AGRICULTURAL SECTOR SURVEY AND POLICY REVIEW

GUYANA

Submitted by Robert R. Nathan Associates
to the Government of Guyana and
the U.S. Agency for International Development

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SUMMARY AND RECOMMENDATIONS

Guyana is entering a critical phase in its drive to reverse the downward trends of the past few years and realize the tremendous potential inherent in its land, its people, and its resources. The Economic Recovery Program announced in March 1989 represents a courageous and dynamic response to the severe problems facing the country. This program includes a number of difficult but necessary measures to address the principal barriers to recovery at the macroeconomic level. In order for the economy to generate the increase in production and exports necessary for the program's success, however, additional measures are necessary at the sectoral level. This report focuses on the agricultural sector and identifies the measures that, in the view of the study team, are most urgently needed to make this production response possible.

The urgency of meeting the preconditions for this response cannot be overemphasized. The GOG has acted boldly to address the economic crisis facing the country, but the success of the program rests on achieving rapid production gains. If these gains are not forthcoming, the implications for the economy are grave.

Agriculture is the largest productive sector in the Guyanese economy, accounting for an estimated 23% of GDP in 1988 and, together with agro-processing, contributing at least 26% of GDP. Guyana's rich resource base, extensive irrigation system, and well-educated labor force provide the basis for an agricultural economy capable of substantial growth over the near term.

Despite this potential, the agricultural sector has been hard hit by the overall decline in the economic position of the country. Agricultural production increased at an annual rate of 5.7% in constant terms during the early 1970s, paralleling a growth in GDP of 8.4% annually. This strong performance was not sustained, however, and agriculture grew at only 0.4% and 0.1% annually during the 1975-80 and 1980-85 periods, respectively. Performance imporved to a 3.7% annual rate of growth in 1986, but has been sharply negative for the past two years (-5.8% and -10.5%, respectively).

These declines mirror the stagnation of the Guyanese economy as a whole. The economy in recent years has been snarply affected by a scarcity of foreign exchange, leading to a shortage in critical inputs for agriculture and other sectors, by unsustainably high budget deficits, and by the deterioration of key infrastructure and services. In addition, the agricultural sector was negatively affected by a decline in world prices for the two main exports, rice and sugar, and by a number of technical problems.

The Government of Guyana (GOG) is taking strong action to reverse these trends and restore the country to a path of rapid growth in production and incomes. With the assistance of the International Monetary Fund, the GOG has formulated an Economic Recovery Program (ERP), a program of coordinated measures designed to bring key macroeconomic variables into alignment with the conditions necessary for a resumption of growth. This program rests on devaluation of the Guyanese Dollar (G$) to improve allocative efficiency in the economy and promote exports, a reduction of the public sector deficit and liquidation of unprofitable state enterprises, and a number of other measures designed to improve resource allocation and encourage greater production throughout the economy, including increases in the price of several import or export commodities. This difficult but necessary program was announced in March 1989 and implementation was in its early stages when the team visited Guyana in April 1989.

This study is designed to support the ERP by identifying the measures necessary within the agricultural sector to ensure a rapid production response to the opportunities created by macroeconomic reform. The study was undertaken by a team from Robert R. Nathan Associates under the joint sponsorship of the GOG and the U.S. Agency for International Development (A.I.D.). The study provides an overview of the agricultural sector, detailing the structure and recent performance in key subsectors, as well as the programmatic and policy measures taken by the GOG to promote the sector. The report gives particular emphasis to the implications of the ERP for the agricultural sector and for the food security of the population. The study identifies a range of measures that should be considered to promote the full and rapid recovery of the agricultural sector and resumption of growth in production and incomes. The study's recommendations focus in particular on how U.S. assistance could more effectively support the recovery, through a more targetted approach emphasizing use of the Self-Help Measures to remove priority constraints on the agricultural sector.

Structure and Performance of the Agricultural Sector

Agricultural production in Guyana is concentrated in a narrow coastal strip varying from about 10 to about 40 miles in width. This area, much of which is below sea level, is maintained by a system of dikes and irrigated by an extensive system of gravity-operated canals and drains, drawing water from the country's numerous rivers. Soils are relatively good in this region, and can be highly productive with proper management. Livestock production is concentrated in this area and in the savannah of the southwest. Fisheries include both coastal fisheries and river fisheries, the former more important. Exploitation of the country's rich tropical forest resources has to date been limited by transportation factors to a band extending the width of the country to the south of the coastal strip.

Sugar and rice have traditionally been the twin pillars of Guyana's agricultural sector and the basis of the nation's export economy. Sugar's relative position has been declining since the 1960s, but sugar continues to contribute over one-third of total GDP originating in the sector (38% in 1987 and 33% in 1988, down from over 50% in 1960). In absolute terms, sugar's contribution to GDP peaked at G$ 89 million in the early 1980s and has since declined to G$ 62 million in 1988 (at constant 1977 prices). Sugarcane occupies approximately 115,000 acres, 16% of total cropped area. Sugarcane production is concentrated on large government-owned estates and processing is almost entirely a public sector operation. Sugar in Guyana has suffered from the complex of problems common to the subsector throughout the Caribbean, including labor shortages and unrest, technical shortfalls in public sector processing and management, and pressure from competing crops. Yields have fallen from 36 MT/acre in 1970 to 29 MT/acre in 1987. Area harvested has shown high year-to-year variability with a generally declining trend, reaching 106,000 acres in 1987. GUYSUCO, the parastatal with lead responsibility in the sector, is attempting to respond to these problems and to diversify its operation.

Rice production has remained roughly constant at slightly below 20% of GDP throughout the period from 1960 to the present. Production has increased, with contribution to GDP in constant terms doubling from G$ 22 million in 1960 to G$ 46 million in 1986, but fell off to G$ 35 million in 1988. Rice yields have been roughly constant during the 1980s, at around 700 kg./acre, while area reaped has fallen sharply from 258,000 acres in 1980 to 186,000 in 1987 (on cropland of 130,000 acres -- 18% of the total cropland -- with extensive double-cropping). Rice is grown by both large and small farmers, with an estimated 44% of the riceland farmed by farmers with less than 15 acres in 1978 (some consolidation has apparently taken place since that time, however).

Production of other crops, including coconuts, ground provision, horticultural crops, and others, has maintained a fairly strong upward trend since the 1960s, and its contribution to GDP has nearly doubled from G$ 25 million in 1960 (at 1977 prices) to G$ 49 million in 1988. Contribution to agricultural GDP has risen steadily to a level of 26% of GDP. Other crops occupy an estimated 84,000 acres (12% of cropped area), with coconuts being the most important crop by area, followed by citrus and banana, vegetables and annual oil crops, and roots and tubers (ground provisions).

Livestock production grew strongly during the 1960-1980 period, but has declined throughout the 1980s, reaching G$ 16 million in 1988 (9% of agricultural GDP). Fisheries, by contrast, have performed well, more than tripling in constant terms to reach G$ 18 million in 1988 (10% of agricultural GDP), fuelled by a strong growth in the shrimp catch. Forest production has been largely stagnant since 1960, at G$ 8 million, declining to 4% of agricultural GDP in 1988.

Agriculture continues to account for the largest share of the country's merchandise exports, although exports have fluctuated sharply during the 1980s in US dollar terms. Sugar and rice together accounted for 42% of total merchandise exports in 1988 (35% and 7% respectively). The contribution of other agricultural products could not be quantified with the data available to the team, but was reported to be significant and growing, due to the expansion of horticultural exports to the region.

Rice, ground provision, and wheat (imported) are the staples of the Guyanese diet, although vegetable oil, meat products, fruit, and vegetables are consumed at levels that are relatively high by international standards. Countrywide data on nutrition has not been collected since a survey in the late 1970s, but available data indicates malnutrition continues to be a significant problem, particularly in rural areas. A recently completed review of the nation's health status found that approximately 30% of children measured in health centers nationwide measured below 80% of the WHO standard for their age, indicating substantial malnutrition.

The recent trends indicate a deterioration in the nutritional status of. the population, moreover, with increasing hospital admissions for malnutrition and increasing mortality among those admitted. These trends are a source of particular concern, given the expected negative short-term consequences of the ERP.

Policy and Programmatic Interventions in the Sector

Programs in Support of Agricultural Development

The GOG is moving from a development strategy based on heavy state intervention and marginalization of the private sector to one based primarily on supporting private sector expansion in the productive sectors. Elements of both strategies are present in the current policy climate and reflected in the programs under way in the agricultural sector.

At the programmatic level, the leading institution in the sector is the Ministry of Agriculture (MOA), with five main departments (Lands and Surveys, Hydraulics, Planning, Crops and LIvestock, and Fisheries). The Ministry has overall technical responsibility for the sector, providing oversight and assistance to 18 major parastatals or other organizations, including GUYSUCO, the National Dairy Development Program (NDDP), the National Agricultural Research Institute (NARI), the Guyana Agricultural and Industrial Bank (GAIBank), and three parastatals responsible for the rice sector (GRMMA, GREB, and NPRGC).

Under Guyana's decentralized system of government, the regional administrations play a key role in the system. Both irrigation management and extension fall under their direct control, with technical support from MOA.

Other government-owned corporations play an important role in the sector as well. Notable among these is the Guyana National Trading Company (GNTC), which, due in part to the severe foreign exchange crisis, has been given the sole right to import fertilizer and other agrochemicals and which also serves as the agent for import of the most common make of agricultural machinery (Massey Ferguson).

A number of public sector institutions or parastatals support development of rural small industry, principal among which are GUYMIDA and GAIBank.

Although the private sector is responsible for virtually all agricultural production outside of the sugar subsector and for a large share of processing and marketing, particularly of non-traditional products, formal organization in this sector is weak, due in part to the legacy of the past state-led growth strategy. The Chamber of Commerce and the National Association of Manufacturers are resuming their past role as representatives of the private sector, but formal associations of agricultural producers, such as the Rice Producers Association, have not been given formal recognition. In the area of small enterprise development, the most active institution is the Institute for Small Enterprise Development (ISED), which has been supported primarily through PL-480 funds and other donor funds. Activity by PVOs and NGOs in Guyana is limited.

Other than GAIBank, Guyaneses banks have not been aggressive in lending for agribusiness, but approximately 20% of net lending is directed to agricultural and agribusiness. Nonetheless, commercial banks (public and private) provide a more significant source of credit to the sector, with the two largest banks reporting net lending of G$ 356 million, compared to GAIBank lending of G$ 34 million in 1988. As is the experience in most countries, the commercial banks are not active in providing credit for small farmers, however. GAIBank is thus the only source of formal credit for this group, but funding and institutional restrictions limit GAIBank lending to a relatively small proportion of total farmers (e.g., fewer than 1400 seasonal loans were made to the rice sector in 1988, compared to a potential need for approximately 50,000 loans).

Donor support to agricultural development has been curtailed due to the withdrawal of several major donors from Guyana in the mid-1980s. The Interamerican Development Bank and, to a lesser extent, the Canadian International Development Agency continue to be active. The IDB portfolio emphasizes drainage and irrigation, rice milling, and area development, while the more limited CIDA portfolio focuses on fisheries and rural enterprise.

<u>Policy Interventions in Agricultural Markets</u>

The ongoing process of economic reform in Guyana has removed many of the policy constraints that previously restricted growth in the sector. Nonetheless, government involvement in agricultural markets continues to be a major factor in the performance of the sector. The most important policy interventions are currently concentrated at three levels:

- <u>Input markets</u>: regulation of access to land on state-sponsored irrigation schemes, notably Mahaica-Mahaicony-Abary; regulation of fertilizer pricing, trading, and importation, with effective limitation of the wholesale level to GNTC; regulation of certain other agrochemical inputs; regulated prices for fuel and lubricants

- <u>Product markets at the farm level</u>: reform of the price-fixing mechanism has removed most price controls and marketing restrictions at this level, except for rice and sugar; policy interventions in the former include fixed prices to the farmer for paddy; fixed prices to the miller for rice; prohibition on private trading domestically in rice or paddy with limits on stocks held by farmers and millers; licensing of exportation

- <u>Product markets at the consumer level</u>: the list of controlled prices has been reduced to a limited number of commodities viewed as strategic by the GOG, including rice and wheat flour.

Policy interventions outside the sector, particularly the regulation of interest rates, the exchange rate, and other key macroeconomic variables, also have an important impact on the sector. In particular, the combination of a severe shortage of foreign exchange with an official rate far below the parallel rate, despite the recent devaluation, exerts a sharp upward pressure on prices for consumers, farmers, and traders. Parallel markets exist for rice, wheat flour, and edible oil, although the team was not able to gauge the relative magnitude of the two markets. Thus, flour (all PL-480 in origin) is officially priced at G$ 8/lb. but moves on the black market at prices reportedly up to G$ 11/lb., rice officially priced at G$ 42/gallon fetches a black market price of G$ 50-52/gallon, and oil, available in state outlets for G$ 35/pt., is priced at G$ 60/pt. on the open market. Spare parts and many agrochemical inputs are available only on the black market, at prices determined by the parallel market exchange rate, which was running at nearly twice the official rate when the team visited the country in April (52-58:1, compared to 33:1) and has reportedly risen to the vicinity of 80:1.

The exchange rate differential has also fuelled the rise of a thriving informal import-export market, which has largely replaced formal channels for all but the largest suppliers. Guyanese products, primarily agricultural goods including rice, shrimp, and a range of horticultural products, are exported by boat or air freight to markets in the region (principally Surinam, Barbados, Venezuela, and Trinidad). The profitability of this trade depends more on the potential gain from resale in Guyana of goods purchased with the proceeds from the foreign sale, not from the profit on this sale per se.

Recovery Strategy for the Sector, Principal Constraints, and Counter-Measures Proposed for Consideration by the GOG and A.I.D.

A resumption in the growth of agricultural production and export is vital to the success of the ERP. The most promising strategy to achieve this growth is based on three priorities:

- Short-term emphasis on traditional strengths -- rice and sugar -- as offering the best prospects for immediate increase in export revenues

- Actions to pave the way for rapid expansion private sector production and export of non-traditionals with high value-added

- Attention to the needs of critical irrigation and transport infrastructure to sustain the productive base

To implement this strategy within the extremely tight resource constraints facing Guyana, the GOG and cooperating donors must target their limited funds to address the constraints that most immediately restrict progress in these three areas. This strategic allocation of funds, which must be bound by the overall parameters agreed to by the GOG and the IMF, will be most effective if accompanied by policy measures to encourage and facilitate private sector expansion into production, processing, and marketing. While the need to encourage small-scale activities in these areas cannot be overemphasized, the urgency of achieving a near-term increase in output precludes a focus limited to this sector, which is dynamic but small in absolute size. In this connection, projects and programs to aid specific communities or enterprises, while important, are not a substitute for broader action to remove economy-wide constraints and allow economic forces to respond fully and freely to the many opportunities facing Guyana.

The team identified 10 constraints to recovery of agricultural production and growth of exports, and recommends consideration of the following measures to address them:

1. Drainage and Irrigation. Despite recent and ongoing investments in rehabilitation of existing systems and expansion of schemes such as MMA, the effectiveness of the D&I system continues to fall far below the level needed to sustain agricultural production, much less to achieve real growth. Both technical and institutional problems reduce efficiency in the system's operation. While the lack of equipment to undertake repairs -- caused by the shortage

of foreign exchange -- is perhaps the greatest single problem, measures in other areas could bring real improvement.

> In particular, the realignment of responsibilities between the regional administrations and the local authorities recommended by the NEDECO report appears to have earned the endorsement of both farmers and system administrators and should be implemented.

2. Input Marketing and Availability. The shortage of foreign exchange has hampered progress toward liberalization of the system for importation and distribution of fertilizer, agrochemicals, spare parts, and other items. Despite the continuation of this problem, the rapid recovery of the sector demands a freer and more efficient distribution system, which can only be achieved by expanding the role of the private sector (the IDB report, available in draft, comments on the high cost of fertilizer imposed by the high margins in the current, parastatal-managed distribution system; knowledgeable observers commented repeatedly on the inefficiency with which GNTC manages importation of equipment for priority projects in the sector).

> It is recommended 1) that the GOG consider removing the restriction on importation and internal trade in agricultural chemicals and 2) that all dealerships in imported agricultural equipment be transferred to private firms selected by the overseas manufacturer/dealer.

3. Farm-to-Market Transport. While Guyana's road system has deteriorated considerably in recent years, the shortage of transport equipment caused by limited access to foreign exchange is perhaps a greater problem at present.

> It is recommended that priority be given to funding imports of transport equipment and to full funding of budget line items for repair and expansion of roads, bridges, and other transport infrastructure.

4. Technology and Seed Availability. Guyana has experienced the difficulty in establishing viable national systems for research, extension, and seed multiplication common to small countries throughout the world. The shortage of operating funds and foreign exchange have exacerbated this situation to the point where these systems are near collapse. Long term solutions will imply a strong role for national as well as international institutions but, in the short term

it is recommended that priority be given to supporting private sector and international efforts in seed technology and multiplication, as well as other technology development activities

5. Land Tenure and Access. Land tenure problems exist at two levels, both exemplified by the situation on MMA, but not limited to that scheme: 1) small farmers on government schemes have leases limited to one year, reducing their incentive to make long-term investments in their land and limiting access to credit and 2) large-scale investors interested in developing unused parts of the scheme have thus far not been able to gain approval for their proposed investments.

   It is recommended that the GOG increase the lease on all government schemes to at least 25 years, as in the past, and that the GOG approve pending applications for investments on unused land in the MMA areaa to send a strong signal of support to the private sector.

6. Credit. Guyana's difficulties in supplying credit to small farmers are typical of those in developing countries generally, including disappointing scope and performance in lending by the public sector development bank, limited interest in lending to agriculture by commercial banks, and absence of alternatives. The recent trend for private millers to advance credit to farmers to facilitate production of rice for the highly profitable EEC cargo (husked) rice market demonstrates the valuable contribution of these informal sources to farmer credit access, particularly in a situation where nominal rates in the formal sector are rising rapidly. The team did not identify any measures necessary in this area, although it should be emphasized that

   Rapid expansion of private involvement in input marketing, product processing offers the best hope for increasing small farmer access to credit.

7. Investment Climate. Despite continued progress in liberalizing the economy, offshore and domestic private sector investors remain hesitant to commit themselves fully to the long-term investments necessary to achieve economic growth. Additional evidence of the GOG's good faith toward private investment from all sources is necessary to overcome the lessons of the recent past.

   It is recommended that the GOG send a strong signal of support to the private sector by 1) repealing the Nationalization Act, 2) repealing the Compulsory Acquisition Act, and 3) promoting the active involvement of producers associations and other private sector organizations in discussions of economic measures.

8. <u>Impact on Low-Income Consumers</u>. The short-term impact of the ERP will worsen the status of low-income consumers, already hard-hit by the economic decline experienced in recent years. The GOG has recognized the importance of addressing this problem both from a humanitarian perspective and from the standpoint of maintaining support for admittedly difficult reforms. The principal mechanism chosen to address the impact on low-income consumers is the Structural Impact Amelioration Project (SIMAP), currently under design. SIMAP is limited by agreement with the IMF to a G$ 60-million program (approximately US$ 3 million). Given the urgency and the limited experience in-country with short-term nutrition intervention programs, design of the SIMAP program has focused on identification of small-scale projects and plans for broad-scale interventions that are likely to exceed the resources available.

It is recommended that SIMAP be limited to a nutrition intervention program targetted to children under five and pregnant and lactating women and that international assistance be sought for the design and implementation of the program.

9. <u>Rice Marketing System</u>. Despite recent and important reforms in the rice marketing system, including permission for private millers to export part of their output to the EEC, further progress is necessary to promote the rapid recovery of this vital subsector. Continuing restrictions on farmer holding of paddy, miller stocking of rice, and domestic trade in rice are inconsistent with the free market system being implemented elsewhere in the sector. The team recognizes that Guyana is in a unique situation. Not only does the nation face prices for part of its export crop well above world levels, clouding the issue of what the opportunity-cost-based domestic price should be, but the current exchange situation makes rice a potential trade good for the parallel market (i.e., under free market conditions, the domestic price would tend to rise not to the world price at the official exchange rate, but to the price in the preferential market translated at the parallel exchange rate, a price at least double the former value). Nonetheless, continued regulation of the market is not the best solution.

The team recommends that the GOG explore alternative mechanisms permitting freer export and domestic trading in rice and paddy consistent with disciplined market operations. In particular, it is recommended that restrictions on paddy stocking by farmers — still reportedly enforced — be lifted as a signal of support to the farmers.

10. <u>Rice Pricing</u>. The problems alluded to above greatly complicate the question of rice pricing in Guyana. Integration of the world and domestic market is made far more difficult than in most countries by the wide range of prices faced by Guyana for essentially the same product (including rice's value as an illicit trade good with neighboring countries), most of which are well above the "world price" set as a goal by economists. These issues add to the traditional conflict between producer and consumer interests, which themselves are exacerbated by the current upward pressure on the price of rice and other vital commodities created by devaluation and inflation from other sources.

    Although the GOG thus faces a somewhat sharper form of the price dilemma than most countries, the choices remains essentially the same: favor production to achieve long-term gains in national income, while compensating low-income producers to the greatest extent possible, or favor consumers with severe costs both for producer income and for the development of the national economy. The GOG has committed itself to the former path and should be both commended for doing so and encouraged to remain on that path.

<u>Recommended PL-480 Assistance Strategy</u>

The team recommends a shift in emphasis in the PL-480 Self-Help Measures to increase impact on these constraints and promote progress in each of the three areas outlined above. While many of the projects and programs funded in the past are consistent with these emphases and merit continued support, the current crisis requires that the focus of assistance be tightened by restricting project support to activities that have demonstrated the greatest success to date and by complementing these project activities with measures in two areas:

- Support to <u>priority budget line items</u>, including in particular the maintenance and operation of the drainage and irrigation system and funding for activities being carried out with donor assistance

- Encouragement of <u>private sector activity</u> by removal of policy barriers to private investment and trade, both overall and in priority inputs and productive subsectors

The IMF has sharply restricted the GOG's expenditures, but limitations on deficit-financing coupled with continued shortfalls in revenue collection may make it difficult to meet even these reduced expenditure targets. In a situation where line items vitally important to continued agricultural productivity, such as D&I operation, may not be funded, allocation of PL-480 funds to meet these needs must take priority over projects, regardless of the long-term benefits offered by the latter. Where large-scale infusions of hard currency for donor-funded projects are being held up by the shortage of GOG counterpart funds, allocation of PL-480 funds to help the GOG meet these targets, if necessary, offers the potential to use PL-480 local currency to, in effect, generate foreign exchange.

This reallocation of PL-480 local currency is appropriate in an environment where strong progress is being made to encourage private sector initiative in agriculture. Additional measures along the lines of those outlined in the previous section would accelerate progress in this area and pave the way for a rapid short-term recovery of agriculture and a better long-term performance.

I.   Introduction

A.   PL-480 Assistance to Guyana

Since termination of the U.S. development assistance program in 1985, U.S. assistance has been limited to provision of wheat and other commodity import assistance under PL-480 Title I. To date, four agreements have been signed, with supplemental assistance provided in two of the four years, as follows:

Year	Commodities	Value
1986	25,000 MT wheat	US$ 3.0 million
1987	40,000 MT wheat	US$ 4.4 million
	soybeans	US$ 1.0 million
1988	37,000 MT wheat	US$ 4.0 million
	wheat	US$ 3.0 million
1989	26,000 MT wheat	US$ 4.0 million

The wheat was milled into flour locally and sold, generating local currencies totalling G$ 134.2 million, excluding the 1989 agreement (G$ 16.7 from the 1986 agreement; G$ 49.0 million from the 1987 agreement; G$ 68.5 million from the 1988 agreements). In accordance with the self-help provisions of the agreement between the two governments, these funds were programmed to assist a number of projects in rural and agricultural development, small enterprise, and social services (see Price Waterhouse, 1989, for a full description of this portfolio and its status). Wheat under the current 1989 agreement is still being imported, and the amount of local currency cannot be predicted with certainty in an environment where the Guyanese exchange rate is fluctuating. Assuming that the additional $3 million in PL-480 assistance is provided and assuming an average exchange rate of 40:1, the 1989 program could well generate additional local currency resources on the order of G$ 280 million, more than tripling the total local currency resources generated since the program began in 1986.

U.S. assistance to Guyana under Title I provides significant balance of payments support to the country, financing all wheat imports for the past four years and the foreseeable future.

Self-help measures have been limited to project support and have not included policy measures designed to promote increased agricultural production and rural incomes or other undertakings on the part of the Government of Guyana (GOG) outside of the context of specific projects. In keeping with the shift in Title I programming worldwide and the urgent need to support the Economic Recovery Program (ERP) in Guyana, the GOG and the United States Government agreed to undertake an agricultural sector review to identify the policy and programmatic measures needed to resuscitate the agricultural sector and the means available for maximizing support to such measures utilizing the resources provided by PL-480 assistance.

B. Scope and Methodology of the Current Analysis

The study presented in this report was undertaken under the joint sponsorship of the Government of Guyana and the U.S. Agency for International Development (A.I.D.) in partial fulfillment of the self-help measures in the FY1989 PL-480 agreement. The study was prepared by a four-person team from Robert R. Nathan Associates in cooperation with personnel from the Ministry of Agriculture and other GOG analysts.

The study focuses on the current situation in the agricultural sector in Guyana, with an emphasis on the potential for increased production and incomes, the constraints to realizing this potential, and the measures necessary to overcome these constraints. Given the priorities of the two governments, the team devoted particular attention to the rice sector, which provides the greatest potential for short-term increases in production and exports. The team also examined other sub-sectors, including fisheries, timber production, non-traditional horticultural products, livestock production, and others, but devoted somewhat less attention to these topics. Although the sugar subsector is extremely important in Guyana, the team generally did not go into the current situation or constraints affecting this sector specifically; this decision reflects a U.S. policy determination excluding assistance of any kind to sugar production for exporting countries such as Guyana. Nonetheless, many of the conclusion in the study should be applicable as well to the sugar subsector, inasmuch as this sector suffers from many of the constraints currently affecting agriculture as a whole.

Due to the urgency of reaching agreement between the Governments of the United States and Guyana regarding the terms of supplemental PL-480 assistance during FY1989 to support the GOG Economic Recovery Program (ERP, further discussed below), the timeframe for the study was extremely compressed. The study was begun in mid-April 1989 and the first draft was submitted to USAID/Barbados and the GOG at the beginning of May. Because of the short time-frame, the team relied entirely on secondary sources and interviews with knolwedgeable individuals in Guyana and elsewhere. The expatriate team participated in briefings in Washington and Barbados[1] and then spent a total of 12 days in Guyana before returning to Barbados to draft

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1. . Since the suspension of A.I.D.-funded assistance to Guyana in 1985(*) due to the application of the Brooke-Alexander amendment, U.S. development assistance to Guyana has been managed from the Regional Development Office in Barbados (USAID/Barbados).

the report. Following review of the draft by the GOG and A.I.D., the report was finalized in Washington.

Despite the short time available in Guyana, the team was able to interview an extremely broad cross-section of individuals and organizations, due to the excellent cooperation and support provided by the GOG, particularly the Directorate of International Economic Cooperation(*) (DIEC) and the Ministry of Agriculture. The team wishes to thank, in particular, Dr. Cecil Rajana of the DIEC and Mrs. Pat Bender of the Ministry of Agriculture, as well as the local A.I.D. staff in Georgetown, particularly Mr. Vic Nemdhari.

