GDP (Table 1). This structural change reflected the worsening of agriculture's terms of trade with respect to industry and commerce. The reduction of agriculture's share of GDP was attributed to domestically marketed traditional crops and to non-traditional agricultural exports, since the GDP share of traditional agricultural exports (coffee, sugar, cotton, bananas and meat) remained stable at around 10 percent of GDP for the period. (2)

The driving force for these structural changes was a dynamic export manufacturing sector, especially oriented towards the Central American Common Market. This export-oriented sector used a high proportion of imported factors and induced a sharp increase in fixed capital investments. Moreover, towards the end of the period, there were a number of huge public infrastructure investments, e.g. the national bypass highway, hydroelectric plants and port facilities amounting to several hundred millions of dollars.

Since the domestic savings capacity was unable to finance the capital intensification and the imported-input deepening of the productive structure of the economy, the external debt quadrupled between 1972 and 1981 (Table 2). (2) This together with an increase in the input component of GDP provoked serious deficits in the current account of the balance of payments; net imports increased from a previous maximum of 2.4 percent of GDP in 1959 to a much higher annual average of 4.1 percent of GDP for the period 1975-1979 (Table 3).

The main policies responsible for the structural change of the economy, as well as for the worsening of the agricultural terms of trade, were: a) a credit policy totally oriented to traditional agricultural export commodities; b) a price policy that kept farm level prices artificially low (mainly to support industrial development and to a lesser degree, urban consumers); c) a commercial policy that created strong tariff protection for the industrial sector and put agriculture at a disadvantage; and d) a public investment policy that favored other sectors over agriculture. (44)

An important consequence of this structural change in the economy was that the imported input component of GDP grew during the period; the manufacturing sector used imported factors more intensively than agriculture. Note, for instance that for the period 1967-1986, 56 percent of the manufacturing sector's GDP was produced by imported inputs, compared to 5 percent for agriculture.

The impressive stability of the economy during the period is partially explained by the fiscal discipline that prevailed. Annual tax collections averaged less than 8 percent of GDP, and government expenditures averaged just about one percent more. While these figures show a careful management of fiscal accounts, they also provide clear proof of the small relative size of the Guatemalan fiscal sector at that time. However, fiscal discipline was achieved by keeping public investment in social overhead capital at levels which did not keep pace with the growth of the economy. This had the effect of creating bottlenecks in the production structure, as exemplified by a lack of public infrastructure and skilled manpower. These bottlenecks tended to dampen the country's competitiveness in international markets.

There is consensus today, that as a result of the above-mentioned economic events of the previous thirty years, Guatemala faced the 1980s with an underlying productive structure that was not only inappropriate, but was also the source of structural disequilibria in the country's external accounts and that, in turn, made it difficult to integrate Guatemala's economy with an increasingly interdependent world economic system.

A.1.2 1980-1985: Crisis, Stagnation and Adjustment. In 1980, a record depletion of US\$ 252 million in Guatemala's international reserves was one of the first symptoms of the beginning of a crisis, which was not so evident that year, given that real GDP grew at a rate of 3.7 percent. (2) However, the government deficit increased significantly that year, since tax collection declined from 9.1 to 8.7 percent of GDP while government expenditures increased from 12 to 14 percent of GDP. (2) Furthermore, government indebtedness to the banking system more than tripled, as shown by a trend-setting jump from 80.6 to 310.6 million quetzales.

In 1981, coffee export prices dropped drastically, reducing revenues from this source by US\$ 169 million. This accounted for more than half of the drop in total export revenues (of US\$ 304 million). At the same time, imports reached a record high of US\$ 1.5 billion, and the current account deficit reached a peak level of 6.4 percent of GDP. International reserves dropped another US\$ 300 million in 1981. (2) Expanded government outlays, in conjunction with reduced receipts from export taxes, resulted in a record

fiscal deficit of 7.4 percent of GDP and a rapid credit expansion in the latter year. Net credit to the public sector more than doubled compared to the very high levels of the previous year. However, only a slightly higher level of economic activity was obtained, and real GDP grew at the low rate of 0.7 percent in 1981. Private capital outflows and a large import bill extinguished some of the growth in the money base, and inflation was 8.7 percent that year.

The poor growth which characterized 1981, was the precursor of a long contraction of the economy which lasted through 1986. National production declined, as shown by a drop in real GDP of cumulative 6 percent in the period 1980-1985. Over the 1981-1985 period, the following changes took place: external economic conditions deteriorated, macroeconomic policies became less consistent; the growth path of previous years was definitely lost, and GDP declined severely (Tables 4 and 5); the terms of trade worsened; economic and political uncertainty in the Central American region depressed the Guatemalan manufacturing sector and dampened private domestic and foreign investment while exacerbating capital flight; revenues from tourism were significantly reduced, as well as external financing. (44) Moreover, export returns fell sharply during the period, as lower agricultural export prices and higher wages were not compensated by exchange rate adjustments, while import prices increased. The 18.5 percent appreciation of the quetzal in real terms for the period 1980-1984, contributed to poor export performance.

While exports fell sharply and the terms of trade deteriorated significantly during the 1980-1985 period (Table 6), after 1982 the external deficit was generally lower (except for 1984), largely as a result of a concurrent sharp contraction of imports. In light of the increasing dependence of the country's industrial sector on imported inputs, the latter import contraction precipitated a GDP decline, at an average annual rate of 1.4 percent for 1980-85. Employment is estimated to have contracted by 415,000 jobs for the period, while it is estimated that unemployment and underemployment affected over 40 percent of the labor force.

By 1985, real per capita GDP was 18 percent below its 1980 level, and per capita consumption was at about the same level of 1975. The M1 money aggregate grew 79 percent for the period, and inflation averaged 11.7 percent per year, reaching a record high of 31.5 percent in 1985. (2) Capital flight was estimated at about US\$1 billion for the period, and there was a sharp drop in direct investments.

The total external debt almost trebled in the period, increasing from US\$ 93 million to US\$ 2,595 million. As exports fell, the debt service ratio rose from less than 6 percent before 1981 to 27.5 percent in 1985, and interest payments alone rose from 5 to 13 percent of exports (Table 7). The external sector faced a serious crisis marked by: a severe shortage of foreign exchange; restrictions on imports; and a considerable accumulation of external debt arrears. International reserves dropped from almost US\$ 400 million in 1980 to US\$ 55.3 million in 1985. The deficit of the non-financial public sector increased from 3.5 percent of GDP in 1983 to 6 percent in 1985. Public savings declined from about 3 percent of GDP in 1978-80 to about 1 percent in 1985. Public investment fell abruptly after 1982, as major infrastructure

projects came to an end, while the sources of investment funds dried up.

Expansionary fiscal, monetary and credit policies were at the root of the economic crisis. One of the consequences of these policies was a sharp instability in exchange rates. This forced the government to abandon in late 1984, the fixed parity of the quetzal to the US dollar, which had been maintained for more than 60 years. A multiple exchange rate system was established, the operation of which became highly inflationary, since for the payment of the foreign debt, the Bank of Guatemala was obligated to provide dollars to the government at a one to one rate after buying them at a higher rate from the commercial market.

A.1.3 1986-1988: Economic Renewal. In January 1986, a new democratically elected government took office. Its first task was to restore the economy's stability to regain the confidence of the private sector and expand investment and production. With this purpose in mind, the government set the re-establishment of price, exchange rate and interest rate stability as the first priority of a comprehensive adjustment program (Programs de Reordenamiento Económico y Social). The Program was geared to stabilize the internal economy and the balance of payments and thus set the stage for reversing the decline in investment and economic growth. Controlling the growth of aggregate demand was critical to these objectives. Thus, in 1986 the government made net repayments to the banking system, while obtaining no additional credit from this source. The deficit of the consolidated non-financial public sector fell from 1.4 percent of GDP in the previous year, to 0.3 percent in 1986. (2) Money base (M1) grew only 19 percent in the latter year, while price inflation dropped to 25.7 percent from the record high of 31.5 percent of 1985 (Table 8).

The stabilization and recovery of the Guatemalan economy continued in 1987 as shown by that year's 3.1 percent GDP growth (Table 9). The public sector deficit declined further in 1987, and M1 and M2 money aggregates grew at rates of 11.9 and 15.3 percent respectively. Inflation dropped to 10.1 percent, while employment increased by approximately 61,000 jobs and real wages grew at a rate of 6.8 percent, reversing a three-year negative trend (Table 10). Gross domestic investment grew from 10.3 to 13.8 percent of GDP in 1987, and no distortions in the exchange rate developed. Non-traditional exports increased 35 percent with respect to 1986 and, more than 50 percent of this increase went to non-regional markets. (59) Thus, by the end of 1987, there was evidence that the economy was recovering and that important structural changes were underway, as shown, particularly, by the dynamics of investment and non-traditional exports.

In 1988, GDP grew (for a second consecutive year) at a rate of 3.6 percent, reaching the real GDP level attained in 1981. (59) While total fiscal revenues grew 25 percent in real terms, total fiscal expenses rose 23 percent, resulting in a deficit of 2.6 percent of GDP. The fiscal deficit was financed mostly by foreign donations (40 percent) and credit (11 percent). The M1 money aggregate grew 10.4 percent and inflation was 11 percent in 1988. (59) However, balance of payments remained under pressure since the current account deficit was at the high level of US\$ 545 million, in spite of a decrease to 7.2 percent of GDP. The surplus in the capital account was only

US\$ 454 million, thus yielding a balance of payments deficit of US\$ 91 million (Table 11). Exports grew by 13 percent, due to a continued surge of non-traditional exports, which expanded more than 20 percent (imports still rose by 12 percent, following the dramatic rise in 1987). The employment rate declined to a level of 9.6 percent, the lowest since 1984 (Table 12).

Thus, 1986 marked the end of the economic contraction, and of the first phase of the adjustment process, leading a restoration of financial and economic stability. Finally, by 1988, the Guatemalan economy had again begun to grow in response to the new economic environment created by the economic recovery program implemented by the current administration. However, the analysis of events in the 1986-1988 period also shows that the external sector is the most vulnerable component of the Guatemalan economy, and that there is still a long way to go to recuperate to previous levels of activity and to put the economy on a path of stable, constant and sustainable growth.

A.II OVERVIEW OF SOCIAL INDICATORS

A.2.1 Population. Guatemala has a population of approximately 8 million, with roughly 60 percent living in rural areas. Population density ranges from 3 persons per square kilometer in the Department of Peten to over 700 in the Department of Guatemala; the average national density is of 73 persons per square kilometer. The population density relative to arable land is more than twice the national density, and is especially acute among the indigenous population of the Highlands. (89)

The country has had a high population growth rate, and there is demographic pressure in some areas. National population growth rate has increased since the 1950s as death rates fell faster than birth rates and is currently approximately 3.0 percent (Table 13). An estimated emigration of around 30 thousand persons per year during the 1980-1985 period (mostly to Mexico and the USA), has moderately reduced the internal population growth. However, if present trends continue, Guatemala's population will be almost 12 million by the year 2,000 compared to less than 3 million the early 1950s. The total fertility rate was 7.0 births per woman in the 1950-1955 period, and fell only to 6.1 in the 1980-1985 period. (89)

The drop in the national fertility rate is due to the reduction of fertility rates only in 25 percent of country's female population. This small proportion corresponds to predominantly urban women, with at least 4 years of education and low-middle income levels. The remaining 60 percent of the female population continues to have high fertility rates, lives in rural areas, has little or no formal education and gives birth to approximately 75 percent of total newborns. (89)

Family planning programs are minimal; only about US \$20 million was spent from the mid 1960s to 1986. The potential for fertility reduction is substantial. Mexico and Costa Rica in the early 1950s had fertility rates of around 7.0. These rates have fallen to 4.4 and 3.3 respectively, while Guatemala's rate is currently more than 6.0. (89)

A.2.2 Labor Market. Guatemala's economy has been unable to absorb the

large number of new job entrants created by rapid population growth. Prior to 1980, despite rapid real GDP growth and low female participation rates, the economically active labor force grew at a lower rate than population. During the 1980s, participation rates have fallen. Moreover, half of the population is not yet of working age (Table 14). Before 1980 open unemployment in urban areas was 2 percent or less. In the 1982-1987 period the total unemployment rate increased to over 10 percent. There is evidence that open unemployment has fallen below 10 percent in the last two years due to resumed economic growth (Table 12).

Real wages stagnated in the 1970s. In 1981 and 1982 real wages rose significantly in agriculture and industry as a result of nominal minimum wage increases and then sharply declined in the 1984-1986 period. Agricultural real wages fell by 20 percent between 1983 and 1985. Government real wages declined consistently from 1970 to 1986. In the last two years wages have increased in both the private and public sectors, but they are still well below levels of the early 1980s (Tables 10 and 15).

A.2.3 Income Distribution. Income distribution is highly skewed in Guatemala, both across households and between urban and rural areas. Compared to other countries, there is a higher income share accruing to the uppermost income decile and a lower income share going to the middle deciles in Guatemala, while the lowest decile is receiving about the same income share as in other countries. (89)

In the 1948-1970 period there was a clear concentration of income in Guatemala. It was partially reversed in the 1971-1981 period. However, the poorest quartile shared only 6.5 percent of total income in 1981, compared to 7.0 percent in 1948. Moreover, the poorest half of the population saw its participation in total income reduced from 22.5 percent to 19 percent in the 1948-1981 period (Table 16). The distribution of income in 1981 shows that income disparities are larger in urban than rural areas, but average family incomes are approximately 45 and 75 percent lower in rural areas than in central urban and other urban areas of the country, respectively (Table 17).

