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GUYANA DEVELOPMENT ASSISTANCE PLAN

PART I DEVELOPMENT OVERVIEW

A. ECONOMIC AND SOCIAL DEVELOPMENT IN GUYANA

There are two Guyanas, one the Guyana whose social and economic life is structured on its colonial past, the second a Guyana whose social and economic life is structured on deeply felt hopes and aspirations, representing an heroic departure from the past. Over the next several years - and probably over the next several decades - the history of Guyana will reflect tensions between these two ways of life. The economic and social forces that underlie the traditional Guyana will continue to be operative, while the economic and social forces that underlie the "new" Guyana can be expected to gain strength, thus propelling Guyana into this bifurcated historical pattern. At some distant point in time it is the hope of Guyanese policy makers that the "new" Guyana will overtake and ultimately dwarf the traditional Guyana. This in a nutshell is the Guyanese situation.

It is essential, in order to come to grips with the Guyanese situation, to examine Guyanese social and economic development in this dual context. To some extent, of course, such an examination must be artificial, since the currents that are propelling Guyana in one direction interact with the currents that are propelling Guyana in the other direction. Nevertheless, the following analysis is structured to reflect this bifurcation. The first part describes the developmental forces at work in traditional Guyana, while the second part describes the developmental forces at work in the "new" Guyana. Following this discussion, the two parts of Guyana are joined and the analysis continues on a macro-basis. This submission represents the Mission's summary narrative statement portion of the DAP. The sector assessment must await completion of the sector/feasibility studies described in section "C".

TRADITIONAL DEVELOPMENT PATTERNS

Guyanese GDP at factor cost increased over the 1969-1972 interval at an average annual rate of about 5 percent. In real terms the annual growth rate was about 4 percent for all but the last year of the interval when there was a decline of about 2.5 percent, reflecting bad weather, depressed conditions in the world aluminum market and technical difficulties in bauxite mining, which in turn caused exports in the three major commodity areas (sugar, rice, bauxite) to fall considerably below anticipated levels. For 1973 the IMF

projects an upturn in GDP (in its May, 1973 report), reflecting both price and volume increases in these three items. However, unseasonably heavy rains may significantly affect both the sugar and rice crops, and real GDP accordingly may not increase as predicted by the IMF.

The most influential factor that determines Guyana's economic fortunes is pointed up in this assessment, namely that its prosperity is tied to its ability to export these three commodities. As these commodities go, so goes the country. Some idea of their importance is illustrated in the following table:

Value of Major Exports
(Terms: Million of SDRs)

	1968	1969	1970	1971	1972
Bauxite	49.3	60.2	69.3	68.4	55.6
Sugar	35.1	39.8	38.8	46.3	45.2
Rice	13.1	9.9	9.0	10.6	11.1
Total	97.5	109.9	117.1	125.3	111.9
Total Exports	115.2	126.6	133.2	143.6	128.7
Percent	84%	86%	87%	87%	86%

Source: IMF Report of May, 1973

Bauxite. Bauxite and its related products account for approximately 45 percent of the value of all exports. These are produced by two companies, the government-owned Guyana Bauxite Corporation and a subsidiary of Reynolds Metals Company of the U.S. For both companies the mining operation is a high cost one compared with bauxite mining in other countries because of the deep underground location of ore deposits and the remoteness of the ore fields from deep water ports. However, the consequent high extraction and transportation costs are offset by the low iron content in the bauxite deposits. This low iron content is highly suited for processing of calcinated bauxite, a product in which Guyana has a virtual monopoly.

Neither the USAID nor the IMF have attempted to forecast bauxite production beyond 1972. One factor that most certainly will influence future production, however, is the extent to which world competition increases, including the development of substitutes for calcinated bauxite. Another factor will be the extent to which the Guyanese bauxite industry is expanded. As for this latter factor, the government plans to invest US $30 million over the five-year interval covered by the current Development Plan in the bauxite business. This investment is expected to expand calcinated bauxite production

and will additionally lay the basis for the establishment of an aluminum smelter as well as for the diversification of bauxite products (e.g. dried alumina hydrate, fused alumina, mullite and anti-skid bauxite). In addition, the government plans to invest US $15 million to erect an offshore platform terminal for the transshipment of bauxite. If these investments are made it is reasonable to expect that the future trend of bauxite production (including related products) will continue to be upward, providing, of course, that the world market for aluminum products holds steady or rises and the industry as a whole does not expand to the point where there is overcapacity.

The Development Plan also calls for considerable diversification of the mining industry in general. Thus, it is planned to undertake, on a joint venture basis, the establishment of a plant for the processing of kaolin deposits. From the exploitation of these deposits, 'coating grade' kaolin is expected to be exported, 'filler grade' is expected to be used as the basis for the establishment of a local porcelain plant, while 'ceramics grade' is expected to be used for the establishment of a local ceramics plant. Investment over the Plan period for the kaolin plant is expected to be about US $2.5 million. Since kaolin deposits generally are found adjacent to bauxite deposits, the exploitation of kaolin, although a new effort, is treated in this analysis as a logical extension of bauxite mining, and thus as a continuation of historical trends.

As a result of these investments, the government projects a 40 percent increase in exports of bauxite, bauxite products and kaolin over the Plan interval.

Sugar. Sugar and its related products account for about 35 percent of the total value of exports. Sugar is produced in the main by two companies, the Bookers Sugar Estates and the Demerara Co., both British owned. About 10 percent of the sugar crop is produced by peasant cane farmers.

As with the case of bauxite, the future of sugar in Guyana is dependent on the maintenance of markets and the expansion of production facilities as well as increases in productivity. Guyana is considered, especially in the Caribbean area, a low cost producer and therefore remains competitive in the world sugar market. With regard to the maintenance of markets, the entrance of the U.K. into the European Common Market has brought into question the continuation of Guyanese sugar sales within the Commonwealth preferential system. Other related factors on the marketing side include the future quota of West Indian sugar in the United States market (only recently reduced severely) and the possibility that Cuban sugar might at some time in the near future once again be traded in Commonwealth and North American markets. With regard to production capacity and productivity, it is anticipated that over the Plan interval that sugar acreage will

be increased by about 30 percent, mainly by expanding peasant cane farming; and that productivity (yields per acre) will be increased by about 20 percent. The investment to achieve the associated increase in sugar processing has been calculated to be about US $19 million. Assuming these acreage and productivity estimates to be reasonable, the Plan shows sugar exports increasing over the Plan period by about 30 percent.

Rice. Rice accounts for only 8 percent of total exports. While this percentage is significant, rice is particularly important because unlike bauxite and sugar, it is produced in a large number of small and medium sized units rather than in a few large units. Accordingly, rice production is characterized by all of the attendant problems of large numbers, as well as by complex sociological considerations.

Also unlike bauxite and sugar, the future of rice production is not faced with marketing uncertainties, since the world demand for cereals probably can be expected to grow at a rate faster than worldwide additions to capacity. Accordingly, the future of Guyanese rice production is dependent almost exclusively on increases to acreage under cultivation, increases in productivity, and the production of quality rice demanded in export markets. With regard to these factors, the Plan shows a 10 percent increase in acreage over the Plan interval and a 55 percent increase in productivity. These estimates compare favorably with the USAID estimates made in January, 1973 in an evaluation of its Rice Modernization Loan. The associated increase in exports over the Plan period is expected to be about 100 percent.

According to the Development Plan, the investment required to meet the rice export target include; (in addition to the erection of drying and storage facilities associated with the USAID's rice loan): 1) US $20 million for sea defenses; 2) US $16 million for drainage and irrigation facilities; 3) US $23 million for agricultural machinery to clear and prepare the additional land brought into cultivation; 4) US $5 million to modernize rice milling facilities; and 5) US $3.5 million for empoldering and constructing minor canals (see Annex, p.6). The first and third of these items are also requirements for the projected increases in sugar production. The increase in rice production is also contingent on the efficient functioning of the newly established Agricultural Credit Bank, the provision of incentives to foster the modernization of rice mills, the imposition of land taxes and water-use charges and improvements in agricultural extension. Thus, unlike bauxite and sugar, the projected increase in rice production is dependent upon a number of institutional, policy, and natural factors.