While in Guyana, the team interviewed representatives of the private sector, including rice millers and exporters, small-scale traders, and input suppliers; officials of the Ministry of Agriculture and other ministries with direct involvement in the food and agriculture sector; representatives of the macroeconomic ministries (Trade, Finance, the Central Bank, the Presidency); parastatals involved in the agricultural sector; and representatives of other donor agencies. A list of the individuals contacted is included as an appendix to this report. The team also made three field trips, covering the major agricultural areas along the coast (Regions II through VI), with an emphasis on rice and vegetable production.

II. Background: The Structural Adjustment Process in Guyana

A. Overview of the Macro-Economic Situation

The macroeconomic performance of Guyana has been extremely poor for several years, with overall declines in most of the macroeconomic indicators and generally disappointing outturns in export earnings, fiscal balance, and macroeconomic growth. Table 1 summarizes recent performance at the macroeconomic level.

This situation came about as the result of a number of factors, primary among them a shift in international terms of trade against Guyana's principal exports and the continuation of the counterproductive macroeconomic policies established during the Burnham administration.

The current administration, under the leadership of President Desmond Hoyte, has reversed the emphasis on central planning and public sector-led growth to give greater emphasis to the private sector and reliance on market signals to encourage economic growth. The overhang of past policies has created a legacy that cannot be overcome, however, and the overall trend of the economy has continued downward.

The reversal of this disappointing trend has been rendered particularly difficult by two factors. First, the accumulation of arrears to virtually all donors, including the IMF and World Bank, and the negative status of the

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Table 1. Performance of the Agricultural Sector

(G$ millions, unless otherwise noted)

GDP at factor cost (1977 prices)	1960*	1970*	1975	1980	1985	1986	1987	1988
Agriculture	145	159	210	214	215	223	210	188
Sugar	76	69	84	89	89	89	80	62
Rice	22	29	37	39	39	46	39	35
Other crops	25	25	39	36	47	48	49	49
Livestock	7	18	27	28	14	15	16	16
Forestry	9	9	11	8	8	7	8	8
Fisheries	5	7	12	14	18	18	18	18
Manufacturing and processing	80	100	119	132	93	93	86	81
Sugar milling	32	26	43	30	29	29	26	20
Rice milling	3	7	7	7	10	12	10	9
Other	45	67	69	95	54	52	50	52
Other	379	430	703	646	521	515	540	542
Total GDP	604	689	1032	992	829	831	836	811
of which agriculture-based	180	192	260	251	254	264	246	217
Trade (US$ millions, current prices)								
Merchandise exports			364.3	389.0	206.4	204.6	232.2	213.5
Agricultural			211.4	155.0	79.7	93.9	106.5	90.2
Sugar			175.4	121.0	66.4	83.4	90.4	74.8
Rice			36.0	34.0	13.3	10.5	16.1	15.4
Other			152.9	234.0	126.7	110.7	125.7	123.3
Merchandise imports			344.1	396.1	255.2	259.5	261.9	215.6
Balance of merchandise trade			20.2	-7.1	-48.8	-54.9	-29.7	-2.1
Percentage composition								
Agriculture	24.0	23.1	20.3	21.6	25.9	26.8	25.1	23.2
Sugar	12.6	10.0	8.1	9.0	10.7	10.7	9.6	7.6
Rice	3.7	4.2	3.6	3.9	4.7	5.5	4.7	4.3
Other crops	4.2	3.7	3.8	3.6	5.7	5.8	5.9	6.0
Livestock	1.2	2.6	2.6	2.8	1.7	1.8	1.9	2.0
Forestry	1.6	1.4	1.1	0.8	1.0	0.8	1.0	1.0
Fisheries	0.8	1.1	1.2	1.4	2.2	2.2	2.2	2.2
Manufacturing and processing	13.3	14.5	11.5	13.3	11.2	11.2	10.3	10.0
Sugar milling	5.3	3.8	4.2	3.0	3.5	3.5	3.1	2.5
Rice milling	0.5	1.0	0.7	0.7	1.2	1.4	1.2	1.1
Other	7.5	9.7	6.7	9.6	6.5	6.3	6.0	6.4
Other	62.7	62.4	68.1	65.1	62.8	62.0	64.6	66.8
Total GDP	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
of which agriculture-based	29.8	27.9	25.2	25.3	30.6	31.8	29.4	26.8
Percentage composition w/in agriculture								
Sugar	52.4	43.5	40.0	41.6	41.4	39.9	38.1	33.0
Rice	15.4	18.3	17.6	18.2	18.1	20.6	18.6	18.6
Other crops	17.3	16.0	18.6	16.8	21.9	21.5	23.3	26.1
Livestock	5.0	11.5	12.9	13.1	6.5	6.7	7.8	8.5
Forestry	6.5	6.0	5.2	3.7	3.7	3.1	3.8	4.3
Fisheries	3.5	4.6	5.7	6.5	8.4	8.1	8.6	9.6

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Table ___. Performance of the Agricultural Sector

Trade (% of merchandise exports)							
Merchandise exports							
Agricultural		58.0	39.8	38.6	45.9	45.9	42.2
Sugar		48.1	31.1	32.2	40.8	38.9	35.0
Rice		9.9	8.7	6.4	5.1	6.9	7.2
Other		42.0	60.2	61.4	54.1	54.1	57.8
Merchandise imports		94.5	101.8	123.6	126.8	112.8	101.0
Balance of merchandise trade		5.5	-1.8	-23.6	-26.8	-12.8	-1.0
Annual rate of change from previous period							
Agriculture	0.9	5.7	0.4	0.1	3.7	-5.8	-10.5
Sugar	-0.9	4.0	1.2	0.0	0.0	-10.1	-22.5
Rice	2.7	4.9	1.1	0.0	17.9	-15.2	-10.3
Other crops	0.1	8.9	-1.6	5.5	2.1	2.1	0.0
Livestock	9.8	8.1	0.7	-12.9	7.1	6.7	0.0
Forestry	0.0	3.0	-6.2	0.0	-12.5	14.3	0.0
Fisheries	3.8	10.2	3.1	5.2	0.0	0.0	0.0
Manufacturing and processing	2.2	3.5	2.1	-6.8	0.0	-7.5	-5.8
Sugar milling	-2.0	10.3	-6.9	-0.7	0.0	-10.3	-23.1
Rice milling	8.7	0.4	0.0	7.4	20.0	-16.7	-10.0
Other	4.0	0.6	6.6	-10.7	-3.7	-3.8	4.0
Other	1.3	10.3	-1.7	-4.2	-1.2	4.9	0.4
Total GDP	1.3	8.4	-0.8	-3.5	0.2	0.6	-3.0
of which agriculture-based	0.6	6.3	-0.7	0.2	3.9	-6.8	-11.8
Trade (US$ millions, current prices)							
Merchandise exports			1.3	-11.9	-0.9	13.5	3.1
Agricultural			-6.0	-12.5	17.8	13.4	-15.3
Sugar			-7.2	-11.3	25.6	8.4	-17.3
Rice			-1.1	-17.1	-21.1	53.3	-4.3
Other			8.9	-11.5	-12.6	13.6	-1.9
Merchandise imports			2.9	-8.4	1.7	0.9	-17.7

Source: World Bank country economic memorandum, 1986, and IDB sector study (draft), 1989.

* estimated from GDP at constant factor prices of 1970, inflated to reflect 1977/70 price ratio for 1975

country's external reserves has made it difficult for the country to generate the foreign exchange necessary for essential inputs. Second, the virtual collapse of formal economic institutions has forced an ever-larger share of economic activity into the informal or parallel sector, effectively limiting the ability of the government to monitor and manage the economy.

B. The IMF-Monitored Reform Program

The current government is committed to regularizing relations with the international community and creating the conditions necessary for a resumption of growth in incomes, export earnings, and national production. To achieve these important objectives, the government has established an Economic Recovery Progam in cooperation with the IMF and other major donors, organized into a Support Group, led by the Government of Canada. This program has several major elements:

- Implementation of a structural adjustment program negotiated with the IMF, including devaluation of the currency to bring its value into line with the parallel market and stringent controls on public sector expenditures.
- Implementation of measures at the sectoral level to establish efficiency-based market incentives for consumers and producers, including adjustment of the prices of key commodities.
- Generation of sufficient funds from the donor community to permit clearing the arrears with the Bank and the Fund, as the basis for a global rescheduling through the Paris Club mechanism.

The operational details of this program are still being negotiated between the Government of Guyana and the major donors.

The present study is intended in part to support this process by identifying the measures necessary to ensure a production response from the agricultural sector, which, together with the extractive sector (bauxite, gold, and diamonds) provides nearly all of Guyana's export earnings. The success of the ERP depends on reversing the declines in these sectors to generate additional export earnings in the short run and to pave the way for growth in the future.

III. Current Situation in the Agricultural Sector

A. The Role of Agriculture in the Macro Economy

1. Resource Base: Land and Labor

Guyana is located on the northern coast of South America. It boarders Venezuela on the west, Surinam on the east and Brazil on the south. It contains 83,000 square miles and had a population of approximately 750,000 in 1986. The nation is made up of four distinct natural resource areas: the coastal plain, the savannas of the southest interior, the rain forests of the interior and the mountains of the southern interior. The coastal plain extends the width of the coast, varying in width from roughly 10 miles in the west to as much as 40 miles in the east. Figure 1 presents a map of the country.

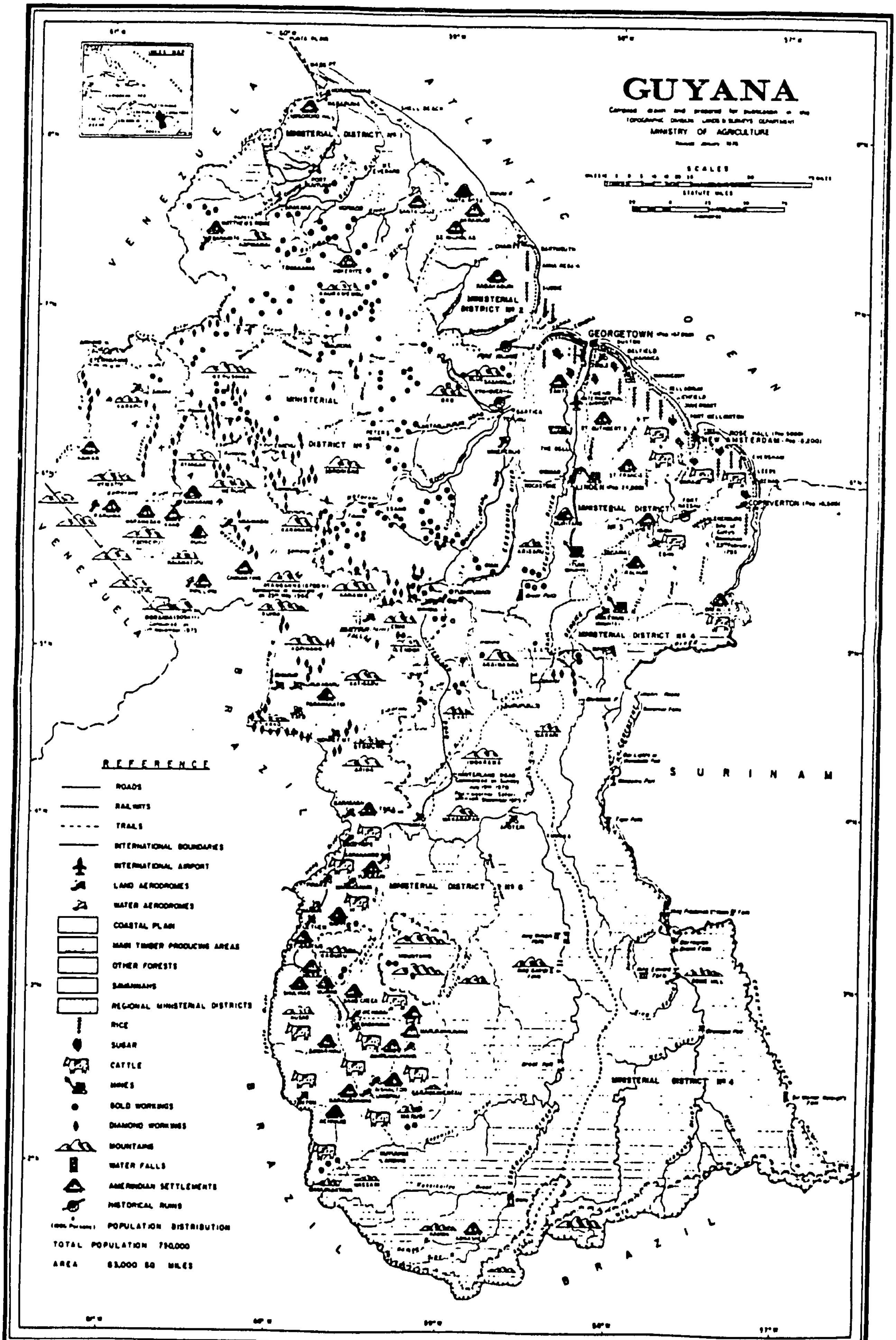
Approximately 90% of the population lives and works in this coastal plain. The rest of the country is very sparsely populated except for mining centers (notably Linden), lumbering operations, and scattered Amerindian settlements. Only 1.3 percent of the area is in cropland, totalling 710,000 acres (Table 2). The rainforests and mountains cover about 84% of the country, while the grass-covered savanna occupies about 10% of the area, with the remainder classified as water bodies (8.5%) or other (5%).

Guyana's climate is tropical. On the average it receives a high amount of rainfall (approximately 2-3000mm annually) but precipitation is highly variable from year to year. The high rainfall variability results in widely varying yields for dryland agriculture and dependence on irrigation to produce a reliable crop, particularly for the second season.

The land resources of the coastal plain pose technical management difficulties. Various studies have stated that almost all of the soils have one or more problems which must be addressed if agriculture is going to be successful, although the coastal area can be highly productive with good management. The predominant feature of the coastal plain is that much of the best agricultural land is below sea level at high tide. The coastal plain was reclaimed from the sea in the nineteenth century by the installation of a series of dikes, generally referred to in Guyana as the "sea defences." Maintenance of this system is clearly critical to both the agricultural sector and the quality of life in Guyana generally.

Although the soil resources of the coastal plain are difficult to manage, the rivers and smaller streams provide the area with excellent access to fresh water for irrigation. The preponderence of the land used for sugarcane and rice cultivation and much of the land used for other crops is irrigated. Officials at the Ministry of Agriculture estimated that irrigation provides 40% of the evapotranspiration requirement annually, but 60% during the critical fall dry season.

The irrigation system in Guyana is predominantly gravitational, relying on low dams to create reservoirs (termed conservancies) from which a system of canals delivers water to the croplands at field level. Because the majority of the agricultural land lies below sea level, a good drainage is particularly important to the effective functioning of this system. The drainage system is also gravitational, relying on the tidal difference to permit drainage into the sea or into esuarine rivers at low tide. This system is controlled by a series of sluice gates (termed cokers locally).



GUYANA
MINISTRY OF AGRICULTURE
SCALES
STATUTE MILES
VENEZUELA
ATLANTIC
OCEAN
GEORGETOWN
NEW AMSTERDAM
CORRIVERTON
MINISTERIAL DISTRICT No 1
MINISTERIAL DISTRICT No 2
MINISTERIAL DISTRICT No 3
MINISTERIAL DISTRICT No 4
MINISTERIAL DISTRICT No 5
MINISTERIAL DISTRICT No 6
SURINAM
BRAZIL
REFERENCE
ROADS
RAILWAYS
TRAILS
INTERNATIONAL BOUNDARIES
INTERNATIONAL AIRPORT
LAND AERODROMES
WATER AERODROMES
COASTAL PLAIN
MAIN TIMBER PRODUCING AREAS
OTHER FORESTS
SAVANNAHS
REGIONAL MINISTERIAL DISTRICTS
RICE
SUGAR
CATTLE
MINES
GOLD WORKINGS
DIAMOND WORKINGS
MOUNTAINS
WATER FALLS
AMERINDIAN SETTLEMENTS
HISTORICAL RUINS
POPULATION DISTRIBUTION
TOTAL POPULATION 790,000
AREA 83,000 SQ MILES

TABLE ~~1~~ 2 - Guyana Land Distribution
(000 acres and percent)

A. Total Land

	Area	Percent
1. Total crop land	710	1.3
2. Forestry	39,700	74.9
3. Savannahs	5,300	10.0
4. Other unoccupied areas	2,790	5.3
5. Water ways	4,500	8.5
TOTAL	53,000	100.0

B. Tentative Distribution of Crop Land (000 acres)

Item		Area (000 acres)
Rice		130
Sugar		115
Other crops		84
Coconuts	34	
Roots and tubers	15	
Citrus and bananas	20	
Vegetables and annual oil crops	15	
Uncultivated		381
TOTAL		710

SOURCE: MOA, as quoted in IDB, 89.

Crop production is generally limited to the coastal plain and the areas extending along the major rivers southward from this plain. The soil and water resources of the inland areas are generally not suited to intensive production, due to the low fertility and high acidity of the soil, typical of tropical soils under high rainfall conditions. Although Amerindian communities continue to practice slash-and-burn agriculture in parts of the interior, agricultural production away from the coast is limited to forest-based industry and cattle ranching. Forestry is practiced primarily in a band extending the width of the country just to the south of the coastal plain, while livestock production away from the coastal plain is concentrated in the savannah area along the southwestern border with Brazil (the Rupununi).

2. Agriculture's Contribution to GDP, Employment, and Exports

Agriculture, forestry and fisheries account for approximately one-quarter of GDP (Table 1 above), a figure that is essentially unchanged from the situation in the 1960s. Agriculture's contribution declined to around 17% of GDP during the period of economic expansion in the late 1960s and early 1970s, but has since returned to levels around 25%. This development is symptomatic of the decline of the economy, rather than a resurgence of agriculture. Agricultural production (measured at factor cost in constant 1977 Guyanese dollars) averaged G$207 million during the 1986-88 period, compared to G$219 million for the 1976-78 period. In other words, agriculture has not been insulated from the stagnation prevalent in the economy as a whole.

In 1988, agriculture's contribution to GDP declined to 23% because sugar production experienced a 22% slump from a year earlier, rice production also fell, while other subsectors remained by and large unchanged from the year before. The disappointing performance in the rice sector was due to two factors that, while partially attributable to factors beyond the control of the Government, in fact reflect the continuing decline of the sector's social infrastructure:

- The rice crop was heavily affected by drought conditions, a factor clearly outside the control of the Government, but one that could have been compensated for more adequately by increased irrigation had the irrigation system been operating at full efficiency.

- The rice crop was also affected by blast, a result of fungal infestation; again, this phenomenon may be regarded as an act of God, but it could have been ameliorated substantially had the necessary pesticides been available on a timely basis and, indeed, if the nation's rice seed situation had not been allowed to deteriorate to the point where over 80% of the area is planted to a single variety known to be highly susceptible to blast (rustic).

Similar statements could be made regarding the decline of the sugar industry (inability to attact or retain unskilled labor, inadequate water control on the parastatal estates, insufficient management at all levels of the system).

Agriculture plays a vital role in generating export earnings. In 1988, rice and sugar alone accounted for 42% of merchandise exports. Rice exports totalled US$15.4 million (7% of total merchandise exports) and sugar totalled US$74.8 million (35% of merchandise exports). During the 1984-88 period, sugar exports have averaged U.S.$77 million, 36% of the total value, while rice exports have averaged U.S.$15 million, 7% of the country's total exports. Since 1982, exports of sugar have not exhibited a significant trend in dollar terms, while rice has generally declined. In volume terms, sugar has fallen off considerably from the highs registered in the 1970s (175,000 LT exported in 1988 and 221,000 LT in 1987, compared to 338,000 LT in 1971, the year of peak export volumes). Other agricultural exports include (in approximate order of importance) shrimp, rum and other spirits, timber, and other products (including horticultural exports for the Caribbean market).

Despite its many problems, sugar continues to be by far the most important activity in agriculture, accounting for 10% of GDP and 40% of the contribution of the agricultural sector. The sugar industry employs 23,000 workers, more than 10% of the nation's employed labor force.

Rice production is the second most important activity in the agricultural sector. Over the five-year period from 1984 to 1988, paddy production accounted for 5% of GDP and 20% of GDP produced in the agricultural sector. The Rice Producers Association estimated that there are presently between 20,000 and 25,000 farmers who grow rice, down from approximately 45,000 in the mid-1970s.

All of the other agricultural subsectors taken together, and including forestry and fishing, contributed 10% of GDP and 40% of the output of the agricultural sector.

It should be noted that the heavy dependence of the sector on a few commodities for which international prices are highly variable makes the GDP calculation highly sensitive to the base year prices used. Thus agriculture was estimated by the Ministry of Finance to contribute 37.9% of GDP in 1988, based on current factor prices, compared to 25% at constant prices.

3. Agriculture as a Source and User for Government Resources

The agricultural sector contributes to government revenues in the form of consumption taxes on inputs to the sector, levies on output of the sector, corporation and income taxes on profits and incomes from the sector, and dividend distributions from public corporations in the sector.

Undistributed profits of public sector companies in the agricultural sector also add to the total resources available to the Government.

Estimates of consumption taxes and stamp duties on inputs to the sector, corporate income taxes on profits or incomes in the agricultural and agribusiness sector were not available to the team, but it must be assumed that revenues from these sources have fallen off considerably in recent years, due to the shortage of foreign exchange for imports of agro-chemicals and spare parts and the resultant reduced business in the sector. Additionally, the shift of many import transactions to the parallel market has resulted in a reduction in duties collected, as well as sales and other taxes collected on these activities.

Estimates of contributions to government from other sources within the agricultural sector are as follows:

Direct Contribution of Agriculture to Revenues
1989 G$000

Sugar Levy	807,000
Rice Levy	85,000
Licenses - Fishing	4,500
	896,500

These direct levies were projected to account for 18% of government current revenues in 1989.

Direct allocations of government resources to agriculture are budgeted at G$539 million in 1989, a substantial increase in current terms from allocations in the previous years:

Summary of Resource Allocation to Agriculture
G$000

	1989	1988	1987
Current	110,687	72,289	48,627
Capital	428,488	137,655	268,178
	539,175	209,944	316,805

These allocations account for only 2% of current expenditure (4% if debt service is excluded), 48% of capital expenditure, and 6% of total projected expenditure for 1989. The relatively large allocation to capital expenditures for agriculture is attributable to the high priority placed on rice and sugar rehabilitation by the government and to the decision to eliminate capital expenditures not tied to donor-funded projects, by agreement with the

IMF. The budget allocation to the agricultural sector is summarized in Table 3a.

The Ministry of Agriculture is budgeted to receive G$154 million in 1989 (28% of central government expenditures on the sector), of which G$53.8 will be used for current expenditure (48% of the sectoral allocation for current expenditures) and G$100.2 for capital expenditure (23% of planned public sector investment in the sector).

Under the current system in Guyana, the Regional Administrations have the responsibility for agricultural extension, irrigation maintenance and operation, and certain other agricultural functions. The 1989 budget allocates G$73.5 million to these agencies (14% of the total).

Despite the increased emphasis on private sector activity, transfers to the parastatal sector by the Ministry of Finance and other allocations to agricultural parastatals within the central government's capital budget continue to account for the largest share of expenditures in the sector. These allocations total G$306 million for 1989, 57% of the total and 71% of capital expenditures. Within this sector, GAIBank (the agricultural bank), GUYSUCO (the sugar parastatal), and two of the rice parastatals (GRMMA and GREB) are the most important, with GUYSUCO alone scheduled to receive G$199 million, or nearly two-thirds of the parastatal allocation.

Other users of government resources in the agricultural sector are comparatively minor, including the Guyana Defense Force and the Ministry of Communication and Works.

It should be noted that agriculture continues to be a net provider of funds to the government. The figures above indicate a net outflow of resources on the order of G$358 million, which must be considered a low estimate due to the exclusion of a wide range of taxes and levies on which information was not available at the time of the team's visit.

B. Structure and Recent Performance of Key Subsectors

The agricultural sector in Guyana is dominated by production of rice and sugar, both of which are destined primarily for export (the IDB agricultural sector study, currently being finalized, estimates that 85% of sugar and 58% of rice production were exported in 1987). Other products include a wide range of horticultural products (particularly coconuts, plantains, cassava and other ground provisions, citrus, corn, tobacco, and tomatoes), livestock products, fish and shrimp, and timber. Tables 3 and 4 summarizes recent performance in the rice and sugar subsectors, while Table 5 presents information on other major product subsectors.

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Table 3a

Summary of Budgeted Expenditures for Agricultural Sector
(GS'000)

Organization	1989 Current	1989 Capital	1989 Total	1988 Current	Percent Change
Office of the President		300	300		
Agric. Devt. Works--GDF		300	300		
Guyana Defense Force	389		389	0	
Maint. of D&I	389		389	0	
Ministry of Agriculture	53813	100172	153985	37729	43
Personnel	10982		10982	8890	24
Other	42831		42831	28839	49
Black Bush Polder Rehab--IDB		18400	18400		
Ag. Sector Programs		3220	3220		
Admin.		700	700		
D&I		2520	2520		
Eqpt. & Maint.		0	0		
Rehab. of D&I--IDB		11300	11300		
Esseq. Sea & River Def.		10400	10400		
Infrastructure Rehab.--EEC		10000	10000		
NARI--UNDP/IFAD/Arg.		1300	1300		
Livestock Devt.		400	400		
Seed Production--FAO		400	400		
Geodetic Surveys--UK		300	300		
National Land Registration		300	300		
Central Administration	4936		4936	4815	3
Personnel	1983		1983	1822	9
Other	2953		2953	2993	-1
Crops and Livestock	39928		39928	26430	51
Personnel	3908		3908	3172	23
Other	36020		36020	23258	55
Lands and Surveys	5929		5929	4326	37
Personnel	3546		3546	2720	30
Other	2383		2383	1606	48
Hydraulics	1732		1732	951	82
Personnel	930		930	537	73
Other	802		802	414	94
MMA-III		30932	30932		
Fisheries	1288	10000	11288	923	40
Personnel	615		615	500	23
Other	673		673	423	59
Forestry	0		0	284	-100
Personnel	0		0	139	-100
Other	0		0	145	-100
Ministry of Commun. & Works		3800	3800		
Upper Dem. Forestry Rd.		1300	1300		
Black Bush Polder Rehab.		2500	2500		
Ministry of Finance		180600	180600		
GAIBank--IDB/CIDA/EIB		48200	48200		
GAIBank--PL-480		26600	26600		
Demerara Woods		5000	5000		

9b

GRMMA		3300	3300		
GUYSUCO		97400	97400		
GREB		100	100		
SUBTOTAL, MINISTRIES	54202	284872	339074	37729	44
Regional Governments	57213	16306	73519	34276	67
Administration (D&I only)	694	0	694	0	
Agriculture	56519	16306	72825	34276	65
Personnel	16833	0	16833	11700	44
D&I	8327	12532	20859	5514	51
Other	31359	3774	35133	17062	84
Region I	5361	516	5877	2403	123
Administration (D&I only)	694		694	0	
Agriculture	4667	516	5183	2403	94
Personnel	739		739	494	50
D&I	0		0	0	
Other	3928	516	4444	1909	106
Region II	7966	2600	10566	4875	63
Administration (D&I only)	0		0	0	
Agriculture	7966	2600	10566	4875	63
Personnel	1063		1063	691	54
D&I	270	2400	2670	200	35·
Other	6633	200	6833	3984	66
Region III	12050	7145	19195	7815	54
Administration (D&I only)	0	0	0	0	
Agriculture	12050	7145	19195	7815	54
Personnel	4879		4879	3877	26
D&I	1343	4732	6075	1050	28
Other	5828	2413	8241	2888	102
Region IV	9231	645	9876	5288	75
Administration (D&I only)	0	0	0	0	
Agriculture	9231	645	9876	5288	75
Personnel	3693		3693	2541	45
D&I	792		792	219	262
Other	4746	645	5391	2528	88
Region V	2429	2700	5129	1277	90
Administration (D&I only)	0	0	0	0	
Agriculture	2429	2700	5129	1277	90
Personnel	789		789	528	49
D&I	943	2700	3643	445	112
Other	697		697	304	129
Region VI	12496	2700	15196	8296	51
Administration (D&I only)	0	0	0	0	
Agriculture	12496	2700	15196	8296	51
Personnel	2783		2783	2140	30
D&I	4979	2700	7679	3600	38
Other	4734		4734	2556	85
Region VII	1713		1713	1034	66
Administration (D&I only)	0		0	0	
Agriculture	1713		1713	1034	66
Personnel	455		455	270	69
D&I	0		0	0	
Other	1258		1258	764	65
Region VIII	1056		1056	335	215
Administration (D&I only)	0		0	0	

Agriculture	1056		1056	335	215
Personnel	257		257	31	729
D&I	0		0	0	
Other	799		799	304	163
Region IX	2122		2122	1332	59
Administration (D&I only)	0		0	0	
Agriculture	2122		2122	1332	59
Personnel	1006		1006	583	73
D&I	0		0	0	
Other	1116		1116	749	49
Region X	2789		2789	1621	72
Administration (D&I only)	0		0	0	
Agriculture	2789		2789	1621	72
Personnel	1169		1169	545	114
D&I	0		0	0	
Other	1620		1620	1076	51
Guyana Natural Resource Agency					
Forestry Studies		130	130		
SUBTOTAL, CENTRAL GOVT.	111415	301178	412593	72005	55
Parastatals		125800	125800		
Guyana Fisheries		700	700		
LIDCO		6900	6900		
Demarara Woods		6300	6300		
NEOCOL		2500	2500		
GRMMA		3600	3600		
NPRGC		200	200		
GREB		100	100		
GNTC		2200	2200		
GPC		1600	1600		
GUYSUCO		101700	101700		
GRAND TOTAL, AGRIC. SECTOR	111415	426978	538393	72005	55
Subtotal all personnel	27815		27815	20590	35
Personnel as % all exp.	25		5	29	
Subtotal all D&I	11142	54752	65894	6465	72
D&I as % all exp.	10	13	12	9	
COMPARISON TO OTHER EXPENDITURES					
All Central Government	6121996	632663	6754659	2711544	125
Ag. as % all Cent. Govt.	2	48	6	3	
All Cent. Govt. exc. debt	2496400			1315846	90
Ag. as % all Cent. Govt.	4			5	

Central Govt + Parastatals		1157763
Ag. as % all Cent. Govt.		37

9d.