A.2.4 Poverty. In 1980-81, about 32 percent of Guatemalan families could not afford to purchase a minimal food basket, i.e, they were in extreme poverty conditions. Another 30 percent of these families had a deficit above 40 percent of the minimal food budget. A large part of the country's poverty/income problem has its roots in the rural/agricultural sector. There is a much higher incidence of extreme poverty in rural areas, and the percentage of extremely poor rural families is double the percentage of extremely poor central urban families (Table 18). (89)

In general the characteristics of the families under the poverty line are that they depend overwhelmingly on agriculture for a living, are larger since they have a higher number of children, have high illiteracy rates, and a large proportion of them are self-employed in the informal sector. Rural families also receive far fewer poverty alleviation services from the government, since there are far less public services in rural areas than in urban areas.

In general, sanitary and public facilities accrue to a minor proportion of the population. Less than 20 percent of homes have indoor running water, and almost 50 percent have no access to running water at all (own shared, or public use). Only 23 percent of all Guatemala families have appropriate sewage systems in their houses. Electricity reaches only 40 percent of homes. However, electrical power availability is much less in rural areas, since urban regions have much higher service/population ratios (for example 83 percent of homes in the urbanized Department of Guatemala have access to electricity). (89)

Insufficient income is without doubt the principal cause of poverty and malnutrition in Guatemala (Table 20). The country moved from a high per capita caloric and protein intake among Central American countries in the mid-1960s to the very bottom by the second half of the 1970s (Table 20). There is a high incidence of protein-energy malnutrition, hypovitaminosis A, and iodine and iron deficiencies in Guatemala's population. Undernourishment and malnutrition are more prevalent in rural areas, and one third to one half of Guatemalan children are affected by weight and height retardation (for other nutrition indicators see section 2.4). (89)

A.2.5 Health. The health of Guatemala's population is very poor, especially that of the rural population. Life expectancy rose from 42 in the early 1950s to 60 years currently, primarily because infant mortality fell from over 100 per 1,000 live births to 66. This rate of infant mortality is still very high by international standards (Costa Rica's rate is 19) (Table 20). Almost 44 percent of all deaths in 1983 were of children less than 5 years of age, with higher incidence among poor rural households with high illiteracy rates. (89)

During the 1980s the nation's health situation may well have worsened due to the economic crisis of 1982-1986 and the reduction in health public expenditures (Table 21). Central government spending on the health sector was only 6.6 percent of total outlays in 1983/84, down from 12.7 percent in the mid 1970s. Real per capita central government expenditures for health care were halved between 1980 and 1985, falling to pre-1970 levels (Table 21). Currently, total health expenditures are around 10 percent of total government expenditures (Table 22).

The Ministry of Health, responsible for public health services for 80 percent of the population, reaches only one third of its potential 6.4 million clients. The coverage of critical primary care programs is particularly inadequate; less than 30 percent for maternal and child health, less than 20 percent for oral rehydration, and less than 40 to 50 percent for immunization, depending on the types of vaccinations. (89)

The number of health centers (located in municipal capitals and villages of 1,000 to 20,000 inhabitants) and especially health post are inadequate. In 1984 there were 690 health posts to serve a rural population of approximately 4.8 million--around 7,000 persons per post--but more than 100 of these posts were not operational due to lack of staff and/or supplies.

The current government is encouraging the decentralization of health

services. As part of its recent Social Development Plan, the government intends to rationalize and better coordinate a number of programs in health and nutrition to effectively reach the truly poor (Black Book, page 19)

A.2.6 Education. Guatemalan literacy rates are among the lowest of the continent (Table 20). Little more than half of all Guatemalans are literate. Urban population literacy rates are roughly double rural population rates (40 and 80 percent approximately), and the male population is more literate than the female population. Over 40 percent of the labor force has no formal education, another 25 percent has only 1 to 3 years of schooling, and an additional 20 percent has 4 to 6 years. Workers in the agricultural as well as in the service sector have especially low levels of formal education. Only 30 percent of managers, technicians and professionals, have attended institutions of higher learning. (89)

By almost any criterion, the country's educational system is deficient. It has the lowest overall enrollment in Latin America with the exception of Haiti. Less than 66 percent of the 7-12 age group is enrolled in primary school; in rural areas the figure is less than 50 percent (Latin America rate is 80 percent). Repetition and drop-out rates are so high in primary education that 18 years of schooling are provided on average for every graduate for the 6-year primary school. Only 15 percent of the 13-18 age category is enrolled at the secondary level. In this level, female enrollment is less than male, and only 10 percent of total enrollment is Indian. Primary School is completed by only 37 percent of students. Only 85 percent of these students continue on to secondary school, and only 41 percent of them graduate (around 13 percent of all students). About 3 percent of the age cohort is enrolled in the university, but graduation rates are only 20 percent.

Inefficiencies of the educational system are worse in rural areas, where high repetition rates may stem from language problems (Guatemalan Indians speak some 23 different languages although speak one of the four major languages: Mam, Ixil, Quiche or Cackchiquel). In the regular school system, most teachers are only Spanish speakers and are trained as urban primary teachers. (89)

In spite of limited fiscal resources, primary schools are underutilized. Only one shift per day is operated in most of rural primary schools. The national average is 36 students per class, but ranges from 15 to 70. Class size is an especially acute problem in rural areas, where the multiple-grade classroom system operates. Actual learning time in school is very limited in general, and the school year may effectively contain as few as 120 days under a regular 5-hour school day. (89)

Government spending for education is approximately 2 percent of GDP, which is very low compared with an average of 4.5 percent among developing countries. Unit costs are inordinately high in the Guatemalan educational system, especially at the secondary school level. Outlays per pupil in public primary schools in 1983 were 11.5 percent of per capita GDP (the corresponding figure for Latin America was 8.3 percent in 1978). The public system finances 80 percent of educational expenditures; the remainder is mostly to tuition payments. (89)

In 1983, families paid 12, 50 and 25 percent respectively of the cost of primary, secondary and university education. In 1985 the Ministry of Education allocated 58, 17 and 14 percent respectively of its budget to those educational categories. The remaining 11 percent went for programs and capital expenditures. The current administration is concentrating government efforts on accelerating implementation of basic education projects as part of its Social Development Program (Black Book, page 19). In 1989 and 1980, approximately 16 percent of total government's outlays will be allocated to education. (89)

A.III THE AGRICULTURAL SECTOR IN THE ECONOMY

Guatemala has always been a highly agricultural country, and its economy has always been profoundly rooted in agriculture. While the agricultural share of GDP has declined somewhat since the 1950s--when it was 30 percent of GDP--Guatemalan agriculture still accounts for one fourth of GDP and remains, by far, the most important single sector in the economy. (76)

The agricultural sector is also the major source of the country's foreign exchange accounting for two thirds of total exports (Table 23). During the 1983-1987 period, the four major traditional agricultural exports (coffee, cotton, sugar and bananas) accounted for 79 percent of all agricultural exports, and 54 percent of Guatemala's total exports. Even more important, agriculture employs more than half of the labor force of the country (51.2 percent in 1987). Thus, the total employment share of agriculture is higher than its share of GDP, which implies a relatively lower productivity in agriculture and hence lower returns to labor. (76)

Only 16 percent of Guatemala's territory is suitable for intensive cultivation, and another 10.7 percent can be cultivated but is severely eroded as a result of over-exploitation or inappropriate cultural practices (Table 24). More than 50 percent of the country's area is suitable only for forestry and other extensive uses because of its slope and soil quality. An area of easily erodible and shallow soils covers 17 percent of total land area and has very limited agricultural application. (76)

The most recent data available show that in 1979, 38 percent of Guatemala's territory was occupied by farms, a 10 percent increase since 1950. The distribution of land is highly concentrated, although the degree of concentration declined slightly from 1950 to 1979 (Table 25). Four fifths of land holdings averaged 1.1 hectares in 1979 and accounted for 10 percent of farm land whereas large farms (over 44.5 hectares) averaged 230 hectares and covered 67 percent of the farm area (Table 26). While most coffee producers are small farmers, the top 10 percent of growers produce almost 90 percent of this country's main export commodity (Table 27). These large farms control over 80 percent of total land area in coffee and their yields are 30 percent higher than small farms. (76)

An important feature of the agricultural sector is its severe dualism. A modern, internationally-competitive agricultural sub-sector of large-scale holdings is located primarily on the pacific Coastal Plains and the upper slopes of the Piedmont Region. This sub-sector is technically modern and

export oriented. Its five principal commodities (coffee, sugar, cotton, bananas and cattle) accounted for 52 percent of country's export revenues and 10 percent of GDP in 1980. Coexisting with this modern subsector, is a traditional, generally technically backward, labor-intensive agricultural subsector, operating at or near the subsistence level and devoted mainly to the production of basic grains. Only a small proportion of this production reaches domestic markets, since most is home consumed. The rugged Western Highlands, with altitudes from 1500 to 3400 meters above sea level, extends over 2.1 million hectares and sustains an important proportion of this subsector. Over 25 percent of Guatemala's total population lives in this region, mostly Indians, farming small and increasingly fragmented land holdings. About 64 percent of farms are less than 1.4 hectares, have moderate fertility and use low level technology. One third of the cropland is subject to soil erosion and requires extensive terracing and appropriate cultural practices. (76)

In recent years a relatively small, but dynamic group of farmers has emerged from this sub-sector, producing non-traditional export commodities (mainly temperate vegetables and fruits). These are technically modern capital-intensive producers, operating generally small-to medium-sized land holdings, located primarily in the highlands.

Degradation of natural resources (water contamination, soil erosion, deforestation) is a major problem in Guatemala with serious implications for long term sustainability and future development of agriculture. Sustainability refers to the ability of agro-ecosystems to counteract both chronic stresses (poor water drainage, agro-chemical use, over-cropping) as well as acute shock (drought, pests, floods) and continue to maintain agricultural productivity.

The emphasis on traditional agricultural exports in Guatemala has historically meant a shift of food crop production to more marginal land. In 1950 basic food crop production occupied 58 percent of total agricultural land, cash and export crops 20 percent and pastures 22 percent. By 1979, these percentages were 37, 30 and 33 percent, respectively. Agricultural input subsidies in the recent past have promoted increased use of agro-chemicals and farm machinery. The displacement effect of the agricultural production mix and the increased use of agro-chemicals have resulted in substantial external costs in the form of environmental contamination and depletion of natural resources. As a result, the sustainability of agriculture in Guatemala is seriously affected. Because these external costs were not taken into account in agricultural output and pricing policies, less than optimal crop mixes have resulted. Some of these costs are being borne by farmers themselves. Other costs include long-term health effects due to a contaminated environment.

A.IV OVERVIEW OF AGRICULTURAL SECTOR DEVELOPMENT

The agricultural development of Guatemala over the last four decades can be divided into two phases: the first, an economic growth and modernization phase from 1950 to 1979 and the second, a "crisis phase" from 1980 to the present time. (82).

A.4.1 1950-1979: Economic Growth Period. During the 1970s, the sector had rapid growth averaging 4.7 percent per year. This growth was characterized by economic modernization and by structural change enhanced by the country's significant entry into international agricultural markets (see section 2.1). The agricultural sector had one of the highest growth rates (at that time) in the world. (92) Modernization was spurred by market-oriented, private producers, who increased their proportional contribution to the sector's output. This modernization was the result of the increased concentration of medium and large scale farms (initially in the southern coast of the country); and of a significant increase in capital investment and in the application of advanced production techniques.

During the 1950s, cotton production grew sharply, stimulated by government policies to take advantage of land abandoned by banana growers. Between 1950 and 1980, cotton production grew at a rate of about 20 percent per year, becoming the most modern sub-sector of the agricultural economy and producing one of the country's main export products. By the 1970s, cotton yields matched the highest in the world. Cotton production was also the foundation of an infant textile industry and of a dynamic edible oils industry, the latter of which generated exports to the Central American region. (78)

Banana production grew rapidly in the Northeast part of the country, where the United Fruit Company implemented modern irrigation and product handling systems (taking advantage of the nearby port facilities), which helped place bananas among the country's five principal export commodities. Coffee also underwent some modernization with respect to handling processes, although this change took place at a slower pace than that of other export crops. (77)

In the early 1960s, sugar cane production for export was established using modern technology, which included the mechanization of some of the production tasks. Sugar cane became one of the most important export commodities of the country, ranking third after coffee and cotton. Also in the same period, the sugar refining industry developed and was able to supply local demand for this product. (77)

Livestock production also grew during the 1960s (at an annual rate of 4 percent); most of it deriving from extensive production systems. Cattle herds were improved and the subsector's relative importance rose, placing it fourth or fifth among all exports. In the same period, the poultry industry was established and expanded rapidly at a annual rate of 11.9 percent. This was the fastest growing component of the agricultural sector, with production exclusively for the domestic market. (77)

During the 1970s, cardamon production got started with most of it exported to Arab countries. High export prices spurred a substantial increase in production (mainly in the northern part of the country), which led to Guatemala's becoming one of the world's leading cardamon exporters. However, in the 1980s, prices of cardamon plummeted because of the saturation of a relatively small market caused by the entry of new producing countries and by expanded Guatemala production. As a result, further production of cardamon in

Guatemala has been discouraged. (74, 77, 78)

While agricultural modernization and growth in the 1970s were more pronounced with respect to exports, some of the production geared to the domestic market also underwent important changes i.e, yield increases brought about by modern technology (use of improved seeds, fertilizers and pesticides, etc.). The production structure of some of these commodities changed significantly; for example, the average size of rice and sorghum farms increased with a geographic relocation of production to the southern coast and to the river valleys in the north of the country. (77, 78)

In general, the production patterns of the main basic grains (corn, beans, wheat) did not change. This pattern was characterized by the concentration of production among poor campesinos; the prevalence of low-productivity, the minifundio, and seasonal worker migration to the southern coast plantations as a means to supplement farm incomes. Climatic conditions circumscribed wheat production to its traditional growing areas of the central and western Highlands, produced by small-scale farmers. Beans have long been produced in conjunction with maize, mainly by small scale peasant farmers in the Highlands and in the eastern part of the country although some maize and bean production was initiated by cooperative settlements of the Peten region and the northeastern part of the country. (76, 77)

The introduction of modern technology in the Guatemalan agricultural sector did not bring about any significant changes in the rural population, which continued to have limited access to productive resources and to employment opportunities. The latter lack of access became critical, in particular, among landless peasants and minifundistas, given their high underemployment levels. Even in a year of high employment levels such as 1979, more than half of the nation's agricultural labor force was unemployed. (82)

A.4.2 1980-1987: The Crisis Period. The year 1980 marked the onset of a period of economic crisis, which altered the social order and generated substantial changes in the global economy, especially in the international markets for primary agricultural products. In Guatemala, total economic activity slowed, exhibiting no growth in 1980, in absolute terms. Similarly these was a contraction of economic activity in the agricultural sector, where per capita output declined 22 percent per year between 1980 and 1987, reversing a 20-year trend. (82)

The crisis affected export production more severely than production for the domestic market. Cotton production declined by more than 50 percent from 1980/81 to 1983, eventually settling at about 40 percent of the earlier production level. Livestock production was also significantly affected by the crisis, as a result of the drastic decline in international prices and a concomitant rise in input prices. Sugar cane and coffee production were also negatively affected by low international prices. Part of the harvested production of coffee had to be withheld from the international market and kept in storage at a high financial cost, thus reducing foreign exchange earnings. This situation changed in 1989, when there was a renewal of exports from the retained stocks. Banana exports also fluctuated starting in 1980 although

within a relatively narrow range before settling around "normal" levels after 1985. (77, 78, 82)

The export of non-traditional products--the basis for diversifying agricultural production and exports--underwent substantial growth (12.7 percent per year) from 1980 to 1987, especially in the case of fruit, vegetables and ornamental plants. However, these products still only account for 3 percent of total exports. (77, 78, 82)

Those agricultural products destined solely for the domestic market, especially basic grains, fared better during the crisis, as indicated by relative stability in production levels. However, the rate of output growth was lower than that of population and there was a need to import some of these products to meet domestic demand (see section 2.5.1 below).