To summarize, the planned investments in the traditional areas of bauxite, rice and sugar should continue to raise the level of prosperity in Guyana as it has in the past. Indeed, the magnitude of the

proposed investment, with the related increases in production (40 percent increase in bauxite exports, 30 percent increase in sugar exports and 100 percent increase in rice exports), probably should significantly increase the rate of overall growth over and above the recent historical level of 4 percent per annum in real terms. Whether such a growth rate is possible or not depends on the availability of external financing, the absorptive capacity of the relevant institutions, the ability of the Guyanese to overcome institutional constraints, as well as such unknowns as weather and, in the case of sugar and bauxite, world-wide supply and demand. With regard to the availability of external financing, with the exception of the proposed investment in bauxite, there probably should be no problem. A likely breakout of such financing, based on past associations of the various donors with projects, is as follows:

	Total Investment	Possible Donor
Bauxite	US $45 million	Unknown
Kaolin	US $2.5 million	Joint Venture
Sugar	US $19 million	Private
Rice Modernization	Balance of On-going Project	USAID
Sea Defenses	US $20 million	IBRD/UK
Drainage & Irrigation	US $16 million	IBRD/U.S.(EXIM)
Agricultural Machinery	US $23 million	Possibly EXIM-type financing
Rice Milling	US $5 million	Private/Public Companies
Empoldering & Construction of Minor Canals	US $3.5 million	Private/Force Account

Since in all cases these efforts do not represent anything fundamentally new, absorptive capacity probably also is no issue. With regard to institutional constraints, only in the rice area does this appear to present any real problem. These constraints, however, are well known to the government; and a momentum already is underway, under the aegis of the USAID's Rice Modernization Loan, to cope with them.

Coastal Infrastructure. Overall growth in the past can also be attributed to investments in infrastructure - in the fields of transportation, communication, power and water. Collectively these categories, along with the related cagegory of 'Construction and Engineering', represented over the past five years about 17 percent of the total investment in Guyana (most of the balance being in bauxite, rice and sugar). For these years, the total volume of investment for these categories was about US $52 million.

Over the Plan interval it is expected that further investments will be made in these traditional areas, as follows:

1. It is planned to construct or rehabilitate 189.3 miles of road in the populated coastal area, for an estimated expenditure of US $28 million. Included in this figure are expenditures of approximately US $11.9 million for the USAID's two on-going road loans, one for the road approaches to Georgetown and the second for the road approaches to New Amsterdam, including the construction of a bridge across the Canje River.

2. It is planned to expand the number of telephone lines and telegraph circuits and improve overseas telecommunication services, at an estimated cost of US $15.9 million.

3. Electric transmission facilities will be expanded, the several electrical generating systems in the country will be interconnected, generating capacity will be expanded and generating frequency will be standardized at 60 cps, at an estimated cost of approximately US $36 million. Additionally, it is planned that about US $5 million will be expended to complete preliminary works for a hydro system, which is to be installed in the subsequent Plan period.

4. Finally, the Plan calls for the improvement and expansion of refuse and sewage systems, at a cost of about US $2.5 million; and an extension of the pure water supply system, at a cost of about US $12 million, which includes expenditures for on-going projects financed in part by Canadian aid (at Linden) and by the USAID (outside the greater Georgetown area).

The total of these infrastructure expenditures is US $99.4 million. To this figure must be added US $8 million for improvements in water transportation, US $5.3 million for improvements in air transportation, and US $ .5 million for the expansion of quarrying operations, for a grand total of US $113.2 million in the infrastructure area, or more than double the expenditures for infrastructure over the 1968-1972 interval (excluding the 'Engineering and Construction category). On this basis then there should be a further impetus to push up the overall rate of growth.

Since transportation, communications, electricity, refuse and sewage and pure water are also traditional areas of investment, additional investments in these areas should not entail any overwhelming institutional constraints or insurmountable obstacles related to absorptive capacity. The only real question is whether sources of external assistance are available to assist in these undertakings. Based on past associations of donors, a likely distribution of donor assistance is as follows:

	Total Investment	Possible Donor
Roads	US $28 million	USAID (on-going) IDA (West Demerara) GOG Force Account
Communications	US $15.9 million	Private/EXIM-type Financing
Power	US $36 million	UK, Canada, IBRD
Hydro Power	US $5 million	Yugoslavia
Sewage & Refuse	US $2.5 million	Possibly IBRD
Water	US $12 million	USAID (on-going) Canada (on-going) IDA
Water Transportation	US $8 million	EXIM-type Financing Force Account
Air Transportation	US $5.3 million	Canada EXIM-type Financing Force Account
Quarry Expansion	US $ .5 million	EXIM-type Financing

With regard to Pure Water Supply, the indication of the USAID as a possible donor over and above its existing commitment is contingent on the lack of interest by other donors in this activity. Conversations with the British and the Canadians suggest that these donors at least are not interested. Since the USAID has had a long history of involvement in water supply projects in Guyana, and since the major other donors appear not to be interested, it seems logical that the USAID continue in this activity even though it is not in its area of concentration. On the other hand, the question of whether AID should be putting its scarce resources into any infrastructure project at all is open to question (this will be discussed later in the assessment of the GOG priorities). Although Guyana presently is not eligible for IDB assistance, a special Task Force is currently studying possibilities for their eventual eligibility.

Other Traditional Areas. Although investments in bauxite, rice, sugar and infrastructure are the chief developmental characteristics of the traditional Guyanese economy, there are two other traditional areas which, while calling forth only modest investments in the past, are expected to be given a higher priority in the future. These are the areas of fishing and forestry, except inland fisheries which will be considered in the "new" development areas under Agriculture. It is expected, for example, that shrimp exports (the major fish item) will increase two-and-one-half fold over the Plan period. While exports of timber and forest products are expected to increase at about the same rate. While these are substantial percentage increases, the

actual volume is still expected to be relatively small -- with the total export value of fish and forest products combined expected to be approximately US $35 million.

The investments required to meet these targets are estimated to be US $11.0 million in the case of fishing (exclusive of the US $2.5 million for inland fisheries), largely for new vessels and the expansion of storage and processing facilities; and about US $32 million in the forestry area, about one-half of which is to be used to establish, on a joint venture basis, a mill for the production of bleached kraft paper, with the balance being used to replace obsolete extractive and transportation equipment, install new saw mills and seasoning kilns, construct access roads and reforest some woodlands with species for paper products.

Fish marketing is well organized and accordingly there are no apparent institutional constraints in this area. The marketing of timber products, however, is not advanced, a situtation which creates a serious institutional constraint in this area. Assuming that this constraint can be surmounted, possible financing sources are as follows:

	Total Investment	Possible Donor
Fishing Vessels	(US $11.0 million)	EXIM-type Financing/Private
Fishing Processing		Joint Venture (Japanese)
Forestry Equipment		EXIM-type Financing/Private IBRD
Reforestation	(US $32 million)	GOG Force Account
Forestry Access Roads		GOG Force Account
Bleached Kraft Paper Plant		Joint Venture

In addition to the forestry and fishing areas, it is planned to continue oil prospecting, under license with foreign companies. This also should be considered as a traditional area of activity, although no workable oil finds have as yet been found.

Social Infrastructure. Although Guyana has one of the lower per capita GNPs of the 25 countries that comprise the Latin American and Caribbean regions (Guyana ranks 17th), it nevertheless is characterized by relatively high degrees of literacy and health. Its literacy rate, for example, is 80 percent, which ranks Guyana 9th out of the 25

countries; it is 1st in the percent of children in the 5-14 age group enrolled in school; and it is 2nd, exceeded only by British Honduras, in the percent of children in the 5-19 age group enrolled in school. The average life expectancy of a Guyanese is 70, which ranks it 9th highest out of the 25 countries; and the number of people per hospital bed is 250, which places it 4th lowest, exceeded only by Argentina, Uruguay and Trinidad-Tobago. On the other hand, there is only one physician for every 5,000 people in Guyana, placing it 24th in this category, with only Haiti being worse off.

In the past, investment in the educational and health areas has been modest, reflecting the fact, as indicated above, that Guyana is relatively advanced in these areas, which in turn reflects, at least with regard to the educational system, the British heritage of integrating all of its colonial systems into the British system. This does not mean that there are not serious problems in the health and education areas. UNESCO, for example, has just completed a report showing that considerable investment is needed to overcome over-crowded conditions in the primary schools and to upgrade teaching competence. And, as noted above, the number of persons that must be served by one physician is intolerably high. One of the major causes of death is parasitic diseases; and one of the major causes of hospitalization is gastroenteritis, both of which require improvements in environmental sanitation to bring this incidence of other diseases to tolerable levels. Nevertheless, the situation as a whole is a tolerable one, and the GOG accordingly has given it a low priority.

Development Plan investments in the education field come only to about US $25 million, mostly for the construction of facilities to accommodate the growing school-age population; and close to one-half of this is for expenditures for the multilateral school project already underway and partially financed by IDA. Planned investment in the health area over the Plan interval is only about US $9.6 million, with about 70 percent of this amount being allocated to the redevelopment of the Georgetown Hospital.