3

Table ~~5~~ - Guyana Rice: Area, Production, Yield, Local Consumption and Exports

Year	Area Reaped (000 acres)	Production (000 MT)	Yield MT/acre	Local Consumption (000 MT)**	Exports (000 MT)
1980	258.4	168.9	.65		79.5
1981	228.0	165.6	.73	87.3	78.0
1982	239.5	181.9	.76	147.0	34.9
1983	187.4	150.0	.80	107.6	42.4
1984	229.7	182.5	.79	133.8	48.7
1985	194.0	156.1	.80	126.3	29.8
1986	207.4	171.0	.79	132.4	38.6
1987	185.6	146.0	.79	77.0	69.0
1988*	190.0	130***	.72		56.0

Notes * Preliminary (rice = .608 Paddy output).
** Computed as difference between production and exports.
*** Budget Speech, Ministry of Finance, 1989.
Local consumption = disappearance

SOURCE: GRMMA and GREB, as quoted in IDB, 1989

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TABLE 4 - Guyana Sugar Industry: Area Harvested, Production and Yields
PRODUCTION

Year	Area Harvested (Th. Acres)	Sugar Cane	Sugar	Tons of Sugar Cane per Acre TC/a	Tons of Sugar per Acre TS/a	Tons of Sugar Cane per Ton of Sugar TC/TS
		Thousand L.T.*				
1969	122	4.112	364	33.74	2.99	11.28
1970	104	3.712	311	35.67	2.99	11.93
1971	132	4.245	369	32.20	2.80	11.51
1972	127	3.596	315	28.23	2.47	11.43
1973	110	3.270	266	29.66	2.41	12.30
1974	123	4.100	341	33.44	2.78	12.03
1975	104	3.475	300	33.55	2.90	11.57
1976	133	4.037	332	30.36	2.50	12.14
1977	110	3.108	242	28.18	2.19	12.87
1978	137	4.218	325	30.13	2.32	12.99
1979	134	3.891	298	34.57	2.65	13.05
1980	123	3.601	270	29.51	2.21	13.35
1981	136	4.125	301	31.96	2.33	13.71
1982	130	3.327	288	29.67	2.26	13.36
1983	119	3.091	252	29.90	2.12	14.18
1984	126	3.088	242	27.54	1.94	14.34
1985	108	2.737	243	29.84	2.31	13.24
1986	113	3.023	245	29.66	2.22	13.64
1987	106	2.828	221	29.05	2.14	14.01
1988 **	67	1.946	144 ***	28.85	1.97	14.67

* Sugar includes the production of farmer and estates.
** 1988 figures are up to week ending 18 Nov. 1988.
*** This apparently does not include local sales (1988-LAE: 30.400 tons).

SOURCE: GUYSUC and IDB estimates.

Table 5 - Guyana: Production of Agricultural Crops, Livestock, Fishery and Forestry, 1977/87

Commodity	Unit	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Coconut	Mn Nuts	25.0	25.0	35.0	42.0	43.0	48.0	50.0	50.0	51.0	52.0	45.0
Citrus	000 tons	11.6	10.7	10.3	10.7	10.7	10.7	10.7	10.7	11.4	13.2	11.0
Ground Prov.	" "	24.1	27.7	17.9	17.9	17.9	20.5	29.0	29.0	38.0	44.5	47.7
Plaintains	" "	19.2	21.0	11.2	11.2	11.2	12.8	15.6	17.9	20.5	14.2	20.8
Bananas	" "	4.9	6.2	4.9	4.9	4.9	4.9	4.9	11.2	16.2	17.4	9.5
Corn	" "	3.1	2.2	1.8	1.7	0.7	0.7	0.8	0.7	1.1	1.8	2.9
Blackeye	" "	3.0	3.0	3.0	3.0	2.0	2.0	3.0	2.0	3.0	4.0	
Pineapple	" "	1.8	1.8	1.8	1.8	1.8	1.9	2.2	3.6	3.7	5.3	7.9
Tomatoes	" "	2.7	2.7	2.7	2.8	2.9	2.9	2.9	3.0	3.0	3.7	2.4
Peanuts	" "	0.4	0.4	0.9	0.7	0.7	0.7	0.7	0.6	0.6	1.4	1.7
Cabbage	" "	1.3	0.9	0.9	0.6	0.9	1.0	1.1	1.3	1.6	2.1	0.6
Beef	" "	3.1	1.8	1.8	2.2	2.0	2.2	2.2	1.6	1.6	1.7	1.8
Pork	" "	2.2	1.8	1.8	1.4	1.3	1.1	0.8	1.1	1.1	1.1	1.1
Poultry meat	" "	7.1	10.2	10.2	10.3	10.3	7.0	3.8	4.1	2.8	3.0	3.6
Eggs (Table)	Mn Eggs	53.0	33.0	52.0	55.9	51.0	48.4	36.3	49.0	49.3	49.2	35.0
Fish	000 tons	18.3	14.3	19.2	17.6	18.3	21.5	22.7	27.7	38.1	38.5	40.3
Shrimp	" "	3.1	3.1	3.6	3.6	3.0	3.2	2.7	2.1	1.9	2.3	2.4
Milk	Mn Gallon	n.a.	n.a.	n.a.	2.9	3.0	3.2	3.3	3.8	4.9	6.2	6.9
Timber	Mn. cu. ft.	6.2	5.9	5.5	5.0	4.9	7.0	6.7	6.0	4.8	4.7	

SOURCE: Ministry of Agriculture, as quoted in IDB, 1989.

1. Sugar

Sugar has been the dominant subsector in Guyanese agriculture since the nineteenth century. By 1829 there were already some 230 sugar plantations in Guyana supported by a slave population of over 100,000. In 1838 slavery was abolished in the colony, leading to an exodus from agriculture by the former slave population. The labor force was gradually replaced by E. Indians brought in as indentured workers, who remain the mainstay of the sugar industry labor force.

The sugar industry in Guyana is dominated by large estates. Currently, there are 10 sugar estates, each with a factory for sugar production. In addition to the sugar estates, sugar cane is grown by 4,000 small growers and three large private operators, who together provide approximately 10% of total cane output. Cane production on the public sector estates as well as all processing, marketing, and export of sugar is in the hands of the Guyana Sugar Company (GUYSUCO), a government-owned company.

Sugar production has declined substantially from the levels achieved historically. Whereas production averaged 348,000 long tons in between 1969 and 1971, it declined to 221,000 LT in 1987 and an estimated 150,000 LT in 1988. The decline of the industry may be attributed to increasing difficulties in recruiting labor for field and factory work, a decline in the skilled staff, labor stoppages and other labor organization difficulties, problems importing equipment and supplies due to the shortage of foreign exchange, and, of course, the low world price of sugar. These factors have contributed to a decline in sugar yield per acre by 27 percent from the 1969-70 to the 1986-87 period.

2. Rice

Guyana's land and water resources provide an excellent base for rice production and paddy is by far the most important crop grown by farmers outside the parastatal enclave sector. Paddy is produced primarily on irrigated land, most of which was reclaimed from the sea in the nineteenth century. Investment in irrigation infrastructure has continued, with major investments since 1960 in three areas: Tapakuma in the Essequibo area, MMA (Mahaica-Mahaicony-Abary) east of the Demarara, and Black Bush Polder in Berbice.

Climatic conditions enable farmers to produce two crops in Guyana, with the autumn crop being the principle one in terms of both area and output. The second or spring crop is riskier due to rainfall conditions, and both area and output are generally lower. A recent analysis of the rice sector (IDB, 1989) noted that, although the spring crop is less important in absolute terms, its greater variability makes it more important than the autumn crop in determining the performance of the sector as a whole.

Rice production is primarily a small farmer activity in Guyana. The 1978 rural household survey (the most recent major survey of the agricultural sector) found that 44% of the rice land is farmed by farmers with less than 15 acres. These farmers accounted for approximately 10% of the national workforce. This survey found that paddy was grown on 51 percent of Guyana's 25,000 farms. Paddy was normally grown on 61 percent of the country's total cropland of 243,000 acres. Ninety-three precent of the rice farmers grew less than 25 acres of rice in 1978 and the median size farm contained between 5 and 9.9 acres.

Although more recent information is not available, it appears that there has been consolidation of rice holdings in recent years, due to the difficulties faced by small farmers in obtaining inputs needed, particularly tractor and combine services, as well as the low profitability of rice generally. Knowledgeable observers of the sector estimate that, at present, approximately 60% of total production is provided by farmers operating holdings of between 30 and 60 acres. Several larger holdings, ranging up to several thousand acres, are also operated by large farmer/millers who are beginning to move into the export market.

Historically, rice production was introduced into Guyana in the mid-nineteenth century. Efforts at sustained cultivation of paddy were not successful initially, and it was late in the century before continuous cultivation was established. At the time when sustained rice production began, there was already a domestic market for the grain, because it was a staple food of the descendents of the E. Indian indentured immigrants. By the first decade of the twentieth century Guyana was an exporter of rice and the country has continued to export rice since then.

Rice marketing in Guyana is controlled by three government entities, as the result of legislation that came into effect in 1985. This legislation divided the Guyana Rice Board (GRB) into three parastatals, further described below:

- The National Paddy and Rice Grading Center (NPRGC) is responsible for grading paddy at the mills and grading rice for export and domestic use.
- The Guyana Rice Export Board (GREB) is responsible for the promotion and control of rice exports.
- The Guyana Rice Milling and Marketing Authority (GRMMA) purchases paddy from the farmer and sells rice domestically and to GREB for export.

In the 1980s, rice production in Guyana has declined. The 1988 a crop produced 130,000 metric tons compared to 169,000 in 1980 (Table 3). The highest production during the 1980s occurred in 1982 and 1984, when production reached 181,900 and 182,500 MT, respectively. Production in 1988 was 23 percent below the 1980 level, which represented a decline from the peaks achieved in the 1970s. The area reaped also declined by 26 percent between 1980 and 1988, from 258,000 to 190,000 acres. Yield per acre varied within a narrow range from 1980 to 1988 and did not reveal any pronounced trend (although some observers have argued that yields have increased slightly during this period).

The rice industry faces a number of barriers, which are further discussed below. Chief among them are the decline in the number of farmers operating in the sector, due to outmigration and a shift by small farmers to production systems offering a greater return for less expenditure (notably cattle), as well as reduced availability of imported inputs and generally unattractive prices paid to farmers under Guyana's controlled price regime. The price of paddy when adjusted to take inflation into account, declined 27 percent between 1980 and 1988 (Table 6).

Although prices were increased sharply (by 225%) following the March 1989 devaluation, virtually all farmers contacted by the team indicated that increases in the cost of production and other factors had by and large eliminated any improvement in rice profitability for the coming season. As shown in Table 7, estimates of the profitability of rice production for the current crop vary greatly, depending on the cost structure assumed. For reasons discussed in Annex 1, official cost-of-production estimates tend to understate production costs, particularly in systems like Guyana's, where farmers must expend substantial time and effort to arrange for and acquire inputs and may have to wait up to three days in line at the mill to deliver their paddy. Specifically, the GRMMA/GAIBank estimate of total labor input of 1.4 days/acre of rice appears unrealistically low and excludes many of the operations included in the producers' association estimates.

The rice industry has been especially hard hit by the unavailability of critical inputs, including spare parts and new machinery, fertilizer, improved seed, and pesticide. Although the Government has endeavored to meet as much of the demand for these goods as possible, given the critical shortage of foreign exchange, they have not been able to meet the demand. Equally important, the low prices paid for paddy have not enabled rice production to compete with other uses for these scarce inputs.

The shortage of agricultural labor and the need for small farmers in particular to combine on-farm and off-farm work in order to meet their families' requirements have led to a high degree of mechanization. Virtually all land preparation and harvesting are mechanized at the present time (indeed, the team did not observe a single draft animal being used for agricultural production, although several instances of animals being used for transport were noted). While this situation results in part from decades of subsidization for fuel and other imported inputs, the transition from animal and manual labor to mechanized production is for all intents and purposes irreversible. Given this fact, the advanced deterioration of the machinery

TABLE 6 - Guyana: Evolution of Paddy Prices
1980 - 1988

Year	Price of Paddy ($G/140 pounds bag)	CLI (Urban) 1970 = 100	Price of Paddy in Constant Terms	
			1970 Values	Index 1980 = 100
1980	21.01	264.0	7.95	100
1981	24.92	322.7	7.73	97
1982	30.00	390.2	7.69	97
1983	30.00	448.5	6.69	84
1984	34.88	561.5	6.21	78
1985	40.41	645.9	6.26	79
1986	44.40	696.7	6.37	80
1987	63.90	896.9	7.13	90
1988	73.30	1,256.0*	5.84	73

NOTE: Paddy prices are the weighted averages of Extra A (.10), A (.20), B (.50) and C (.20)

* Assumes 40% increase for 1988.

SOURCE: GRMMA, Statistical Bureau, as quoted in IDB, 1989.

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Table 2. Comparison of Costs of Production

BEFORE DEVALUATION
(G$/acre unless indicated)

Cost item	Crown Agents (3/89)				IDB Sector Study(11/88)					Producers Assoc.(2/89 & 8/88)			
										PPA	RPA		
	Quant.	Units	Price	Value	Local	Labor	Imp.	Fuel	Total	Esseq.	Esseq.	Demer	Berb.
Land preparation													
ploughing (1st + 2nd cut)			300	300						300	330	240	220
harrowing/levelling			120	120						250	160	130	130
tractor and eqpt.							155	141	296				
weeding and cleaning										20			
labor						29			29	0	32	32	32
subtotal				420	0	29	155	141	325	570	522	402	382
Planting													
seed	1.00	bag	115	115	87				87	120	131	133	133
labour	0.30	day	50	15		24			24	35	24	24	24
subtotal				130	87	24	0	0	111	155	155	157	157
Fertiliser													
Urea	1.00	bag	139	139			139		139	140	140	170	140
TSP	0.25	bag	156	39			78		78	80	80	120	120
labour	0.67	day	50	33		3			3	60	25	25	25
subtotal				212	0	3	217	0	220	280	245	315	285
Chemicals													
pesticide	1.50	pt	65	98			54		54	212	220	139	139
weedicide	2.40	pt	26	62					0				
motorblower	0.07	day	244	16					0	70			
labour	0.07	day	50	3		13			13	50	71	71	71
fuel								1	1				
subtotal				180	0	13	54	1	68	332	291	210	210
Irrigation or water charges													
irrigator	1.07	hour	150	160					0				
labour	0.27	day	50	13					0	0	23	23	23
water rights (charges)					1				1	50			
subtotal				173	1	0	0	0	1	50	23	23	23
Harvesting													
bags	22.00	bag	3	62	8		165		173	0	88	88	88
twine	0.37	lb	10	4					0	5	25	25	25
labour	0.40	day	50	20		11			11	250	43	43	43
combine	22.00	bag	13	286		3	221	23	247	440	210	210	210
drying					11	59			70	55	32	32	32
sub-total				372	19	73	386	23	501	750	397	397	397
Transport													
seed	1.00	bag	7	7			6		6	10	6	6	6
fertiliser	1.25	bag	7	9			9		9	15	12	12	12
padi	22.00	bag	7	154		21	103		124	176	171	171	171
subtotal				170	0	21	118	0	138	201	189	189	189
Subtotal				1661	107	163	929	165	1365	2338	1820	1691	1641
Rent				5	147				147	10	35	35	35
Miscellaneous										75	32	32	32
Credit (12% for 4 mo.)				64	82				82	60	163	143	140
Total Costs				1730	336	163	929	165	1594	2483	2050	1901	1848
Sales	22.00	bag	85	1870					1785	1760	1435	1435	1435
Margin				140					191	-723	-615	-466	-413

FARMCST2.XLS

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Table 7. Comparison of Costs of Production

Cost summary												
Land preparation			420	0		155	141	296	550	490	370	350
Labour	1.43 day	50	72		163			163	545	279	279	279
Seed			115	87		0	0	87	120	131	133	133
Imported Inputs			421	0		271	1	272	507	553	542	512
Combine			286	19		386	23	429	440	210	210	210
Transport			170	0		118	0	118	201	189	189	189
Land charges			178	148		0	0	148	60	35	35	35
Interest			64	82		0	0	82	60	163	143	140
Total			1725	336	163	929	165	1594	2483	2050	1901	1848

FARMCST2.XLS

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Table 7. Comparison of Costs of Production

AFTER DEVALUATION	Old cost	% dev.	New cost	% Incr. 50	% Incr. 50	% Incr. 230	% Incr. 230					
Land preparation	420	0.80	1193	0	0	510	465	975	1562	13[illegible]	1051	994
Labour	72	0.40	138	0	244	0	0	244	1046	536	536	536
Seed	115	1.00	380	131	0	0	0	131	396	432	439	439
Imported Inputs	421	1.00	1388	0	0	895	3	898	1673	1824	1788	1689
Combine	286	1.00	944	29	0	1274	77	1380	1452	693	693	693
Transport	170	0.80	482	0	0	388	0	388	571	535	535	535
Land charges	178	0.20	260	222	0	0	0	222	88	51	51	51
Interest	64	1.00	211	123	0	0	0	123	198	538	472	462
Total	1725		4995	505	244	3067	545	4361	6986	6002	5565	5400
Percent increase				50	50	230	230					
New cost				505	244	3067	545	4361				
Sales												
22 bags grade a			5910					5910	5910	5910	5910	5910
22 bags grade b			5561					5561	5561	5561	5561	5561
20 bags grade a			5373					5373	5373	5373	5373	5373
20 bags grade b			5055					5055	5055	5055	5055	5055
Margin*												
22 bags grade a			915					1549	-1076	-92	345	510
22 bags grade b			566					1200	-1425	-441	-4	161
20 bags grade a			377					1012	-1613	-629	-193	-27
20 bags grade b			60					694	-1930	-947	-510	-344
Margin excl. labor cost												
22 bags grade a			1052					1793	-29	445	881	1047
22 bags grade b			703					1444	-378	95	532	898
20 bags grade a			515					1256	-566	-93	344	510
20 bags grade b			198					938	-884	-410	26	192
Return per day of labor												
days of labor input est. @ 75 return/day			1.43					3.25	13.95	7.15	7.15	7.15
22 bags grade a			734					551	-2	62	123	146
22 bags grade b			491					444	-27	13	74	98
20 bags grade a			359					386	-41	-13	48	71
20 bags grade b			138					288	-63	-57	4	27

* Costs not adjusted to reflect differences in combining cost, bags, and transport for different yield.

Source: Crown Agents: GRMMA, GAIBank, and Crown Agent estimates; IDB from draft sector study; Producers Associations from Paddy Producers Association and Rice Producers Association park (both tractors and combines) due to the lack of imports and the unavailability of spares represents a major barrier to the resuscitation of the rice sector.

The deterioration of field equipment and the unavailability of spare parts have contributed to the decline in rice acreage. Farmers who own equipment are husbanding it by planting smaller areas and by refusing to perform custom work, because, once a machine breaks down for any reason, there is no assurance that it can be returned to working condition in a reasonable time frame. While the Guyanese farmers have shown tremendous ingenuity and perserverance in maintaining their aged equipment in working order (even travelling to neighboring countries to smuggle in spare parts), the end of the line may finally have been reached.

The shortage of foreign exchange and the inadequacy of the public sector input distribution system have also contributed to the subsector's decline. These critically needed inputs, particularly fertilizer and pesticides, are often not available at the time during the season when they are required. The IDB analysis notes, moreover, that the margin between the import price and the farmgate price for critical inputs is above international standards, suggesting inefficiency and other problems in the current system, over and above the shortage of foreign exchange.

Problems in processing and marketing of paddy pose an additional barrier to increased output and incomes in the rice subsector as well. Other problems include the inadequacy of research and extension, the lack of a functioning system to produce new seed varieties, and the poor functioning of the irrigation system. These and other issues are further discussed below.

In spite of all the problems faced by the prodcers, the prospects for future rice production increases are good. The current barriers are all amenable to correction if the policies and programs necessary are put into place. At this point, farmers remain committed to rice production and could be expected to increase the resources allocated to it if it were sufficiently profitable, but this situation cannot be sustained indefinitely in the face of continued unfavorable technical and economic conditions.

3. Other Crops

Most observers of Guyana's fruit and vegetable subsector believe that the country has excellent potential to produce a wide range of vegetables and fruits. The nation's resource base in terms of cropland and irrigation infrastructure are clearly superior to those elsewhere in the Caribbean region and labor in Guyana has generally been less costly than in other CARICOM countries.

A wide range of horticultural and other crops are produced in Guyana. Principle among these are coconuts (34,000 acres in production), bananas and citrus (20,000 acres), roots and tubers (15,000 acres), and vegetables and oil crops (15,000) (Table 2 above). While most of this production is consumed locally, exports to the region appear to be increasing.

Data from the Guyana Plant Quarantine Service indicated that in 1988 Guyana exported substantial quantities of fruit and vegetables to Barbados and Trinidad and lesser amounts to Europe, the U.S. and Canada. Barbados and Trinidad were the principal markets for pineapple, with total exports of 707 metric tons, and plantain (153 metric tons), for example. Barbados was the principal market for Guyana's exports of pumpkin, watermelon and eschallots. Total exports of these commodities in 1988 were, respectively, 153, 84 and 55 metric tons. Europe and the U.S. were Guyana's main customers for coconuts; a total of 40 metric tons were exported to all customers.

Representives of the Caribbean Agricultural Trading Company (CATCO) in Barbados believe that Guyana faces excellent prospects for expanding horticultural exports in the near term, particularly for pineapple, coconuts and pumpkin. They believe that Guyana has a comparative advantage in producing each of these commodities and note that these commodities are suitable for transport by small inter-island ocean freighters. To realize this potential, Guyana must overcome its reputation as an unreliable supplier, in terms of both quantity and quality of the product, in order to establish markets of sufficient scale to support expanded transportation services to the region and beyond.

It should be noted that official statistics are believed to understate exports of horticultural products, due to the increasing prevalance of informal exports and smuggling between Guyana and its neighbors.

4. Milk, Meat and Other Livestock Production

Livestock has historically played a significant role in Guyana's agricultural economy. The 1978 survey found that farmers derived 31% of their agricultural income and 12% of their total income from livestock products. Poultry and egg production accounted for the largest share of these earnings, with milk, cattle production for meat, and other livestock following in importance.

Small-scale dairy farming has long been a significant component in the general farming system practiced on the coast, in which rice is the primary cash crop. According to the 1978 Rural Farm Survey, 80% of the rice farmers owned cattle. Typically the milk produced is used for family consumption or sold locally, mostly untreated. A small proportion of the milk goes into the production of yogurt, cheese and ghee.

Although dairy farming is still primarily a small scale operation, it is becoming more formal and commercial. Whereas milk used to be a by-product of livestock production, today it is the primary cash commodity on many dairy farms. The typical dairy farmer still practices mixed farming, growing crops and grazing his herd on fallow lands, vacant areas, rice stubble and community pastures. Most dairy farmers have fewer than 20 cows. In most cases, the typical farmer has little productive investment except for the cattle, which therefore function as a store of wealth and a form of rural savings as well as a productive investment. Gradually dairy farmers are beginning to employ scientific methods of dairy cattle husbandry and the production of milk.

In areas close to Georgetown and large towns, dairy farming has become more specialized. In these areas there are small dairy farms which produce fluid milk for the local market. Most of this milk is sold untreated to consumers directly or to small retail food stores. In the Georgetown area some farmers sell their milk to the country's only processing plant, owned by LIDCO, a parastatal, where it is pasteurized and then distributed to retailers and commercial users.

National milk production increased from 2.9 million gallons in 1980 to 6.9 million gallons in 1987, due in part to the virtual cessation of milk imports caused by the shortage of foreign exchange (Table 8). The National Dairy Development Program (NDDP) estimates that between 1983 and 1987, average milk production per cow per day in the country increased from 0.5 gallons to 0.7 gallons.

The production of livestock commodities other than milk have all declined significantly over the last decade (see Table 5 above). Beef production dropped from 3.1 thousand metric tons in 1977 to 1.8 thousand tons in 1987. Pork production declined by one-half during the 1977-88 period, from 2.2 to 1.1 thousand tons Poultry meat production also declined by almost one-half from 1977 to 87, from 7.1 to 3.6 thousand tons. The trend in egg production was also lower, declining from 53 million in 1977 to 35 million in 1987.

The official statistics may overstate the decline in output of livestock products. A substantial proportion of livestock products are sold in the parallel market and therefore may not show up in the statistics. Although the importance of this factor cannot be measured, the conclusion that official statistics overstate the decline in livestock production is consistent with reports from farmers and other local sources that the number of cattle has increased dramatically during the last few years as land has been removed from rice production.