The structure of agricultural exports was altered by the crisis, as shown by a an increase in the relative weights of coffee and bananas. The crisis also led to a substantial reduction in private capital investment in the sector, particularly with respect to machinery and equipment. In addition, there was a significant reduction in agricultural credit, as well as in real central government expenditure decline of 60 percent. (56, 82)

All of the foregoing changes resulted in an increase in open unemployment and underemployment, the latter of which has affected up to 62 percent of the agricultural labor force. Furthermore, real wages declined as did the prices paid to basic grain producers. Hence, overall peasant incomes dropped, leading to a concomitant reduction in food security. (82)

A.V OVERVIEW OF THE FOOD SECURITY SITUATION

As explained below (section 3.3) the food security concept has two principal components: food availability, and access to food. Food security from the point of view of food availability is not to be confused with self-sufficiency in food. A nation may be considered food secure when it can provide on average and at all times an adequate minimum diet to its population from whatever sources (national production, imports, food donations). Self-sufficiency by way of national production of e.g. basic grains, may provide an important element of stability over time in food security (though possibly at an economic cost) when international market conditions are volatile. A high dependence over time on external food donations is indicative of a food insecure situation by introducing a significant element of instability in a nation's long-term food security.

Food security at the household level translates into having at all times the economic means to obtain an adequate diet on average for all household members. Market prices of food, and of other goods and services as well as monetary income and consumption of own-produced food are the main determinants of household food security. Food security at the individual level depends, in addition, to the household food availability situation over time, on the intra-household dynamics of food sharing.

A.5.1 Food Availability. Total cereal supply in Guatemala grew on

average at 7.5 percent per year during the period 1983-1987 (Table 28). (24) Total cereal imports held relatively constant during this period, providing between 10.8 percent (1983) to 12.9 percent (1986) of the total cereal supply. Food aid has played an increasingly important role in the total cereal supply, increasing from near zero in 1983 to 16 percent in 1987. It is estimated that between 1985 and 1987, the number of participants in supplemental feeding programs increased four-fold and currently involve more than a quarter of the total population. (42)

Annual per capita consumption of cereals increased from 120 kg. in 1983 to 145 kg. in 1987. However, without food aid, annual per capita consumption would have been 122 kilograms in 1987, or practically zero growth during the period. The increasing dependence on food aid points to the lack of a sustained ability of the country to provide basic cereals to the growing population. A deficit of 404,040 metric tons of unmilled cereals is predicted for 1989, which will need to be met by drawing on existing stocks and food aid. (24) Clearly, this points to a high degree of insecurity in the total cereals supply in Guatemala.

Corn is the important cereal for domestic consumption. Corn imports and donated corn play an increasingly more important role in the total corn supply, increasing from an insignificant percentage in 1983, to 2.3 and 4.7 percent, respectively in 1987. From 1982 to 1987, annual per capita corn availability for human consumption fluctuated from 88 to 96 kilograms. A deficit of 130,600 mt. of unmilled corn is predicted for 1989. (24)

Guatemala was practically self-sufficient in beans during the period 1983-85, but since then became a net importer of beans in 1986 to 1988 with food aid in beans filling some of the deficit in total bean availability. A deficit of 7210 mt. of beans is predicted for 1989 although a plentiful harvest may eliminate the predicted shortfall. (24)

The total availability of wheat increased steadily during 1983-87. While wheat imports fluctuated during this period, wheat donations showed a phenomenal growth, from practically zero in 1983 to 165,451 mt. in 1987, when almost half of the total wheat supply came from donations. Wheat donations accounted that year for 72 percent of total cereal donations. A deficit of 243,612 mt. of unmilled wheat is predicted for 1989, essentially to be met by food aid. (24)

Guatemala also shows an increasing dependence on commercial imports and food aid to supply domestic markets for vegetable oil. In 1983 commercial imports and food aid accounted for 8.1 and 1.9 percent of total vegetable oil availability, respectively. (24) These percentages have increased to 29.8 and 24.7 percent, respectively in 1987, while apparent per capita consumption fell from 14 to 11 kilograms per year from 1983 to 1987. A deficit of 6,907 metric tons is predicted for 1989, which if met by food aid, would represent a significant decrease over 1987 levels. A significant predicted increase in domestic production of vegetable oil appears to be responsible for decreased import and foreign aid requirements.

A.5.2 Composition and Sources of Food Donations and Concessionary Food Sales. Currently, the main sources of food aid and concessionary sales are the United States, the World Food Programme (WFP) and West Germany. Concessionary sales under PL 480, Title I represent the main source of food aid. During the period July 1986-December 1988, these sales in metric tons represented 46 percent of all food aid (Table 28a) (25). Most of the sales are in the form of wheat and vegetable oil. In order to compensate Guatemala for its reduction in the U.S. sugar quota, the country received another 176,000 metric tons during the period July 1986-December 1988, consisting primarily of milk products while under PL 480, Title II, Guatemala received another 70,000 metric tons during this period consisting essentially of skimmed milk, bulgur wheat, and grain mixes. Altogether, the U.S. supplied 90 percent of total concessionary food sales and donations during the period July 1986 to December 1988. U.S. food aid to Guatemala was valued at US\$ 25 million in 1988 as compared to US\$ 3.3 million in 1980. (39)

Foods received under PL 480, Title II are provided in support of school feeding programs, maternal-infant programs as well as of community development projects (food for work programs). This food aid is administered essentially by four PVOs: CARE, SHARE, CARITAS and CRS, in coordination with the Committee of National Reconstruction.

The World Food Program provided 53,000 metric tons (9.3 percent) during the period July 86-December 1988, mostly consisting of cereals and processed foods. These food donations are usually in support of development projects and sometimes of special emergency projects; in 1988 WFP food donation supported ten development and two emerging projects in Guatemala. Foods are distributed via the food for work mode. (39)

Under a bilateral agreement between West Germany and Guatemala, 10,000 metric tons of food were distributed between July 1986 and December 1988 in support of rural development projects via the food-for-work mode. Approximately two-thirds of the tonnage were purchased locally, and consisted of maize, beans and Incaparina. The foods brought in from overseas included wheat flour and vegetable oil. (39)

Wheat and wheat flour accounted for 54 percent of all food aid (concessionary sales, donations including local purchases between July 1986 and December 1988. Other foods which figured prominently in food aid during this period were: corn (19.5 percent), vegetable oil (6.8 percent), rice (6.3 percent), non-fat dry milk (4.1 percent), butter oil (2.1 percent) and grain sorghum (2.1 percent).

A.5.3 Access to Food. In 1980 it was estimated that 71 percent of Guatemala's population lived in some state of poverty, 40 percent in extreme poverty, with significant urban-rural differences (47 percent in urban areas versus 84 percent in rural areas), particularly in the percent of extreme poverty (urban: 17 percent, rural: 52 percent) (4, 10). Though no up-to-date data are available, it is hard to imagine that the poverty situation has improved during the 1980s in Guatemala, given the country's dismal economic growth record. The income distribution data for 1980 show that 20 percent of the population in the lowest income class received 5.3 of total income, while

20 percent in the highest income class received 54.1 percent (50 percent with incomes below the median received 19.8 percent of total income) (39)

The average annual growth rate of real salaries during the period 1980-1987 was -0.7 percent, with a decrease of 19 percent in just one year (1986). The daily cost of a basic goods basket was estimated in 1987 at 9.26 quetzales while minimum wages in the same year were Q3.48/day in urban areas, and Q3.20/day in rural areas.(39) Those members of the work force who are employed clearly find it increasingly more difficult to satisfy basic needs, including an adequate daily diet. If we sum these with the unemployed (the national unemployment rate increased from 31.2 percent in 1980 to 44.3 percent in 1987, but has since fallen), it becomes clear that a majority of the population lives under conditions of constant income and food insecurity.

In the rural areas, of particular importance for access to food is access to land. Guatemala demonstrates a pattern of highly unequal distribution of access to land, and some tendency towards increasing disparity in land ownership. In 1950, 47 percent of all farms were less than 1.4 ha in size and occupied 3 percent of all agricultural land. By 1979, 60 percent of all farms fell in this farm size class occupying 4 percent of agricultural land. At the same time, 2 percent of all farms were more than 45 ha in size in both 1950 and 1979, occupying 72 percent in 1950 and 67 percent in 1979 of agricultural lands. During this period total agricultural land expanded by 0.8 percent per year. Between 1964 and 1979, the Gini coefficient of land ownership distribution increased from .824 to .851 (the highest in all Latin America) indicating increasing inequality in land ownership in this period. The result is an increasing number of marginal farming units and of landless poor. Trends towards decreasing farm size among small holder farmers has important implications for their household food security. For example, it has been shown that both the net income per hectare from the sale of maize as well as the household availability of maize from own production increase with farm size. (85)

A.5.4 Food Intake Patterns. Food intake patterns in rural areas, particularly in the Western Highlands, have generally undergone some changes over the last 20 years (Table 29). (2,3) Average intake levels of maize and beans have largely remained unchanged. These two foods continue to contribute approximately 75 percent of total daily energy intake, on average. The most notable changes are in the average intake levels of vegetables, potatoes, and of milk and milk products. We basically observe a pattern of substitution: increased intakes of vegetables and potatoes and decreased intakes of milk (and milk products). Average intakes of other sources of animal protein, such as meats and eggs have largely remained unchanged. Foods from animal sources contributed 8 percent to total daily energy intake (per adult equivalent) in 1965 versus 4 percent in 1987 while vegetables and potatoes contributed only 1.7 percent in 1965, versus 4.5 percent in 1987 (Tables 30 and 31).

This shift away from sources of animal protein and towards sources of vegetable protein may be especially critical for young children. Foods from animal sources contributed 5-6 percent to the total daily energy intake of preschool children in 1987. On the other hand the increased intake of vegetable and potatoes has contributed to improvement in average intakes of

vitamins A and C. However, these averages hide the fact that most of the food intake improvements most likely were concentrated in a small segment of the rural population: those with better access to economic resources. Though appropriate data are lacking, much of the deterioration in the average diet of the Western Highland population appears to have taken place during the last decade, when political violence and armed conflict have seriously disrupted productive activity and inflation intensified.

Average daily energy and protein intake level have increased over the last two decades in urban Guatemala City (Table 32). (7, 40) Cereals (including bread) continue to contribute approximately half of average energy intakes and 35-40 percent of average protein intakes. Beans and sugar remain other important sources of food energy. Foods from animal sources as well as vegetables are reduced in importance as sources of energy and protein, as compared to two decades ago. Among the animal foods, average intakes of eggs have increased, while those of milk and milk products decreased. It appears that the nutritional quality of the urban diet has in general diminished, but again, the averages hide distributional effects. Given that the percent of the urban population classified as poor as well as the total urban population both increased, food security conditions for a large segment of the urban population can be expected to have significantly deteriorated.

A.5.5 Individual Food Security. Individual food security, particularly of young children can be represented by anthropometric indicators of physical growth and development, such as weight adjusted for age (acute malnutrition), height adjusted for age (chronic malnutrition) and weight adjusted for height (acute-on-chronic malnutrition). Physical growth and development in young children depend on the state of health as well as the food intake of the child. Preschool children are normally considered the most vulnerable members of both urban and rural households.

Urban-rural comparisons among low income household indicate that in Guatemala the prevalence rates of low body weight and of stunting (low height) among preschool children are considerably higher in rural areas (35 versus 50 percent; 50 versus 80 percent, respectively). (41, 85) The fact that the prevalence of stunting is considerably higher than that of weight deficiency, and that the prevalence of wasting (low weight for height) is normally low (1-5 percent), indicates that a basic underlying cause is chronic poverty.