As noted above, about one-half of the educational investment budget is supported by IDA, while the balance probably can be accomplished under force account or otherwise directly from budgetary funds. In the past the U.K. had expressed an interest in helping the Guyanese develop the Georgetown Hospital, and this may still be true. The balance of the health investment budget probably can be accommodated in the same manner as the balance of the investment budget in the education area.

The Demographic Situation. The population growth rate in Guyana has been variously estimated to be between 2.5 and 3.0 percent. Confined as the traditional Guyanese society is - economically and psychologically - to the narrow coastal belt, such a growth rate in time will result in serious over-crowding, with all of the attendant

problems associated with such a situation. As of the moment, however, over-crowding is not a characteristic of the country when compared with other countries; nor has there been an unmanageable rural-urban drift (the racial situation probably accounts for this in large measure, since the rural population is largely East Indians while the urban population is largely of African origin).

The major impact of the population growth rate is that it acts as a drag on economic growth. For example, with an average annual rate of real growth of 4 percent and possibly a population growth rate of 2.5 percent, the effective growth rate per capita has only been 1.5 percent. And for 1972, when there was a decrease in growth of about 2.5 percent, the effective growth rate per capita was a negative 5.0 percent. (Actual per capita data show a slight deviation from these percentages).

Another effect of the population growth rate has been to divert resources from productive uses to the provision of social services, thus causing a still further drag on growth. The proposed investments in pure water supply, sewage and refuse, and education and health can be attributed in part to this phenomenon, for example. That is, given the high literacy rate in the country and the generally good health enjoyed by the population, and given a stable population, the need for these investments would be less certain. As it is, the planned investments in these areas add US $49 million to the investment level in the Development Plan, representing about 9 percent of the total investment budget.

Additionally, the economic growth rate in the past probably has not been sufficient to absorb new entrants to the labor force, and unemployment is estimated to be between 15 and 20 percent. Within the context of the 'traditional' economy, there are three alternatives to cope with this situation. One is to speed up the growth rate, which the foregoing discussion indicates probably should happen if the investments itemized in the Development Plan can be realized. The second is to adopt policies that will encourage less capital intensive investments and processes and more labor intensive ones. This possibility, however, probably is not realistic, given the export orientation of the traditional economy and thus the need to produce high quality products that are competitive internationally. The third possibility is the implementation of a family planning scheme, which, however, is only realistic if there is some assurance that such a scheme would not upset the present racial balance.

It probably is fair to say that even at the projected rates of investment in the traditional areas, the Guyanese economy will be unable to absorb a significant percentage of the unemployed, particularly when one considers the capital intensive bias called for in such investment. Thus, other things being equal, the demographic situation, while acting as a drag on economic growth but not yet an overwhelming problem, can be expected to be a serious problem rather

soon, particularly as economic activity is heavily concentrated in the narrow coastal belt.

The Sociological Situation. Underpinning the traditional Guyanese economy is a sociological system that is supportive to this type of economy. A central feature of this system is the prestige accorded by the society to the larger rice farmer and members of the sugar estate and bauxite managerial class (although this is somewhat modified in the case of the sugar estate management class because the top positions are still held by expatriates). It is also reflected in the unique social position accorded the merchant class, bankers and the legal profession. The merchant class represents the link between Guyana and the outside world, since it is through this class that rice, sugar and bauxite are converted into the consumer goods desired by the population. The banker represents a link between the merchants and the general population since it is through him that the merchant finances the importation of consumer goods; and it is through him that sugar and bauxite managers finance their efforts, which in turn ultimately lead to the importation of consumer goods. The legal profession represents a stabilizing influence that keeps the whole process orderly and fair.

A major characteristic of this traditional 'ruling class' (large rice farmers, sugar and bauxite management, merchants, bankers and lawyers) is its belief in private enterprise and rational management, a belief that probably is typical of this class wherever one finds it. And along with this belief is its corollary, a belief that the role of government is to assist the trading process, which in the context of Guyana is reflected in the government's paying major attention to transportation, power and communications along with performing the normal functions of operating customs and tax departments. Superimposed on these beliefs are other supportive attitudes, especially the attitude that the 'good life' lies across the ocean somewhere, where the consumer goods come from; and its corollary, that to the extent that there is any 'good life' in Guyana it can only be found on the coastal belt where sugar and rice are grown, where the consumer goods are displayed and where the merchants, lawyers, bankers, and managers live.

The situation is made more complex by two additional factors, all of which are influential in giving content to the attitudes and values of this class. One of these factors is Guyana's British heritage, which influences the society everywhere, sometimes in subtle ways, and which gives the society a common denominator. It is this heritage, for example, that binds the Guyanese psychologically to the other British and ex-British political units in the Caribbean region (and not to the other, non-British political units in the Caribbean, or more significantly, to its immediate neighbors (Surinam, Brazil and Venezuela). It is this heritage

also that is reflected in, and inculcated by, the educational system, wherein the learning process is oriented toward things British, including the inculcation of aspirations to attend British schools upon completion of secondary schooling - and often before. It is this heritage also that is reflected in the Westminister form of government in the country; and in an underlying acceptance of the importance of the law as an instrument that stands above men.

The second factor is race. Whereas Guyana's British heritage has provided the society with a common bond, the racial factor serves to divide it. The exact nature of this division is best illustrated by the ethnic participation in the traditional 'ruling class'. The ethnic composition of the merchant class, for example, is almost entirely East Indian, Chinese and Portuguese; of the rice farming group, almost entirely East Indian; of the managerial class in the bauxite companies and sugar estates, almost entirely East Indian and Chinese (and, of course, expatriates). However, the nationalized bauxite company's managerial class is predominately African. Only in the legal profession is there any significant participation by persons of African origin, but even here the East Indians and Chinese fill the most influential positions. In sum, the racial situation in Guyana is essentially a case of the Africans, who have not participated in the ruling circles within the traditional Guyanese economy and society versus all other ethnic groups, whose more successful members constitute the traditional 'ruling class'. Accordingly, in the traditional Guyanese society the African is relegated to the role of wage earner and civil servant, roles which bar him from entry into positions of power and influence.

Summary. A continuation into the future of the traditional Guyanese society requires that economic efforts be directed toward increasing the exports of the major commodities of bauxite, sugar and rice, and to the development of minor traditional exports such as fish and forestry products. Further, it requires a continuation of investments in the supportive infrastructure, particularly transportation, communication and electric power generation. While it is difficult to show a direct dollar for dollar connection between these infrastructural elements and the productive base of the economy, there clearly is one, since commodities must be transported to port facilities; communications must be maintained between management and field staffs, which in the case of sugar and rice are widely dispersed while in the case of bauxite the field staffs are located in the interior; and power is needed to operate pumps, mills and processing facilities. Collectively the proposed investments in the traditional products plus the supporting infrastructure account for about 46 percent of the total investments called for in the Development Plan.

Individually these investments are possible, since institutional and absorptive problems with the possible exception of rice are minimal; and if all of them are realized in the time frame envisioned, the rate of growth can be expected to increase appreciably over recent historical rates, and thus on a macro-economic basis the country will be better off. Even if the proposed investments fall somewhat short of plans for the five-year interval covered by the Development Plan - say by 25 percent, which historically has been about the percentage shortfall in Guyana's investment budget - the country probably still would be better off on a macro-economic basis; although the degree of improvement would depend on which investments are delayed and which move ahead.

The increase in population, however, would eat into this expected growth, so that the effective growth rate would be reduced. The planned investments associated in part with this increase in population (pure water supply, sewage and refuse, education and health) bring the total investment level in the traditional economy to about 54 percent of the grand total shown in the Development Plan.

Although on balance the country probably would be better off, it would continue to face uncertainties regarding the marketing of sugar and bauxite products; and population would continue to act as a drag on economic growth, probably increasingly so. The race problem would remain, although the divisions created by it in the society would continue to be offset somewhat by the cohesive influence of the country's common British heritage.

In short, given a continuation of historical trends, the Guyana of the future would essentially be, in both economic and sociological terms, the same as the Guyana of today. Whether in the long run the Guyanese people would be better off or not would depend on the relative rates of growth of economic activity and population. And, as suggested earlier, as the growth in population begins to result in severe overcrowding along the coastal belt, the drag it creates on economic growth, not to mention the decline in the quality of life occasioned by such overcrowding, probably would begin to accelerate; and accordingly the economic growth rate needed to maintain the status quo, let alone increase the people's general prosperity, would similarly have to be accelerated.