5. Fisheries

Guyana has excellent salt and tidal water fisheries resources and it has a skilled labor force to exploit these resources. In 1988, Guyana had a fleet of 131 industrial fishing boats fishing for shrimp and fin fish. Additionally, an estimated 1425 artisanal fishing boats fished Guyana's salt and tidal waters. Twenty-nine of these industrial boats boats are owned by

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Table 8

DOMESTIC SUPPLY AND PRICE OF MILK IN GUYANA

(Mn OF GALLONS)

YEAR	PRODUCTION	IMPORTS	TOTAL DOMESTIC SUPPLY	PRICE FARM GATE ($/GAL.
1979	3.00	9.20	12.20	N.a
1980	3.00	8.40	11.40	N.a
1981	3.20	8.10	11.30	N.a
1982	3.20	8.10	11.30	N.a
1983	3.30	2.20	5.50	6.00
1984	3.60	3.10	6.70	8.00
1985	4.80	0.07	4.87	12.00
1986	5.80	0.09	5.89	16.00
1987	6.20	0.13	6.33	20.00
1988	6.70	0.07	6.70	24.00

N.a - Not Available

SOURCE: (i) Planning Unit - Ministry of Agriculture.

(ii) Guyana Stores Agency Division.
(iii) National Dairy Development Programme.

Guyana Fisheries Limited (GFL), a government-owned company. The Fisheries Department of MOA indicated that these boats are obsolete and in need of rehabilitation. Often, boats belonging to GFL are unable to operate because of problems with engines and other machinery, which result from the inablity to import parts from abroad because of the scarcity of foreign exchange and from the management difficulties typical of parastatal fisheries operations. The theft of shrimp, in the form of illicit transfer to foreign vessels at sea, plagues both GFL and private shrimpers. In addition to the boats owned by GFL, a Guyana-Libya joint venture company owns eight boats, Georgetown Seafood, a private company with U.S. investors, owns 61 and Nissin Suissan, a private company with Japanese investors, owns 10.

During the years 1977 to 1987, the quantity of fish caught has increased while the quantity of shrimp (reported) has declined. In 1977 the fish catch was 18,300 metric tons compared to 40,300 tons in 1987. On the other hand the shrimp catch was 3,100 tons in 1977, rose to 3,600 tons in 1980 and declined to 2,400 tons in 1987. Officials of the Department of Fisheries indicated that the decline in the reported shrimp catch is believed to be the result of the widespread theft of shrimp by boat crews and other underreporting.

6. Forestry

Guyana's forest lands cover about three-quarters of the country. The Guyana Forestry Commission estimates that 54,000 square miles of forest have potential for commercial development. Most of the forest land is owned by the government and is available for forestry development. 5,400 square miles have been reserved for the exclusive use of 65 Amerindian villages which are sprinkled in the rural areas of the country.

Currently, forest exploitation is concentrated in a band along the northernmost edge of the forest, as the rivers provide the only access to the forests for development. The Forestry Commission estimates that this constraint limits commercial exploitation to 14,000 square miles. The government has allocated 9,000 square miles of the exploitable area, mostly adjacent to navigable rivers, to commercial lumbering operations. In 1988, the Forestry Commission estimated that this area contained 12,400 million cubic feet of standing timber.

As of 1988, the forestry industry was made up of nine large-scale timber operations and 70 to 80 sawmills. The large companies usually export their output while the small-scale sawmills generally serve the domestic market. The Forestry Commission estimated that employment in primary and secondary wood-based industries was on the order of 10,000 workers in 1988.

The typical large-scale plant operates under a "Timber Sales Agreement" with the national government, which provides the owner with exclusive rights to harvest a given area for 15 to 25 years. The small-scale sawmills typically operated under a "Forest Permission" issued by the Forest Commission, which allows logging in a designated area but does not grant exclusive rights to the holder; forest permissions are usually limited to 3,000 acres.

In 1987, the large-scale logging firms produced 1.3 million cu. ft. of sawn wood. Exports during 1987 amounted to 644,000 cu. ft. valued at G$43.7 million (US$ 4.2 million) at the official exchange rate of G$10.5 to US$1.00. Exports, by volume, included lumber (44% of the total) and greenheart piles and hewn squares (28%). Greenheart accounts for 90% of sawn wood exports, while the logs are of various species. Production of small-scale sawmills was 1.8 million cu. ft. in 1987.

The Government of Guyana has as its stated objective the development of the forest resources to make a maximum contribution to economic development, consistent with environmental protection. It seeks to increase exports of all products and especially to develop markets for species that are not now traded internationally. Also, the government seeks to encourage the development of secondary and tertiary wood-using industries so as to maximize the value-added within the country.

However, notwithstanding its huge potential, the forestry industry is stagnating. Log production was about the same in 1985 as in 1979. However, the average annual volume of exports of lumber and primary forest products declined by 60% between the 1978-80 and 1985-87 periods. This stagnation is in part the result of the scarcity of foreign exchange to purchase new equipment and spare parts. The small company typically must purchase its imported inputs at high prices on the parallel market, if they are available at all.

The large firms usually export the major share of their output and thereby are able to obtain foreign exchange under the current retention system (which will be terminated later this year). Although exporting firms are currently allowed to retain 15 to 30 percent of export earnings, this amount is reportedly not adequate for the purchase of imported inputs and meet the firm's needs for repatriation of profits and foreign travel by expatriate management staff.

Prompt and effective development of Guyana's forests will require the government to restructure its economic policies. Most importantly, substantial new private investment in forestry will probably not be forthcoming until the government clarifies the status of private investment in the subsector. Given the ready availability of tropical forests elsewhere in the region and the need to rely on foreign investors for capital, access to markets, and technical know-how, forestry in Guyana will develop only if the economic incentives in Guyana compare favorably with those in other tropical forest areas.

C. Input Supply and Factor Markets

While agricultural production outside of the sugar subsector lies almost entirely in the hands of private producers, the government continues to play a dominant role in agricultural credit and inputs, excluding land and labor.

1. Credit

As the result of the policy of nationalization pursued during the mid 1970's, the Government of Guyana continues to control credit through ownership of key institutions in the financial network. Under this system, credit resources were directed primarily to the public sector to finance growing deficits. Although the Central Bank instituted some controls on consumer credit, the traditional tools of monetary policy (reserve requirements, credit control and interest rate policy) were generally not used to control the money supply or to facilitate access to credit for productive investment and working capital.

Formal credit to the agricultural sector is provided mainly through the banking system, made up of one development bank (the Guyana Co-operative Agricultural and Industrial Bank or GAIBank) established to provide development financing to agriculture and industry, and six commercial banks (both private and government-owned): the Guyana National Co-operative Bank (GNCB), the National Bank of Industry and Commerce, the Bank of Nova Scotia, the Bank of Baroda, Barclays Bank, and the Republic Bank.

Total formal credit to the sector is estimated by the Central Bank at G$87 million in 1987 and G$136 million in 1988. GAIBank lent G$16.9 million to the agriculture and agribusiness sector in and G$33.5 million in 1988. GNCB, the largest commercial bank in Guyana, lent G$190 million in 1987 and G$310 million in 1988, representing 18% and 19% respectively of its net lending. The National Bank of Industry and Commerce had lent G$12.5 million and G$45.9 million at September 1987 and September 1988 respectively to the industry, representing 7.4% and 18.0% of its net lending at those dates. Thus, the supply of credit to the agricultural sector was 65% higher in the commercial banks and 98% higher in Gaibank in 1988 compared to 1987. (The team recognizes that these figures are not consistent with the Central Bank's estimates, but could not determine which of the two is the more accurate; it may be that the Central Bank figures do not include agribusiness lending, whereas the individual banks' figures do.)

As at December 1987, 40.4% of GNCB's total assets were held in cash resources and securities. The National Bank of Industry and Commerce and GAIBank held 76.5% and 34.4% of their total assets in cash resources and securities. As there were no reserve requirements imposed by the Central Bank at the time, these large liquid resources suggest a limited demand for bank funding. Based on team interviews with GAIBank and representatives of the commercial banks, this situation would appear to reflect primarily the stagnation in the economy and the lack of attractive investment opportunities, rather than an unwillingness of the banking community to lend for agriculture as such. The limited time available to the team did not permit collection of data to determine how many agricultural loans were made in recent years and the number of applications refused. Knowledgeable observers of the credit situation confirmed that the banks prefer to lend to agri-business rather than to agriculture, which is in line with international experience.

Many of the nation's small farmers experience difficulty getting credit from the commercial banks because they operate on leased lands or have inadequate security for the extension of credit from the commercial banks. Some of these farmers have been able to obtain credit from GAIBank, but inasmuch as GAIBank made fewer than 1500 loans (production and investment) to the rice sector, compared to the potential demand of at least 30,000 (15,000 farmers with two crops each), it must be assumed that the majority of farmers do not finance their operations through access to formal credit.

Reasons for this situation include bureaucratic delays and other restrictions within GAIBank and the well-known barriers to lending to small farmers by commercial banks. Although GAIBank has made strides to improve its credit operations in recent years, delays of up to six months or more in obtaining credit approval and the need to provide extensive documentation regarding land holding and land use continue to be problems. At the same time, GAIBank has experienced some problems in collecting on loans where farmers have in fact rented out their land and, as a result, has been carrying out extensive investigations to verify ownership or possession before loans are made. The one-year lease system established in MMA (a major government project) has also served as a major barrier to access to credit by farmers on that scheme.

All of the small farmers interviewed by the team (an admittedly small and unscientific sample) reported that they do not take loans from the formal banking sector for agricultural production.

The profitability of exporting to the EEC has encouraged private millers to offer limited amounts of credit to farmers with whom they have an established relationship, to increase the mill's supply of high-quality paddy for processing. Under this system, the millers supply inputs in kind (fertilizer, bags, seed) and then deduct the cost from the farmers' payment. Although no interest is formally charged in this system, the team was not able to determine whether the pricing for the inputs includes an implicit interest charge, nor was information available enabling the team to judge the number of farmers relying on this system for credit.

The Central Bank has recently issued instructions that essentially froze the cash resources and securities of Banks at March 15, 1989, and new credit facilities will have to be made out of new deposits after that date. This policy, motivated by macro-economic conditions, may decrease the availability of credit for agriculture and agribusiness in the future. In response to continuing inflation and the need to establish real rates of interest, interest rates in the commercial sector have recently been raised from around 15% to around 33%. Although this increase is consistent with the requirements for sound macroeconomic management, it is likely to further discourage farmers and agribusiness investors from applying for loans.

2. Irrigation

While rainfall in Guyana regularly exceeds 2000 mm annually, the seasonality and irregularity of precipitation makes irrigation necessary in order to assure production of two crops annually. Virtually all of the country's cropland is irrigated, relying on systems dating back to the previous century. Expansion and renovation of the irrigation system is still ongoing, with major renovation underway in West Demarara and expansion in the Mahaica-Mahaicony-Abary area currently under way, for example.

As the result of historical factors, the institutions for management of the irrigation system are exceedingly complex. Perhaps the best description of the system is contained in the study prepared in 1986 by NEDECO, a Dutch consulting firm. As described in this study, the elements of the system are as follows:

- Primary responsibility for irrigation maintenance and operation rest with the regional administrations (of which there are six in the important agricultural region along the coast)

- Most, but by no means all, parts of the system are also under the jurisdication of an autonomous local authority

- Some areas are under the jurisdication of special authorities, such as MMA

- The Hydraulics Department of the Ministry of Agriculture provides overall technical guidance and monitoring and may manage some specific projects on behalf of the regional administrations

Although the situation regarding the collection of rates and taxes to fund maintenance and operation of the system is exceedingly complex, the following summarizes the current situation in this regard:

- The regional administrations collect rates and taxes for the areas that are under their jurisdiction. These funds must be transferred to the Treasury, however. The regions in turn receive a budget allocation to fund irrigation repairs and operation, but this is not directly related to the amount collected.

- Local authorities generally keep the funds they collect, although they pass part of their receipts to the regional administration.
- Rates vary widely across the country, as shown by the figures in Table 9a, which refers to one region only (Region III, West Demarara)
- Collection averages on the order of 15-30% of the amount due.
- The rates are generally well below the amount needed to maintain and operate the system, much less to amortize expansions currently under way.

Observers generally agree that the regional administrations are doing a somewhat better job of maintaining the system under their control than are the local authorities. Their better performance is due to the presence of a trained engineer on the staff of each region (inherited from the Ministry of Agriculture at the creation of the current decentralized system). Few of the local authorities have any professional staff at their command.

3. Other Non-Factor Inputs

Agriculture in Guyana is heavily dependent on imported inputs, including agricultural machinery and spare parts, fertilizer, pesticide and other chemicals, seed, and livestock inputs. With the exception of limited quantities of livestock feed, vegetable seed, chicks, and other inputs produced within the agricultural itself, none of these inputs are produced locally.

The rice sector is particularly dependent on imported inputs. Foreign inputs account for approximately 70% of the total costs of paddy production and approximately 56% of milling, based on 1988 prices, or a total of 66.7% of full cost of rice production, according to estimates prepared by the IDB (IDBN, 1989). (Note: the team is preparing revised estimates to take into consideration the impact of the most recent devaluation, which will be included in the following draft). Because of the rationing system used to allocate the very limited amounts of foreign exchange available, farmers were not able to purchase spare parts for the many old tractors and rice combines and harvesters used in agriculture and the importation and distribution of agro-chemicals has been badly affected.

Numerous problems exist in the input distribution sector that cannot be attributed wholly to the foreign exchange situation. In particular, the shortage situation has led the government to assign responsibility for most agricultural inputs to a single parastatal entity, the Guyana National Trading Company (GNTC). This organization serves as the sole licensed wholesaler for fertilizer, for example. GNTC takes possession of the fertilizer at the port and manages the distribution to private and public sector agencies in the

Table 9a   In Region 3

DRAINAGE AND IRRIGATION RATES PER ACRE

		1988 Rate $ ¢	1989 Rate $ ¢	Increase %	Acres
1.	Ka uni/Potosi	182.69	608.52	230%	10,741.222
2.	Cahals Polder	29.60	98.31	232%	21,703.710
3.	Vreed-en-hoop/La Jalousie East	60.33	203.07	236%	1,897.500
4.	Vreed-en-hoop/La Jalousie West	109.30	386.79	253.8%	2,571.000
5.	Den Amstel/Fellowship	194.37	723.60	215%	550.000
6.	Kent Dam Settlement	39.80	112.42	182.5%	1,484.500
7.	Vergenoegen/Bonasika	17.00	61.73		29,462.290
8.	La Retraite	84.12	298.71	255%	592.600
9.	North Klien Pouderoyen	182.69	608.52	233%	537.480
10.	Vergenoegen/Greenwich Park	89.36	330.29	269%	3,891.600
					73,431.962

Total acres = 73,432

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regions. The amount allocated to each distributor, public or private, as well as the price at which the fertilizer may be sold are determined by GNTC in consultation with the Ministry of Agriculture and other governmental authorities. Similar systems govern the distribution of other key inputs.

GNTC also plays a central role in distribution of spare parts for tractors and combines, because it serves as the sole licensed importer for Massey Ferguson, the dominant make of equipment in Guyana. (GNTC inherited this dealership from one of the private sector companies nationalized to form the public sector trading company.) Although other dealerships are held by both public and private agencies, the prevalence of Massey Ferguson equipment in the country makes GNTC's position pivotal. (It should be noted that sole agencies are the rule for many types of imports in Guyana, as in many other countries, and are not necessarily a policy problem in and of themselves.)

D. Processing and Marketing

1. Rice

The processing of rice is undertaken by private sector and public sector rice millers. In 1987, there were 89 rice mills operating in Guyana, 81 private and 8 public (Table 9), down from a total of 300 mills in the 1960s. These mills have a total capacity of 115 metric tons per hour, 70 percent of which is in the private mills. The total milling capacity is adequate to process the paddy produced and is generally well distributed with regard to paddy production. It is reported, however, that production in Essequibo exceeds milling capacity slightly, and that milling capacity is concentrated in two large mills, one public (Anna Regina) and one private. Although milling capacity in the region is expanding rapidly as the result of investments financed by the IDB, farmers reported concern that a competitive market for paddy would not prevail in this region if current plans for the sale or closure of Anna Regina go forward (in which case the mill would probably be closed, as buyers for the deteriorated plant and equipment will be difficult to locate).

Rice milling is heavily regulated by the government, a situation dating back to colonial times. The Rice Marketing Board (RMB) was created in 1939 to be the sole agent for the purchase of milled rice and the only supplier of both the domestic and export markets. This organization was merged with the Rice Development Corporation (RDC), which owned and operated two large rice mills, in 1969 to form the Guyana Rice Board (GRB).

In 1985 the Regulation of Rice Manufacturing and Marketing Act divided the GRB into three agencies that together control the processing and marketing of rice. This measure was undertaken at the advice of the IDB with a view to increasing efficiency and effectiveness in the industry. The three agencies and their responsibilities are as follows:

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Table ~~8~~ 9 - Guyana: Installed Rice Milling Capacity

Region	Paddy Production 1987 (000 MT)	Operating Milling Capacity					
		Private		Public		Total	
		A	B	A	B	A	B
Essequibo Coast	64.5	6	14	2	13	8	27
Wakenaan, Leguan and West Denerara	39.2	19	18.5	2	3	21	21.5
Sophia Mahaica	10.7	1	0.5	0	0	1	0.5
Berbice	69.2	25	24	2	13	27	37
East Berbice	49.6	30	23	2	6	32	29
TOTAL	233.2	81	80	8	35	89	115

NOTE: A: Numbers of mills
B: Effective milling capacity in MT/hour

SOURCE: GRMMA, as quoted in IDB, 1989.

- The National Paddy and Rice Grading Center (NPRGC) grades and certifies paddy and rice quality.

- The Guyana Rice Milling and Marketing Authority (GRMMA) carries out the business of the purchase of paddy and manufacturing and sale of rice, supplies rice, paddy and all other products required for export to the Guyana Rice Export Board, and has the sole right to market rice domestically at the wholesale level. GRMMA is also responsible for any other commercial, industrial or agricultural activities to assist with developing the rice industry in Guyana, including technical support to extension, etc.

- The Guyana Rice Export Board (GREB) is responsible for negotiating and entering into contracts with foreign governments, persons or agencies and regulates the export of paddy and rice and other paddy products produced in Guyana.

Although GRMMA no longer has a monopoly on rice milling, it is reportedly still extremely difficult to get a licence to set up a rice mill in Guyana and several private investors reported that applications have been turned down. Other policy barriers to the efficient operation of the rice sector are discussed below.

Like many other parastatals in the agricultural sector in Guyana and elsewhere, GRMMA has been plagued by inefficiency and technical problems. The agency is targeted for divestment in 1989, but the future of this program and its impact on the regulation of the domestic rice and paddy markets remains unclear.

2. Sugar

Sugar is processed and marketed exclusively by the Guyana Sugar Corporation (GUYSUCO). The sugar cane price is determined by the use of a formula which relies predominantly on the actual export price of the previous year as its base. The team did not analyze the performance or problems of this subsector in detail, in accordance with the scope established for the study.

3. Non-traditional Agricultural Products

The strong demand for foreign exchange and for the goods that can be purchased only with such currency has strengthened the market for non-traditional products that can be exported to earn such exchange. In addition, the virtual absence of imported foodstuffs has expanded the scope for local production of formerly imported goods or substitute goods for local consumption. Table 10 presents information on the recent performance of the major non-traditional products in terms of production and export.

Representatives of the government agency charged with monitoring and supporting this market, the New Guyana Marketing Corporation, emphasize that there are extensive investment opportunities for growing non-traditional crops. The development of this sector has to date relied primarily on informal marketing operations carried out by small-scale marketers, the "higglers" and "hucksters" common throughout the Caribbean. The rapid growth of the parallel market in both currency and imported items (particularly consumer goods such as clothing and foodstuffs) has encouraged the expansion of this operation. Small-scale traders (primarily women) have expanded their operations from domestic marketing and have begun exporting small quantities of high-value products (pineapple, eshallot, etc.) by air or ocean freight to other countries in the Caribbean. These goods are then sold to finance the purchase of consumer goods or other items such as agricultural spare parts, which are then smuggled back into Guyana. Although the scope of these operations cannot be estimated from official data, it is evident that expansion has been rapid over the past few years.

The viability of these operations may be adversely affected by the success of the structural adjustment process now under way. The profits of such small-scale traders derive primarily from the latter half of the operation and are therefore heavily dependent on the high differential between the parallel and the official exchange rate. In a normal exchange situation, it is unlikely that these operations could compete with regular trade channels in the importation of consumer goods.

Investment in comparatively large-scale marketing and processing operations is beginning to take place in response to the Government's encouragement to private enterprise. Investments have recently been made by private sector off-shore investors in areas as diverse as heart-of-palm canning and shrimp. Interest on the part of large-scale local investors is also strong, with ventures planned in such areas as coconut production and horticulture. Such ventures might benefit through access to venture capital under programs such as the Agricultural Venture Trust operating under the USAID High Impact Agricultural Marketing Project. GUYSUCO, the sugar parastatal, has also begun a wide range of experimental ventures as part of its diversification strategy. For example, GUYSUCO has established two milk production projects, importing 500 pregnant Holstein heifers in 1988 to establish a milk production complex at Versailles and establishing a second dairy project at Lillian Daal. GUYSUCO is producing soybeans, sorghum and corn to prepare concentrate rations for its dairy herd and has a plant under construction at Versailles for the manufacture of butter and cheese. The company's lack of experience in these areas and the generally disappointing results of similar parastatal operations in other countries do not bode well for these ventures.

Table 10. Available Information on Non-Traditional Products

Commodity	Unit	Production 1977	Production 1987	Growth Rate %	Acreage or Head*	No. of Farms	Farmgate Price (G$/lb.)	Yield/acre (MT)	Cost/acre (G$)	Return/acre (G$)	Est. Value+++ G$ million Gross	Est. Value+++ G$ million Net	Exports Vol.++ (MT)	Exports Value++ (G$ 000)	Exports % of Prod. Exported
Oilcrops & Industrials															
Coconut	Mil. units	25.0	45.0	6.1	3590								39.6		0.088
Coffee					1493	1027									
Staple Crops															
Ground provisions**	KMT	24.1	47.7	7.1	5619	12578 +	0.75	10.0	3380	2319	79.0	13.0	2.1	3.4	0.004
Plaintains	KMT	19.2	20.8	0.8	2454	5012	1.25	8[illegible]	5651	6117	57.4	15.0	114.3	315.3	0.550
Corn	KMT	3.1	2.9	-0.7			1.75	1.2	1765	229					
Fruits															
Bananas	KMT	4.9	9.5	6.6	1339	6780	2.00	9.0	2464	13330	41.9	17.8			
Citrus	KMT	11.6	11.0	-0.5	1938	2764	1.50	9.0	2779	10431	36.4	20.2	7.2	23.7	0.065
Pineapple	KMT	1.8	7.9	15.9	1812	825	2.00	16.0	19561	11517	34.[illegible]	20.9	707.2	3121.6	8.952
Watermelon													83.7		
Vegetables															
Blackeye peas	KMT	3.0			133	1989 +	7.00	0.8	2739	2826					
Tomatoes	KMT	2.7	2.4	-1.2	306	3185	3.00	8.0	7249	16407	15.9	5.0			
Peanuts	KMT	0.4	1.7	15.6	99	55	9.00	0.8	5537	1333	33.8	0.1			
Cabbage	KMT	1.3	0.6	-7.4	31	189	3.50	8.0	5132	22560	4.6	0.7	17.8	137.5	2.967
Pumpkin													152.6		
Eschallots							5.00	12.5	44534	16665			55.0	606.9	
Livestock Products															
Beef	KMT	3.1	1.8	-5.3	7035	67599 +									
Pork	KMT	2.2	1.1	-6.7	22748	2798									
Poultry meat	KMT	7.1	3.6	-6.6	515150	18897									
Eggs (table)	Mil. units	53.0	35.0	-4.1	161930	12057									
Fish	KMT	18.3	40.3	8.2											
Shrimp	KMT	3.1	2.4	-2.5											
Milk**	Mil. gal.	3.0	6.9	12.6	4365	30529									
Other															
Timber**	Mn.cu.ft.	6.2	4.7	-3.0	NA	NA									

* Acreage is pure stands only.
** Initial milk production is for 1979; final timber exports are for 1986; ground provisions include cassava, eddoes, yams and others, but costs and returns are for cass
\+ Not adjusted for farms growing more than one type of ground provision; acreage for blackeyed peas based on all dry beans and peas; head of cattle for beef is total cattle population; head for milk is mature cows only.
++ Includes all shipments given phytosanitary certification by MOA; value calculated as farmgate price times volume.
+++ Estimated value of total production, gross value calculated as quantity produced times price and net value as net revenue/acre times 1978 acreage.

Sources: Production from Ministry of Agriculture, as quoted in IDB sector study, 1989. 1978 acreage and number of farms from 1978 rural household survey. Yield, cost/acre, cost/lb., selling price, and net revenue/acre from GAIBank, 1988 (pre-devaluation prices) Export volume from MOA Crops and Livestock Department, 1988 annual report.

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E. Nutrition and Food Security

Since independence, the Government of Guyana has initiated policies and programs to improve the health of the nation, utilizing its own resources and seeking help from regional and international financial institutions. Despite these efforts, malnutrition is a growing problem in Guyana and one that deserves increased attention from the Government and the donor community. According to GOG reports the average per capita caloric intake in 1987 was only 89 percent of requirements, suggesting substantial malnutrition among the low-income population. There is reason to believe that this situation may worsen as the result of the structural adjustment process.

A 1989 health status review of Guyana concluded that hospital admissions due to malnutrition more than doubled between 1981 and 1984 and increased by an additional 53% between 1984 and 1985, increasing from 9.9% of admissions in 1981 to 19.2% in 1985. An alarming 50% of admissions resulted in fatalities (see Table 11).