With a growing population classified as poor or extremely poor, the prevalence rates of acute and chronic malnutrition can be expected to be on the rise. Between 1965-67 and 1987-88 the percent of children under 5 years of age who are stunted increased from 52.2 to 57.8 percent. (39) Prevalence rates of stunting and of low body weights of preschool children in the Western Highlands appear to have increased by as much as a third over the last 5-8 years (Table 33). (39) This is clearly associated with high incidence rates of infectious diseases, such as upper-respiratory and intestinal infections. Studies conducted in rural areas in Guatemala clearly indicate that the risk of being weight deficient and/or stunted is reduced with increased household income, increased household food availability and when mothers are literate.

The national prevalence rate of stunting among first graders (6-9 years)

was found to be 37.4 percent in 1985-86, with significant variations among different areas of the country (24.1 - 64.6 percent). (39) It has also been shown that among rural children of school age, boys tend to be at somewhat greater risk than girls of being underweight or stunted. This may be associated with higher daily energy requirements of boys due to a relatively greater involvement in heavy field work.

A.VI THE POLICY SETTING

A.6.1 Role of Government in the Economy. Compared to most developing and developed industrial nations, central government intervention in the Guatemalan economy is relatively limited. Guatemala's tax revenue/GDP ratio, for example, is one of the world's lowest: now at 8.5 percent, it has ranged from 5.9 percent to 8.8 percent during this decade. While such ratios could be indicative of a deficient tax administration, in the case of Guatemala they also reflect a national propensity for restricted public intervention. Note, for instance, that with the exception of macro-economic policies, there are few direct or indirect government interventions in the Guatemalan market economy and these tend to be either intermittent or economically neutral. (78)

Except for the publicly-owned utilities, Guatemala has no all-powerful government monopolies, trading companies or parastatals which directly compete with or notably restrict private sector enterprises. The only non-utility public entities with some degree of monopoly authority are FLOMERCA, the national merchant marine, and INDECA, the national agricultural marketing institute. AVIATECA, the national airline, was very recently privatized, but continues to have certain exclusive entitlement in the transportation of people and goods. FLOMERCA, has government-granted monopoly rights in controlling transportation of sea freight on some routes to and from national ports. INDECA has authority to set minimum producer prices for basic food grains and a few other agricultural commodities, but in practice this prerogative is greatly constrained by lack of financial resources. In addition, INDECA provides the technical criteria used as a basis for granting or denying import and export licenses for basic grains. (78)

Taxes on international trade make up only 20 to 25 percent of the government's total revenues (Tables 34 and 35). Export taxes contribute substantially less to revenues than import taxes. For taxed imports, nominal tariff levels tend to be high, but net effective rates are low, due to exemptions. (78)

High export taxes have not been a constant in the Guatemalan economy. After several years of low, essentially token tax rates (except for coffee), export taxes were temporarily imposed on traditional agricultural exports in 1986, to capture revenues from high world coffee prices and to avert a government fiscal crisis. These taxes are being gradually reduced and will be fully phased out by 1992. (78)

Although there have been some relatively brief periods of heavy public intervention, Guatemala's international trade does not presently operate under extensive quantitative restrictions. The few import prohibitions in effect apply largely to agricultural commodities and are justified primarily on the

basis of sanitary considerations. Two exceptions are wheat and wheat flour. Wheat imports are controlled and come in under a one percent nominal tariff (see wheat policy discussion below). Flour is seldom (legally) imported. Export prohibitions include a limited number of economically unimportant items. (78)

A large and frequently changing number of commodities require import or export licenses through a process which can be burdensome, but which does not markedly restrict commerce. In practice, both import and export licenses are granted (or disregarded in the case of contraband trade) for most products, except for commodities deemed critical to national food security, such as basic grains. (78)

The government periodically imposes retail price ceilings. Milk, beans, beef, eggs, flour, sugar and other "basic" commodities are often subject to control. The array of products controlled and the degree of enforcement vary. Under the pressure of rapid inflation and volatile exchange rates in late 1985 and early 1986, over 400 different goods were subject to retail price controls, compared to only 17 in 1984. The list was reduced to eight goods in 1987 and later increased to 17 in 1988. Currently, eight products are under price control at the retail level. There is general consensus that retail price controls have little impact on retail prices or markets. (78)

A.6.2 Government and Agriculture. Government actions unquestionably affect the agricultural sector in very significant ways, but almost exclusively through macro-economic policies (see section 4.2 below). The dearth of direct policies and resources directed specifically to agriculture is curious, given the sector's vital role in the economy. This may be a manifestation of the national propensity to restrict public intervention in the private sector, perhaps a general lack of public resources to carry out policies or perhaps an indication of weak links between development objectives and strategies to attain them. (78)

Since 1980, public outlays directed to the agricultural sector have averaged 16 percent of total government expenditures. Of the total amount, over 45 percent were central government transfers to cover the operating costs and loan losses of BANDESA (loan losses alone accounted for more than 80 percent of BANDESA's transfers). INDECA price support operations absorbed another 24 percent of agricultural public outlays (Table 36). This left less than a third of the budget available for the Ministry of Agriculture's operational expenses and investments. In 1987, two-thirds of the Ministry's budget was absorbed by operational expenses. About eighty percent of the investment budget and 10 percent of the operational budget were not spent. To conclude, in the 1980s, other than BANDESA and INDECA programs, all agricultural public sector programs combined absorbed less than 3 percent of the total central government expenditures and accounted for a fraction of one percent of national GDP. (78)

This low level of public resources devoted to agriculture does not and cannot notably influence sector development. The ministry's budget is sufficient to maintain a low-level bureaucratic presence and to carry out rudimentary extension and applied research, but little else. Essential public

regulatory activities--such as the policing and enforcement of market regulations and sanitary standards--cannot be effectively undertaken. Ministry of Agriculture development programs funded by domestic resources are all but precluded. (78)

Given the meager resources allocated to agriculture, the primary instrument (other than macro-economic policy) used by the government to influence agricultural development has been the control and guidance of international assistance to the sector. This has been an important instrument, given that the annualized level of bilateral and multilateral assistance to the Guatemalan agricultural sector easily exceeds the Ministry of Agriculture's total annual operating budget. (78)

A.6.3 The Policy Making Process.

A.6.3.1 Monetary, Credit and Exchange Policies. The Monetary Board has the responsibility for formulating the country's monetary, credit and exchange rate policies. The Board is comprised of the following members:

1. The President or Vice-President of the Central Bank,
2. The Minister or Vice-Minister of Finance,
3. The Minister or Vice-Minister of Economy,
4. The Minister or Vice-Minister of Agriculture,
5. A representative of the National Congress,
6. A representative of the University of San Carlos,
7. Representatives of the National Associations of Private Commerce, Industry and Agriculture,
8. Representatives of Private Banks. Four of these members--the three Ministers and the president of Central Bank--are appointed by the President of the Republic, which provides some means of influencing the Board's deliberations.

The president of the Central Bank acts as President of the Board, and sets the agenda for its meetings. The Board's decisions are taken by simple majority. The policy-making process is initiated by the President of the Board who sets the general framework and commissions, the required studies, to be carried out by the Department of Economic Studies of the Central Bank. This department develops the basic document containing the formulation of the policy at hand. The Technical Committee of the Monetary Board revises and approves the basic document before sending it for the Board's consideration. Based on this document, the Monetary Board writes the final version of the policy, which is then published in the Official Diary to become legally-binding. (44)

A.6.3.2 Fiscal Policy. The executive branch of government is responsible for formulating fiscal policy. The President of the Republic and his cabinet determine the annual budget, and the priorities for the allocation of fiscal resources in different areas. The Ministry of Finance plays an important role advising the President on budget matters. Technically, the development and formalization of the national budget is done by the National Budget Directorate, a division of the Ministry of Finance. The Budget in its final format is sent by the President to the National Congress for final approval.

A.6.3.3 Agricultural Policy. The Ministry of Agriculture determines the policies of the agricultural sector. The process for designing and formulating these policies is coordinated by the Sectoral Planning Unit (USPADA) of the ministry. However, the General Secretariat Planning (SEGEPLAN), which is not a part of the Ministry of Agriculture, also plays an important policy-making role through the development of quinquennial development plans. There are no functioning, effective institutional mechanisms to coordinate or integrate the policy-making inputs of USPADA and SEGEPLAN. Thus, it is conceivable that they could formulate divergent policy postures for the same sector. However, in practice, the Ministry of Agriculture (USPADA) is almost solely devoted to the formulation of short-term policies for the sector. SEGEPLAN formulates the medium-term policies while the long-term policies for the sector, remain virtually undefined. (44)

The Sectorial Programming Board (COPROSEC) which comprises all the chairpersons of the planning units of all agencies in the sector, is responsible for postulating the general policy framework to be followed. However, in practice, the work of this Board has been limited to reallocations of the Ministry's resources, following the frequent budget reductions. (44)

The Senior Agricultural Public Sector Coordination Committee (COSUCO), is responsible for coordinating the implementation of agricultural policies by all agencies of the sector. The Minister of Agriculture is the President and the Director of USPADA is the Secretary of this committee, which is also includes the General Managers or Directors of all the sector's agencies. Until now, COSUCO has been limited to undertaking some operational decisions and has not assumed its broad and important role in the policy-making mechanism. COSUCO and COPRESEC, the two key entities responsible for designing, formulating and implementing Guatemalan agricultural policy, have not fulfilled their intended roles. (44)

APPENDIX B

TABLES AND FIGURES

TABLE 1

GUATEMALA: GDP BY SECTOR OF ORIGIN; 1955-1980

PERIOD	AGRICULTURE	INDUSTRY	COMMERCE	OTHERS
(AVERAGE ANNUAL % OF TOTAL GDP)				
1955-59	29.9	12.4	27.2	30.5
1960-64	30.0	13.4	27.5	29.1
1965-69	27.9	15.4	28.4	28.3
1979-74	27.8	15.8	28.4	28.0
1975-79	26.6	15.9	28.0	29.5
1980-84	25.2	16.0	26.5	32.3

Source: Bank of Guatemala, Boletines Estadísticas and Department of Economic Research.

TABLE 2

GUATEMALA: FIXED CAPITAL INVESTMENT, DOMESTIC AND FOREIGN SAVINGS AS PERCENTAGE OF GDP; 1960-1984.

PERIOD	INVESTMENT	DOMESTIC	FOREIGN
(AVERAGE ANNUAL % OF TOTAL GDP)			
1960-64	10.3	8.3	2.0
1965-69	13.1	11.0	2.1
1970-74	13.5	13.8	0.3
1975-79	13.8	15.6	3.2
1980-84	13.7	10.5	3.2

Source: Bank of Guatemala

TABLE 3

GUATEMALA: IMPORTS AND NET IMPORTS AS PERCENTAGE OF GDP;
1950-1984

PERIOD	IMPORTS	NET IMPORTS
(AVERAGE ANNUAL % OF TOTAL GDP)		
1950	--	0.0
1955	--	0.1
1959	--	2.4
1960-64	15.1	2.0
1965-69	18.8	1.5
1970-74	20.2	0.8
1975-79	26.1	4.1
1980-84	19.5	3.4

Source: Bank of Guatemala

TABLE 4

GUATEMALA: REAL GDP BY SECTORS, 1970-1985

	1970	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
(Millions of 1958 Quetzales)												
GDP												
(at Market prices)	1792.7	2352.7	2526.5	2723.8	2859.9	2994.7	3106.9	3127.4	3016.7	2939.6	2958.2	2925.1
Primary Production	491.4	662.0	592.8	719.6	743.9	768.8	788.8	790.6	758.7	754.3	767.6	750.2

Agriculture	489.7	659.9	689.6	716.5	739.1	760.1	772.0	781.4	758.0	744.9	759.8	753.7
Mining	1.7	2.1	2.7	3.1	4.8	8.6	14.8	9.4	10.7	9.4	7.0	6.
Secondary Production	263.0	358.3	393.5	435.6	463.7	489.6	668.4	670.7	630.0	593.3	575.8	571.7

Manufacturing	263.0	358.3	393.5	435.6	463.7	489.5	517.3	501.2	475.1	466.0	468.4	462.8
Construction	20.4	43.9	76.3	85.6	88.7	94.4	97.9	116.5	103.0	75.8	53.4	53.0
Utilities	21.5	32.8	35.4	44.3	49.0	52.0	53.2	53.0	51.9	61.5	54.0	58.4
Services	968.4	1267.7	1329.0	1438.5	1514.6	1590.0	1651.7	1665.9	1618.0	1592.0	1614.8	1598.2

Transport & Communication	98.2	150.8	164.9	177.0	189.5	199.5	215.8	211.2	201.2	199.7	204.8	205.4
Commerce	518.0	648.7	704.1	768.5	802.4	824.7	839.1	644.1	797.2	764.4	770.5	739.3
Banking, Insurance & Real States	42.3	61.3	65.0	79.4	85.7	102.1	106.7	108.8	109.7	107.3	109.5	113.4
Housing	124.8	138.7	112.1	121.3	129.5	134.1	138.1	141.7	145.4	149.2	151.9	154.9
Public Administration & Defense	85.9	118.2	132.4	131.1	138.2	147.4	163.0	170.1	176.7	185.1	190.3	192.2
Personal Services	98.2	140.0	150.5	161.2	169.3	182.2	189.0	190.0	187.8	188.8	187.8	188.0

Source: Bank of Guatemala

GUATEMALA: REAL GDP GROWTH RATES(*); 1970 - 1985

	1970-1975	1975-1980	1980-1985
(Annual % Rate)			
GDP (At Market Prices)	5.9	5.7	-1.4
Primary Production	6.4	3.5	-0.8

Agriculture	6.4	3.2	-0.6
Mining	4.7	47.8	-12.8
Secondary Production	5.6	5.7	-3.6

Manufacturing	5.2	7.7	-2.2
Construction	9.7	14.3	-15.1
Utilities	9.2	11.1	1.0
Services	5.8	5.7	-0.8