NEW DEVELOPMENTAL PATTERNS

It is appropriate that a discussion of the new developmental patterns in Guyana follow a discussion of the sociological situation that prevailed in the traditional Guyanese society, since historically these new developmental patterns evolved out of this traditional sociology; and only over time did there emerge a corresponding economic program.

The impetus for the new developmental patterns came from the fact that in 1968 members of the African ethnic group, which for centuries had been denied positions of power and influence, became the new 'ruling class'. The propulsion into power of the African did not come about by a direct confrontation with the old 'ruling class', with its subsequent overthrow, but rather through democratic political means.

As a consequence, there has evolved a whole new constellation of status symbols and beliefs to vie with those of the old 'ruling class'.

The Sociological Situation. In all respects these symbols and beliefs of the "new" ruling class are the exact opposite of those which propped up the old 'ruling class'. Prestige, for example, is accorded the civil service technocrat rather than the successful rice farmer or members of the managerial class of the bauxite and sugar companies. This value system also rests on a belief that the role of government should be to manage and direct economic efforts; and thus government came to be viewed as something considerably more than an adjunct to bauxite, sugar and rice production. Stemming from this belief the new rulers were able to move against the merchant class, by establishing, for example, a government-owned trading company and government-owned retail outlets, as competitors to the established merchants, as well as by closely controlling the activities of the merchants through a government-operated External Trade Bureau, an organization through which all orders for imports have to be channeled. Also stemming from this belief the new rulers were able to move against the banking community, by establishing a government-owned commercial bank, with all the privileges such an organization necessarily has; and it has plans to establish still more financial institutions to compete with or supply services not provided by the old entrenched banking interests (e.g. a Mortgage Finance Bank,

a Small Industries Bank and a Cooperative Insurance Company). Finally, it was because of this belief that the government sought 51 percent participation in DEMBA, the Canadian-owned bauxite facility and the largest of the two bauxite companies, and ultimately to nationalize it. Concurrently the government adopted a policy that all public utilities are to be controlled by the State and that the State can, if it so desires, obtain majority participation in companies that exploit the natural resources of the country or companies which are resource based and which involve a significant capital investment and are of significant size.

As of now the government has not sought to enter into discussions with the second bauxite company with regard to majority participation, although it has clearly indicated that it intends to do so in the near future. Nor has the government as yet moved to obtain majority participation in the two British-owned sugar companies, probably reflecting the fact that the future of Guyanese sugar in the European Common Market is uncertain. It has, however, nationalized the Guyana Timbers Corporation, a company formerly operated by the Commonwealth Development Corporation. Additionally, it has established its own shrimp company, to compete with private shrimpers.

Along with this belief in the supremacy of the State in economic matters, there evolved two other related concepts; first, that of self-help; and second, cooperativism. It is probable that both concepts reflect atavistic impulses of the African, and their origins in tribal society are quite clear. But it is not clear how these concepts will fit into the general constellation of the new status symbols and beliefs that have emerged under African rule. While both movements have been fostered by and, in fact, are virtually 100 percent dependent upon the GOG (since August 1972 there has been a separate Ministry devoted to their development), it is the official policy of the government to relinguish State control to cooperatives over time. The degree of autonomy eventually realized by the Guyanese cooperative movement, with its basic tenet of self-help, could determine whether it serves as a check on any efforts to establish total State control of the society or whether it becomes a tool of such efforts. At this stage, it would seem that Guyanese

cooperatives will remain State cooperatives, and will continue to be a tool to extend State control throughout the economic community. The Prime Minister has often stated that it is his policy to "miniaturize" the private economy and to make the cooperative movement(as he defines cooperatives) the dominant factor in the Guyanese economy.

Additionally, the new 'ruling class' does not believe that Guyana has to be a bauxite-sugar-rice producing economy forever. Accordingly, it has little use for those supportive beliefs of the old 'ruling class' that the 'good life' lies across the ocean or that the 'good life' in Guyana lies along the narrow coastal belt. Instead it turns its eyes (officially, at least) to the sparsely settled interior of the country. In its view, this is where the future lies. A concommitant belief of this "new ruling class" is that the focal point of the coastal area need not be Georgetown, which is the traditional hub of the bauxite, sugar and rice industries; but rather that other coastal areas can and should compete with Georgetown. Nor does the new 'ruling class' see any need to rely forever on the importation of consumer goods from across the seas, since in its eyes such a reliance is tantamount to admitting that Guyana will forever be a bauxite-sugar-rice economy.

There may be a consistency to this new set of values, although consistency is not an absolute requirement for their reality. They support each other, just as the values of the older 'ruling class' were supportive of each other. Reflective of this consistency, the process of reducing the power and prestige of the old 'ruling class', along with its associated status symbols and values, is well along; and it is reasonable to expect that so long as the new ruling class can retain political power, the process will continue until some kind of compatible equilibrium is established between the two life styles.

Out of this new set of symbols, values, and slogans has evolved the parameters of a developmental effort, namely that economic development is to be governed by political considerations as a first and primary element in the decision-making process. The more important of these parameters are:

- import substitution (as opposed to the traditional emphasis on exports)

- movement to the interior (as opposed to the traditional emphasis on coastal development)

- regionalization (as opposed to the traditional emphasis on Georgetown)

These parameters accordingly do not necessarily reflect the orthodox economic criteria of comparative costs and macro growth factors.

Reflecting these concepts also is the general motif of the new developmental effort, which is to "Feed, Clothe and House" the population by 1976. Before discussing this effort in detail, however, it may be useful to see how the new approach bears on the demographic situation.

The Demographic Situation. The new thrust to development does not alter the demographic situation significantly. Statistically, of course, the effect of population growth would still act as a drag on development, since the growth of GNP still has to be deflated to account for the growth in population. Additionally, resources would still have to be diverted from productive uses to the provision of social services, in order to accommodate population increases.

On the other hand, the new thrust could have a limited but positive effect on the demographic situation in at least two ways. First, the emphasis on import substitution would lessen the constraint associated with export orientation that investments need to be capital intensive; and accordingly the option of an increased use of labor intensive activities becomes a viable one, which in turn opens up new avenues to solve the unemployment problem. Secondly, the development of the hinterland would open up possibilities for the establishment of new industries, or the rationalization of old industries which are not export oriented, which similarly can be expected to absorb the unemployed.

From another point of view, the opening up of the hinterland can only be accomplished (or is more likely to be accomplished) if there already exists a surplus labor force and if further population growth can be anticipated. It is for this reason (along with the uncertainties of a further imbalance in the racial situation) that the government has not adopted a family planning program, and does not intend to do so.

The success of this strategy will depend upon many factors, but two seem to be the more obvious. First, the ability of the government to develop new industries, or rationalize old industries that fit the developmental criteria, preferably labor intensive ones; and secondly, the ability of the government to adopt the necessary policies that will foster import substitution without jeopardizing the export orientation of the traditional economy. With regard to the latter factor, the government plans to utilize a variety of selective import controls, (such as banning certain goods, excise taxes on other imports) some of which have already been implemented. So far these controls have not had any adverse effect on exports. With regard to the development of new economic activities, efforts are now underway in many directions, all of which are described in the Development Plan, and which now will be discussed.

Agriculture. Over the Plan period it is expected that the value of agricultural crops, exclusive of sugar and rice, will increase about fivefold. This is expected to be accomplished in part by increasing the production of several crops which are traditional to Guyana but which have heretofore been produced on a haphazard basis and which have been neglected by government planners. These, along with the volume and percentage increases expected over the Plan period, are as follows:

	Increase Over The Plan Period	
	Volume	Percent
Coconuts	9.9 million nuts	16%
Citrus	19.2 million lbs.	88%
Coffee	1.8 million lbs.	112%
Ground Provisions	31.5 million lbs.	55%
Plaintains	6.7 million lbs.	13%
Bananas	5.6 million lbs.	24%
Pineapples	15.7 million lbs.	235%
Tobacco	.6 million lbs.	300%

Additionally, it is planned to introduce at least fourteen relatively new crops, as follows:

	Volume At End Of Plan Period
Corn	39.6 million lbs.
Blackeye Peas	3.8 million lbs.
Peanuts	3.5 million lbs.
Red Kidney Beans	.2 million lbs.
Cabbage	11.6 million lbs.
Onions	.2 million lbs.
Carrots	.6 million lbs.
Soyabeans	26.4 million lbs.
Cotton	1.1 million lbs.
Cashew Nuts	2.1 million lbs.
Oil Palm	Estimate not available
Potatoes	Estimate not available
Tumeric	1.5 million lbs.
Garlic	Estimate not available
Ginger	1.3 million lbs.
Wheat	Estimate not available
Other Crops	6.0 million lbs.