Table 11
Malnutrition

	1981	1982	1983	1984
Admissions	141	138	293	283
% of Total	9.9	6.7	14.2	15.2
Deaths	N/A	71	126	143
% of Total	--	23.7	37.6	42.9
Case fatality rate %	--	51.4	43.0	50.5

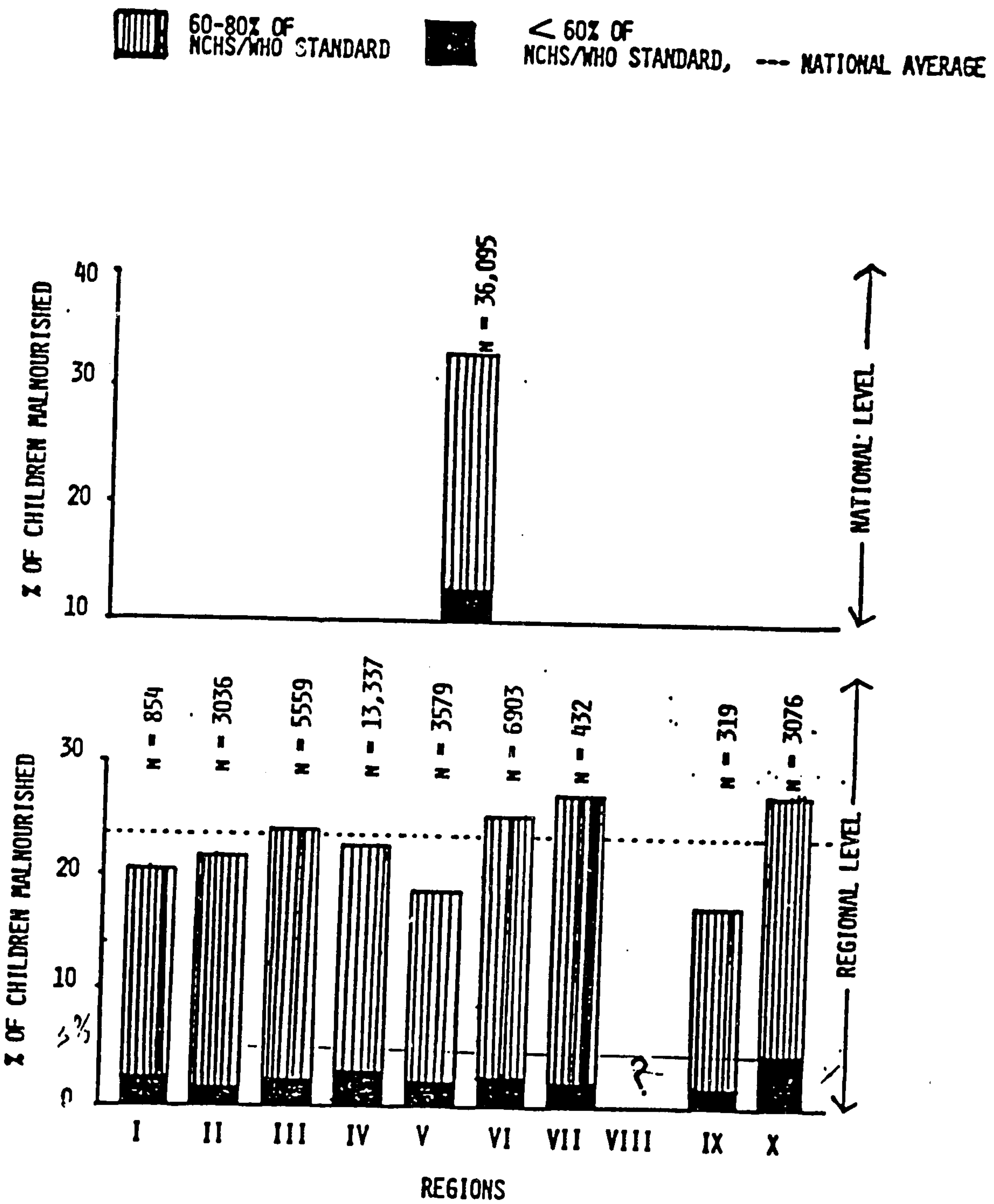
* Provisional figures
Source: Pediatric Ward, Georgetown Hospital, Guyana

Figure 2 suggests the worsening nutrition situation at the national and regional level.

The increase in malnutrition must be interpreted as a sign of decreasing real incomes relative to food prices, as well as of the non-availability of food in the quantities needed at the appropriate time and place. Although inadequate production and marketing arrangements and facilities could affect the volume of food available to the consuming public negatively, the distribution system within Guyana generally functions well (with the exception of high losses for perishables). Rather the problem must be attributed to a combination of falling real incomes and increasing real food prices caused in part by the artificially constrained import situation and the misguided policies of the past.

Guyana's economic decline over the last several years coupled with the ban on a majority of food items forced the low-income population to reduce consumption and to shift to less nutritious foods, substituting plantains, cassava, and other tubers for rice and wheat, for example. The high price

PREVALENCE OF MALNUTRITION, NATIONAL AND REGIONAL AVERAGES, GUYANA, 1987



of fish, meat and vegetables also depressed consumption of these high protein foods.

The latest devaluation has already been reflected in sharp increases in a number of food items, both locally produced and imported, over and above the increases in the prices of controlled commodities (notably wheat and rice, which increased by over 200%). For example, the price of chicken reportedly increased from G$25-30/lb. before the devaluation to G$60-65/lb. The 20% increase in government wages and the reported increase in the agricultural wage (from G$50/day to G$70-100/day) suggest the danger of negative effects on nutrition, given that approximately 80% of the budget of low-income households is devoted to food (a figure based on estimates from 1976; see PAHO Scientific Publication No. 323, The National Food and Nutrition Survey of Guyana, 1976 for a more complete discussion of this issue). Small-scale vegetable traders also note the decline in the price of horticulture products since the devaluation, which would be consistent with increased pressure on the family food budget.

The increase in the infant mortality rate and the increase in the incidence of parasite infestation (generally an indication of poor nutritional status as well as poor public health and sanitation conditions) suggests the negative impact of increased malnutrition on the nation's health. The short-term impact of the structural adjustment program on these variables is likely to be negative, further worsening what is already a deteriorating situation. In 1984 nutritional deficiency was ranked as the leading cause of death in children less than one year. By contrast in 1979 nutritional deficiency was ranked as the fifth leading cause of death in children of the same age group.

It must be noted that these rates are not high by international standards for a country of Guyana's income level. The downward trend should be a cause for serious concern, however, particularly in light of the increased short-term pressures generated by the difficult measures necessary for structural adjustment.

Table 12
Annual Parasite Incidence by Area 1980-1985

(Cases per 1,000 population)

Areas	1980	1981	1982	1983	1984	1986
Pupuni	166.0	99.4	80.1	56.6	64.8	170.1
North East	23.7	14.0	11.2	33.2	58.6	53.5
Pomeroon	0.4	1.3	1.5	1.8	2.9	103.1
Cuyuni/Mazaruni/Potaro	0.0	2.7	5.4	18.9	20.2	76.4
Other Areas	0.4	0.1	0.1	0.2	0.6	1.4

Source: PAHO (1986)

The institutional machinery in place to deal with this problem is likely to be inadequate to the task. The Pan-American Health Organization (PAHO) is working with the Guyana health authorities on a project to strengthen the information base in the health sector and has established a pilot project in all primary health care centers to collect data. Another significant initiative undertaken by PAHO in conjunction with the Ministry of Health is the maternal and child health program, which covers growth and development, human reproduction, diarrheal disease, respiratory disease, nutrition, and an expanded program of immunization (EPI).

Table 13
Crude Death and Birth Rate

Year	Death Rate	Birth Rate
1975	7.7 per 1000	31.5
1984	7.6 per 1000	29.3
1986	7.89 per 1000	23.8

Source: PAHO, 1988

Table 14
Infant Mortality

Year	
1979	33.5 per 1000 births
1984	45.0 per 1000 "
1986	49.0 per 1000 "

F. Rural Society and Informal Institutions

Agriculture has historically played a pivotal role in the lives of the Guyanese people. The structure of production in Guyana is typical to that which obtains in many developing economies with a legacy of colonialism, combining large-scale production for export (sugar and timber), small-scale production for export (rice), and small-scale production for the local market. Revenues from primary commodities such as sugar and rice are subject to the fluctuations of the international market, exerting a destabilizing influence on the economic and social well-being of the population.

Any attempt to assess the role of agriculture in Guyanese society must recognize the unique socio-political nature of Guyanese society. Ethnicity and culture are salient characteristics in the production systems of the two major crops--sugar and rice. The population consists of two main ethnic groups, Indo-Guyanese and Afro-Guyanese, who make up 51 percent and 31 percent of the population respectively, with the remainder divided among the

Amerindian population and a number of other minorities (European, Arab, Chinese, etc.).

In colonial times the plantation economy flourished. After the abolition of slavery, the labor base shifted from slave labor (Afro-Guyanese) to reliance on indentured laborers from a number of countries, including India and Hong Kong. Gradually, wage labor replaced forced labor on the large estates and peasant farming became dominant, especially in rice production. The Indo-Guyanese remained on the land. In time, some elements of this population were able to accumulate capital on the basis of their labor inputs on sugar plantations and establish a small-scale entrepreneurial and trading class or move into larger-scale agricultural production, but the majority of the Indo-Guyanese remained within the peasant economy. The Indian sub-culture stressed co-operation in times of trouble and exchange labor agreements at the peak periods in the agricultural cycle.

While some Afro-Guyanese remained on the land, the majority moved to urban areas in a search for a better life and a rejection of the lifestyle associated with slavery. In the urban areas, the Afro-Guyanese for the most part took up white collar occupations, mainly as clerks in the civil service, with smaller numbers moving into the professions.

Both the Afro-Guyanese and the Indo-Guyanese communities have sought social and economic mobility through an emphasis on education, enabling Guyana to develop an extremely educated labor force. This situation has also permitted many members of both groups to take advantage of opportunities outside the country, whether in the United States, Great Britain, Canada, or elsewhere in the Caribbean.

Today, the cultivation of Guyana's main crops is still predominantly undertaken by the Indo-Guyanese members of the society, whether as employees of the sugar parastatal or as small, medium, or large farmers. Indo-Guyanese are successful businessmen and have penetrated both the public, private, managerial and professional classes.

Despite the stereotypes noted above, a significant number of Afro-Guyanese are employed as farmers, traders, and entrepreneurs, as well as working in factories and other enterprises. Afro-Guyanese farmers operate for the most part at the subsistence level of production, growing ground provisions and horticultural crops to supplement their income and for home consumption, but these farmers are moving increasingly into the production of horticultural products for the domestic and export markets.

Tensions between the two groups are exacerbated by a history of interracial conflict. It is not possible here to detail the circumstances which fostered racial animosity and violence in the early 1960's in Guyana. The unrest and economic disruption associated with this period, incluidng the loss by the sugar and rice industries of millions of dollars worth of exports, illustrate the potentially explosive combination of traditional ethnic rivalries and economic pressures.

Rightly or wrongly, both agriculture and commerce are associated with the Indo-Guyanese group in Guyana, while the activities of the public sector are generally associated with the Afro-Guyanese group, which provides the majority of public sector employees. The relative importance of the public and private sectors and the relative incomes of the urban and rural populations thus take on a racial character in Guyana, which fuels the conflicts that arise from economic forces. The evolution of policy regarding state involvement in agricultural production, the marketing and distribution of rice, economic liberalization, and privatization must therefore be viewed in terms of ethno-political as well as ideological and economic considerations.

In addition to removing the macro-economic constraints to production, a successful ERP program must also build the confidence of the investors in the government's commitment to private sector investment and market-determined outcomes in the economy. Without this confidence, both small-scale and large-scale investors may not respond to the improved investment climate with the expanded investment needed to increase production and incomes. The tensions among Guyana's diverse ethnic communities make this task all the more important, but also tend to make it more difficult.

In assessing the impact of structural adjustment and reform on the rural population, it is critical to emphasize that, even in rural areas, agriculture provides less than half of total family income for the typical household. The 1978 rural household survey found, for example, that non-agricultural labor and other non-agricultural income accounted for 47% of household earnings in 1978 on a nationwide basis and accounted for 58% of household earnings for rural households with less than 10 acres. It would be reasonable to assume that the situation is largely unchanged since that time, as increasing importance of remittances from off-shore family members has probably balanced the decline in economic activity generally (the real contribution to GDP from non-agricultural sources declined 20% between 1980 and 1988).

G. Public and Private Institutions Supporting Development in the Sector

Guyana is currently in the midst of a transformation from a system relying primarily on the public sector for all phases of economic activity to a system vesting primary responsibility for such activtity with the private sector. Because the system is still in transition, it is difficult to draw the line between public and private sector responsibilities. On the contrary, public and private activities coexist at all levels of the economy, both competing with and complementing each other.

1. Overiew of Public Sector Institutions

The public sector institutions active in the agricultural sector may be divided into three groups:

a. Central ministries: The Ministry of Finance determines the budget allocations to all government institutions in the sector; the Ministry of Trade acts on import requests by both public and private interests; the Central Bank makes the day-to-day allocation of foreign exchange (a highly important function in a situation of extreme scarcity such as exists at present).

b. Sectoral ministries: The Ministry of Agriculture, consisting of the Departments of Lands and Surveys, Hydraulics, Planning, Crops and Livestock, and Fisheries, provides technical support to the sector; the Ministry of Regional Development provides guidance and assistance to the regional development authorities, including the extension and irrigation personnel below the national level.

c. Parastatals and other government bodies: at least 18 parastatals come under the direct supervision of the Ministry of Agriculture and several others are administered by GUYSTAC (the state holding company) or other agencies; among the most important are NARI, responsible for research; the three successor parastatals to the Guyana Rice Board (see below), which exercise substantial control in the rice subsector; GUYSUCO, virtually synonymous with the sugar subsector; GAIBank, providing credit to farmers and agribusiness interests; and GNTC, which manages official imports of fertilizer and is heavily involved in both importation and domestic marketing of a range of agricultural inputs.

The lines of authority and division of responsibility among these public and parastatal agencies are not always clear. GNTC, for example, falls under the jurisdiction of GUYSTAC, but the Ministry of Agriculture plays a substantial role in shaping GNTC's trading activities, determining which inputs will be imported for which crops and directing the allocation of these scarce inputs among alternative distributors.

In addition to these formal institutions, a number of smaller bodies play key roles in the sector, including the Rice Review Committee, which oversees pricing and policy decisions in the rice sector.

The New Guyana Marketing Corporation (New GMC) illustrates the transition under way in the institutional structure for agriculture. The New GMC was established in October 1985 as the successor to the Guyana Marketing Corporation. The latter institution had been assigned a lead role in the promotion of non-traditional products, with extensive buying and selling operations and responsibility for maintenance of remunerative prices to the farmers. Repeating the experience of public marketing corporations in the region and elsewhere, GMC was not able to mobilize the resources necessary for these complex and difficult responsibilities.

The new GMC does not buy or sell any agricultural produce and is not concerned with price setting of agricultural produce. Instead, it is charged with the responsibility for improving market access and providing market intelligence to farmers. Its principle activities are therefore that of coordinating and facilitating the export of non-traditional agricultural products and removing or making recommendations for removing bottlenecks in the domestic marketing of agricultural products. Most of its effort has been in the export drive. The organization has three functional units. The market intelligence unit seeks to reduce the risk involved in marketing of agricultural products, improve market transparency, enable farmers and traders to adjust their production and marketing activities more effectively to supply and demand requirements, and improve efficiency and orderliness in the distributive system. The technology transfer unit provides market extension service for new and potential exporters on how to prepare produce for exports. An FAO project training team is helping to strengthen this unit. Finally, the commercial policy research unit provides a one-stop service for exporters of agricultural produce. It provides all the shipping documents that are required to be used. The unit, when required, completes the forms on behalf of the farmer. It processes the plant quarantine documentation, customs export documentation and Bank of Guyana export registration forms.

2. Overview of Private Sector Institutions

During the nationalization program implemented in the 1970s, the Government of Guyana transferred many companies operating in bauxite, sugar, rice, commerce and industry to the public sector. Despite the generally unfavorable policy climate prevailing for private investment, a number of companies with strong ties to Guyana or to the region remained active in the country. Today these firms form the basis of the large-scale private sector, including:

Banks Breweries (DIH) Limited
Geddes Grant (Guyana) Limited
Demerara Tobacco Company
Kissoon Bros.
Toolsie Persaud Limited
William Fogarty's Limited
Associated Industries Limited (Neal & Massey Group)
Gaffour & Sons Limited
Willems Timber & Trading Co.
Kayman Sankar & Co. Limited

All of the large companies have been affected by the shortage of foreign exchange, price controls and licensing restrictions and are awaiting the liberalization of foreign exchange, price controls and licensing before making major investment decisions.

Despite these major uncertainties, the large-scale private sector remains highly interested in investments in both production and processing. At least one of these companies has been experimenting with the production of non-traditional agricultural crops (pineapple, onions, and passion fruit). A number of these firms have already invested heavily in rice production and milling and are expanding their operations. Several of the firms have also made applications for long-term leases on unused agricultural land, primarily in the MMA area. Although several applications have been pending for a year or more, no response has been received from the authorities. The inaction on this front and the recent refusal of several applications for rice mills have added to the private sector's uncertainty regarding the short-term prospects for private enterprise in Guyana.

Representatives of the private sector expressed concern with the continued monopoly position occupied by tge Guyana National Trading Company as the sole agency for the importation of agro-chemicals and argued the need to allow broader competition in this area on equal terms following the liberalization of foreign exchange.

The private sector is represented by the Guyana Chamber of Commerce and the Guyana Manufacturing Association. Both organizations have survived a long period of exclusion from the policy-making process and are not yet in a position to have a significant impact on the development of the private sector. Their activities are increasing steadily, however. The Chamber has recently been invited to participate in discussions between the Government of Guyana and a South Korean delegation seeking to do business with Guyana, for example.

IV. Policy and Programmatic Interventions in the Agricultural Sector

Government interventions in the agricultural sector may be divided into two groups:

a. Policy interventions, which shape the way in which markets operate (price controls, subsidies, taxes, regulations, etc.) or replace private markets with public sector operations, in whole or in part.

b. Programmatic interventions, which provide technical support to farmers or others in the agricultural sector through such measures as research and extension, operation and management of the irrigation system, etc.

While the line between these two types of interventions is not always clear, the distinction remains a useful one and will be used in the remainder of this section.

A. Policy Interventions

Like many developing countries, Guyana is in the midst of a transition from a heavily statist, dirigiste strategy to one placing primary emphasis on the private sector as the engine of growth. As part of this shift, the GOG is placing increasing priority on the agricutural sector, which provides 25% of GDP (1988), employment and income for an estimated 35-40 percent of the labor force, and over 40% of merchandise exports (even in 1988, an extremely bad year for both rice and sugar).

Despite this emphasis, the extremely difficult macroeconomic situation in which the Government finds itself and the legacy of past policies combine to make the transition to an export-led strategy difficult.

1. Government Development Strategy: Respective Roles of the Public and Private Sectors and Implications of a Shift Toward Reliance on the Private Sector

The policy directions enunciated in the Policy Framework Paper (prepared in mid-1988 as the basis for discussions with the World Bank Group) provide the clearest statement available regarding the GOG's strategy for the agricultural sector. A more detailed sectoral plan covering the 1987-1990 period has been prepared by the staff of the Ministry of Agriculture, and was available to the team in draft form, but has not yet been adopted as official policy.

The Policy Framework Paper places priority on "the improvement in incentives, the strengthening of competition, and the reduction of the public sector deficit" during the program's first year. Additional measures are planned in the program's subsequent two years to rationalize and reform the public sector and to rehabilitate economic infrastructure.

Within the agricultural sector, the overall strategy calls for promotion of "export-oriented growth, first by increasing output in the traditional sectors (bauxite and rice) and second by establishing the basis for a diversification of the economy." The framework paper recognizes that agriculture is the "mainstay of the economy" and states that "rapid grwoth in agriculture is a key elelment of the Government's strategy of promoting export-oriented economic growth, employment, and the country's potential in food production.

Given the urgent need to generate foreign exchange earnings in the short term (one to two years), the Government has laid the emphasis on sugar and rice, both of which have performed well below historical highs in recent years, much less reaching their considerable potential. At the same time, the strategy aims to realize the potential inherent in nontraditional crops, forestry, and fishing.

The framework paper highlights the improvement of price incentives as the central element in the recovery strategy, as reflected in the 225% increase in farmgate paddy prices that was announced in late March. The paper identifies a range of programmatic measures to promote rice, including "rehabilitation of infrastructure; strengthen[ing] support services in quality control, reserch, extension and ater management; and provi[sion of] appropriate resources and incentives for secondary, teriary and field-level irrigation, as well as sector-wide quality miling, transport, and storage capacity." The plan also commits the Government to "continue to review its rice pricing mechanism to ensure that it is both flexible and effective." Finally, the plan calls for a review of the arrangements for private sector exports, to encourage greater production and export.

Measures to promote other exports center around programmatic interventions, including water control, research and extension, and market information. In the area of forestry, the Government views the maintenance of an exchange rate consistent with supply and demand conditions as the key to promotion of exports, but also plans to develop and implement a marketing strategy for forestry products and review the current policies regarding minimum export prices and export fees.

2. Macroeconomic Policies: Trade and Monetary Policy

Guyana provides a textbook example of the damage inflicted on macroeconomic performance and management by an over-valued exchange rate. The Guyanese economy is highly open, with both exports and imports equalling approximately 75% of GDP in 1987. The country, moreover, has highly porous and uncontrollable borders, which, together with the presence of a large and industrious trading sector, virtually ensures that market forces will find full expression in the economy, whatever the official policies may be.

The Government's response to the extremely tight foreign exchange situation has taken the form of attempted control of demand for foreign exchange by allocation of licenses rather than by relying on market forces (auction of licenses or devaluation to the parallel market rate, for example) to bring supply and demand into balance. This strategy has been almost totally ineffective, for two reasons.

First, the near-impossibility of obtaining licenses and the ease of smuggling out high-value products (gold, diamonds, shrimp, and, to a lesser extent, fruits and vegetables) have contributed to a flourishing black market in hard currency and in imported goods (including agricultural spare parts). The parallel market has for all purposes replaced the official market, which operates only for a very limited number of official transactions. In late April

1989, the exchange rate against the U.S. dollar on the parallel market fluctuated around the low 50's, occasionally rising into the upper 50's, compared to the official rate of 33. The volume exchanged on the parallel market is variously estimated at up to US$500,000 per day, although this level may greatly exaggerate the market's importance. At this rate, the black market may handle up to $125 million annually (G$ 4.1 billion), compared to official import projections for 1989 of G$15 billion (a level that depends on massive external funding and refinancing of US$ 1.5 billion, which appears increasingly unlikely to materialize during 1989).

Second, the openness of the economy and the reduction in subsidies on key consumer products have fueled an upsurge in inflation. Unofficial data indicate that the consumer price index is rising much faster than the projected 50% rate that underlies the ERP. Prices rose 20% during the first two months of the year and an additional 20% in the next six weeks, which included the devaluation of the Guyanese dollar from 10:1 to 33:1 against the U.S. dollar. The cumulative inflation during the first three-and-one-half months of the year has thus reached 44% and it is unlikely to slow sufficiently to hold overall price increases within the 50% cumulative target range.

These two factors are closely related, because the unofficial or parallel exchange rate responds to the depreciation of the Guyanese currency inherent in inflation by devaluing the exchange rate further, which increases the price of imported goods and exportables on the local market, setting up another round of inflation. As official devaluations raise the price of goods that are imported or exported through official channels (e.g., PL-480 wheat), this inflation feeds through to a further devaluation on the parallel rate, maintaining the gap between the two exchange rates.

While this situation is most certainly not the outcome sought by Government policy-makers, it is nonetheless the result of past policies and distortions in the economy. The solution, while simple to identify, is extremely difficult to achieve. The Government has no option but to attempt to reintegrate the foreign exchange market back into a single market by a combination of measures to generate more foreign exchange (exports and donor inflows) and additional devaluations. The current situation in the bauxite and sugar industries (both of which are virtually closed down due to strikes by parastatal employees) casts doubt on the near-term prospects for foreign exchange earnings from the traditional sector and will make it more difficult for the Government to meet the targets set in the Fund-monitored program, placing in doubt the status of the rescheduling and the availability of donor inflows in time to arrest the inflation-devaluation cycle.

As further discussed below, the imbalance on the foreign exchange market has major implications for rice pricing and incentives, as well as affecting the overall profitability of the agricultural sector.

Before moving on to other policy areas, the current situation with regard to foreign exchange retentions deserves a brief discussion. At present, exporters are generally allowed to retain a portion of the foreign exchange generated by their exports (10% for rice and most other agricultural products). These retentions have generally been cut as part of the package of measures agreed upon with the IMF (the retention for rice exporters, for example, has been reduced from 15% and is scheduled to be cut out altogether in September). The elimination of such potentially distorting measures promotes economic efficiency and growth if it forms part of a package that is successful in unifying the exchange market at a market-clearing rate, ensuring equal access to foreign exchange by all parties. If access to exchange at the official price continues to be highly restricted (nil, for all intents and purposes), however, elimination of exchange retentions will be a blow to private investors, who count on such funds to bring in critical spare parts and other inputs. Elimination of these retentions would increase the reliance on the black market for such inputs, further discouraging exports through official channels, raising prices locally, and generally contributing to the further deterioration and fragmentation of the economy.

The ERP includes a range of measures to bring other elements of the macroeconomy into balance, including a restriction on public sector access to the domestic credit market and a substantial increase in interest rates (to 35%). As direct access to the credit market by farmers is very limited (as discussed elsewhere in this report), the effect of these policies falls primarily on the larger farmers, millers, and exporters who rely on bank overdraft privileges to finance their operation, as well as using other lines of credit. The implications of the increase in interest rate are difficult to assess until the inflation situation becomes clearer, as it remains to be seen where real rates will lie at year-end. Comments from the business community indicate that the short-term impact of the rise in interest rates has been a contraction in demand for credit and a squeeze on profit margins, but these effects cannot be confirmed from official sources.

With regard to other restrictions on trade, the Government is committed to paring further the list of banned items. The current status of this list is uncertain, as officials at the Ministry of Trade indicated that only a handful of items (principally canned goods) remained on the list, whereas other observed indicated that a number of basic foodstuffs (such as dried beans and lentils) are still banned. The team was not able to obtain information on tariff rates affecting agricultural inputs and products, but private sector observers did not identify these rates as a problem area. In any case, the virtual absence of foreign exchange at the official rate means that licenses for importation of any good can be obtained only on a no-funds (own exchange) basis.

Regulation of trade continues to be a problem for private sector businesses, despite the recent improvement in the approval procedure for no-funds imports. Several representatives of the business community commented on the red tape and delays inherent in the official import machinery, delays which are highly costly in an environment of rapid devaluation on the parallel market. Procedures and policies in this area also suffer from a lack of transparency, compounding the difficulty of making foreign transactions.

Other than the recourse to borrowing to finance the Government's deficit (now sharply curtailed) and the increase in interest rates cited above, there would not appear to be any monetary policies of direct relevance to the current study. Representatives of the Central Bank indicated that measures such as control of credit through reserve requirements are not used in Guyana at present.

3. Macroeconomic Management: Commercial Regulation

Like most developing countries, Guyana has erected a system of rules and regulations designed to control and regulate private sector commercial activity. Observers differ as to the impact of this system on investment and production in the agricultural sector. Whereas most government officials contacted by the team expressed the view that regulation was minimal and intended primarily to maintain information on private activity and regulate access to incentives (e.g., tax incentives), some private investors indicated that, despite substantial progress toward reform, the regulatory system still poses a barrier to investment. Several investors cited cases of investments in rice and cattle production and rice milling, for example, where applications for investment approval had been turned down or where no response had been received after a lapse of several months since initial application.

In general, private firms are free to determine product lines, set prices, and make other business decisions without restriction. Important exceptions to this general rule affect specific products in the agricultural sector; these are treated below in sections 4 and 5.

4. Sectoral Policies

Sectoral policy interventions include regulation of or intervention into markets that affect the agricultural sector as a whole. Typically, such interventions include taxes, subsidies, and other regulations affecting the basic factors of production (land, labor, capital) or intermediate inputs widely used in the agricultural sector (fertilizer, pesticide, livestock feed, irrigation water, spare parts, etc.)

Land. Although most farmers in Guyana either own their land or rent from the owner on a free-market basis, a substantial minority of farmers rent their land from the State (the team was not able to estimate the numbers falling into each category). Land within projects or irrigation schemes (Tapakuma, MMA, and Black Bush, as well as other schemes) follows this system. Although rental rates would appear to be well below market, the farmers do not have the degree of control that they would under free-hold or private sector arrangements. Leases cannot be transferred, for example. Whereas leases were formerly granted for periods of up to 99 years, current policy in MMA, the most recent scheme, limits leases to one year. This policy is designed to prevent farmers from sub-leasing, but it would appear that any negative impact of such sub-leases is more than counterbalanced by the negative effect of insecure tenure on farmer investment decisions and commitment to production.

Labor. Interventions in the market for agricultural and agribusiness labor are benign and do not restrict private sector activity. The organized labor movement is limited to the sugar sector, where labor unrest has been a problem, but this situation lies outside the scope of this report.