Transport & communication	9.7	7.2	-1.0
Commerce	5.2	5.3	-2.7
Banking, Insurance & Real Estate	8.4	12.8	0.9
Housing	2.1	1.7	2.3
Public Administration & Defense	6.8	5.8	3.5
Personal Services	7.8	6.8	3.5

* Estimated by least-squares growth rates method, including
and-points

Source: Bank of Guatemala

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TABLE 6

GUATEMALA: SELECTED MACROECONOMIC INDICATORS; 1978-1985

National Accounts	Average 1978-80	1981	1982	1983	1984	1985
(annual percent growth)						
GDP	4.5	0.7	-3.5	-2.6	0.6	-1.1
Consumption	4.5	1.6	-2.9	1.3	1.1	-1.9
Private	4.2	1.4	-3.0	-1.4	1.1	-1.8
Public	8.1	4.4	-1.2	0.1	1.4	-2.8
Gross Domestic Investment	-6.5	15.3	-19.2	-16.9	4.5	-17.8
Central Government (% of GDP)						
Revenue	10.0	8.6	8.4	7.8	7.3	7.8
Current Outlays	7.9	8.5	7.8	7.8	7.9	7.6
Capital Outlays & Lending	5.0	7.6	5.3	3.6	3.0	2.2
Current account surplus/a	2.1	0.2	0.6	0.0	-0.6	0.3
Overall surpluses /a	-2.8	-7.4	-4.7	-3.6	-3.7	-1.9
External financing (net)	1.4	1.2	0.9	1.0	0.3	0.7
Internal financing (net)	1.4	6.2	3.8	2.6	3.4	1.2
Balance of Payments (% of GDP)						
Factor Payments & Transfers	1.4	0.1	-0.6	-1.1	-1.9	-3.1
Current account balance /a	-2.9	-6.4	-4.5	-2.7	-3.9	-3.8
Capital, net	1.8	2.4	0.9	3.1	1.9	2.0
Stock of Net Reserves (year-end)	11.2	0.6	0.2	0.6	0.7	0.5
Prices						
CPI (Dec./Dec. % change)	10.6	8.7	2.7	10.5	5.2	31.5
Real effective exchange rate /b	97.7	91.1	88.4	85.0	84.7	116.8
Terms of Trade Index (1984=100)	111.4	94.5	89.1	93.1	100.0	91.9

Source: Bank of Guatemala

TABLE 7

GUATEMALA: EXTERNAL DEBT INDICATORS, 1980-1985

	1980	1984	1985
	(US\$ Millions)		
Total Debt (outstanding and disbursed)	93	2,386	2,595
External Debt Service (cash basis)	101	296	344
	(%)		
Total Debt/Export	53.3	189.6	207.2
Total Debt/GDP	11.8	25.2	40.0
Debt Service Ratios			
Total/Exports	5.8	20.7	27.5
Public M</Exports	2.6	15.4	20.4
Interest/Exports	4.9	12.0	12.9
Interest/GDP	1.1	1.6	2.5

Source: Bank of Guatemala

TABLE 8

GUATEMALA: PRICE INDICES, 1983-1988

	1983	1984	1985	1986	1987	1988
December to December Variation						
I. P. C.	--	5.2	31.5	25.7	10.1	11.0
Food	--	7.7	30.1	29.3	14.0	12.0
Wholesale Price Index	0.4	8.4	43.7	33.9	----	----
Imported Goods	-2.8	12.5	33.5	0.5	----	----
Domestic Goods	0.8	8.0	44.7	37.2	----	----
Constructions Materials	0.4	7.2	17.2	25.0	----	----
Mean Annual Variation						
I. P. C.	---	0.9	18.5	36.9	12.3	10.8
Food	---	-0.8	20.6	39.2	15.6	13.7
Wholesale Price Index	0.9	5.6	22.6	43.7	----	----
Imported Goods	4.9	4.7	19.0	13.2	----	----
Domestic Goods	0.8	5.4	23.4	46.4	----	----
Construction Materials	0.1	5.5	7.1	26.3	----	----

Source: Cepal

TABLE 9

GUATEMALA: GDP AT MARKET PRICES BY SECTOR OF ACTIVITY, 1986-1988

	INDICES (1980-100)			PROPORTIONAL SHARE		GROWTH RATES			
	1986	1987	1988	1980	1988	1985	1986	1987	1988
GDP	94.6	97.6	101.1	100.0	100.0	-0.6	0.3	3.1	3.6
Goods	90.3	93.2	96.7	50.1	47.8	-0.7	0.1	3.2	3.7
Agriculture	97.5	101.0	104.1	27.1	27.9	0.4	-0.8	3.6	3.0
Mining	57.4	56.8	59.5	0.7	0.4	-14.5	30.8	-1.2	4.8
Manufacturing	90.5	91.9	94.2	17.6	16.4	-0.8	0.7	1.6	2.5
Construction	52.3	57.8	68.4	4.6	3.1	-8.5	3.2	10.3	18.4
Basic Services	102.3	107.8	113.6	5.7	6.3	2.3	3.2	5.3	5.4
Utilities	118.8	128.2	137.4	1.3	1.7	4.3	12.3	7.9	7.2
Transport & Communication	97.6	101.9	106.9	4.4	4.6	1.7	0.4	4.4	4.8
Other Services	98.6	101.3	104.6	44.3	45.8	-0.8	0.1	2.8	3.2
Commerce	87.1	89.3	92.1	22.5	20.5	-3.4	-2.2	2.5	3.1
Banking, Insurance and Services to Enterprises	110.7	113.3	117.1	2.9	3.2	2.2	2.3	2.4	3.4
Real Estates	114.6	116.7	119.3	4.9	5.7	2.0	2.1	1.8	2.3
Public Services	122.4	128.1	132.2	7.0	9.1	1.7	3.9	4.7	3.2
Others	98.5	100.1	103.6	7.1	7.2	0.4	-0.8	1.6	3.5

Source: Cepal.

TABLE 10

GUATEMALA: WAGES, 1981-1988

	1981	1982	1983	1984	1985	1986	1987	1988 a.
	(Index (1980 = 100))							
Wages and Salaries								
Nominal	131.2	139.3	147.6	139.0	142.3	159.3	191.0	218.9
Real	117.6	124.7	126.2	114.8	99.2	81.0	86.5	89.5
Total Wage Bill								
Nominal	102.6	112.3	113.9	109.4	118.9	139.1	171.4	210.2
Real	92.1	100.6	97.5	90.4	82.9	70.9	77.8	85.9
	Growth Rates							
Wages and Salaries								
Nominal	31.2	6.2	5.9	-5.8	2.4	11.9	19.9	14.6
Real	17.6	6.0	1.2	-9.0	-13.6	-18.3	6.8	3.5
Total Wage Bill								
Nominal	2.6	9.5	1.4	-4.0	8.7	17.0	23.2	22.6
Bill	-7.9	9.2	-3.1	-7.2	-8.3	-14.5	9.7	10.4

Source: CEPAL

TABLE 11

GUATEMALA: BALANCE OF PAYMENT

	1982	1983	1984	1985	1986	1987	1988 0.
Current Account Balance	-400	-225	-578	-247	-42	-5	-545
Trade Balance	-346	-142	-199	-56	121	-400	-489
Exports of Goods and Services	1276	1172	1228	1161	1167	1100	1269
Goods FOB	1170	1092	1161	1167	1158	900	1100
Real Services	108	80	96	101	129	100	100
Transport & Insurances	27	18	10	7	8	5	6
Travels	12	7	11	13	23	5	6
Imports of Goods and Services	1626	1914	1427	1237	1046	1390	1747
Goods FOB	1384	1036	1182	1077	876	1090	1227
Real Services	942	258	245	160	170	299	263
Transport and Insurances	199	99	112	108	92	126	140
Travels	100	90	62	28	15	6	5
Factor Services	-114	-118	-207	-170	-214	-176	-164
Profits	-41	-99	-81	-21	-68	-47	-20
Interest paid	120	27	80	29	9	91	40
Interest received	-100	-102	-151	-179	-208	-154	-160
Others	7	1	-4	-3	-3	-7	-
Unilateral Private Transferences	62	50	28	19	31	101	102
Capital Account Balance	361	276	389	338	133	274	424
Unilateral Official Transferences	1	1	1	1	23	91	84
Long Term Capital	340	283	201	240	44	197	140
Direct Investment	77	43	38	60	63	102	100
Portfolio Investment	1	77	33	14	16	-16	-
Other long term capital	262	161	104	302	-41	1	11
Official Sector	146	167	131	308	43	36	274
Loans received	186	310	274	281	47	36	274
Amortization	-37	-143	-126	-220	-474	-372	-268
Commercial Banks	.	.	.	.	.	.	.
Loans received	.	.	.	.	.	.	.
Amortizations	.	.	.	.	.	.	.
Other sectors	114	-6	-46	.	36	10	.
Loans received	124	11	66	13	66	24	.
Amortizations	-13	-18	-32	-14	-10	-13	.
Short Term Capital	99	29	172	72	18	817	220
Official Sector	40	24	-92	-87	-81	18	36
Commercial Banks	14	71	9	-64	16	35	31
Other Sectors	-14	-67	253	224	66	260	133
Errors and Omissions	-18	-37	16	44	67	-71	.
Global Balance	-56	-51	-11	-11	-112	-34	-31
Net Change in International Reserves	16	-64	-27	-89	-87	84	31
Monetary Gold	3	-1	-1	2	.	-2	.
Special Draw-Rights	10	-6	8	.	.	.	.
Reserve Position at IMF	-23	-89	-72	-208	-61	76	.
Foreign money holdings	-1	-1	27	-208	13	20	.
Other holdings	-6	33	10	-33	-46	-11	.
IMF Credit Use	.	.	.	.	.	.	.

Source: Cepal

TABLE 12

GUATEMALA: EMPLOYMENT AND UNEMPLOYMENT; 1980-1988

	1980	1981	1982	1983	1984	1985	1986	1987	1988
Thousands Persons									
Total Population	6917	7113	7315	7254	7740	7963	8163	8399	8643
Economically Active Population	2183	2251	2307	2371	2348	2506	2576	2648	2722
Employment	2136	2218	2169	2135	2216	2210	2215	2328	2461
Open Unemployment	47	33	138	236	222	296	361	320	262
Percentages									
Participation	54.5	54.5	54.2	54.0	53.9	53.7	53.6	53.4	53.0
Open Unemployment	2.2	1.5	6.0	10.0	9.1	11.8	14.0	12.1	9.6

Source: Copal

TABLE 13

GUATEMALA: TRENDS IN DEMOGRAPHIC CHARACTERISTICS OF THE POPULATION;
1950-1990

YEAR	TOTAL	MALES	FEMALES	AVERAGE COMPOUND GROWTH RATE OF POPULATION DURING PREVIOUS TEN YEARS (% PER ANNUAL)		SEX-RATIO (MALES PER 1000 FEMALES)	DENSITY OF POPULATION PER SQ. KM.
1950	2969	1500	1469			1021	27.3
1960	3964	2008	1956	2.9		1027	36.4
1970	5246	2658	2589	2.8		1027	48.2
1980	6917	3501	3416	2.8		1025	63.5
1990	9101	4578	4522	2.9		1012	83.6
AVERAGE FOR PERIOD	TOTAL FERTILITY RATE	LIFE EXPECTANCY AT BIRTH (YEARS)		CRUDE BIRTH RATE ----- (PER THOUSANDS POPULATION)	CRUDE DEATH RATE ----- (PER THOUSANDS POPULATION)	NATURAL POPULATION GROWTH RATE	
		MALE	FEMALE				
1950/60	7.01	42.8	43.5	50.4	21.5	28.9	
1960/70	6.73	42.6	49.6	46.7	17.1	29.6	
1970/75	6.45	52.6	55.5	44.5	13.4	31.1	
1975/80	6.40	54.5	58.4	44.3	12.0	32.3	
1980/85	6.12	56.6	61.1	42.5	10.2	32.3	
1985/90	5.39	58.8	63.7	38.4	8.7	29.7	

Source: CELADE and World Bank staff estimates.

TABLE 14

Guatemala: Labor Force indicators; 1964 - 1980.

	1964	1973	1980
	(%)	(%)	(%)
Labor Force Participation Rate			
Glosal	31.2	30.7	29.7
Agri-specific (ages 10-59)	50.5	49.3	47.7
Male Share in Labor Force*	87.9	86.6	79.4
Dependency Ratio, Ages 15-64	96.7	95.1	95.1

* Rural female employment is generally underreported in census data

Source: World Bank

TABLE 15

Guatemala: Evolution of Wages by Sectors, 1970 - 1985.

Year	Real Wages ¹					
	Agriculture	Manufacturing	Trade	Government	Other ²	All
1970	415	1,021	1,833	n.a.	n.a.	929
1975	378	1,407	1,882	1,495	1,380	936
1978	352	1,116	1,743	1,303	1,479	813
1979	348	1,276	1,745	1,241	1,441	835
1980	373	1,269	1,728	1,189	1,441	836
1981	501	1,414	1,679	1,098	1,479	985
1982	484	1,386	1,737	1,112	1,408	996
1983	505	1,327	1,607	1,072	1,514	991
1984	436	1,398	1,579	974	1,282	900
1985	405	1,259	1,461	797	1,068	777

Wages and salaries covered by the Guatemala Institute of Social Security (IGSS), which included approximately 28% of the labor force, and probably the better remunerated workers employees.

1. Deflated by CPI (base=1975)
2. Includes mining utilities, transport and communications.

Source: World Bank.

TABLE 16

Income Distribution; 1974 - 1981.

Household Quartile	Family Income		
	1947/48	1970	1980/81
	(Proportion in Shares)		
I	60.5	66.5	61.1
II	17.0	16.1	20.0
III	15.5	10.7	12.5
IV	7.0	6.7	6.5

Source: World Bank

TABLE 17

Guatemala: Family income distributions; 1980 - 1981.