Also over the Plan period, it is expected that the value of livestock products will be increased by about 53 percent. This is to be accomplished by expanding livestock products, which also have been traditional to Guyana but which have not been emphasized by development planners in the past. These, along with the expected increases over the Plan period, are as follows:

	Increase Over The Plan Period	
	Volume	Percent
Beef	3.2 million lbs.	36%
Pork	2.1 million lbs.	73%
Eggs	14.0 million eggs	60%
Poultry Meat	5.0 million lbs.	66%
Milk	5.7 million lbs	132%
Mutton and Goat Meat	.1 million lbs.	100%

While significant development of inland (interior rivers, creeks and ponds) fish culture is anticipated, no production estimates are available. With regard to the crops area, it is envisioned that over 60,000 new acres will have to be brought into cultivation to meet the production goals. With regard to livestock, total acreage may be reduced, reflecting anticipated increased yields; although there will need to be considerable pasture improvement.

The investment requirements to meet the goals for crops is not clear. New acquisitions of agricultural machinery for land preparation discussed earlier with regard to rice and sugar can be expected to apply to the expansion of these other crops as well. And since some of the crops are expected to be grown in coastal areas, owing to their perishability and to the soil conditions there, the expenditures mentioned earlier for sea defenses and irrigation and drainage also have a bearing in the development of these other crops as well is in the development of sugar and rice.

For the development of the livestock industry, it is envisioned that capital expenditures of about US$ 10.8 million will be needed over the Plan interval. This includes amounts for the erection of slaughtering facilities, procurement of breeding stock, pasture preparation, the erection of a diagnostic laboratory and the erection of research facilities for dairy cattle and swine management. A portion of this investment has already been made available under an IDA loan for the improvement of the beef cattle industry. Also, a World Food Program project for the supply of corn and sorghum for swine may shortly get underway. This project, involving a grant of US$ 1.0 million in commodities, is expected to provide a better quality of feed at a cheaper price and at the same time generate capital for the improvement of housing and husbandry practices. No other donor has indicated an interest in the development of the livestock industry, and therefore it is not certain where the balance of about US$ 7 million, the necessary funds, will come from although the government probably can provide a portion from its own budgetary resources.

As for the development of inland fisheries, capital expenditures of US$ 1 1/4 million will be made over the period of the Plan.

These include purchases of small fishing vessels and other expenditures related to the organization of ten new fishing cooperatives as well as US$ 250,000 for the establishment of a research laboratory.

The institutional constraints associated with this crop, livestock and inland fishing effort are considerable. Since the marketing of these products has been haphazard in large measure (while some of the crops have not been marketed at all), marketing is likely to be a serious constraint. Credit facilities to date in agriculture have been confined to rice and sugar and there is little experience in the society for the servicing of credit needs for other agricultural areas. Sanitary conditions are a problem in the slaughtering of beef cattle, and probably elsewhere as well. And given the fact that these activities for the most part are to be located in remote parts of the country, the distribution of fertilizer, seeds and other farm and fish culture related inputs is likely to prove difficult.

Under the recently terminated USAID-financed contract between the University of Florida and the GOG there was a considerable transfer of knowledge in beef cattle, vegetable, soyabean and peanut husbandry. Much more of this type of assistance probably will be necessary if this agricultural program is to move. Feeding techniques, breeding techniques, machinery use, scientific rotation of crops, the proper application of fertilizer and other inputs, the selection of crops to soil conditions and the establishment of proper plot size are only a few of the problems to be solved. The Guyanese possess some knowledge about these subjects, but much more is needed; and the diversification of agriculture, both crop wise and genographically, probably will tax their facilities. Only in the cotton and soyabean areas is technical assistance currently being provided; in cotton by the Chinese, and in soyabeans, by the University of Illinois under an AID contract.

Three AID-financed studies are about to get underway which when completed should provide a detailed assessment of these constraints. One is a proposed Agricultural Sector Study to be undertaken under a grant-financed contract with AID for the crops area; the second is a feasibility study to be undertaken under an AID loan for the

dairy cattle industry; the third is a feasibility study to be undertaken, also under an AID loan, to determine the supporting requirements for the development of the Intermediate Savannah region. Additionally, by the time these studies are completed, considerable knowledge should have been accumulated under the IDA loan for the development of the beef cattle industry. These studies collectively should provide a better picture of possibilities in the agricultural area outside of rice and sugar, as well as point out ways in which external assistance can be most helpful.

Industry. A second developmental area that reflects the new developmental pattern is industry. Historically, industrial activity other than that associated with bauxite and rice and sugar processing has accounted for a relatively insignificant part of the GDP. In 1972, for example, the industrial categories of "Food, Drink & Tobacco" and "Other" accounted for 8.1 percent of the GDP. Since "Other" includes the generation of electricity the actual contribution to GDP of the industrial sector probably is in the order of 5 percent or less. Over the Plan period it is anticipated that industrial growth will rise faster than GDP, from the current level of perhaps 5 percent to around 7 percent, although its contribution to GDP is still expected to be relatively small. In terms of the value of industrial production, however, it is expected that there will be significant increase from a current level of about US$ 21 million to around US$ 36 million (both figures include electricity). One of the major objectives of this effort is in the creation of job opportunities. And as with the case of the agricultural program, its orientation is to be toward import substitution, using local raw materials as much as possible and minimizing imports of raw materials, as well as, of course, imports of finished competitive products. It is also expected that these new industries will be spread throughout the country, with special emphasis given to areas outside of Georgetown and in the hinterland.

The Development Plan lists 40 new industries to be established, with an average investment of US$ .8 million. The industrial categories, along with associated investment estimates, are as follows:

Food Processing	US$ 5.0 million
Clothing Manufacture	US$ 5.8 million
Building Materials	US$ 14.3 million
Consumer Durables	US$ 2.6 million
Capital Goods	US$ 2.4 million
Miscellaneous	US$ .9 million
	US$ 31.0 million

The largest investments are expected to be for the following activities:

Fish Processing & Canning	US$ 1.0 million
Milk Condensary	US$ .8 million
Fruit & Vegetable Processing	US$ 2.5 million
Solvent Extraction (edible oils)	US$ .8 million
Textile Plant	US$ 5.0 million
Clay Bricks & Blocks	US$ 3.7 million
Glass	US$ 2.5 million
Sanitary Ware (ceramics)	US$ 3.0 million
Wall & Floor Tiles (ceramics)	US$ 1.5 million
Cement	US$ 3.0 million
Table Porcelain	US$ .6 million
Handicrafts & Ornaments	US$ .5 million
Metal Containers	US$ 2.0 million
	US$ 26.9 million
	(87 percent of the total)

It is expected that the milk condensary, ceramic sanitary ware plant, ceramic tile plant, cement plant and table porcelain plant will be financed under a joint venture arrangement. The textile plant, glass plant and a clay brick factory are to be financed by the Chinese. It is not clear where the balance of any required external assistance will come from, although the Plan indicates that there should be considerable private and cooperative financing.

The institutional constraints for this program are also substantial, encompassing the whole range of problems associated with marketing, inventory control, pricing, accounting, industrial engineering, distribution, credit, etc. Additionally, this area is liable to be faced with trade union problems, which have proven to be difficult for existing enterprises in the past. Outside of Georgetown no donor has expressed any interest in this sector

as a whole, and there are no studies underway or contemplated which would better identify constraints.

Housing. A third element of the new development scheme is in area of housing. While in one respect a housing program is analogous to efforts to expand such things as the pure water supply, the sewage and refuse system and education and health facilities, which were described earlier as being reflective in part of the demographic situation in the traditional Guyanese society, the nature of the proposed housing program is also reflective of the new patterns of development. That is, its chief characteristics are that it will utilize local raw materials, with an emphasis on clay brick and block (thus providing a linkage with the anticipated investment in a clay brick and block industry) and will concentrate in those geographic areas that have been identified for industrial and agricultural growth, that is, for the most part. It is intended that the utilization of clay brick and block will free larger amounts of timber for export.

Over the Plan period it is expected to construct 65,000 housing units, at an estimated cost of US$ 125 million. Financing is to come from the resources of the recently formed cooperative Mortgage Finance Bank, which is to be wholly owned by the government; the Civil Service Widows and Orphans Fund; the Sugar Industry Labor Welfare Fund; the Guyana Mortgage Finance Company, a subsidiary of the Commonwealth Development Corporation; and cooperatives, trade unions, insurance companies, commercial banks, private businesses and private individuals. Little if any external investment assistance appears to be contemplated, owing to the almost total local nature of the undertaking.