Credit. Formal credit in the agricultural sector is provided by GAIBank, the state-owned agricultural bank. Large farmers and agribusiness firms also have access to commercial credit through overdraft privileges and formal loans through the public and private sector banking sector (further discussed below). Due to the shortage of funds and institutional problems, GAIBank is able to reach only a minority of farmers. In 1988, for example, GAIBank approved applications for 108 long-term loans in the rice sector (averaging G$ 54,000) and 1330 short-term (production credit) loans (averaging G$ 13,800). Approvals for rice farming accounted for 54% of all agricutlural disbursements and 29% of all loan approvals in 1988. Actual disbursements were somewhat lower, as would be expected.

Although figures are not available on the number of rice farmers assisted (i.e., the extent to which loans went to finance both rice crops and/or both production and investment by the same farmer), it would appear reasonable to assume that many of GAIBank's customers made recourse to the bank for both seasons, suggesting that the number of rice farmers reached may be closer to 800 than 1400, compared to the estimated total number of rice farmers of between 15,000 and 25,000. Although GAIBank continues to make improvements in its operation and in reduction of costs, procedures for loan approval, collection, and monitoring would appear to need further streamlining in order to meet the growing need of the rice and other export-oriented sectors. Interest rate policy is evolving to keep interest rates in line with commercial rates, although the bank has not yet determined how it will respond to the recent rise in the prime rate.

The team was not able to obtain current information permitting a judgment on whether GAIBank is subsidizing credit to the agricultural sector. In particular, due to the short time available, information was not available on the extent to which GAIBank is able to raise lending capital on commercial terms, the extent to which interest and fees cover the full cost of operation, and repayment rates. The GOG's policy is not to subsidize GAIBank's operations in the future.

Rice millers reported that they are increasingly providing credit to the farmers with whom they deal in order to ensure a ready supply of high quality paddy. This activity is not and should not be regulated at this time.

Intermediate Inputs. The market situation regarding other inputs is heavily distorted by the overall distortion in the macroeconomy, particularly the imbalance in the foreign exchange market discussed above. The situation for all inputs is roughly the same: only very limited quantities are available at prices reflecting the official exchange rate, as the reserve position does not permit licenses to be granted on an unrestricted basis. This situation has three results:

- Importation of key inputs is limited to parastatal channels, at least with respect to imports at the official exchange rate. Due to the scarcity of funds, no licenses have been granted for fertilizer or pesticide imports except to GNTC, for example, and even these are well below the estimated total demand.

- Input availability to the private sector is limited. The limited amounts available are rationed to private distributors, who are required to sell them at controlled prices.

- Farmers do not have access to sufficient supplies of key inputs. Some supplies of critical spare parts and pesticides are brought in through the black market or own-exchange imports, but these are naturally limited to the highest value products. One farmer/dealer reportedly brought in a large quantity of fertilizer, but the team was not able to confirm the nature of this transaction, if indeed it took place.

Although the GOG attempts to allocate the limited supplies available to provide maximum support to rice, farmers confirm that fertilizer intended for rice is in fact applied to more profitable vegetable crops. Actual allocation rates on rice are not available, but delays in shipment, local shortages, and diversion to more profitable crops have inevitably reduced it below the recommended level.

In this situation, it is surprising that the black market in agricultural chemicals and supplies is as small as it appears to be. When prices are not allowed to rise to reflect scarcity conditions, strong pressures are created that, in other countries, have been associated with a range of undesirable practices in both the public and private sectors. The strong demand for services in the presence of a de facto public sector monopoly (GNTC) creates a situation highly conducive to economic inefficiency in its many forms.

Irrigation water. The productivity of Guyanese agriculture is highly dependent on the ready availability of irrigation water (which supplies roughly 40% of the evapotranspiration requirement for agriculture (and 60% of this requirement during the late summer and fall dry season) and the smooth operation of the drainage system to permit good water control by the farmer. The operation of this system (generally referred to as D&I in Guyana) depends in turn on the technical, institutional, and financial resources being available. Guyana, in company with most developing countries dependent on irrigation, has experienced difficulties in meeting these requirements. As further described elsewhere in this report, the system is currently performing far below its potential and further deterioration cannot be ruled out.

Many of the problems are technical and institutional. Efforts to address these problems have to date been limited to project-based efforts focused on rehabilitation of specific areas and have not addressed the structural problems in the system as a whole. Greater attention is needed to identify and put in place a system that can sustain the technical and managerial inputs needed to ensure the working of the system.

From a policy standpoint, financial issues in irrigation system are a key part of the problem and must be part of the solution. The Policy Framework Paper emphasizes the need to bring water rates to levels consistent with effective management of the system and to improve collection. In this connection, it should be noted that, although the allocation for D&I expenditures by the regional governments (which have the primary responsibility under the current system) have been increased by 51% in the 1989 budget over the previous year, while the operating budget of the Hydraulics Department in the Ministry of Agriculture (which provides technical support and oversight to D&I operation) has been increased 82%, both of these increases lag behind the rate of increase in the budget overall (125% for the current budget and 90% for the current budget excluding debt service).

The need to elaborate a concrete action plan to implement the improvements called for in the framework paper is urgent. The institutional and technical reform program developed by a team of Dutch experts (the NEDECO Report) would appear to offer several practical suggestions for moving toward such a plan.

5. Product-Specific Policies at the Consumer, Producer, and Agribusiness Firm Level

With the exception of rice, regulation of product markets for goods produced in the agricultural sector is very limited. The GOG has made substantial progress over the past three years in eliminating subsidies, price controls, and other distortionary policies, which are now recognized to be costly in the near term and not conducive to growth in the long term. Implementation of this positive, and difficult, policy reform has accelerated under the ERP, with the elimination of controls on all but a handful of products (including wheat flour produced under PL-480). These measure have naturally generated strong opposition among consumers, particularly government employees whose salaries have not increased sufficiently to cover the large increases resulting from devaluation and removal of subsidies and controls.

The markets for rice and sugar, both national and international, continue to be heavily regulated, however, and the refusal of licenses requested for new rice mills demonstrates that the Government has not yet fully implemented a private sector-based policy in these areas. Annex 1 describes the policies in the rice sector in more detail.

B. Rural Development and Support to Small Enterprise

The expansion of non-traditional manufacturing has consistently fallen short of its potential in Guyana, given the ready availability of cheap labor and natural resources. The Government of Guyana recognizes the need to stimulate and sustain small enterprise development, especially in rural areas to complement increases in income and employment based on agricultural production.

In the 1970s and early 1980s, the strategy to realize the country's potential in these areas relied heavily on direct government investment. Investments included bicycle assembly, textile milling, expanded milk and dairy production, ham and bacon manufacturing, glass production, canning, preserving, and others. At the same time, small entrepreneur were encouraged to move into such areas as honey production, pig and poultry rearing, toy manufacturing, garment and craft manufacturing, fish dehydration, artisanal fishing, and other areas.

Most of these activities, while having the potential to contribute to rural income and well-being, were heavily dependent on the ready availability of foreign exchange for critical inputs. The worsening balance of payments situation cut the industrial sector off from such inputs, forcing the sector to operate below capacity. In addition, frequent power outages hindered production and forced the closure of many industries.

For example, whereas the nation was self-sufficient in pork and pork products in the 1970s, and had even begun some export activity to the region, the industry has since fallen off considerably, due to the inadequacy and non-availability of stock feed and management difficulties within the GMC, including difficulty in paying farmers on a timely basis for their pigs. Ham and bacon production is today a private sector venture, though the local demand for these products is not met.

Several agencies operate in the public and private sector to promote the small business sector, providing credit and/or technical assistance to potential manufacturers. Promotion of small enterprise is clearly viewed favorably by government policy, particularly for rural revitalization.

Within the private sector, the main institution is the Institute of Small Enterprise Development. The ISED was incorporated in 1985 and began business in January of 1986. Its objectives are six-fold:

1. Prepare project profiles
2. Conduct pre-investment studies
3. Provide technical and management advice
4. Develop entrepreneurial skills
5. Initiate technology transfer arrangements
6. Assist in the establishment of accounting and other services

Table 15 summarizes the activities of the Institute since it was launched in 1986. To date this private sector organization has granted 292 loans and has created and/or sustained a total number of 1,186 new jobs. Funding for the institute has come primarily from international donors, including a substantial allocation of PL-480 funds, although some funding has also been provided by the local business community.

Table 15
Lending Activities of ISED

Summary Results of Activities in $000

	1988	1987	1986
No. of Loans Granted	165	102	25
Value of Loans	G$5419	G$2100	G$134.8
Average Loan	G$32.84	G$20.6	$5.4
Administrative Costs*	G$425.2	G$294.3	$109.7
Administrative Cost per Loan	$2.57	$2.88	$4.4
No. of Jobs Created/Sustained	675	450	61
Average Number of Jobs per Loan	4	4	2
Cost per Job	$0.62	$0.65	$1.8

*Administrative cost do not include interest payable on PL 480 loans, provision for loan losses and depreciation.

Classification of Loan Recipients

Number of Loans to:

Women	9	17	7
Men	87	73	18
Joint (Men & Women)	69	12	-
	165	102	25

Classification of Loans According to Activity

Food including Fishing and fish processing	38	13	5
General Manufacturing (wearing apparel, leather	49	49	17
products, craft & wood products, etc.)			
Fabricated and other types of metal products	9	11	1
(including workshops)	69	27	1
Agriculture & Livestock	-	2	1
Other			
	165	102	25

Within the public sector, the primary stimulus to small enterprise formation is provided by the Guyana Manufacturing and Industrial Development Agency (GUYMIDA), established by the government in 1984 to promote manufacturing and industrial development. Its activities include:

- identification of industrial potential,
- preparation of project profiles;
- conducting of pre-investment studies;
- provision of technical and management advice and assistance;
- undertaking of techno-economic appraisals;
- undertaking of market research and surveys for specific products;
- processing of applications for fiscal incentives;
- collection and storage of relevant information and the dissemination of such information to interested parties;
- initiating technology transfer arrangements;
- development of entrepreneurial skills.

The agency helps to establish economically viable manufacturing and industrial enterprise consistent with national development objectives. It provides no loans but works closely with local banks to help secure loan capital for its clients.

According to the 1987 annual report, GUYMIDA hopes to increase the contributions of the manufacturing sector to GDP from 14 to 16 percent.

In 1986, these agencies undertook two (2) pre-feasibility studies, twenty-nine (29) project profiles, two (2) opportunity studies and three (3) market studies. Seventy-five percent (75%) (six out of eight) of the profiles sent to the Institute of Small Enterprise Development (ISED), and sixty-five percent (65%) (two out of three) of those sent to the Guyana Co-operative Agricultural and Industrial Development Bank (GAIBank) were approved for funding.

The income and expenditure statement of GUYMIDA for the year ended December 1987 indicates that high administrative costs and a deferred expenditure in 1986 resulted in net deficits for both 1986 and 1987.

GUYMIDA's management expresses the institution's strong commitment to small enterprise development, whether indigenously or foreign owned. Representatives of private investors nonetheless cited GUYMIDA as one of the major barriers to approval of proposed investments, whether or not the investors are seeking fiscal incentives (which fall under GUYMIDA's responsibility). The team was not able to ascertain which perspective more closely reflects the actual situation.

GUYMIDA and the Institute for Small Enterprise Development are not the sole actors in the area of small enterprise development. A number of

PVOs under regional and national auspices also support small enterprises, including the National Women's Bureau of Guyana. This group focuses on assisting women entrepreneurs by providing training for women in non-traditional areas such as carpentry, brick laying, etc. The group is also active at the community level and prepares feasibility studies for local self help groups.

V. Issues and Opportunities for Growth in the Agricultural Sector

The agricultural sector continues to offer tremendous potential for growth in Guyana, particularly in the development of high-valued products for export and in expansion of traditional export markets (sugar and rice). To realize these opportunities, however, the Government must move strongly forward on several fronts. In particular, the opportunities opened by the Economic Recovery Program must be followed up with measures within the agricultural sector to underpin the expansion in real output and incomes sought by the ERP.

A. Opportunities

1. Prospects for Traditional Products

Given the urgent need to realize rapid gains in export earnings in the next three years, the GOG has placed the emphasis on strengthening rice and sugar, the two mainstays of Guyanese agriculture. Fortunately, both of these crops offer substantial scope for expansion, as Guyana moves to recapture its historical share of preferential markets in the CARICOM market and to exploit the potential in the EEC market.

The following discussion focuses primarily on the rice sector, given the study's focus on areas suitable for U.S. support under PL-480 or future dollar assistance programs. This emphasis should not be interpreted as implying that the prospects are stronger in rice than in sugar. On the contrary, sugar has traditionally played a much larger role than rice in generation of foreign exchange earnings. Although both have declined sharply in recent years, even in current Guyanese dollar terms, sugar has not declined as precipitously as rice. In 1981, for example, sugar exports totalled G$ 306 million, 32% of the total, while rice exports totalled G$ 110 million, 11% of the total. By 1985, sugar had declined to G$ 287 million (but, due to the sharp decline of other exports, including rice, still accounted for 34% of total exports), but rice had declined to G$ 57 million (less than 7% of total exports).

Both rice and sugar have recovered somewhat since 1985, due to positive movements in international prices. In U.S. dollar terms, sugar exports rose from US$ 66.4 million in 1985 to US$ 74.8 million in 1988 (35% of total exports), while rice rose from US$ 13.3 million in 1985 to US$ 15.4 million in 1988 (7% of total exports).

Despite this recent improvement, rice exports in volume terms remain well below the levels reached in the early 1980s. In 1988, for example, Guyana exported 56,000 MT, far above the 1985 total of only 30,000 MT, but still far short of the levels in 1980 and 1981, which approached 80,000 MT, and the all-time high of 105,000 MT in 1978 (which followed the record harvest of 1977). Tables 16 and 17 provide data on the recent performance of rice exports.

The decline in exports is due to two factors:

- declining availability due to increased local consumption and falling production (the 1988 harvest--hard-hit by blast--totalled only 130,000 MT on area harvested of 190,000 acres, compared to the 1977 record of 211,000 MT from 357,000 acres harvested)

- declining demand for Guyanese rice due to problems with quality and the reliability of supply

At the same time, it must be noted that official export statistics may considerably understate actual exports, due to the potential importance of unrecorded barter transactions with neighboring countries.

In recent years, the export market has expanded to include exports of cargo (hulled) rice to the EEC market by private traders, taking advantage of preferential import provisions under Lome. The Caribbean market continues to be the main market in volume terms, however.

The potential for expansion in the quota markets is a vital one for the future of the rice industry, given the large price differential between these markets and world levels. The situation in both markets is somewhat murky at present. Whereas Guyana is reportedly taking up only 10% of the CARICOM quota and currently ships 20% of maximum allowed under the EEC quota, the potential for expansion is more limited than these figures imply. With regard to the former, problems with quality control and the lower price available from other suppliers have encouraged CARICOM importers to shift to alternative sources of supply. Guyana may be able to regain its share of these markets, but only if quality and other factors affecting trade improve.

With regard to the the EEC quota, the prospects are less promising. The quota level of 122,000 MT for husked rice applies to all Caribbean countries. Although Guyana has been able to expand its exports dramatically due to the decline in Surinam's exports during the same period, total exports from the region reached the quota next year and it is expected that Surinam's production will increase in the future, reducing Guyana's share. Moreover, the future of the EEC quota market when Lome comes up for renegotiation in 1992 is unclear. While a dramatic reduction in the quotas appears unlikely except in the context of a general reform in international

Table 16 Guyanese Rice Exports by Destination

TOTAL EXPORTS

Year	CARICOM			EEC			OTHER			TOTAL		
	Volume KMT	Value US$ mil.	Price fob US$/MT	Volume KMT	Value US$ mil.	Price fob US$/MT	Volume KMT	Value US$ mil.	Price fob US$/MT	Volume KMT	Value US$ mil.	Price fob US$/MT
1983	27.2	16.7	612.8				14.5	5.0	342.5	41.7	21.7	518.8
1984	22.1	13.1	590.5				25.8	8.2	319.7	47.9	21.3	444.6
1985	16.9	9.9	584.5	7.5	1.9	255.0	4.9	1.5	312.0	29.3	13.3	454.6
1986	9.5	3.1	326.2	21.5	5.4	250.0	7.6	2.1	270.1	38.6	10.6	272.7
1987	8.1	2.7	339.3	29.8	7.8	262.7	31.1	5.5	178.0	69.0	16.0	233.5
1988	7.9	2.5	314.9	30.4	9.2	303.6	23.8	3.7	154.6	62.1	15.4	248.0

PERCENTAGE COMPOSITION

Year	CARICOM			EEC			OTHER			TOTAL		
	Volume	Value	Premium*	Volume	Value	Premium*	Volume	Value	Premium*	Volume	Value	Premium*
1983	65.2	77.0	121.2				34.8	23.0	23.6	100.0	100.0	87.3
1984	46.1	61.5	134.3				53.9	38.5	26.9	100.0	100.0	76.4
1985	57.7	74.4	170.6	25.6	14.3	19.1	16.7	11.3	44.4	100.0	100.0	110.5
1986	24.6	29.2	54.6	55.7	50.9	20.0	19.7	19.8	28.0	100.0	100.0	29.2
1987	11.7	16.9	47.5	43.2	48.8	15.7	45.1	34.4	-22.6	100.0	100.0	1.5
1988	12.7	16.2	4.6	49.0	59.7	0.9	38.3	24.0	-48.6	100.0	100.0	-17.6

* Percent over world price (Thai 5% brokens, fob Bangkok); EEC premium corrected for differential between cargo rice (.68 extraction) and milled rice (.605 extraction)

INDEX (1985 = 100)

Year	CARICOM			EEC			OTHER			TOTAL		
	Volume	Value	Price	Volume	Value	Price	Volume	Value	Price	Volume	Value	Price
1983	160.9	168.7	104.8				295.9	333.3	109.8	142.3	163.2	114.1
1984	130.8	132.3	101.0				526.5	546.7	102.5	163.5	160.2	97.8
1985	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1986	56.2	31.3	55.8	286.7	284.2	98.0	155.1	140.0	86.6	131.7	79.7	60.0
1987	47.9	27.3	58.0	397.3	410.5	103.0	634.7	366.7	57.1	235.5	120.3	51.4
1988	46.7	25.3	53.9	405.3	484.2	119.1	485.7	246.7	49.6	211.9	115.8	54.6

Note: Source of discrepancies between World Bank data and EEC data on exports is unknown.
Source: World Bank data and team calculations

Table 17

RICE EXPORTS TO EEC BY GUYANA AND SURINAM, 1980-87

	LONG GRAIN HUSKED RICE, O.T.F.S.				BROKEN RICE			TOTAL		
	VOLUME MT	VALUE ECU'000	US$/ECU	EST CIF PRICE US$	VOLUME MT	VALUE ECU'000	EST CIF PRICE US$	VOLUME MT	VALUE ECU'000	EST CIF PRICE US$
GUYANA										
1980			1.390							
1981			1.110							
1982			0.980							
1983			0.890							
1984	2523	1301	0.789	406.85	2977	1186	314.33	5500	2487	356.77
1985	5459	2398	0.763	335.17	2777	888	243.98	8236	3286	304.42
1986	16244	5996	0.984	363.21	2820	566	197.50	19064	6562	338.70
1987	24828	8166	1.154	379.55	13820	2716	226.79	38648	10882	324.93
SURINAM										
1980	63194	25129	1.390	552.73	5750	1496	361.64	68944	26625	536.79
1981	65517	28271	1.110	478.97	12179	3473	316.53	77696	31744	453.51
1982	82594	36468	0.980	432.70	13887	4274	301.61	96481	40742	413.83
1983	108868	51829	0.890	423.70	12576	4009	283.72	121444	55838	409.21
1984	72452	37461	0.789	407.95	5439	1954	283.45	77891	39415	399.26
1985	91717	41616	0.763	346.21	12051	3556	225.15	103768	45172	332.15
1986	91157	35620	0.984	384.50	0	0		91157	35620	384.50
1987	97426	31992	1.154	378.94	2127	600	325.53	99553	32592	377.80
TOTAL										
1980	63194	25129	1.390	552.73	5750	1496	361.64	68944	26625	536.79
1981	65517	28271	1.110	478.97	12179	3473	316.53	77696	31744	453.51
1982	82594	36468	0.980	432.70	13887	4274	301.61	96481	40742	413.83
1983	108868	51829	0.890	423.70	12576	4009	283.72	121444	55838	409.21
1984	74975	38762	0.789	407.91	8416	3140	294.38	83391	41902	396.45
1985	97176	44014	0.763	345.59	14828	4444	228.67	112004	48458	330.11
1986	107401	41616	0.984	381.28	2820	566	197.50	110221	42182	376.58
1987	122254	40158	1.154	379.07	15947	3316	239.96	138201	43474	363.01

	PERCENT OF QUOTA (=122,000 MT)			PERCENT OF QUOTA (=17,000 MT)		
YEAR	GUYANA	SURINAM	TOTAL	GUYANA	SURINAM	TOTAL
1980	0.0	51.8	51.8	0.0	4.7	4.7
1981	0.0	53.7	53.7	0.0	10.0	10.0
1982	0.0	67.7	67.7	0.0	11.4	11.4
1983	0.0	89.2	89.2	0.0	10.3	10.3
1984	2.1	59.4	61.5	17.5	4.5	22.0
1985	4.5	75.2	79.7	16.3	9.9	26.2
1986	13.3	74.7	88.0	16.6	0.0	16.6
1987	20.4	79.9	100.2	81.3	1.7	83.0

Source: EEC Delegation Office, Washington DC preferential marketing arrangements, it appears unlikely that the quotas will be substantially increased. Thus, planning for the rice sector must consider both the protected and the open international market.

Changes in informal regional trade are a greater cause for concern. This trade depends in part on the differential between the formal and informal exchange rates for the Guyanese dollar vis-a-vis other currencies, and relative prices between consumer goods and rice in the two countries. The unification of Guyana's exchange market would be expected to have a substantial impact on this trade, but neither the current volume of the trade nor the impact is subject to ready quantification, however.

2. Prospects for Non-Traditional Products

a. Domestic Market

Farmers producing high-value non-traditional products such as eggs, milk, meat, pineapples, bananas, coconuts, plantain, citrus, pumpkin, cabbage and other fruits and vegetables for the domestic market are faced with a decrease in demand for their goods. This decrease results from a sharp drop in consumers' real income as the result of devaluation and price changes instituted at the end of March 1989. Price reductions have been observed in the short run for highly income-sensitive goods such as fruits, vegetables and livestock products. On the other hand, the effect of the reduced real income will result in higher prices for economically "inferior" goods such as ground provisions, in the short term. In the medium term, farmers will therefore tend to produce less of high value commodities and to produce more of the low priced staples.

b. Regional and International Markets

Guyana is now exporting fruits and vegetables to Barbados and Trinidad. This trade has been growing rapidly and has the potential to increase further, assuming that economic conditions do not weaken Guyana's ability to compete in these markets. Although export from Guyana faces serious barriers, particularly the lack of a reliable transport infrastructure, exporters are generally optimistic. CATCO, for example, has announced plans to open an office in Georgetown. This office may be of significant benefit in helping to coordinate shipments and in assisting new investors.

Guyana if far below its potential to produce fruits and vegetables. As in most countries, the problem lies not in production but in finding markets and organizing the domestic marketing channels necessary to bring the products to these markets. Guyana's growers in the country lack experience in producing good quality food crops in consistent quantities, a situation that can only be remedied with time and experience, building gradually on small successes. Although there may be a role for CATCO or another donor-funded activity to provide technical assistance in marketing, the immediate prospects for such assistance appear limited.

c. Livestock

Reports from farmers and observers of Guyana's agriculture indicate that cattle herds have increased over the past few years in the coastal plain. The potential for expansion in the beef industry depends on the growth of domestic income and on the country's success in addressing the hoof-and-mouth disease problem that has so far blocked exports. In the immediate future, prospects are therefore limited to the domestic market. However, a processed meat industry could develop as production expands, perhaps at a location in the eastern or southern regions where cattle production is concentrated.

d. Forestry

As was indicated above, the development of the forests will be dependent on government policies. In order for the needed productive investment to occur, the right economic incentives have to be put in place. Policies must be seen as reliable and consistent. If the right incentives are in place and the industry has confidence that they will continue, job-creating investment can occur to take advantage of Guyana's extensive forest resources. A sound environmental policy is a vital component of such a forest development policy framework, to avoid the undesirable consequences of tropical forest development experienced elsewhere in Latin America.

The Government has moved to privatize several of the parastatals in this sector, beginning with Demerara Woods and progressing to Guyana Timber. Prompt progress on this front would reinforce the Government's commitment to private development in this sector.

Export of secondary wood products also offers excellent prospects for development. The U.S., Japanese, and European markets would be the natural place to look for a niche.

e. Fisheries

Guyana's fin fishing industry can continue to expand, and increases in exports are possible in the medium term. It is not known if the shrimp fishery is approaching its limit, however, as the recent reduction in reported catch may reflect underreporting more than an actual decline in production. Nonetheless, the continued destruction of the mangroves suggests that greater attention is needed to protection of the environment on which this highly profitable industry depends.

Guyana Fisheries Limited, the major parastatal in the sector, has been targeted for possible sale by the government. Transferring the fishing boats to the private sector, perhaps with their present crews having some equity, may offer the best option in this regard, as the deteriorated condition of the fleet is likely to make the company unattractive to investors with more capital and therefore more options than current GFL employees.

f. Processing and Marketing

Food products manufacturing offers opportunities. For example, the production of dried and salt fish, which can be marketed throughout the Carribean region, can be expanded. CATCO officials suggested the manufacture of chutney and similar products made from the tropical fruits of the country as another product group likely to find markets among the Asian populations of Europe and North America. Processed carambola exports might be possible in the medium term. Rapid expansion of these and other high-value exports could be triggered by something as simple as the development of a small evaporation plant.

B. Issues

1. Profitability of Expanding Agricultural Production, Processing and Marketing Cost and Comparative Advantage

The economy of Guyana was in a rapidly evolving situation when the team visited in April 1989 as the result of the recently announced devaluation, price changes, and other measures. Consequently, it was difficult to form a clear picture of the likely development of prices, output, and incomes in the near term. Over the longer term, however, the measures recently put in place offer the prospect of dramatically improving the competitiveness of Guyanese exports, laying the basis for a return to growth on a sound economic basis.

The uncertainty surrounding the policy and pricing environment makes it difficult to assess the impact of recent changes in more detail. Table 7 presents an estimate of the impact of the recent devaluation, based on adjustment of the various estimates of rice production costs available to the team. As might be expected, the results of this analysis depend greatly on which cost estimate is used. In general, the results indicate that the devaluation has improved the profitability of rice production, but has not fully resolved the profitability problem. The following table summarizes the results of this analysis:

Table 8a

Comparative Analysis of Devaluation Impact on Rice Profitability

Source of initial profitability estimate	Crown Agents	IDB	PPA	RPA*
Profit before devaluation**:	140	191	-723	-498
as a % of total	8.1	10.7	-41.8	-34.7
Profit after devaluation***:	60	694	-284	-600
as a % of total costs	1.2	13.7	-38.2	-11.9

* Average for Essequibo, Demarara and Berbice
** Yield assumptions vary
** Yield assumed: 20 bags, grade b

A more thorough analysis of costs and the impact of devaluation should be made at the end of the current season. As future devaluations appear likely, moreover, the impact on local prices and export revenues should be monitored closely.