Family Decile	All Guatemala	Central Urban	Rest Urban	Rural
Upper	40.8	43.0	29.4	27.5
II	14.2	15.0	16.1	15.1
III	10.1	10.5	12.4	12.7
IV	8.6	8.1	9.6	10.4
V	6.3	6.9	8.1	8.1
VI	5.9	4.9	6.7	7.3
VII	4.9	4.1	5.9	6.0
VIII	3.7	8.5	5.5	4.9
IX	3.1	2.2	3.6	4.4
Lower	2.4	1.4	2.7	3.6
Gini Coefficient	0.48	0.51	0.37	0.34
Annual Average Family Income (quetzales)	3,051	7,919	3,236	1,829
Number of Families	1,334,894	204,511	274,613	855,770
% of Total Income	100	39.8	21.4	38.4
% of Total Families	100	15.3	20.6	64.1

Source: World Bank

9/1

TABLE 18

Guatemala: Poverty in Urban and Rural Areas; 1980 - 1981

	RURAL	URBAN		GUATEMALA
		CENTRAL	OTHER	
(percentage of total families in each category)				
Extreme poverty	36	17	28	32
Moderate poverty	30	39	32	32
Total poverty	66	56	60	64
(indices of average annual family income)				
Income families in extreme Poverty	32	55	41	36
Income families in moderate Poverty	52	126	78	74
Total families in poverty	41	104	61	55
Families above poverty	97	460	174	177
Average family income	60	260	106	100

Source: Segeplan.

TABLE 19

Average income levels by income Quartiles, 1974 - 1981

Household Quartile	Average Family Income		
	1947/49	1970	1980/81
	(Quetzales at 1981 prices)		
I	5,914	12,458	13,966
II	3,024	3,024	4,578
III	2,006	2,006	2,860
IV	1,256	1,256	1,476

Source: World Bank

Guatemala: Comparative Social Indicators with other Countries; 1960's - 1980's

	Costa		EI					Ecuador	Colombia
	Guatemala	Rico	Honduras	Nicaragua	Salvador	Haiti	Mexico		
GNP Per Capital (US\$ 1984)	1160	1190	700	860	710	320	2040	1150	1390
Population Growth Rate (1973 - 1984)	2.8	2.9	3.5	3.0	3.0	1.7	2.9	2.9	1.9
% Urban Population (1984)	41	45	39	58	43	27	69	47	67
Birth Rate (1965)	46	45	51	49	48	38	45	45	45
(1984)	43 %	29	43	43	39	32	33	38	28
Total Fertility Rate (1965)	8.8	8.4	7.4	7.2	6.7	N.A.	8.7	8.8	6.4
(1984)	6.1 %	3.3	8.2	5.7	5.3	4.5	4.4	4.8	3.4
Contraception Usage Rate (1983)	25	65	27	9	22	20	38	40	55
Adult Literacy Rates (1976)	54 %	80	60	80	N.A.	23	82	81	81
Primary School Enrollment Ratio (1965)	50 %	106	80	69	82	50	82	91	84
(1983)	72 %	102	101	89	69	69	119	115	120
Life Expectancy at Birth (1965)	49	65	49	50	54	47	60	58	56
(1984)	60	73	61	60	65	55	66	65	65
Infant Mortality Rate (1965)	114	72	130	123	120	138	83	113	99
(1984)	68	19	77	70	68	124	51	67	48
Average Calories Intake (Kcal) (1965-1967)	2117	1894	1832	1988	2148	N.A.	N.A.	N.A.	N.A.
(1975-1982)	1637	2067	1800	N.A.	1732	N.A.	N.A.	N.A.	N.A.
Average Proteins Intake (gr) (1965-1967)	68	54	58	64	68	N.A.	N.A.	N.A.	N.A.
(1975-1982)	51	54	58	N.A.	55	N.A.	N.A.	N.A.	N.A.
Children with Weight Retardation (%) (1987)	30.5 %	4.8 %	29.5	15.0 %	10.4 %	N.A.	N.A.	N.A.	8.3 %

% 1980 - 85

% 1980 - 81 Urban and Rural literacy rates were 79.4 and 39.1 respectively.

% Primary school age considered 6 - 11 years.

% Average of males and females.

% Weight retardation was 33.6% in 1985.

% 1982

% Refers to period 1968 - 68.

Source: World Bank, World Development Report and Bank staff estimates.

TABLE 21

Guatemala: Real Per-capital outlays on social sectors; 1970 - 1985

Year	Social Welfare	Education	Health	Other Services
1970	10.3	5.0	3.5	1.8
1971	10.8	5.4	3.4	2.0
1972	12.4	6.2	4.2	2.0
1973	14.4	7.0	5.0	2.4
1974	13.1	6.5	4.5	2.1
1975	12.4	5.9	4.7	1.8
1976	20.5	6.8	4.4	9.3
1977	18.9	6.4	4.6	7.9
1978	19.9	6.0	4.1	9.8
1979	20.3	6.3	4.5	9.5
1980	16.4	6.6	5.7	4.1
1981	15.9	6.8	5.0	4.1
1982	12.2	6.3	3.2	2.7
1983	11.2	5.8	2.9	2.5
1984	10.6	5.5	2.8	2.3
1985	9.9	5.5	2.2	2.1

Source: World Bank

TABLE 22

Budget by Sector; 1989 - 1990

Sector	1989 (Approved)	1990 (planned)
	(million quetzales)	
Public Debt	747	798
Education, Science and Culture	557	640
Defense and Internal Security	392	406
Health and Social Assistance	389	399
Transportation	381	378
Financing	326	372
General Services and Administration	233	277
Labor and Social Security	217	222
Agriculture	245	175
Hanship and Urban Development	84	96
Energy	32	32
Communications	30	28
Industry and commerce	10	10
Mining	4	4
Turism	1	1
Total	3,648	3,838

Since: Ministry of Finance.

TABLE 23

GUATEMALA: VALUE OF EXPORTS; 1983-1987

Export	1983	1984	1985	1986	1987
	--thousand U.S. dollars--				
Cotton	46,077	70,427	59,823	27,548	17,470
Sesame Seed	9,016	11,462	10,151	11,934	12,484
Sugar	126,770	74,573	44,211	50,816	52,507
Bananas	38,458	56,634	62,000	71,269	72,469
Coffee	350,699	360,700	411,401	522,339	370,890
Cardamom	31,403	59,407	58,753	45,804	43,494
Meat	14,945	11,629	8,962	3,824	11,393
Other	77,533	83,955	70,557	72,779	110,357
Total Agriculture	694,901	728,827	725,858	806,313	692,064
Other Products	463,907	393,455	294,718	255,367	295,271
Total Exports	1,158,808	1,122,282	1,020,576	1,061,680	987,335

Source: Uspada.

TABLE 24

GUATEMALA: LAND USE POTENTIAL

Type of Land 1/	Square Kilometers	Share
		(percent)
First Class	9,454	8.7
Second Class	8,532	7.9
Multiple Class	11,576	10.7
Forest Use	45,309	41.9
Reserved	12,338	11.4
Swamp	2,625	2.4
Karst	18,259	16.9
Total	108,092	100.0

1/ The following and classes are used. First Class: Unrestricted intensive cultivation (4 percent slope or less). Second Class: Intensive cultivation with some restrictions (4-8 percent slope). Multiple Use: permanente crops, grasses or forest (severe restrictions due to erosion). Forest: steep slopes and erodible soils. Reserved: erodible soils, highly accidented terrain. Swamp: flooded during most of the year. Karst (for forests): shallow soils with low rate of water retention (high rate of runoff), easily erodible.

Source: Development Associates; "Tierra y Trabajo en Guatemala: Una Evaluacion", (AID/Washington, 1982).

TABLE 25

GUATEMALA: SIZE DISTRIBUTION OF FARMS, 1950-1979

SIZE (hectares)	1950		1979	
	(number)	(percent)	(number)	(percent)
< 0.7	74,269	21	166,724	31
0.7 - 7.0	233,804	67	301,736	57
7.0 - 44.8	33,041	10	49,509	9
44.8 - 900	7,057	2	13,176	2
> 900	516	--	478	--
Total	348,687	100	531,623	100
(hectares)	(hectares)		(hectares)	
< 0.7	28,524	1	55,331	1
0.7 - 7.0	503,643	14	622,038	15
7.0 - 44.8	499,929	14	779,610	19
44.8 - 900	1,165,431	31	1,814,311	44
> 900	1,516,604	41	834,022	20
Total	3,714,131	100	4,105,312	100

SOURCE: P. Schneider, et. al., "El Mito de la Reforma Agraria", (Guatemala: CIEN, 1989).

TABLE 26

GUATEMALA: DISTRIBUTION OF FARMS ACCORDING TO SIZE; 1964-1979

Farm Size (ha)	Contry Total				Estern Highlands			
	Number of Landholdings		Farm Area		Number of Landholdings		Farm Area	
	1964	1979	1964	1979	1964	1979	1964	1979
	%		%		%		%	
up to 1.4	44	60	3	4	46	64	7	10
1.4 to 3.5	31	21	7	6	29	21	13	14
3.5 to 44.5	23	17	23	23	24	14	44	43
Above 44.5	2	2	67	67	1	1	36	33
TOTAL	100	100	100	100	100	100	100	100
	(000's units)		(000' ha)		(000's units)		(000's ha)	
Absolute level	417	605	3954	4715	164	226	1103	1119

SOURCE: SEGEPLAN and World Bank.

TABLE 27

GUATEMALA: COFFEE PRODUCTION ACCORDING TO FARM SIZE; 1979-1980

SIZE	AVERAGE SIZE	NUMBER OF FARMS	AREA		PRODUCTION		YIELD	
(ha)	(Ha)	(number)	%	(Ha)	%	(MT)	(%)	(Kg/ha)
0.1-2.1	0.7	25,862	72.5	18,851	7.3	8,290.2	5.4	439.8
2.2-10.6	3.6	6,342	17.8	22,834	8.8	8,972.1	5.8	392.9
10.6-89.6	62.4	2,082	5.6	129,971	50.1	85,305.9	55.5	656.3
More than 89.7	84.1	1,366	3.8	87,590	33.8	51,029.9	33.2	582.6
Total	7.3	35,852	100.0	259,246	100.0	153,598.1	100.5	592.5

Source: Anacafe and World Bank.

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TABLE 28

GUATEMALA: TOTAL CEREALS AVAILABILITY AND APPARENT CEREAL CONSUMPTION,

1983 - 1987

	All Cereals	Maiz	Beans	Wheat
1983				
Domestic Supply 1)	936,391	760,474	88,726	44,999
Imports	113,992	3,764	18	110,033
Food Aid	609	400	00	209
Total Availability	1,050,992	764,638	88,744	155,241
Per capita Consumption 2) (kg/yr)	120	88	12	16
1984				
Domestic supply	1,029,157	841,331	99,084	45,996
Imports	120,028	5,165	14	122,300
Food Aid	7,569	6,242	00	1,327
Total Availability	1,164,754	852,738	99,098	169,623
Per capita consumption (kg/yr)	130	96	13	17
1985				
Domestic Supply	1,039,434	838,560	108,118	55,470
Imports	149,509	14,693	535	133,551
Food Aid	11,966	7,863	00	4,103
Total Availability	1,200,910	861,116	108,653	193,124
Per capita consumption (kg/gr)	130	94	13	28
1986				
Domestic Supply	973,082	785,725	102,277	51,944
Imports	163,809	36,956	2,485	121,370
Food Aid	134,654	6,268	867	124,297
Total Availability	1,271,545	828,949	105,629	297,611
Per capita consumption (kg/gr)	132	88	13	28
1987				
Domestic Supply	1,042,434	855,973	85,974	48,296
Imports	172,108	21,446	340	149,805
Food Aid	229,503	43,162	1,420	165,457
Total Availability	1,444,045	920,581	87,734	363,552
Per capita consumption (kg/gr)	145	95	10	33

1) Equals total national production minus exports, net changes in stocks and allocations for non food uses.

2) After application of transformation extraction rate.

Source: Impublished data.

TABLE 28.a

GUATEMALA: CONCESSIONARY FOOD SALES AND FOOD DONATIONS BY SOURCE;
 JULY 1986-DECEMBER 1988.

Source:	Quantity (m.t.)
1. U.S. Government.	
a. PL 480, Title I	260,600
b. Section 416 (Sugar quota concession)	176,239
c. PL 480, Title II	78,891
2. World Food Programme	52,873
3. West - Germany - Guatemala	
Bilateral Agreement	9,888
Total	578,491

Source: Inpublished data.

TABLE 29

GUATEMALA: FOOD INTAKE PATTERNS IN URBAN AND RURAL AREAS; 1965 AND 1987

Food group:	Rural 1)		Urban 2)	
	1965 a)	1987 b)	1965 a)	1987 c)
1. Milk and milk products	111	14.9	304	69.4
2. Eggs	20	15.3	28	51.3
3. Meats	40	41.0	65	35.4
4. Beans	44	43.1	45	80.9
5. Vegetables	61	130.2	120	119.8
6. Fruit	11	13.1	63	75.2
7. Musaceas (banana)	32	7.6	37	61.3
8. Roots and tubers (potato)	16	85.5	22	43.6
9. Rice	17	10.9	27	25.1
10. Corn and corn products	500	513.3	157	275.1
11. Bread	31	6.4	134	121.1
12. Other cereals	13	6.7	15	25.2
13. Sugar	53	49.1	71	85.0
14. Fats and oils	6	3.2	20	18.9

1. Western Highlands

2. Guatemala City

a. grams/day/person

b. grams/day/adult equivalent; n=900

c. grams/day/adult equivalent; n=200

Sources: Alarcon and Rivera (1989)

INCAP (1988)

INCAP/NIH/MSPAS (1969)

TABLE 30

GUATEMALA: DIFFERENT FOOD GROUPS AS SOURCES OF DAILY INTAKES OF ENERGY, PROTEIN, IRON, AND VITAMINS A AND C IN RURAL AND URBAN AREAS.