On the other hand, institutional constraints, while perhaps not as formidable as in the agricultural and industrial fields, are considerable; and thus there may be a need for substantial inputs of external technical assistance here as well. Clay brick and block, for example, are relatively new items in the construction of houses in Guyana, and there will be problems of design. Other constraints could be in the areas of land development, building standards, building codes and the whole area of physical planning. Additionally, there will be a need to train more carpenters, bricklayers, masons, guttersmiths, electricians, architects, surveyors, civil engineers, draughtsmen and designers, as well as economists, statisticians and possibly sociologists.

As for donor support to the housing sector, the Caribbean Development Bank (CDB) recently approved a US$ 1.5 million loan to the Cooperative Mortgage Finance Bank for assistance in the low income housing area. For middle income housing, the Commonwealth Development Corporation (CDC) has indicated their intention to provide continued support.

Interior Infrastructure. While the major areas of infrastructure - electricity, communications, transportation - all have hinterland elements, only in the transportation area are these readily identifiable. Thus, in addition to the 189.3 miles of road planned to be constructed or rehabilitated in the coastal area during the Plan period, at an estimated cost of US$ 28 million (previously discussed), it is planned to construct or rehabilitate 499 miles of additional road in the hinterland, at an additional cost of US$ 23 million. Of these 499 miles of road, 200 will be secondary and access roads. As yet no donor has expressed any interest in helping the Guyanese with this effort, and accordingly it may be necessary to rely on force account. On a force account basis, the major constraint, since the Guyanese appear to have adequate feasibility and design capability, probably is in their ability to organize the labor force to undertake such an extensive undertaking in the remote parts of the country. If donor assistance is not made available, road equipment and materials perhaps can be obtained from budgetary sources and EXIM type financing.

Summary. Given the constellation of symbols and values of the new 'ruling class' this development thrust is a logical one. It is in stark contrast to the kind of development effort that flows out of the traditional value system; and since it is new, from whatever angle one wants to view it, it is fraught with uncertainties, not the least of which is how the traditional donors will react to it, since their inclinations, historically, emotionally and financially are more in tune with the symbols and values that propped up traditional Guyana.

These uncertainties are made more relevant when it is realized that an underlying assumption of the scheme is that the private sector interests (which really represent the old 'ruling class') will underwrite a large part of the effort. Thus, it is expected that private banks and insurance companies, for example, will provide loan capital to the new financial institutions that will in turn provide credit to farmers, the new industrialists and homeowners. It is expected that these same private sector institutions will additionally provide funds from their own resources directly, to finance the various schemes. And businessmen of stature, whether in the merchant or rice class, will be expected

to invest in new enterprises. In short, a significant feature of this scheme is the transfer of funds from the traditional economy to the new economy.

Even assuming favorable donor reaction, the scheme, unlike the traditional development pattern, is faced with complex and deep seated institutional constraints, some of which have been enumerated in the foregoing discussion - and which will be described in more detail later on.

If the Development Plan scheme is successful, not in the sense of total investments made but rather in the sense that it provides a springboard for the continuation of such an effort in the future to be carried along by its own momentum, then there is a definite possibility that the country, using other than strictly economic criteria, will be "better off". The unemployment problem should be ameliorated. A more equitable or at least more even distribution of income could be realized and some insurance could be provided against the swings that the country now experiences with regard to fluctuations in sugar and bauxite exports. While these factors are pluses in support of the Development Plan, the government's development criteria of import substitution, movement to the interior, and regionalization of small industry, based as they are on political considerations, do not lend themselves to the maximizing of economic growth. The Development Plan therefore should not be viewed on strictly economic grounds nor its investment levels be examined for practicality in an historical manner. The Plan, as noted previously, even though a political instrument, does give, with all its economic investments set out, a clue to the relative priority of the various fields of endeavor that the government expects to emphasis during the next several years. It is on this basis that one can see the Guyanese priorities for development of their country. The criteria for "better off" reflects the value judgments of the new 'ruling class' which dominates the government and as such appears unalterable for the foreseeable future.

MACRO ANALYSIS

An overview of the current development effort in Guyana - combining the traditional and new elements - indicates the following investment, savings and capital inflow levels compared with historical levels. Figures for the 1968-1972 interval are from the May 1973 IMF Report, while figures for 1973-1977 are from the Guyana Development Plan. Because there is a discrepancy between the IMF and Development Plan figures for 1972, both are shown.

Gross Investment

(terms: million US $)

1968	1969	1970	1971	1972	1972	1973	1974	1975	1976	1977
48.0	49.0	56.3	51.4	55.2	64.5	105.5	126.0	137.5	142.0	145.0

Gross Domestic Savings

(terms: million US $)

37.1	40.4	35.0	45.8	44.8	53.0	58.0	73.5	87.0	102.5	112.5

Net Capital Inflow

(terms: million US $)

7.1	3.9	19.7	11.8	16.3	21.5	44.5	52.5	50.5	39.5	32.5

The average levels of investment, savings and capital inflow for the 1973-1977 interval are 2.5 times, 2 times and 2.7 times, respectively, the levels for the 1968-1972 interval.

Percentage changes in GDP per capita are estimated to be as follows, compared with percentage changes in the recent past. The figures for 1969-1972 are from IMF sources, while the figures for the later years are from the Development Plan.

Percentage Changes in Per Capita GDP

1969	1970	1971	1972	1973	1974	1975	1976	1977
3.4	1.0	2.4	-4.3	7.1	6.2	7.0	7.0	7.1

It is clear from these macro projections that implementation of the Development Plan in its totality will require considerably more foreign assistance, commercial borrowing, joint venture capital and private investment than in the past and that substantial efforts will have to be made to assure that savings are increased in the magnitude envisioned. The input of foreign capital obviously is a matter to be worked out by the GOG with foreign governments, suppliers and investors, Because of the government's policy with regard to private foreign investment, it is probable that the great bulk of the capital input, however, will come from foreign aid donors, commercial sources and joint ventures.

With regard to external capital inputs, Guyana's debt position is good and thus there is no financial constraint to obtaining external capital. In 1972, for example, Guyana's debt servicing requirements as a percentage of the exports of goods and services stood at 5.0 percent. This includes servicing the large debt the Government owes ALCAN after nationalizing DEMBA. Furthermore, according to the IMF Report of May 1973, a substantial part of the country's existing external debt represents long-term obligations (81 percent is longer than 15 years maturity).

The planned increase in domestic savings, however, is under the control of the GOG in the main, and accordingly the government plans to take a number of steps to insure that the increase is realized. Some of these measures have already been implemented. They include:

- further bans on non-essential imports, coupled with the implementation of hire-purchase policies that will discriminate in favor of domestically produced articles, (thereby denying consumption);

- mobilization of funds in the new financial institutions, by providing rebates on dividends and interest receipts;

- banning the establishment of new foreign banks and insurance companies;

- increasing the attractiveness of government bond issues;

- strictly enforcing the Exchange Control, Insurance and Capital Issues Act, to insure that all financial institutions invest locally the funds collected in Guyana;

- requiring a credit policy that will encourage the channeling of funds into investment areas of the Plan;

- strictly enforcing price control measures (again denying consumption);

- taking measures to insure that the trade unions emphasize increased employment of their members rather than higher wages; and

- insuring more efficient collection of taxes, including the negotiation of double taxation agreements to transfer tax revenues from the 'resident country' to Guyana (public revenues are expected to increase by 50 percent over the Plan period).

As noted earlier, there is implied in these measures a large transfer of funds from the traditional sector to the new developmental sector. Also implied is a decision that in order for Guyana to move ahead in its planned new directions, there will be a postponement of welfare from the present to the future.

Consistent with these implications, the government has no plan to run down foreign exchange reserves or otherwise tamper with the exchange rate. The relevant Balance of Payments projections are shown in the following tables (showing only the major financing categories):

Foreign Trade Balance
(terms: million US $)

1971	1972	1973	1974	1975	1976	1977
+9.5	-3.0	-35.5	-38.0	-31.5	-14.0	+1.5

Current Accounts Balance

-4.0	-12.0	-47.5	-52.5	-50.5	-39.5	-27.5

Financing Transactions - Net Government Borrowing

10.5	7.5	30.0	37.5	38.0	29.5	17.5

Financing Transactions - Borrowing by Corporations

5.0	7.5	4.0	5.0	2.5	-	-

Financing Transactions - Private Investment Capital

2.0	2.0	-2.0	2.5	5.0	7.5	7.5

Financing Transactions - Change in Reserves

-6.0	-10.0	5.0	-	-	-	-

ADDITIONAL DEVELOPMENT CONSTRAINTS

Several constraints to development were discussed in the preceding sections - in rice and forestry development and especially with regard to the apparent lack of dovetailing among the many individual elements that are needed for effective progress in the new developmental areas of agriculture other than rice and sugar, industry and housing. Additionally, mention was made of the need for extensive training in the housing area. Actually constraints such as these apply across the board in Guyana, although as one would expect they are more critical in certain areas than in others, particularly in the new developmental areas.