2. Impact of the Economic Recovery Program on Agriculture and Agribusiness

The adjustment of the exchange rate and monetary policy to bring supply and demand into balance on the domestic and international markets will have a major impact on agriculture and agribusiness. While the long-term impact is expected to be positive, the short-term uncertainty and price shocks will make the transition difficult for the private sector, as well as placing strains on the public sector's ability to provide needed services (including drainage and irrigation).

a. Exchange Rate Adjustment

The devaluation of the Guyana dollar is intended to correct the chronic balance of payments deficit in the economy by increasing the profitability of exports in Guyanese-dollar terms and reducing the price of such exports to the overseas purchaser, increasing overseas demand for those exports. At the same time, devaluation makes it more costly to import goods and services from overseas, thus leading to a reduction in demand for these goods relative to those produced locally. In the case of the agricultural sector, the devaluation is interded to increase the profitability of such tradeable goods as rice, sugar, timber and non-traditional agricultural crops (e.g., pineapple) by increasing the value of the product by more than the increase in the total cost of inputs.

The success of the devaluation in achieving this goal depends on two factors: the dependence of production on imported inputs (which also become more expensive as the result of devaluation) and the impact of the devaluation on domestic prices, including labor. In principle, the devaluation should not be fully reflected in local inflation, with the result that production of exports and import substitutes (local foodstuffs) should become more profitable. Returns to land, labor, and capital employed in these subsectors should increase, while the returns to factors in the nontraded sector should fall. In particular, the returns to the provision of services, including government services, tend to fall. The Government has attempted to provide some short-term relief to this tendency by granting a 20% increase in wages to public sector employees, but a decrease in the returns to labor in government employment is a necessary component of structural reform.

Successful devaluation is particularly difficult in the context of a highly open, small economy, such as Guyana's. Because of the continued shortage of foreign exchange, moreover, the immediate impact of the devaluation was to increase local prices, leading to a run-up of the parallel market rate, devaluing the currency and increasing the cost of scarce goods to the consumer. As virtually no funds are available at the official rate, it serves primarily to determine the prices of officially regulated goods, which themselves account for a substantial share of the domestic market-basket (estimated at 15%, but much higher for low-income consumers).

As a result of this further devaluation of the currency in the parallel market combined with the removal of subsidies to a wide range of goods and services, unskilled labor demanded and has received increases in wages in the rice sector of 50-100%, according to informal estimates supplied to the team (e.g., the agricultural and unskilled labor wage has gone from G$ 50-60/day to G$ 75-100/day). The prices of a wide range of tradeable goods in the parallel market have increased by more than 200%.

The economic and political difficulties created by this situation are illustrated by the reaction in the sugar industry, where workers have gone on strike for wage increases in excess of the 20% offered by Government. There appears to be no immediate settlement in sight, threatening foreign exchange earnings further.

To the extent that devaluation is wholly passed through in the form of inflation, the cost of production in the agricultural and agri-business sectors will be increase, leaving the absolute and relative profitability of exports unchanged, and necessitating further devaluations to bring the market into balance.

Equally important, the success of devaluation relies on the ability of the economy to respond quickly to newly profitable opportunities. In the short term, this response must rely primarily on gains in the productivity of existing investments. While Guyana has substantial capacity to increase production in the agricultural sector even without exceeding historical levels, continuing rigidities in the economy must be addressed in order to realize the necessary gains in output. In particular, the need to expand the scope for private activity and remove bureaucratic roadblocks to investment is urgent. The history of public sector productive enterprises and of public sector regulation of private sector, in Guyana and elsewhere, indicates the danger of looking to a public sector-based system for rapid response to economic opportunities. The large workforce and inefficient management systems of public sector corporations are a further barrier to the expanded output vitally needed by the Guyanese economy.

To say that this transition is necessary is not to minimize the practical and political difficulties of achieving it. As in many developing countries attempting the same transition, Guyana faces real barriers in the form of a large public sector and parastatal work force needing reemployment and a stable of run-down and loss-making parastatal corporations for which immediate buyers are few. The Guyana Rice Milling and Marketing Authority (GRMMA) provides an example of this problem. Although the GOG has announced plans to privatize some or all of the mills belonging to GRMMA, many of the mills are in a highly deteriorated condition. Moreover, GRMMA is the core of the system for regulating the rice market. It is difficult to imagine how this institution can be fully privatized without abandoning this system, which the GOG has thus far stopped short of accepting.

The devaluation will increase the cost of capital and intermediate goods, which will affect the agricultural sector as well as other productive sectors. Most of the tractors and combines in the sector, for example, are over ten years old and many are 20 years old or more. While the farmers and mechanics of Guyana have displayed commendable ingenuity in keeping this fleet in operation, there are physical limits to how long the fleet can remain operational. These limits now appear to be in sight and there is no real alternative to replacement of a substantial portion of the tractor park over the next few years or at least to institute a massive rehabilitation program. Additionally, there are a number of rice mills which need refurbishing. Both of these measures imply a significant increase in production costs to reflect the capital and depreciation charges associated with these replacements.

Agro-chemicals and other imported inputs will increase the cost of production. These costs are particularly important for horticultural products, although, in a country with only a limited industrial base such as Guyana, they are significant for basic field crops as well. Imported inputs are estimated to account for roughly two-thirds of the total cost of production in the rice industry, for example.

b. Interest Rates and Monetary Policy

The ERP has resulted in the commercial bank prime lending rate being raised from 15% to 35%, bringing rates to most borrowers into the 38-39% range. Although the increase for agricultural lending by GAIBank has not yet been announced, a similar increase is expected, perhaps to 30-32%. Although these rates are consistent with sound macroeconomic management (and indeed may still be negative if estimates of inflation have been too low, as appears likely), these rates nonetheless constitute a disincentive for investors, compared to previous rates. In particular, borrowers find themselves having to pay the higher rate for existing loans and overdraughts (a standard method of business financing in Guyana as in many other countries), reducing their short-term cash flow in an unexpected and unwelcome fashion. Unless measures are taken to reschedule these outstanding debts, some highly leveraged businesses may fail as the result of the sharp and unanticipated increase applied to existing as well as new debt. Secnd, because investors have not yet become accustomed to the higher rates, considerable resistance to borrowing at this level is being experienced. On the other hand, small farmers, who had only very limited access to official credit and still have very little, are virtually unaffected by the change.

The argument for such high interest rates is based on sound economic principles. In particular, it is hoped that the high interest rates will provide an incentive for funds from abroad to be repatriated to Guyana. The theory suggests that the higher rates of interest available in Guyana relative to those in the rest of the world and in particular in the hard currency countries will encourage investors to keep their capital in Guyana and attract foreign capital to the Guyanese economy. The net inflows of capital should therefore increase as the differential between the real rate of interest in Guyana and the rest of the world increases.

A number of factors impede the effective operation of this process. First and most important, currency risk is a real factor decreasing the perceived return to saving or investing in Guyana. Given the experience of the country's inability to settle overseas obligations for many years, a considerable lag must be anticipated before funds flow into Guyana, even on a short-term basis.

The monetary policy articulated by the Minister of Finance is to hold the bank rate at a level that remains positive in real terms and competitive with interest rates abroad taking into account domestic inflation and conditions in the foreign exchange and domestic money and credit markets. It is expected that the interest rate will be reviewed periodically, possibly leading to further adjustments. Although the team completed its work only a few weeks after the devaluation, and thus could not judge the impact on inflation over the course of the year, preliminary indications suggested that the estimation of an annual price increase on the order of 15-30% may seriously underestimate the impact of this and future devaluations over the course of the year.

Two other factors complicate the monetary and credit perspective. First, as part of this policy, assets held by the banking community have in effect been frozen, with all new lending to be made from deposits after that date. This policy was instituted to control excess liquidity and to reduce the availability of funds for consumer lending, which was believed to be fuelling demand on the parallel market. The degree of tightening in credit markets as the result of this policy remains to be seen. Second, the availability of credit has historically been restricted by the repeated demands placed on the banks' funds to finance the deficits of the public sector, including loss-making parastatals. While the current policy environment will sharply curtail this practice, the implications for existing companies are unclear. In principle, it is highly desirable for loss-making companies to rectify their situation or face liquidation. As a practical matter, these companies face a very difficult transition that must be made under tight restrictions in a very short period of time. Their success cannot be assured, calling into question the near-term availability of the goods and services supplied by this sub-sector, estimated to account for roughly two-thirds of the industrial sector.

3. Response to the Flight from Agriculture

The agricultural sector has been in decline in Guyana for some years, setting in motion processes that cannot easily be reversed by the adoption of policies more favorable to the sector. A significant portion of the farmers have left the land, many immigrating to Canada, the United States, or other Caribbean countries. The number of rice farmers has reportedly declined from 45,000 to 25,000, for example.

In this situation, it is necessary to ask what the future of the small farmer may be in Guyana and how policy can best be shaped to make this future as productive as possible. Senior officials involved in long-term planning expressed the opinion that small-scale farming (i.e., on holdings of less than 10 acres) is no longer profitable in Guyana and that this outcome is the result of factors such as over-mechanization, rather than reversible factors such as policy. The officials suggested that small farmers should return to animal traction and simpler technologies, a suggestion that does not appear practical in light of international experience and the cost of labor in Guyana.

Figures on production and yield by farm size are generally not available in Guyana. Private sector individuals knowledgeable on rice issues confirmed the team's impression that the mid-size farmers (those with holdings between 30 and 60 acres) are currently the backbone of the rice industry, providing as much as 60% of total production. If so, this situation would appear to represent a consolidation of holdings and production over the past ten years. Other observers of the sector confirm this impression, citing increasing "renting in" of parcels vacated by small holders to form larger holdings. These shifts are given further impetus by the departure of younger farmers from the land for jobs in the city or overseas and by the increasing reliance of farm families on off-farm work and other enterprises for an ever-rising share of total income.

The GOG faces a choice: whether to resist this tendency by making small-scale agriculture sufficiently profitable to reverse the trends of the past 10 years or to accept these trends and reorient the assistance strategy toward medium-scale and large-scale farmers. Although there are strong arguments on both sides, those in favor of the latter course appear to be stronger in Guyana. Unlike the situation in other developing countries with higher man-land ratios and less experience with mechanization, Guyanese agriculture appears irreversibly headed toward a more capital-intensive agriculture based on larger holdings. This situation implies a somewhat different approach to investment and technology development than a continuation of the current small-farmer orientation.

4. Self-Management of Rural Institutions

Worldwide experience demonstrates the value of involving farmers closely in issues that concern them, ranging from management of the irrigation system to setting of prices, when such prices are set through a process of negotiation and analysis, rather than by market forces.

Although Guyana has made considerable strides toward greater openness and pluralism in decision-making, many rural institutions continue to leave too little scope for the direct involvement of farmers and agribusiness interests in key decision-making processes.

Two examples are the composition of the Rice Review Committee, which sets rice prices under the current policy regime, and the management structure for irrigation (the regional administrations and local authorities).

In the past, the Rice Board included representatives of the farmers and millers as well as individuals representing broader national interest. This valuable input has been lost through successive restructurings of the various institutions involved, denying the decision-makers the valuable input that only those directly involved in the industry can provide and, equally important, promoting the view among farmers and others in the agricultural sector that they are powerless to influence decision-making processes that affect them. Informal consultation with private interests, as is the current practice, helps to address the former problem but does little to solve the second difficulty cited.

The suggestion of specific measures to adjust this situation lies outside the scope of this study, but the Government is urged to explore further measures that might be taken in this regard.

The problem of irrigation management is far more complex institutionally. The current system is the result of successive unrelated moves stretching back to colonial days. The end result is a system where responsibilities are overlapping and far from clear. Farmers have little confidence that they can gain a rapid response to inadequacies in the system's condition or operation. While the local authority mechanism clearly has a range of deficiencies, greater involvement of the farmers at this level and, if possible, as advisors to the regional authorities would provide at least symbolic recognition of the farmers' central role in the irrigation system.

VI. Principal Constraints to Expansion of Incomes and Value-Added in the Agricultural Sector

A. Constraints in the Macro-Environment (DS)

1. Investment Climate and Regulation

Investment in productive capacity depends on the perceived returns, weighted by market and non-market risk. Because of the uncertainty in the value of the Guyana currency, the level of inflation, and their impact on future operating incomes, as well as the difficulties of doing business in Guyana (foreign exchange unavailability, input shortages, heavy regulation), the risk and consequently the rate of return needed to attract investment are generally perceived by private investors as being very high. Leading members of the business community argue that these and other factors have created a climate of great uncertainty, increasing the risk premium attached to their investment decisions. Accordingly, some investors may wait out the current period to see the results of the recovery program in the form of foreign exchange inflows and relaxation of licensing and other controls before making a major commitment to a long-term project.

The general uncertainty exemplified by the exchange and interest rate situations is only one of the factors having a negative effect on the business climate, however. Others include the lack of an established investment infrastructure and the continuation of policies associated with a regulatory environment hostile to private enterprise.

Investment infrastructure. Investment activity in open economies is facilitated by a number of institutions to generate and allocate investment funds, such as a stock exchange and a regulatory framework governing investment in securities for private and mixed public-private companies. These institutions permit the operation of investors at all levels, ranging from large-scale investors such as pension funds, life insurance and trust companies, to the small private investor. This "investment infrastructure" is made up of merchant bankers, corporate lawyers, accountants, brokers and investment managers, and the legal and institutional factors that govern their operation. Where these systems function well, they facilitate the investment process by supplying the investors' needs for information on the nature of business activity both at home and abroad.

As a result of Guyana's negative policies toward private sector participation in the economy, this infrastructure has not been developed.

Although the establishment of a stock exchange to facilitate investment is under consideration, it will be a very long time in developing. The necessary statistical data information base on investment opportunities is extremely limited at the moment, moreover, posing a further barrier to investment decision-making. Because of the lack of a stock market mechanism, there is no central group of persons marshalling funds for investment, nor is there a national savings plan or savings certificate system, which might have have attracted some of the excess savings that led to the condition of over-liquidity in the commercial banking system in early 1989.

The government has declared that it will be its policy to encourage foreign and local investment in the development of the private sector as part of the process of returning the country to sound economic growth. It intends to provide the incentives to attract foreign and local investment but that climate for active investments will depend on a wide range of legal and business infrastructure being put in place. The formulation of an investment code is an important step in this direction, but there will have to be a continued demonstration over time that there is no longer a preference for public sector over private sector investment on socio-economic, ideological or other grounds.

Change is necessary at the micro level as well as the macroeconomic one. Both public sector and private sector managers have becomed accustomed to ways of operation that must now be put aside for a more risk-seeking and efficiency-oriented mode of operation. Established ways of doing business must be overturned, including assured profitability through regulation and monopoly and all of the inefficiencies inherent in such a system. This transition must extend not only throughout the business community but also throughout the senior and operational levels of the government agencies charged with regulating business activities. If this transformation does not receive strong encouragement from above, efforts to promote economic development through private sector led activity may meet with frustrations and difficulties, threatening the process of economic recovery.

The Compulsory Acquisition Act and the Nationalization Act. These acts, which provide for the forced acquisition of private land and investments at below-market rates, offer examples of the type of change necessary to instill confidence in the private sector. Both laws remain on the statute books. Although current policy is not consistent with the application of these laws, representatives of the private sector expressed the view that the continued presence of these laws constituted a threat to private enterprise and cast unnecessary doubt on the longevity of the current policy environment.

2. Shortage of Foreign Exchange and Imported Inputs

The severe shortage of foreign exchange for machinery, spare parts and agro-chemicals, as well as other critical inputs, has made it difficult to maintain existing levels of output in the agricultural sector and throughout the economy. The shortage of basic inputs and the uncertainty of future access has restricted new investment to that which could be financed through retentions from export earnings and access to donor-funded lines of credit (such as the IDB facility for rice rehabilitation).

The supply of foreign exchange in Guyana derives from three sources:

- Capital inflows from borrowing and or investments from overseas
- Trade in goods and services
- Transfer payments, including grants from aid agencies and assistance from overseas Guyanese

Because of external payment arrears of approximately US$1.2 billion at March 1988, Guyana did not have access to capital inflows from commercial borrowing and donor inflows have been sharply curtailed. The general decline in the economy discouraged direct foreign investment.

The shortage of foreign exchange has fallen heavily on large-scale and small-scale operators alike. Indeed, in some ways it has fallen most heavily on the small-scale operators, because they have been unable to obtain such needed services as custom plowing and combining. Whereas larger operators were willing to perform such services on a custom basis in the past, the uncertainty regarding access to spare parts and the increasing age of the machinery park has forced them to restrict their services to their own fields. The team also encountered one example where small farmers reportedly invested considerable time and funds in producing cassava for a mill that planned to produce cassava flour, an investment that proved unprofitable when the mill was unable to operate due to the absence of needed inputs.

3. Transport Infrastructure

The road transport infrastructure in the country has deteriorated to a level where large sums of investments are needed to rehabilitate it. In Georgetown and almost every area of the country, the roads are in a bad state of disrepair. Nonetheless, due to the small geographic extent of the country and the concentration of production along the coast, most major production areas are reachable by road and ferry. The lack of spare parts has exacerbated with situation, however, because truck services have declined due to the breakdown in equipment and hesitance to risk travel over relatively deteriorated parts of the system.

Many of the interior roads, notably those in the Black Bush area, have deteriorated so badly that with increasing rains, further deterioration might make them impassable, impede the delivery of paddy to the rice mills, or lead to a serious erosion in its quality. There is evidence that this is taking place at the moment.

The public transport system is near collapse with very few buses available even in urban areas. The private sector has moved in with an expansion in taxi and minibus service, but here again the absence of foreign exchange restricts the response to increased demand for transport services. Laborers are reportedly finding it impossible to report to work due to the increased price of transport and decreased availability, but the team could not determine the extent of this phenomenon or gauge whether it represents a short- or long-term problem.

There are a number of large rivers where bridges have not yet been built and access is by ferry. The service is infrequent because of a shortage of ferries. Government needs to acquire additional ferries for these waterways to improve the delivery of agricultural produce to the market place or permit private ferries to offer service. Delivery of agricultural produce from Essequibo to Georgetown, for example, takes about 5 to 6 hours by waterway or 30 minutes by air. Air freight is costly because only very small aircraft are used. Investment in airstrips in Essequibo would increase the size of the aircraft capable of serving the area. Both options require substantial funds and may not be feasible given present economic stringencies.

Because of the shortage of foreign exchange, there is also a shortage of trucks and similar type vehicles for the delivery of inputs to the farmer and for the delivery of produce to the market place. In the rice growing areas, farmers are required to send transport to Georgetown to purchase necessary inputs and this increases their cost of production.

B. Sectoral-Level Policy Constraints

Despite the substantial progress made in liberalizing markets and bringing key prices into line with market-determined levels, there remain a number of areas where further liberalization would underpin expansion of private sector investment and production in the agricultural sector:

- Government Role in Marketing and Market Regulation: The Government continues to play a controlling role in the rice market that is not consistent with the full play of market forces and the maximum expansion of private sector activity.

- Government Role in Input Supply and Marketing: Although progress has been made to expand the role of the private sector in input supply, the continued involvement of public sector institutions such as the GNTC in the market for key inputs (fertilizer, pesticides, spare parts) is not consistent with a thorough transfer to a market-based approach. The limited resources available to GNTC create operational and institutional barriers to efficient and effective functioning of input markets, barriers that are difficult to overcome given the current scarcity of resources.

- Irrigation Infrastructure: The current system creates an unacceptable level of ambiguity regarding roles and responsibilities and strains the implementing capacity of the local authorities, while spreading resources too thinly and providing insufficient scope for farmer initiative and control. The recommendations offered in the NEDECO Report should be reexamined to determine whether they could profitably be included in the forthcoming recovery program.

- Other Sectoral Policy Constraints: The continued presence on the books of laws such as the Nationalization Act the Compulsory Acquisition Act send undesirable signals regarding Government commitment to private investment by both national and offshore interests.

C. Critical Shortfalls in Government Programmatic Support to Agriculture

The maintenance program for Guyana's drainage and irrigation systems is perhaps the greatest shortfall in the Government's support to the agricultural sector, although weaknesses in research and extension should also be noted. Many of the drainage and irrigation systems are not working well and as a result agricultural output and net farm income are lower that would otherwise be the case. In many cases government authorities, who are responsible for maintaining these public works have not done the work because the farmers have not paid their rates. The farmers, on the other hand, claim that they have not paid their rates because the authorities have not maintained the ditches and canals in past years when they did pay their rates.

Observers of the agricultural sector believe that the lack of adequate maintenance on drainage and irrigation works is a symptom of a more pervasive problem: the lack of profitability in rice and other irrigated agriculture. Farmers do not pay their rates because they have inadequate incomes. Officials cited instances where farmers did not work together to maintain their own sea defences. They concluded from their lack of effort that adequate economic incentives were not present at this time to bring about the socially desirable outcome.

D. Need to Address Distributional Impact of the Reform

Recognizing the serious implications of the ERP for low-income groups, the Government of Guyana has proposed a Social Impact Amelioration

Program (SIMAP) as an integral part of the reform program. The objective of SIMAP is to cushion the harsh economic and social dislocations of the devaluation, increases in official prices, and other measures. Preliminary designs for SIMAP properly place the emphasis on the most vulnerable groups, but the latter have been defined quite broadly to include the unemployed, young children, old age pensioners, and female heads of households, as well as others. A number of NGOs will be asked to play a major role in the SIMAP exercise.

Funding for the proposed program is dependent on outside support. Current plans call for a World Bank loan of US$10 million with direct foreign exchange requirement of US$4.3 million or 43 per cent of total costs, to fund a three-year program. This plan is clearly not consistent with the IMF agreement to restrict SIMAP activities to US$ 3 million over 3 months.

The unit operating the program comes under the new Ministry of Culture and Social Development (MCSD). Key personnel are now being recruited and there is an urgent need for technical assistance in the key areas of monitoring and evaluation, and program coordination and implementation. There is a demonstrably urgent need for more donor assistance in these key areas. Government statements have created expectations regarding the benefits to be provided by this program that, if unmet, may worsen rather than improve the sitation.

The continuing deterioration in social indicators (health, education, crime etc.) through the 1980's suggest the Government's inability to protect vulnerable groups from the adverse effects of inflation and the consequent decline in real income. The government has sought international donor assistance, such as a World Food Program project to provide a snack to school children, but this has been at best a partial measure. The Ministry of Health and PAHO have extended their efforts to collaboratively provide and sustain initiatives in primary health care and other health related matters particularly in the rural areas.

Team discussions with low income and unemployed individuals in both urban and rural areas reveal a high level of discontent and frustration with economic conditions. Although the team was not able to gauge whether these views reflect those of a broad spectrum of the population, statements highlighted the need to take action to ensure continued public support for the difficult reform process.

Given the high prices of goods many consumers have had to reduce their purchase of staple food items (rice, sugar, cooking oil, etc.) and to cut back sharply on high-cost items in their budget (vegetables, poultry, and meat). These measures are likely to lead to a further deterioration in the nutritional status of segments of the population already at risk nutritionally.

Numerous households especially in the poor urban areas and rural areas rely heavily on the informal sector for their income. There has been a proliferation of trading actively since the mid 1970s, which accelerated in response to the opportunities created by the foreign exchange rate differential. The impact of the ERP on this trade is difficult to determine, but small traders commented on the lack of demand for horticultural products domestically.

VII. Outline of Proposed Sectoral Development Approach

The present situation calls for an extremely conservative approach to development designed to achieve maximum progress in the short term. Although such a strategy inevitably leaves many promising options unexplored and postpones many potentially profitable investments, the extreme difficulties in which the country now finds itself do not permit a more ambitious strategy at this time.

In this context, there is a need to strengthen the prioritizing process within the planning activities ongoing in the agricultural sector. Such a prioritization would devote all of the scarce resources currently available to two purposes, leaving open the possibility of more comprehensive action in the future:

- Revival in the key subsectors of rice and sugar

- Promotion of private sector investment in non-traditionals with a high value-added component

- Strengthening of the basic irrigation and road infrastructure, with an emphasis on repair and rehabilitation rather than expansion to support productive activities

Actions in these areas must be complemented by policy measures to strengthen the private sector's ability to respond to opportunities in the marketplace. A number of specific measures have been identified in previous sections, many of which would not increase the strain on the Government's limited resources and may even offer the potential to reduce such pressures.

Other measures, whether on the product side (e.g., expansion of non-traditional exports) or on the input side (e.g., strengthening of research and extension), must take second place during the current crisis.

A. Priority Opportunities for Development: Target Subsectors

Based on this reasoning, the team recommends that maximum emphasis be placed on the rice sector and on irrigation infrastructure, including in particular a shift in the attention given to the operation of the D&I system on a nationwide basis as a vital complement to donor-funded projects addressing area-specific problems.

B. Priority Issues for Resolution

Within these two complementary target areas, the team recommends continued progress to liberalize rice prices and rice marketing consistent with the achievement of national objectives in export earnings, farmer incomes, and satisfaction of domestic market requirements. The conflicts inherent in trying to meet these three competing aims will continue to challenge the will and analytic skill of the Guyanese authorities. In particular, it will be extremely important to continue, and even accelerate, increases in the rice price and, at a minimum, to keep pace with devaluations of the Guyanese dollar and international price movements.

Although use of a more sophisticated cost-of-production method has brought some improvement in this area, such a procedure has built-in difficulties that are difficult to overcome. The GOG should move as rapidly as possible to give market forces greater expression in the determination of rice prices and the allocation of available supplies between competing users. Formal incorporation of international prices into the formula offers a stop-gap means to achieve this aim, but it is not a substitute for a market-based approach. The team recognizes the difficulty of implementing an approach relying wholly on market forces until such time as the foreign exchange market is brought under better control.

The team also recommends that the shift to greater reliance on private sector investors to carry out key economic functions be accelerated in three areas:

- Input marketing: The Government's reliance on central planning to allocate scarce inputs such as fertilizer is not consistent with the overall tenor of the recovery program. The Government should explore measures to reduce its role further, by moving aggressively to implement alternative systems on an experimental or full-scale basis. Such measures might include auctioning fertilizer and removing restrictions on its price.

- Machinery import: The dominant role still played by public sector companies as agents for overseas manufacturers and as the Government's sole purchasing agent for donor-funded projects would appear to be a relic of a bygone policy era. As a sign of the Government's commitment to private sector operations, the Government should transfer its current dealerships to private sector companies (or, more explicitly, allow the international firms to negotiate new arrangements with the private firm of their choice), beginning with the GNTC but progressing to other public sector companies over a one-to-two-year horizon. The

Government should also consider using private sector procurement agents rather than the GNTC to implement donor-funded procurements.

Rice milling and export: The private sector has demonstrated its ability to respond to market opportunities for rice export. The GOG should position itself to take greater advantage of this capacity by gradually removing restrictions on rice marketing and by de-linking export levels from internal sales. The Government might consider, as a transitional measure, implementing delivery quotas, requiring that a fixed amount be sold through CRMMA rather than all rice destined for the domestic market. Institution of a variable tariff designed to reduce the differential between world and preferential markets might also be considered as an alternative to the current more rigid system for regulating export quantities.

C. Potential Social and Distributive Impact of Proposed Measures and Possible Palliative Measures

The GOG is concerned regarding the socio-economic and institutional impacts of the reform on the most vulnerable groups. The SIMAP program discussed above, however, has not yet progressed to the point where it offers an adequate response to these problems and the prospects of its doing so must be judged somewhat limited, given the severe resource constraints and the lack of an existing institutional infrastructure. As yet, moreover, there has been no formal attempt to measure the social or economic impact expected on vulnerable groups, communities, or organizations.