1985

Food Group	Rural 1)					Rural 2)				
	Energy	Protein	Iron	Vit A	Vit C	Energy	Protein	Iron	Vit A	Vit C
1. Milk and products	3.3	6.8	1.4	5.2	0	8.5	15.1	4.7	12.9	3.7
2. Eggs	1.3	3.2	2.7	3.0	0	1.8	4.6	4.4	3.9	0
3. Meat	3.5	13.5	8.9	25.4	0	4.3	19.6	14.4	8.9	0.2
4. Beans	8.5	18.7	24.7	0.6	0	7.0	15.1	20.5	0.4	0.7
5. Vegetables	1.0	1.7	2.1	37.4	58.8	2.0	2.7	7.7	45.5	44.6
6. Fruits	0.6	0.2	0	6.1	23.5	1.5	0.6	2.3	11.2	34.3
7. Musaceae (banana)	1.5	0.4	0.7	5.2	11.8	1.8	0.6	1.3	3.7	9.4
8. Roots (potato)	0.7	0.4	0.7	0	5.9	0.8	0.5	1.1	0	6.6
9. Cereals	65.0	52.6	50.7	15.4	0	50.5	38.3	39.5	1.5	0
10. Sugar	10.0	0.1	4.8	0	0	12.2	0	0.5	0	0.1
11. Fats and oils	3.6	0.0	0.0	0.0	0	7.3	0.0	0.6	6.8	0.0
12. Others	1.2	2.3	3.4	1.7	0	2.2	2.7	3.1	5.2	0.4
Average: (day/person)	1994 (kcal)	60.4 (gr.)	14.6 (mg.)	0.69 (mg.)	34.0 (mg.)	2065 (kcal)	66 (gr.)	14 (mg.)	0.8 (mg.)	64 (mg.)

1) All regions: n=203

2) Guatemala City: n=100

Source: INCAP/ NIH/ MSPAS (1969).

TABLE 31

GUATEMALA: DIFFERENT FOOD GROUPS AS SOURCES OF DAILY ENERGY INTAKE PER ADULT EQUIVALENT, AND OF PRESCHOOL CHILDREN, WESTERN HIGHLANDS; 1987

Percent distribution

Food group	Adult equivalent 1)	Preschool Child 2)
1. Milk and milk products	0.7	0.9
2. Eggs	1.1	1.7
3. Meats	2.3	3.1
4. Beans	6.5	7.7
5. Vegetables	2.3	2.8
6. Fruits	0.3	0.5
7. Musaceas	0.3	0.5
8. Roots and tubers	2.2	3.6
9. Rice	1.8	2.4
10. Corn and corn products	70.0	59.3
11. Bread	1.1	1.4
12. Sugar	7.9	10.6
13. Fat and oil	1.2	1.9
14. Other	2.3	3.6
	100.0	100.0

1) n=898

2) n=559

Source: INCAP (1988)

TABLE 32

GUATEMALA: DIFFERENT FOOD GROUPS AS SOURCES OF DAILY ENERGY AND PROTEIN INTAKE IN GUATEMALA CITY; 1987.

Percent distribution

Food Group	Calories	Protein
1. Milk and milk products	4.7	7.7
2. Eggs	2.8	6.2
3. Meats	4.6	17.9
4. Beans	10.7	22.6
5. Vegetables	1.4	1.8
6. Fruits	1.2	0.4
7. Musaceas (banana)	1.8	0.6
8. Roots and tubers	1.1	0.8
9. Corn and corn products	26.1	21.2
10. Cereals and pastas	7.4	6.5
11. Bread	17.4	12.2
12. Sugar	12.7	-
13. Fats and oils	6.1	-
14. Other	2.0	2.1
	100.0	100.0
Averages: (day/adult equiv.)	2637 (Kcal)	83 (gr.)

Source: Alarcon and Rivera (1989)

TABLE 33

GUATEMALA: PREVALENCE OF MALNUTRITION AMONG PRESCHOOL CHILDREN IN THE
HIGHLANDAS; 1980's.

Location	Year	Percent of Children		
		Weight deficient 1)	Stunted 1)	Wasted 1)
1. Region I 2)	1983 a)	36.8	67.6	1.7
	1987 b)	51.7	81.8	4.2
2. Department of Sacatepeques	1983 c)	43.2	82.1	1.7
	1985 c)	42.4	89.2	1.3
3. Department of Totonicapan, El Quiche	1987 d)	58.3	66.2	8.2

Source: Bon Broun Hoschiss and Immink (1989).

1) Percent children below - 2 Z scores of reference NCHS pattern

2) Includes: Huehuetenango, Quetzaltenango, San Marcos, Totonicapan, El Quiche, Solola.

a) Children 0 - 60 months.

b) Children 12 - 60 months.

c) Children 6 - 60 months.

d) Children 0 - 71 months.

TABLE 34

GUATEMALA: TAX REVENUES: 1970-1985

	1970	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
Millions of quetzales												
Total central government taxes	148.7	300.7	370.3	556.9	626.6	629.4	686.1	658.6	632.7	551.5	536.1	689.
Corporate income tax	14.4	42.1	45.5	56.7	74.4	72.3	70.6	84.9	83.5	82.4	81.6	74.
Personal income and property tax	10.3	20.6	22.0	23.1	30.7	28.8	33.7	30.1	26.2	36.6	38.6	57.
Indirect taxes on domestic transactions	77.6	146.5	183.7	227.8	251.9	280.4	316.3	356.1	389.8	331.3	301.7	408.
Import taxes	37.7	60.2	69.9	97.1	108.4	117.9	111.9	105.2	80.5	67.4	80.7	80.
Export taxes	8.7	31.3	49.2	152.2	158.3	125.8	149.7	68.2	48.7	39.8	28.4	9.
Other taxes on international transactions	0.0	0.0	0.0	0.0	2.9	4.2	3.9	4.1	4.0	4.0	5.1	58.
Taxes not levied by the central government	28.7	47.4	56.3	92.5	82.9	134.5	147.1	158.0	159.5	163.4	167.2	169.
Total taxes	177.4	348.1	426.6	649.4	709.5	763.9	833.2	816.6	792.2	714.9	703.3	658.
Percent of GDP												
Total central government taxes	7.8	8.2	8.5	10.2	10.3	9.1	8.7	7.7	7.3	6.1	5.7	6.
Corporate income tax	0.8	1.2	1.0	1.0	1.2	1.0	0.9	1.0	1.0	0.9	0.9	0.
Personal income and property tax	0.5	0.6	0.5	0.4	0.5	0.4	0.4	0.3	0.3	0.4	0.4	0.
Indirect taxes on domestic transaction	4.1	4.0	4.2	4.2	4.1	4.1	4.0	4.3	4.5	3.7	3.2	3.
Import taxes	2.0	1.7	1.6	1.8	1.8	1.7	1.4	1.2	0.9	0.7	0.9	0.
Export taxes	0.5	0.9	1.1	2.8	2.6	1.8	1.9	0.8	0.6	0.4	0.3	0.
Other taxes on international transactions	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.
Taxes not levied by the central government	1.5	1.3	1.3	1.7	1.4	1.9	1.9	1.8	1.8	1.8	1.8	1.
Total taxes	9.3	9.5	9.8	11.8	11.7	11.1	10.6	9.5	9.1	7.9	7.4	7.

Source: Ministry of Finance; General Planning Office and IMF.

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
Total current income	163.2	179.4	183.1	219.1	279.6	339.7	406.8	391.2	660.7	658.8	747.9	740.6	720.7	741.1	666.9	667.8
Total income	177.2	191.0	169.6	191.8	234.8	300.7	370.9	336.9	626.6	629.4	686.1	638.6	632.7	903.3	264.1	913.9
Direct income	29.9	29.9	28.9	32.1	39.4	62.7	67.3	79.8	103.1	101.1	104.9	113.0	109.7	194.9	83.4	126.2
Income tax	18.4	20.2	22.4	29.9	32.0	34.8	39.2	70.8	94.7	92.9	96.7	107.0	102.2	128.2	78.3	108.0
Personal	4.9	3.0	3.3	6.1	7.9	12.7	13.7	14.1	20.9	20.6	26.1	22.1	18.7	18.1	29.1	33.8
Corporate	14.1	15.2	16.9	19.2	24.7	22.1	25.5	56.7	74.4	72.9	70.6	84.9	83.5	110.1	49.4	74.2
Property tax	3.3	3.1	6.3	6.8	7.4	7.9	8.9	9.0	10.4	8.2	7.6	8.0	7.3	6.1	6.9	18.2
Territorial	3.1	4.8	6.2	6.3	6.9	7.6	8.1	8.6	9.7	7.9	7.2	7.3	7.0	3.4	3.9	17.6
Labour income and allowances	0.4	0.9	0.9	0.9	0.3	0.9	0.2	0.4	0.7	0.9	0.4	0.3	0.3	0.7	1.0	0.6
Indirect income	129.9	128.7	194.7	159.7	213.4	298.0	302.8	477.1	321.3	328.8	381.8	349.6	329.0	171.2	178.7	189.1
Business income	43.8	47.3	47.1	37.2	80.0	91.3	119.1	249.3	269.6	247.9	263.3	177.3	199.2	60.6	30.1	30.1
Import tariffs	36.2	38.3	37.4	41.6	38.8	60.2	69.9	97.1	108.4	117.9	111.9	103.2	80.3	13.4	18.6	19.4
(Preferential from Suez Canal)	7.6	9.4	9.0	9.2	19.8	14.2	16.0	21.9	29.2	26.0	24.8	29.9	18.9	13.9	18.6	19.0
(Others)	28.6	29.1	28.4	32.4	19.0	46.0	53.9	75.8	83.2	91.9	87.1	81.3	62.2	0.1	0.0	0.4
Export tariffs	9.6	9.0	9.7	13.6	21.2	31.9	49.2	132.2	138.9	123.8	149.7	68.2	48.7	43.2	31.3	10.7
Coffee	8.4	7.3	7.9	19.7	20.1	7.8	38.7	140.8	147.2	113.1	199.1	49.1	93.9	27.3	22.0	7.3
Banana	0.2	0.2	0.9	0.2	0.9	0.4	6.2	6.7	7.6	6.3	9.7	10.9	10.0	6.1	2.9	1.9
Cotton	0.2	0.2	0.4	0.4	0.3	1.6	1.6	0.9	9.2	0.7	4.6	7.8	2.2	0.6	0.4	0.2
Sugar	0.0	0.0	0.0	0.0	0.0	19.9	2.3	0.9	0.0	0.2	1.7	6.6	0.0	3.4	9.1	0.8
Others	0.8	1.1	1.1	1.9	0.9	2.2	0.2	4.1	0.9	6.9	0.6	0.4	0.6	3.6	9.1	0.9
Other business income	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	4.2	9.9	4.1	4.0	0.0	0.0	0.0
Taxes on domestic transfers	77.3	81.2	87.6	102.3	133.4	146.3	189.7	227.8	261.9	288.4	316.9	366.1	389.8	118.6	128.6	133.0
Tax stamp	33.6	36.9	40.6	49.6	74.1	78.3	104.7	140.2	131.6	171.9	200.9	261.0	284.8	29.7	19.9	38.3
Patrol tax	11.3	12.0	19.2	14.3	16.3	18.1	19.9	17.6	24.2	28.8	24.9	20.7	19.3	24.3	49.9	42.6
Tobacco	6.7	7.1	7.0	7.2	8.3	10.2	12.4	19.1	19.9	16.9	20.7	20.6	22.8	24.3	29.0	32.3
Alcohol	13.9	17.4	17.9	19.9	29.8	23.6	31.1	36.8	40.4	42.7	46.6	49.0	41.9	39.6	40.8	49.6
Carbonated drinks	0.0	0.0	2.2	2.3	2.7	9.2	9.8	3.4	3.3	3.2	3.4	3.6	3.3	9.4	0.7	0.8
Others	7.8	7.8	6.7	8.8	9.8	10.9	12.4	14.7	16.4	16.0	19.0	13.2	13.9	0.9	0.9	1.0

Source: Public Financial Statistics, Economic Studies Department, Bank of Guatemala.

TABLE 26
GUATEMALA: PUBLIC SECTOR AGRICULTURE BUDGET, 1977-85

	1977	Per- Cent	1978	1979	1980	Per- Cent	1981	Per- Cent	1982	1983	1984	1985	Per- Cent
(THOUSAND OF QUETZALES)													
MINISTRY OF AGRICULTURE													
Operating cost	2,908		1,211	1,344	2,102		2,823		1,949	3,687	3,070	3,070	
Fixed investment	-		-	-	-		863		2,910	-	-	-	
Other	459		463	4,291	5,210		6,189		3,689	3,613	6,204	6,340	
Subtotal	3,367	4	1,674	5,635	7,312	4	9,875	3	10,748	9,450	9,274	9,611	6
DIGESA													
Operating cost	11,424		10,807	11,101	13,332		13,097		12,243	9,913	9,238	10,726	
Investment cost	2,789		1,324	1,790	941		1,114		1,010	3,383	2,275	2,240	
Other	-		-	-	-		-		-	-	-	-	
Subtotal	14,212	13	12,331	12,891	14,293	8	14,211	7	14,253	13,296	11,513	12,966	8
DIGESEPE													
Operating cost	0		0	0	3,092		2,884		3,247	2,877	2,679	2,677	
Investment cost	-		-	-	-		-		203	7,157	4,548	2,851	
Other	-		-	-	-		-		-	-	-	-	
Subtotal	-		-	-	3,092	2	2,884	1	3,450	10,034	7,227	5,728	4
INTA													
Operating cost	1,236		3,708	2,733	4,736		3,832		3,734	4,630	3,131	4,388	
Investment cost	3,670		2,347	7,617	11,786		8,000		6,400	3,656	2,932	2,823	
Other	1,164		3,904	7,508	6,048		7,904		-	-	-	-	
Subtotal	6,090	6	11,959	16,436	24,391	13	19,736	9	12,134	8,346	6,103	7,414	3
ICTA													
Operating cost	3,134		3,638	3,622	4,334		4,960		4,968	4,644	4,606	3,550	
Investment cost	183		68	60	193		93		84	139	-	174	
Other	-		124	138	170		-		168	170	173	108	
Subtotal	3,320	4	3,831	3,840	4,697	3	5,073	2	5,220	4,974	4,778	4,232	3
INAFOR													
Operating cost	2,463		3,477	3,486	3,100		3,073		4,440	3,533	3,346	3,387	
Investment cost	432		1,116	3,000	2,213		3,730		4,278	1,530	1,398	1,392	
Other	53		-	134	-		-		207	47	61	136	
Subtotal	3,011	3	4,593	6,620	7,316	4	6,823	4	8,925	5,510	5,205	4,914	3

(continued)

Table 36a.