Putting aside the need to better come to grips with these constraints, say through sector studies of one sort or another, in order to show the magnitude of these constraints it is useful to list some of the major institutional, research and manpower problems that face the country in its development effort, areas that will now be discussed.

Institutional Development. It is planned, for example, to create a number of new institutions, or units within existing institutions, to facilitate the development program. Some of these relate to project implementation, others to the provision of services, others to the conduct of research and still others to the conduct of the necessary planning, programming and project development and evaluation necessary for efficient project execution. Establishment of these institutions and units will require that problems regarding goal definitions, staffing patterns, budgets, equipment needs, operating rules and procedures be recognized and solved; and it it will be necessary to assure that the general orientation of the institutions and units make sense and that they are pointed in a direction that will enable them to meet their objectives in an efficient manner.

The major new institutions envisioned are as follows, a few of which have already begun to function, although slowly, while others are still to be formed:

A National Export Council, composed of members from the government, cooperatives and the private sector, to promote exports;

A National Productivity Center, to provide instruction and seminars for businessmen in the private and cooperative sectors in industrial engineering, salesmanship and promotional activities;

A Bureau Of Standards, to establish standards of quality;

A Cooperative College, to expound the Leader's philosophy of cooperativism and to provide courses in business management, accounting and cooperative law to the staffs of cooperatives.

A Mortgage Finance Bank, to channel funds to homeowners (recently established);

An Agricultural Development Bank, to provide short-term, intermediate and long-term supervised credit to farmers (established in April/May of this year);

A Cooperative Insurance Company, to provide a channel for the movement of intermediate and long-term credit funds to homeowners;

A Food Production Unit, in the Ministry of National Development and Agriculture, to develop low-cost nutritious foods utilizing indigenous Guyanese crops;

A Soils Science Laboratory (recently inaugurated);

A National Research & Scientific Council, to provide direction to all research activity undertaken in Guyana relating to development (recently established);

A Special Supernumerary Rural Constabulary, to provide security to farmers and reduce praedial larcency;

A Diagnostic Laboratory, for the treatment of cattle;

A Dairy & Swine Research Laboratory;

An Inland Fisheries Laboratory;

A Rice Research Laboratory;

A Port Authority for Georgetown (possibly);

A Telecommunications Center, for the technical training of telecommunications staff;

An Advisory Board for Technical Education, to advise on the policies of technical schools and colleges;

A College of Education, for the training of secondary school teachers;

A Department of Management Studies at the University of Guyana, for senior and middle-level management personnel;

A Department of Extra Mural Studies at the University of Guyana, responsible for the organization of summer schools, seminars and conferences;

A Timber Export Board, to promote timber exports;

An Epidemiological Unit in the Ministry of Health, to monitor the implementation of regulations for the protection of health, safety and welfare;

A Geriatric Unit at The Plams (State-run old people's home);

A National Health Board, to assist the Ministry in policy formulation;

A Guyana Water Authority, to administer the several individual water authorities in the country (already established);

A Mining Corporation, to promote the development of proven mineral deposits;

A Special Petroleum Unit in the Ministry of Mines and Forests;

A Regional Development Office in each of the country's 20 regions, for the development of plans and for project identification.

In Addition to these new institutions, it is planned to alter or add to the functions of a number of existing institutions. The problems facing this effort will, of course, not be as extensive as those facing the new entities, but nevertheless they will exist, probably covering the same general problem areas but to a lesser degree. These planned alterations and additions are as follows:

Economic Section of the Ministry of Finance - functions expanded to include examinations of investment criteria;

External Trade Bureau - functions expanded to include export transactions;

Employment and Productivity Unit of the Ministry of Labor and Social Security - functions expanded to include the collection and publication of national and sectoral indices of productivity;

Critchlow Labor College - functions expanded to include seminars for trade unionists on developmental problems and objectives;

Planning and Programming Unit of the Cooperative Department - functions expanded to collect statistics on cooperatives; and to check on irregularities, proper accounting and appraisal of sales and costs of cooperatives;

Local Authorities - functions to be expanded to include planning and administration of projects;

Secretariat of the Ministry of Economic Development - functions to be strengthened in areas relating to the formulation of national policies, identification of project goals, coordination of regional objectives, project preparation and the evaluation and monitoring of projects;

Planning Units - in those ministries that currently have such units, to be strengthened with regard to project preparation and evaluation; and in those ministries with no planning units, they are to be established;

Guyana School of Agriculture - enrollment to be expanded by 50 percent, with new courses added to the curriculum;

Forestry Department of the Ministry of Mines & Forests - functions to be expanded to include silviculture, product utilization, equipment and economic research;

Ministry of Mines and Forests - research in the development of mineral resources to be intensified, including stepped-up activities in stratigraphy, sedimentology, geological assessments and general laboratory methods for improving quality and methodology; and the geology, tectonics and mettalogenics of Guyana to be updated;

Ministry of Housing and Reconstruction - functions expanded to include physical planning and the development of a building code and building standards;

Ministry of Education - functions expanded to include adult education and possibly the use of video-tape television;

University of Guyana - the Faculty of Education to be reorganized into three departments - graduate studies, undergraduate studies and curriculum development; and special programs to be inaugurated for foresters, for secondary school mistresses and in the general field of technology;

Ministry of Health - the two nursing schools to be expanded; the Nutrition and Health Education Units to be strengthened and the functions of Maternal Child Health Centers to be expanded to provide family health counseling, home care and school health services;

Guyana Rice Corporation - functions to be expanded to operate rice storage and drying silos.

Excluded from this listing are recently developed institutions and activities which are still in the process of evolving, and the general up-grading of old-line institutions and activities. These include expanding or strengthening: the Extension, Research, and Economics Departments of the Ministry of National Development and Agriculture; the educational testing, curriculum development and administrative activities of the Ministry of Education, as well as the major technical institutes and the Teacher Training College of this Ministry; the malaria eradication, veterinary and environmental sanitation functions of the Ministry of Health; the mineral survey functions of the Ministry of Mines and Forests; the customs and tax administration functions of the Ministry of Finance; the personnel management, industrial relations and social security administration functions of the Ministry of Labor and Social Security; the procurement and supply management, quarry management and meteorological, highway planning and port management functions of the Ministry of Works and Communications; activities related to civil aviation and the Guyana Electricity Corporation; and efforts to reorganize the civil service and improve the functioning of trade unions.

Research. As indicated above, several new research units are to be established: A National Research and Scientific Council (just established), a Dairy and Swine Research Laboratory, an Inland Fisheries Laboratory and a Rice Research Laboratory. These will be additive to agricultural research laboratories and experiment stations already in existence. Additionally, as noted above, the research activities of several government departments are to be expanded and intensified: in economics, forestry and mining. Once established or reorganized, these research facilities will need to develop meaningful research programs; and to insure that these programs are fruitful, it will be necessary that Guyanese researchers have available to them the knowledge and experience of researchers elsewhere around the world who are engaged in similar pursuits. While to some degree such relationships already exist, there is a need to intensify and broaden them if development is to proceed as rapidly as possible and produce maximum results. While at this time the individual research efforts in Guyana cannot be assessed, it probably is fair to say that the status of research planning and generally weak links with other research units around the world are a constraint on development.

Manpower Development. Directly related to these institutional and research constraints is the constraint of inadequately trained manpower. Trained professionals and managers will be needed, for example, in all of the aforementioned new and expanded institutions.

While Guyana has a hard core of such people, it is relatively small and therefore the need for adequately trained people in the numbers required probably is the one single most serious constraint across the board.

In addition, there is a need to train skilled and semi-skilled workers, particularly in fields that relate to farming, industry and the building trades. These workers will represent primary action agents in the development process. At the moment they are not well motivated, have a generally poor understanding of their responsibilities, are not particularly receptive to opportunities and see themselves as tied to sugar, rice, bauxite, commerce and Georgetown. Considerable effort will have to be expended to change these attitudes, although once a few successes are under the country's belt it seems reasonable to expect that a momentum will be built up which will lead to an automatic correction of this situation. In anticipation of this, the Government plans to increase enrollment in the various technical institutions and introduce into the primary and secondary education systems increasingly more instruction on farming and technical subjects of a practical nature.