The broad-based policy reform measures currently undertaken by GOG at the request of the IMF cannot allow such crucial welfare goals as basic needs and distributional issues to be abandoned or ignored. The GOG has exhibited political courage and has embarked upon a recovery program that will have negative effects on the poor, the unemployed, children, and other groups. The ultimate objective of ERP is to reverse the economic downturn facing the country, but continued worsening of the situation in the short term creates conditions that may undermine the long-term program.

One of the factors likely to distinguish winners from losers in the Guyanese context is gender. On the negative side, many women-headed households are already below the poverty line. On the positive side, though, it must be recognized that the majority of the actors in the informal sector are women and often women heads of household. The impact of the government's efforts to unify the formal and informal sectors on this group remain unclear. Many of these individuals lack the training and capital to permit them to operate effectively within a more formal environment.

Other vulnerable groups include parallel market traders, small businesspersons (male and female, the homeless, and the unemployed.

Parallel Market Traders. The Government has unambiguously stated its intention to restrain and eventually incorporate the parallel market into the official one. No hard figures exist on the number of traders in the parallel market. Government's retrenchment program and the need to constrict public sector employment forced many highly educated Guyanese to seek their livelihood in the underground economy, as well as many with less formal education. The difficulties in reabsorbing these individuals into the mainstream of economic actively must be confronted and a sound package of measures formulated to do this. The reform must not result in the further marginalization and alienation of this dynamic but vulnerable group, but instead must enable them to make the transition to become established businesses.

Small Businessmen. This group is experiencing difficulties since interest rates have sky-rocketed and inventories are high. Many individuals have been forced to severely curtail expenditures and the continued existence of some businesses appears threatened. High interest rates on overdraughts together with slowed turnover of inventory have placed a squeeze on small investors.

The Homeless. Informal observation indicates that the number of homeless in the urban areas is increasing. This is another area where donor help is urgently needed to reinforce the social welfare services, but this phenomenon is difficult to address in the context of a short-run adjustment program.

Impact on Rural Society and Informal Institutions. For many countries like Guyana national development is synonymous with improvement in rural well-being, more effective participation in both formal and informal institutions, and modernization of rural production systems. The Government of Guyana accepts this view and sees agricultural development as a key facet of the matrix of interventions needed to achieve rural revitalization.

Further complicating this process is the need to reverse or at least stabilize patterns of rural to urban migration. Whereas it will be difficult to lure farmers back to the land, particularly when they have migrated overseas rather than simply moving to town, increased returns to agriculture and other measures supportive of rural living standards are necessary to prevent further loss of the farm population.

Fundamental to the sociological perspectives of rural development is the participatory role that rural institutions must play. Clearly there is a need to optimize broad-scale participation by linking it to shared influence in decentralized structures, with inputs provided by the Government specifically directed toward promoting popular involvement.

The GOG has in recent years attempted to broaden the role and influence of rural people in the affairs of their village, their community and their country. The regional form of Government has been the main instrument to ensure local participation at grass roots level. The local democratic councils provide local input into decision making at the national levels.

Farmer's organizations, except in the rice industry, exercise little influence on agricultural policy. Cooperatives, which were initially seen as viable vehicle for rural agricultural development, have for the most part had little impact on agriculture development. Village production committees have become politicized and have not been effective economically.

There is an urgent need for farmers to establish and promote private sector institutions organized around specific commodity groups (ground provisions, coffee, etc.) that will serve their own interest. The viability of producer organizations requires training, technical assistance and financial support in both the short and medium term, but the private sector nature of these initiatives must not be compromised.

Impact on Food Security. Guyana's food import bill has decreased markedly even before the current restructuring program began in 1987, a development that must be attributed to falling incomes and foreign exchange rationing more than to increased self-sufficiency. Promotion of consumption of local goods may have played a role, however.

Guyana's economic and debt crisis and the adverse effect this has had on food production and consumption suggest an urgent need for a reassessment of the country's options for building food security. The GOG's repeated calls for farmers to produce more food have met with only limited success in the absence of stronger economic incentives for production or better support technically. FAO statistic show, for example, that the overall production of root crops and pulses between 1973-1974 and 1983-1984 fell by 12.2 percent in both per capita terms and absolute volume (FAO Production Yearbook, 1984). In the mid 70's, the production of non-traditional crops increased and sporadic efforts were made to seek markets in the Caribbean.

In the final analysis, food security issues cannot be separated from the constraints to agriculture productivity already identified elsewhere in this report.

At the regional level Guyana has participated in a number of ministerial sessions under the aegis of Caricom to examine options for building food security. The member states of Caricom are cooperating to increase food production under a program called the Caricom Group Regional Food and

Nutrition Strategy. The member states, including Guyana, have endorsed measures to increase food production. The original agreement called for a program to rationalize agricultural production as a first step. In 1982 the Heads of Government of the Caricom nations agreed on a comprehensive Regional Food and Nutrition strategy. The strategy identified the food and nutritional problems of member states and set targets and goals to be achieved by 1990. The Regional Food and Nutrition Strategy compliments the goals of the member state in areas of food self-sufficiency and self-reliance.

Caricom member states have agreed to several initiates to alleviate the constraints on food production. The Caribbean Agricultural Trading Company was established as a joint venture between the regional governments and regional private sector traders with the responsibility for the movement of agricultural inputs and outputs both inter-regionally and extra-regionally. In the area of transportation, the West Indies Shipping Corporation has expanded its fleet to provide transportation for regional trade. The Caribbean Agricultural Research and Development Institute (CARDI) provides research and development services to small farmers.

VIII. Proposed U.S. Assistance Strategy

The current situation in Guyana calls for a shift in the PL-480 assistance mode in three directions:

- A continuation of a strategy based exclusively on project assistance is inconsistent with the extremely restrictive environment in which the GOG must now operate, although some of the activities funded in the past merit continued support.

- PL-480 funds can play a more productive and central role by shifting funds to assure full funding for selected budget line items in the GOG budgets and to provide funding for other critical programs in cooperation with international donors and organizations.

- More active use of the Self-Help Measure policy dialogue should also be made to give greater emphasis to identification and implementation of a focused set of sectoral recovery measures.

The total allocation for the agricultural sector in the 1989 budget is estimated at G$ 538 million, including G$ 111 million in current expenses (primarily in the Ministry of Agriculture and Regions I-VI) and G$ 427 million in capital expenditures (primarily donor-funded projects).

A. Introduction: Resource Requirements and Availability

While many of the programs financed by PL-480 funds in Guyana have been worthwhile and made a valuable contribution to the Guyanese economy, a continuation of an approach based solely on projects would not be consistent with the needs of the current situation, for two reasons. First, the funds are accumulating more rapidly than they can effectively be spent using the small project mode, as evidenced by delays in programming and implementing the current portfolio. As the funds to be generated from the 1989 program (excluding any CIP or ESF assistance) will roughly triple the available funds, this situation could only be expected to go from bad to worse if the program continues to rely solely on projects rather than more rapid-disbursing mechanisms, despite good faith efforts on all sides.

Second, an approach relying entirely on small-scale projects is inconsistent with the virtual economic emergency facing the GOG. In a situation where the central government may have difficulty meeting payroll toward the end of the year, much less implementing donor-funded projects and programs of its own, it is not appropriate to allocate GOG funds to additional activities beyond those already included in the budget. On the contrary, all the funds available should be programmed against the central constraints in the agricultural sector, of which the maintenance of the D&I system takes the highest priority.

B. PL-480 Self-Help Measures

PL0-480 programs around the world have shifted in the past few years to give much greater emphasis to policy reforms necessary in the context of self-help efforts to increase agricultural production. The Guyanese program is not consistent with this evolution, which has been found to increase the impact of PL-480 assistance substantially, when compared to a project-based approach. It is strongly recommend that A.I.D. and the GOG move to incorporate both project and program support as well as policy measures into the Self-Help Measures to strengthen the support provided to the recovery program.

The PL-480 Self-Help Measures cannot be specified in more detail until negotiations have been carried out between the two governments in consultation with the IMF and the World Bank. The shift in emphasis to support priority budget line items and recovery measures as well as specific projects, while highly responsive to the needs of Guyana in the current context, increases the need to coordinate closely with the other donors taking the lead in providing policy advice to the GOG.

C. Local Currency Use in Support of Recovery

In addition to the policy measures to be agreed upon, PL-480 self-help measures should also include full funding of the agricultural line items in the 1989 budget. The funds projected to be available from counterpart generations would provide a substantial part of the revenues implied, but would nonetheless leave room for the GOG to demonstrate its commitment to agriculture by fully funding these expenditures despite the difficulties to be anticipated in implementing the 1989 budget.

IX. Implementation Considerations

Despite the international effort currently underway to resolve Guyana's arrears problem, it would be unrealistic to expect resumption of a full-scale A.I.D. program in the near future. In the absence of U.S. direct-hire personnel in-country, the program must be supported by a combination of GOG persosnnel and in-country personnel on the A.I.D. payroll, with only limited technical and logistical support from U.S. Embassy personnel and RDO/Barbados. This reality, coupled with the management burdens placed on the GOG by the reform program and the economic crisis itself, argues for an extremely conservative approach to program design with the aim of minimizing the need for technical and managerial inputs.

A. Program Management

The proposed program meets this requirement. It places the emphasis on supporting sectoral policy reviews and discussions already underway as part of the multi-donor support program, while relying on a budget support strategy to reduce the management burden on both parties. The program also makes maximum use of other donor activities to provide the foreign exchange and technical inputs needed for effective programming in the agricultural sector.

The support requirements for policy reform must not be underestimated, on either the Guyanese or the American side. Many of the issues facing Guyanese decision-makers are technically complex and will require considerably more analysis than has been possible during the initial design of the ERP. The limited resources available to support the PL-480 program on both sides can more productively be devoted to generating this analysis and drawing the implications for decision-makers than to monitoring the progress of local currency projects peripheral to the recovery process.

At the same time, it is important that PL-480 counterpart funds be used insofar as possible to support effective programming in the agricultural sector. As discussed above, a use for PL-480 funds consistent with the needs of the ERP would be to ensure that timely releases are made to fund the agricultural line items in the 1989 budget, particularly in the areas of capital budget and non-personnel costs for D&I, as well as other purposes. The team has estimated the total amount required for these purposes at a minimum of G$ 200 million, based on an analysis of the 1989 GOG budget submission, as follows:

Non-personnel costs in the Ministry of Agriculture: G$ 154 million

of which: G$ 42.8 million operating costs
G$ 100.2 million donor-funded projects

Non-personnel agricultural costs in the Regions: G$ 56 million

of which: G$ 20.9 million D&I
G$ 4.4 million other

Documentation of compliance with the proposed funds use would be achieved by forwarding to A.I.D. a copy of the monthly releases (termed allotments in the U.S. budget) against the approved line items in the GOG budget (the equivalent of appropriations and authorizations in the U.S. budget system). It is recommended that no attempt be made to track expenditures beyond the point of release. It is recognized that funds unspent by the line authority (e.g., the Agricultural Department of Region Y) lapse at the end of the year and return to the Treasury, but measures to reprogram unspent releases do not appear administratively feasible at this time.

B. Integration with Other Donor Programs and Priorities at the Macroeconomic and Sectoral Levels

The proposed program ties in with the need to integrate PL-480 programming with other donor activities, particularly in the absence of a U.S. dollar-funded development program. The local counterpart funds required by donor-funded projects are included in the 1989 budget and would be eligible for PL-480 funds, just as other funds for the agricultural sector in the current and capital budgets.

To the extent that PL-480 funds can improve the timeliness or availability of local counterpart funds for donor-funded projects, the program has the potential to accelerate disbursements by these programs, including both dollar funds and local currency. In particular, PL-480 funds may help to resolve the so-called pari passu problem, which has delayed IDB disbursements. The IDB's pari passu requirement links dollar disbursements to progress on the local currency side of the project, measured by local currency disbursements by the host government. To the extent that shortages of funds have delayed such disbursements, the disbursement of hard currency funded by the IDB has also been delayed. PL-480 thus has the potential to offer indirect balance of payments support by speeding the disbursement of both hard currency and local currency funds under approved IDB projects.

A second issue in donor coordination revolves around the generation of counterpart from other donor's programs. The large amounts of commodity and cash transfer assistance programmed by the U.S. and other donors will generate local currency counterpart in a manner similar to the PL-480 program and in even greater amounts. It would be highly desirable for the donors to coordinate the programming of these funds to the extent that they are not simply treated as general revenues. The team discussed this issue with a number of bilateral and multilateral donors, but was unable to resolve it. None of the donors contacted has a sufficiently large presence in Guyana to permit it to take on the role of coordinating this large amount of funds. It is strongly suggested that the U.S. Government step up informal contacts with the other donors to ensure that programs are complementary and consistent. In particular, U.S. assistance may be helpful in averting the management and implementation problems that may arise in situations where donors have little experience in local currency programming and underestimate the ease with which large local currency funds can be projectized under the current circumstances.

C. Program Monitoring and Evaluation

The limited resources available for PL-480 management in both the U.S. Government and the GOG make it imperative that monitoring and evaluation requirements be kept to a minimum. For this reason, it is suggested that the specific measures chosen for emphasis be selected with an eye to the ease with which they can be monitored with existing information, as well as their impact on the sector. For example, approvals of import licenses for machinery or spare parts imports can be monitored more easily than actual private sector imports.

The specifics of the monitoring and evaluation program will depend on the specific measures agreed upon. In all cases, monitoring should rely on information that the GOG already generates, not on the collection of new information. Such data should be limited to the actions of the GOG, not to the private sector response, over which the GOG does not have direct control and about which the GOG is unlikely to have full and timely information.

Annex 1

Market Intervention Policies in the Rice Sector

Despite the progress made in policy reform in the rice sector, the need for additional adjustment in the sector appears inescapable. At present, the following restrictions apply to rice and paddy marketing:

- Paddy price: The paddy price is set on the basis of a formula developed with the cooperation of the IDB, which is essentially a cost-of-production formula.

- Paddy sale: Farmers are required to sell all paddy (except one bag per acre, for seed) to a licensed mill.

- Rice price: The price of all rice sold domestically is fixed at a level designed to cover milling and marketing costs.

- Rice sale: All rice milled must be either sold to GRMMA (the marketing and milling parastatal) or exported through the GREB (the rice export board).

- Mill expansion: Permission to operate or expand a mill must be granted by the Government.

Observers expressed varying opinions as to the degree to which these policies are enforced, how restrictively they are applied, and whether they create disincentives for rice production. In general, public sector observers argued that current policies constitute a balanced approach to meeting the interests of consumers and producers (but possibly not to public sector mills), that current prices provide adequate incentives for the private sector, and that, where policies appear to restrict the market (e.g., mandatory sale of paddy), restriction is lax. Private observers were predictably more critical of current policies, arguing that, despite the large increase in the rice price accompanying devaluation, prices are still not attractive for producers because costs have also increased substantially. Private interests also argued that restrictions on the movement and sale of paddy are being enforced, that millers wishing to export are required to sell at least half of their output on the local market, that applications for mills have been turned down, and so on.

It is clear that the Government has taken action to move rice and paddy price levels toward market-based levels. The new budget increased prices sharply, as follows:

Table 17. Increase in Paddy and Rice Prices
(G$/lb.)

Price level:	1988 Price	1989 Price	% Increase
Paddy (Extra A)	0.64	2.03	217
Rice (Extra White A; price paid to miller)	1.34	4.33	223
Wholesale (Extra White A; price for GRMMA sale)	1.50	4.85	223
Retail (Extra Super)	1.62	5.42	234

Despite this progress, all observers agree that the domestic price for rice still lags behind the prices available to Guyana on the world market and that the agreement to consider world price levels as well as costs of production has not yet been fully implemented.

The current world market situation creates considerable uncertainty regarding which world price should be used as a reference price in Guyana, an uncertainty that is greatly complicated by the exchange rate calculation. The 1989 price for PL-480 rice has recently been announced as US$290/MT, for example, which suggests a per-pound price of G$ 4.33/lb. at the current official exchange rate (without correction for freight). Exporters currently are receiving between US$ 280 and US$ 380 for cargo (hulled) rice exported to the preferential EEC market, depending on quality, which implies a price between G$ 4.19 and G$ 5.68 per pound. An exchange rate of 50:1 would raise these prices to between G$ 6.35 and G$ 8.60. Prices on the preferential CARICOM market are comparable.

Guyana cannot export an unlimited quantity of rice to these markets, however, nor is the continuation of preferential pricing ensured after 1992. It is therefore important to ask whether the EEC/CARICOM price or the lower world price (US$ 210/MT in 1988) is the appropriate standard for comparison. Given that Guyana is desperately in need of foreign exchange during the next three years and given that the country remains well below the quota ceilings at present, the balance of the arguments would appear to fall in favor of using the higher prices prevailing on the preferential markets, because these prices most accurately reflect the opportunity cost of rice for domestic consumption. At the same time, the cost to the consumer of bringing the domestic rice price to parity with the EEC price, rather than the lower world market price, would be considerable. Coupled with the likelihood of substantial price increases accompanying expected devaluations, such additional increases in the rice price would generate strong political opposition.

Despite these difficulties, which must not be underemphasized, the alternative of continuing to rely on a cost of production method is highly undesirable, particularly in an environment where local costs are changing rapidly. The Government has attempted to address this problem by adjusting prices semi-annually, rather than annually, but this approach cannot overcome the many difficulties inherent in a cost-of-production approach apart from the divergence from opportunity cost principles:

- As the formula is based on average cost, it does not, by definition, cover the cost of production of a large share of current producers, encouraging continued diminution in the ranks of rice farmers.

- Like most applications of the cost-of-production method, the Guyana formula would appear to underestimate the substantial costs and time demands placed on farmers by inefficiencies in the system, including searching for fertilizer and other inputs, waiting two to three days for paddy to be graded, delays (reportedly up to six months) in payment, and so on, nor such necessary activities as ditch cleaning fully reflected.

- Cost-of-production formulas are highly sensitive to yield estimates. The Guyana formula is based on an average yield of 22 bags of paddy, whereas average yields in recent years have been below this level for eight of the past ten crops (and the yield figures appear to be based on area reaped, rather than the larger area planted, thus failing to consider the costs associated with the area planted but not reaped).

- Cost-of-production formulas do not consider whether the price offered is attractive relative to the farmers' other options, including livestock, vegetables, off-farm work, and so on.

Cost-of-production formulas provide substantial room for adjusting figures in ways that depart from strict technical accuracy to produce a cost figure that represents a compromise between encouraging production and achieving other objectives, such as low consumer prices.

These and other concerns have motivated the Government to reexamine the cost-of-production approach, and a further examination of this issue is planned as part of the ongoing cooperation with the Bank and the Fund.

While the prospects for further progress on price incentives and market liberalization appear good, the Government has expressed its strong misgivings regarding the desirability of fully liberalizing the rice market. Indeed, as suggested above, the current imbalance in the foreign exchange market casts doubt on the likely outcome from complete liberalization (removal of price controls and restrictions on the domestic and international marketing of paddy and rice). At the margins, Guyana's trade with its neighbors has degenerated toward a barter economy, where rice may serve as an exchange commodity being traded in Surinam, Venezuela, Trinidad, or elsewhere to finance imports from those countries. In this situation, demand for rice for export depends not on the world price in the formal market, but instead on the price relationships between rice and possible trade goods both within Guyana and between Guyana and its neighbors. As neighboring countries pursue policies that distort their domestic prices away from world prices for various commodities, including rice, the situation is not subject to classbook trade analysis.

1. Parastatal Involvement in Agricultural Production, Marketing, and Processing

A number of parastatals are involved in the production, processing and marketing of agricultural products, in addition to the three rice parastatals and GNTC, already discussed. As further discussed in other sections of this report, the role of these parastatals has generally been to supplement the activities of private sector institutions. Although parastatal production in the past involved a subsidy element that placed a barrier in the way of private sector competitors (e.g., in milk processing and distribution), the parastatal's dominance was generally not enforced by state-granted monopolies, outside of the rice and sugar sectors.

With the renewed emphasis placed on achieving profitability in the parastatal sector, remaining elements of unfair competition are being rapidly expunged. Some of the remaining parastatals (e.g., Guyana Fisheries and Demarara Woods) are in the process of being sold or liquidated, while others (GAIBank, for example) are placing a greater emphasis on efficiency and cost-reduction to achieve profitability.

GRMMA presents a special difficulty in this regard. Based on preliminary estimates prepared by the IDB, GRMMA in 1987 operatead 8 mills with an installed capacity of 35 MT/hour (30% of national capacity), while competing private mills numbered 81 with a total of 80 MT/hour capacity (the latter figure is expected to rise considerably as new capacity funded by an IDB loan comes on-stream). The IDB analysts made a tentative allocation of milling and marketing activity between the two sub-sectors, concluding that the private mills handled one-third of the total volume, and the public mills two-thirds. According to these estimates, the private mills supplied 28% of domestic demand and 37% of exports, while the public sector supplied the remainder (72% of local demand and 63% of exports). The private mills were estimated to devote 64% of their output to export, compared to 54% for the GRMMA mills.

These figures differ somewhat from those supplied informally by GRMMA officials, possibly because of the expansion that is currently occurring in the private sector and continuing difficulties in meeting the spare parts and other requirements of the public mills. These officials estimated that the private sector is currently accounting for about half of the rice exports (and all exports to the EEC), while 70-80% of the rice on the domestic market is supplied by the public sector mills. They estimated total capacity in the private sector as 90 MT/hour, which they estimated to account for about 60% of installed capacity.

As in many other countries, the public sector mills operate in a highly constrained environment that makes it difficult to reach maximum technical efficiency. Officials expressed the view informally that the reorganization of the rice board (three organizations charged respectively with export (GREB), marketing and milling (GRMMA), and paddy/rice grading (NPRGC) replaced the single organization) had not achieved the looked-for improvements in efficiency and had in some ways complicated the already difficult tasks of coordination and technical improvement. Years of insufficient maintenance and poor access to spares have led to a deterioration of the physical plant to the point where effective operation is difficult. Although the Government has announced plans to sell some of the mills, progress on this front has been slow. Private sector interest in purchasing the mills as they currently stand remains uncertain, particularly given continuing overcapacity in the older private mills and the financing available for new mills.

The future of GRMMA in this environment remains uncertain. While it will be extremely difficult for the organization to achieve and maintain profitability in its current environment, prospects for liquidating it are equally uncertain. Moreover, the Government's continued commitment to retaining a substantial degree of control over the rice market makes it unlikely that the parastatal machinery that underpins such control will be dismantled in the near future.

Annex 2. Persons and Organizations Contacted by the Team

GOVERNMENT OF GUYANA

<u>Central Government Ministries and Agencies</u>

Office of the President	Darlene Harris Economic Adviser to the President
Central Bank of Guyana	Patrick Matthews
Directorate of International Economic Cooperation	Cecil Rajana Cecil Supersaud
Forestry Commission	Mr. Udit Guyana Forestry Commissioner
	Mr. H.E. Cort Marketing Director
	John Willson, Consultant to the Guyana Forestry Commission
Guyana Manufacturing & Industrial Development Agency (Guymida)	Mira B. Mariano Mgr. Industrial Operations
	Claude Wharton Marketing Officer
Guyana Natural Resources Agency	Dr. B. Scotland Deputy Chairman
Ministry of Agriculture	Dr. P. L. McKenzie Senior Minister
	Patricia Bender Chief Ag. Planner
	Compton Cole Fisheries Officer

	Ms. Elsie Croal Livestock and Chief Crops Officer
	Raymond Latchmansingh Chief Hydraulics Officer
	Vibert Parvatan, M.P. Minister
Ministry of Culture and Social Development	Mr. Stanley Hamilton Permanent Secretary
Ministry of Education	Vibert Yaw Deputy Permanent Secty.
	Colleen Richards Curriculum Unit
Ministry of Finance	Hubert O. Thompson Secretary to the Treasury
	Winston Jordan
Ministry of Health	Dr. Cummings
Ministry of Labor	Permanent Secretary
Ministry of Trade	Avinaish Bhagwandin Permanent Secretary
National Dairy Development Program	Dr. R.S. Surajbally Director
Natural Resources Agency	Winston M. King Executive Chairman
Planning Secretariat	Mr. Clyde Rupchand Dr. Roopchand
Women's Affairs Bureau	Patrice La Fleur Coordinator (acting)

<u>State-owned Organizations</u>

GAIBANK	Basil Phillips Ulrick Hamilton Deodat Mukrag

Guyana Rice Milling and Marketing Authority	Charles P. Kennard General Manager
Guyana National Trading Co.	Fitzgerald A. Griffith Executive Chairman
	Sam Chan Financial Director
GUYSUCO	Ian A. McDonald Administrative Director
	Fritz C. McLean Director, Diversified Crops & Agricultural Research
National Bank of Industry & Commerce	Raymond A.F. Ackloo Managing Director
New Guyana Marketing Corporation	Kelvin Mc L. Craig General Manager
Public Corporation Secretariat	Winston Lynch Deputy C.E.O.
University of Guyana	B. Stewart Chairman, Dep't of Sociology
	Dean, Faculty of Social Sciences
GUYANESE PRIVATE SECTOR (excluding private farmers and millers)	
Associated Industries Ltd. (Neal & Massey)	David R. L. King Managing Director
Chamber of Commerce	John S. de Freitas George C. Fung-on
Demarara Distillers Ltd	Yesu Persaud Chairman
T. Geddes Grant/Guyana	R. L. Singh Managing Director
Georgetown Seafoods	Lloyd Piggett General Manager

Institute for Small Enterprise Development	Yesu Persaud Director
	Administrator
Rice Producers Association	Faisal Ali Mr. Sukai
A.H.&L. Kissoon Ltd.	Hemraj Kissoon Managing Director
	Kim Kisson

DONOR AGENCIES, FOREIGN GOVERNMENTS, AND INTERNATIONAL ORGANIZATIONS

British Crown Agents	Edward A'Bear Assistant Director, Agriculture
	Kit Nicholson
CARICOM	Hayden Blades Director, Trade and Agriculture
	Nigel Durrant
Caribbean Development Bank	Neville Nicholls President
EEC	Barbara Sloan Washington DC
	James Trahey Barbados
Embassy of Canada	Frank T. Jackman High Commissioner
	Murray Kam First Secretary, Development
	Vic Nemdhari
Inter-American Development Bank (D.C.)	Fernando Villamizar Arturo Vera-Aguirre Frank Meissner Edward C. Pilgrim Charles MacDonald

	Medford Alexander
(Guyana)	Vladimir Radovic Representative
	Benard Darnel Deputy Representative
International Bank for Reconstruction and Development	Hilarian Codipilly Economist
	Laura Tuck
International Fund for Agricultural Development	Ben Carter C.S. Sodhi
PAHO	Dr. P. Gabrero Amigo
UNDP	Khalid B. Malik Dep. Res. Rep.
UNICEF	Jane Haile Rep. Caribbean Office
	Randolph Williams Project Officer
United States Department of Agriculture	David W. Pendlum, FAS James M. Benson, FAS Douglas Evans, AMS Dick Brown, ERS
U.S. Agency for International Development/Barbados	Larry Armstrong Kim Finan Larry Laird Gerry Perry
United States Embassy	Ambassador Tull
World Food Program	Jean-Jacques Vandamme Deputy Representative

OTHER NON-GUYANESE INSTITUTIONS AND FIRMS

Ben Distributors	George Naime Managing Director
CATCO	Stephen W. New General Manager
Caribbean Association of Industry and Commerce	Patrick Carmichael
Massey Ferguson	Alistair McLelland Area Sales Manager