	1977	per- cent	1978	1979	1980	per- cent	1981	per- cent	1982	1983	1984	1985	per- cent
(Thousands of Quetzales)													
INDECA													
Operating cost	1,992		1,612	1,808	4,658		5,336		5,030	4,462	1,783	1,755	
Investment cost	878		333	493	1,616		2,034		1,611	-	-	-	
Other	41,967		30,462	46,206	32,123		42,654		40,991	38,939	33,431	37,061	
Subtotal	44,937	48	32,408	48,507	38,397	2	50,024	24	47,633	43,401	35,214	38,816	24
PROLAC													
Operating cost	242		302	211	510		417		245	198	175	209	
Investment cost	612		917	-	-		-		-	-	-	-	
Other	4,820		4,182	4,519	3,539		3,570		3,413	3,670	2,978	2,943	
Subtotal	5,674	6	5,402	4,730	3,049	2	3,987	2	3,658	3,868	3,153	3,152	2
CANDESA													
Operating cost	6,188		7,441	9,249	10,228		14,308		11,687	12,067	15,863	15,394	
Investment cost	690		250	271	-		190		240	90	120	-	
Other	6,908		1,908	68,605	68,838		80,130		75,526	58,747	56,474	59,469	
Subtotal	13,686	15	9,599	78,125	79,066	43	94,618	45	87,452	70,904	72,457	74,864	46
Total operating costs	29,604	35	32,197	33,755	48,132	26	52,774	25	51,563	48,584	46,111	45,946	28
Total investment costs ^b	9,177	10	5,555	13,432	16,755	9	16,036	8	16,737	16,415	11,493	9,422	6
Total other ^c	55,410	59	43,044	131,881	117,920	65	140,447	67	125,193	105,186	99,320	106,258	66
GRAND TOTAL	94,191	100	81,796	179,067	182,816	100	209,258	100	193,492	170,184	156,924	161,635	100

a. DIGESEPE was part of DIGESA.

b. Physical or financial investment through specific projects.

c. Includes transfers, indirect investment, commercial or industrial operations, financial assistance, public debt, and reconstruction.

TABLE 37

Guatemala: Annual Guaranteed Prices of Basic Grains and
Comparison with Market Prices
Q. 19 Quintal

Commodity	1986	1987	1988	1989
1. Maize				
Guaranteed Price	7.30	15.50	17.00	19.00
Market Price	10.00	18.50	18.90	30.00
2. Beans				
Guaranteed Price	20.00	42.50	54.00	69.50
Market Price	57.00	62.00	80.00	90.00
3. Rice				
Guaranteed Price	11.50	22.00	24.00	24.00
Market Price	63.00	69.00	65.00	70.00

Sources: INDECA

CUADRO GUBERNAL
CREDITO OTORGADO AL SECTOR AGRICULTARIO, SILVICULTURA, CAZA Y PESCA, POR EL SISTEMA BANCARIO.
PERIODO 1960-1988
COMPRIMIDO EN PORCENTAJES POR SECTOR RESPECTO A TOTALES

TOTALES 1960	AGRICULTURA Q. %	01 %	GANADERIA Q. %	10 %	SILVICULTURA Q. %	0 %	CAZA Y PESCA Q. %	0 %	GRAN TOTAL Q. %	100 %
TOTAL SISTEMA	158600	100	35571	100	434	100	954	100	195,559	100
BANCOS PRIVADOS	115424	73	16856	47	434	100	954	100	133,260	68
BANCOS ESTATALES	37367	24	15679	44	0	0	0	0	53,046	27
BANDESA	26532	17	9250	26	0	0	0	0	35,782	18
Bancario	5174	3	5105	14	0	0	0	0	10,279	5
Fideicomiso	21358	13	4145	12	0	0	0	0	25,503	13
OTROS ESTATALES	10835	7	6429	18	0	0	0	0	17,264	9
FINANCIERAS	6009	4	3236	9	0	0	0	0	9,245	5
TOTALES 1961		04		14		1		1		100
TOTAL SISTEMA	179482	100	30345	100	1816	100	1125	100	212,758	100
BANCOS PRIVADOS	122277	68	18077	59	1265	70	1125	100	141,604	66
BANCOS ESTATALES	46381	26	11544	38	0	0	0	0	57,925	27
BANDESA	39741	22	5804	19	0	0	0	0	46,550	21
Bancario	7649	4	1993	7	0	0	0	0	9,542	4
Fideicomiso	32192	18	3811	13	0	0	0	0	36,008	17
OTROS ESTATALES	6640	4	5735	19	0	0	0	0	12,375	6
FINANCIERAS	10874	6	2714	9	151	8	0	0	14,139	7
TOTALES 1962		05		13		1		1		100
TOTAL SISTEMA	161489	100	25490	100	1842	100	2033	100	190,854	100
BANCOS PRIVADOS	110704	74	18872	66	1842	100	2033	100	139,451	73
BANCOS ESTATALES	36549	23	7248	28	0	0	0	0	43,833	23
BANDESA	31920	20	3760	15	0	0	0	0	35,880	19
Bancario	10	0	229	1	0	0	0	0	239	0
Fideicomiso	31910	20	3531	14	0	0	0	0	35,441	19
OTROS ESTATALES	4429	3	304	1	0	0	0	0	7,913	4
FINANCIERAS	6436	4	1374	5	0	0	0	0	7,910	4
TOTALES 1963		05		13		0		1		100
TOTAL SISTEMA	183689	100	29095	100	995	100	1768	100	215,747	100
BANCOS PRIVADOS	137277	75	19664	68	967	97	1768	100	159,681	74
BANCOS ESTATALES	35373	19	6186	21	0	0	0	0	41,559	19
BANDESA	30549	17	4275	15	0	0	0	0	34,922	16
Bancario	212	0	404	1	0	0	0	0	616	0
Fideicomiso	30437	16	3969	14	0	0	0	0	34,306	16
OTROS ESTATALES	4824	3	1815	6	0	0	0	0	6,637	3
FINANCIERAS	11259	6	3240	11	28	3	0	0	14,507	7
TOTALES 1964		02		16		1		1		100
TOTAL SISTEMA	199582	100	38773	100	2271	100	3472	100	244,068	100
BANCOS PRIVADOS	140536	70	24578	63	1778	78	3472	100	170,384	70
BANCOS ESTATALES	49891	25	12053	31	0	0	0	0	61,994	25
BANDESA	44314	22	7913	20	0	0	0	0	52,227	21
Bancario	189	0	1355	3	0	0	0	0	1,544	1
Fideicomiso	44125	22	6558	17	0	0	0	0	50,683	21
OTROS ESTATALES	5577	3	4140	11	0	0	0	0	9,717	4
FINANCIERAS	9125	5	2142	6	493	22	0	0	11,740	5
TOTALES 1965		00		19		1		1		100
TOTAL SISTEMA	160224	100	37502	100	1157	100	1419	100	200,382	100
BANCOS PRIVADOS	116603	73	31040	83	916	79	1419	100	150,178	75
BANCOS ESTATALES	32129	20	4790	13	0	0	0	0	36,919	18
BANDESA	27956	17	3070	8	0	0	0	0	31,026	15
Bancario	189	0	1355	3	0	0	0	0	1,544	1
Fideicomiso	44125	22	6558	17	0	0	0	0	50,683	21
OTROS ESTATALES	5577	3	4140	11	0	0	0	0	9,717	4
FINANCIERAS	9125	5	2142	6	493	22	0	0	11,740	5
TOTALES 1966		03		15		0		1		100
TOTAL SISTEMA	203667	100	37357	100	798	100	2320	100	244,342	100
BANCOS PRIVADOS	134018	66	26162	69	482	60	2320	100	162,982	67
BANCOS ESTATALES	63354	31	6486	17	0	0	0	0	69,840	29
BANDESA	41300	20	5203	14	0	0	0	0	46,503	19
Bancario	1960	1	1589	4	0	0	0	0	3,549	1
Fideicomiso	39440	19	3614	10	0	0	0	0	42,954	18
OTROS ESTATALES	22054	11	1883	5	0	0	0	0	23,337	10
FINANCIERAS	6315	3	5109	14	316	40	0	0	11,740	5
TOTALES 1967		00		10		0		0		100
TOTAL SISTEMA	213946	100	23378	100	15	100	38	100	237,377	100
BANCOS PRIVADOS	127336	60	5336	23	15	100	38	100	132,724	56
BANCOS ESTATALES	77464	36	9491	41	0	0	0	0	87,955	37
BANDESA	71856	34	8461	36	0	0	0	0	80,317	34
Bancario	28985	14	4113	18	0	0	0	0	33,098	14
Fideicomiso	42871	20	4348	19	0	0	0	0	47,219	20
OTROS ESTATALES	6108	3	1830	8	0	0	0	0	7,638	3
FINANCIERAS	8646	4	8052	34	0	0	0	0	16,198	7
TOTALES 1968		07		13		0		0		100
TOTAL SISTEMA	181231	100	25577	100	256	100	474	100	208,538	100
BANCOS PRIVADOS	79871	44	8492	34	106	41	114	24	85,083	43
BANCOS ESTATALES	93672	52	13591	51	0	0	0	0	107,263	51
BANDESA	80731	45	11566	44	0	0	0	0	92,297	44
Bancario	48059	27	7830	29	0	0	0	0	55,897	27
Fideicomiso	32672	18	3720	14	0	0	0	0	36,400	17
OTROS ESTATALES	12941	7	2025	8	0	0	0	0	14,966	7
FINANCIERAS	7888	4	3494	15	150	59	360	76	12,132	6

APPENDIX C

BIBLIOGRAPHICAL REFERENCES

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BIBLIOGRAPHICAL REFERENCES

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APPENDIX D

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APPENDIX E

BRIEF BACKGROUND OF TEAM

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Ing. Jaime Carrera, a Guatemalan, is Professor of Agricultural Marketing and Rural Development at the Universidad Catolica Rafael Landivar in Guatemala City. He is licensed as Ingeniero Agronomo with a specialization in social sciences from the Universidad de San Carlos of Guatemala. He has held a number of high level executive positions in Guatemala's public agricultural sector. He has worked in several countries as a rural development consultant to the Interamerican Institute for Agricultural Cooperation (IICA), the Agency for International Development, the Food and Agricultural Organization (FAO), the United Nations Development Program.

Dr. Eugenio Figueroa, a native of Chile, is Professor of Economics, University of Chile. He received his Ph.D. in Agricultural Economics from the University of Maryland and holds a M.A. in Economics from the University of Toronto and a doctoral degree in Veterinary Medicine from the University of Chile. Dr. Figueroa is author of scholarly publications in micro-economic theory, econometrics and also conducts research in the areas of rural employment, income and poverty, agricultural marketing and international agricultural trade policy. He has professional experience in several Latin American countries.

Ing. Jose Isaias Figueroa C. is a Guatemalan economist and a graduate of the Universidad de San Carlos of Guatemala. He has worked 18 years as a specialist in agricultural credit and 10 years in the preparation and evaluation of agricultural, livestock and agro-industrial projects. He has held executive positions as Director and Sub-Manager of credit with BANDESA, Guatemala's public agricultural credit bank. Currently an agricultural credit consultant, he also serves as faculty supervisor for the Professional Intern Program of the Faculty of Economics, Universidad de San Carlos.

Dr. Maarten Immink, a native of Holland, is a senior research fellow with IFPRI. He received his Ph.D. in Human Resources and Development Economics at the University of Hawaii. He served with the Institute of Nutrition of Central American and Panama (INCAP) for a total of nine years, first as Research Associate and later as Chief, Division of Food and Nutrition Planning. He is the author of several studies relating to food and nutrition policy and recently co-authored a major IFPRI publication concerning the production, income and nutrition impacts of non-traditional export crops in Guatemala.

Dr. Juan Scott holds joint Canadian and Panamanian citizenship. He is currently Senior Economist with the Audit and Evaluation Branch of Agriculture Canada. His Ph.D. is in Agricultural Economics from the University of California-Berkeley. He has more than twenty years of professional experience in Canada and in several developing countries of the Caribbean, Africa and Latin America, including a four-year assignment in Zambia. His recent research focuses on medium-term planning and policy analysis pertaining to resource allocation, food production and distribution and hunger alleviation in Zambia.

Dr. Philip Warnken, a U.S. native, is Professor of Agricultural Economics, University of Missouri. He holds the Ph.D. in Agricultural Economics from Michigan State University and M.S. and B.S. degrees from Kansas State University. He has worked in five countries on a resident basis and has professional consulting experience in over two dozen nations of the Caribbean, Latin American, Asia and the Middle East. Author of numerous scholarly publications, his teaching and research focus on agricultural development policy and farm economics.