Finally, there is a need to increase the professional and managerial skills of the civil service and in the several public corporations. In its role as manager of the economy the government is in great need of a general across-the-board up-grading of these skills. These skills deficiencies appear to be particularly acute in managerial and supervisory positions, where functions inherited from the earlier British colonial government seem to prevail, that is, job responsibilities generally are viewed by the incumbents as clerical or advisory, not as managerial with those elements of leadership, direction and delegation that characterize managerial functions. It is with regard to this need that the USAID is planning to provide a loan to the GOG this year. It is expected that this loan, to be utilized over a three year period, will result in the training of up to 500 professional and managerial civil servants. This training is to be achieved in-country where possible and "offshore" where the skills requirements are such that they can only be achieved out of the country. In-country training will be facilitated by bringing trainers to Guyana with "package" courses and by improving the facilities of the Public Service Ministry for training to be undertaken by local personnel.

Because of the need for training in the new institutions to be formed and to fill job positions for expanded functions, it may be necessary to augment this loan with a second loan, geared specifically to meeting these needs.

Technical Assistance. Possible external technical assistance to assist the Guyanese in overcoming these institutional, research and manpower constraints, aside from the USAID's proposed training loan, is difficult to assess at this stage. Assistance to specific areas in the past, for example, has frequently been on a casual basis, with advisors coming to Guyana infrequently or perhaps only once, and with training being offered in a similar fashion. Based on past experience, however, the available clues suggest that there are certain areas where there has been some degree of concentration; and for purposes of this analysis it is assumed that these areas of concentration will continue into the future. On this basis we should expect external technical assistance to be provided roughly in accordance with the following listing. It should be noted that in preparing this listing no effort was made to distinguish between assistance of an institution-building research or training sort, since in many instances the technical assistance provided has related indirectly to all three areas, while in others only a close examination of the assistance would indicate its point of concentration.

Agriculture	
Food Crops, Livestock and Related Services	USAID
Cotton	China
Fisheries	UNDP/Cuba
Rice	USAID/China
Industry	
Productivity Center	UNDP
Export Promotion	UNDP
Bricklaying	China
Housing	
Physical Planning	UNDP
Mines & Forests	
Minerals	UNDP/Canada/UK
Forestry	UNDP/Canada/UK
Finance & Economics	
Customs	UNDP
Economics	Canada/UK

Infrastructure	
Procurement & Supply	UNDP
Quarries	UNDP
Meteorology	UNDP/WMO
Civil Aviation	Canada/UK
Water	UNDP/Canada
Education	
Technical Education	Canada/UK
UG - Management	Canada
Curriculum Development	UK
Teacher Training	Canada
Health	
Malaria	WHO/PAHO/UNICEF
Health Services	WHO/PAHO/UNICEF/UK
Veterinary Services	WHO/PAHO
Environmental Sanitation	WHO/PAHO
Labor	
Personnel Management	ILO/UK
Industrial Relations	UK
Trade Union Education	USAID
Public Service	
Reorganization Civil Service	UNDP

Three observations should be made with regard to this distribution of external technical assistance. First, a large number of areas that probably should be receiving technical assistance of one sort or another are not. Secondly, there appears to be a heavy bias in the technical assistance that is provided toward the traditional economy (in infrastructure, education and health, for example). Lastly, it appears that there also is a heavy bias toward providing assistance to areas considered by the Government having a low priority (education, health, labor, for example).

While not readily apparent from the data, it probably is also true that the technical assistance provided is not aimed at overcoming the research constraint, although there are exceptions (USAID assistance to rice research, for example).

It is quite apparent that aid donors can vastly improve their technical assistance efforts, and that a general re-direction of this effort is needed. In this context the USAID proposes a technical assistance loan to Guyana. This loan would complement the USAID's planned training loan; and would be implemented only after a thorough feasibility study is prepared, similar to the one being undertaken now for the training loan. This feasibility study would assess technical assistance requirements, identify GOG priorities in the "new" area and identify the institutional requirements needed in the Government to implement the loan. In addition, it would identify those donors who could best provide the necessary assistance for particular areas.

B. SECTORAL DISCUSSIONS

First Approximation. Considering the two broad areas of development - the "traditional" and the "new" - and taking into account the criteria proposed by AID to determine sectoral concentration of assistance, it would seem that aid donors should be concentrating their assistance in the "new". The "new" developmental area is, for example, the first priority of the government. Additionally, this area offers greater opportunities for employment, reflecting the import substitution, labor intensive and new products aspects of the associated development strategy; which compares with the strategy of export expansion, capital intensification and reliance on established products that characterizes the "traditional" area. Thirdly, the "new" area offers greater opportunities for realizing a more equitable income distribution, reflecting, on the one hand, the income increases of the poor associated with increased employment and, on the other hand, the income decreases of the more affluent members of the society who will be expected to underwrite a considerable share of this developmental effort. This compares with the income distribution effect inherent in the developmental process of the "traditional" economy in which the poor tend to stay poor and the more affluent tend to increase their incomes.

Using other criteria, however, the opposite conclusion seems to hold. Thus, in terms of macro-economic growth there should be a larger incremental growth to GDP arising out of development in the "traditional" area than out of development in the "new" area. Thus, the increase to GDP over the Plan period accounted for by activities in the "traditional" area is about 3 times the anticipated increase in GDP accounted for by activities in the "new" area. When these increases are divided by the investments to be made in each of the areas - US$311.9 million in the "traditional" area and US$205.2 million in the "new" area - the resulting rough capital-output ratio shows income being generated by investments in the "traditional" area at about twice the level of the income generated by investments in the "new" area.

Furthermore, in terms of managerial difficulties, that is in terms of administrative difficulties and constraints to overcome, clearly the "traditional" area comes out way ahead. This area is characterized in the main by well established industries, with on-going institutions and with engrained work patterns, characteristics that if they pertain at all to the "new" area are weak in the extreme.

The decision as to whether to concentrate assistance efforts in one of these two broad areas depends, therefore, on the relative weights assigned these five criteria: priority of the government, employment generation, income distribution, capital-output ratio and managerial complexities. Additionally, it will depend on the relative values assigned to each of these criteria for the two areas. For purposes of this assessment the criteria of priority, employment generation and income distribution are weighted by a factor of 2, to reflect AID/W instructions that these criteria should be given the greatest weight.

On a more desirable-less desirable basis, it would appear that the two areas are about even, and that it is a toss up as to where assistance should be concentrated. This is illustrated in the following table, where the "most" is indicated by a number of 1 and the "least" by a number of 2; and where the rankings assigned the capital-output ratio and managerial difficulties are doubled, to reflect the aforementioned weighting factor of 2 to be given the priority, employment generation and income distribution criteria (the criteria of capital-output ratio and managerial difficulties are doubled in the table to account for this, because in this analysis the lowest number is the "best" while the highest number is the "worst").

	Traditional	New
Priority	2	1 (highest priority)
Employment	2	1 (most employment)
Income Distribution	2	1 (most effect on income)
Capital-Output Ratio	2	4 (least income x 2)
Management Problems	2	4 (most difficult x 2)
Total	10	11

As is indicated in this table, a slight edge is given to the "traditional" area, although they are so close as to suggest that, as indicated earlier, it is a toss up as to which area should be given the most emphasis.

An alternative approach, and a more realistic one, would be to rank the criteria in accordance with their relative effects. The consequences of this approach are shown in the following table:

	Traditional	New
Priority	2	1 (highest priority for the "new)
Employment	1.2	1 (while there should be greater employment in the "new" area, it should not be twice as much as in the "traditional" area as is implied in the first approach. While precise data are not available, it seems, on the basis of the data that are available, to expect the increase in employment in the "new" area to be somewhere in the magnitude of 20 percent more than in the "traditional" area)
Income Distribution	1.2	1 (it is assumed that the effect of income distribution parallels the effect of employment)
Capital-Output Ratio	2	4 (this ratio, as calculated in the text above, indicates that it is about twice as high for the "traditional" area)
Management Difficulties	2	8 (based on the discussions in the preceding section, it would appear reasonable to indicate that managerial difficulties in the "new" area will be about 4 times as difficult as in the "traditional" area)
	8.4	15

This distribution of values among the criteria indicates that the "traditional" area is the much better area in which to concentrate assistance activities. That is, while the "new" area has the highest priority, it appears that the favorable effect this area also has on employment and income distribution are insufficient to account for the shortcomings the area has with respect to income generation and managerial difficulties in overcoming development constraints. All things considered, the "traditional" area is about twice as "good" as the "new" area.

Second Approximation. While this latter conclusion appears to be a proper one for the two broad areas, it does not necessarily follow that the conclusion applies to all of the sectors and sub-sectors that comprise each of these broad areas. In order to compare all of these sectors and sub-sectors, rankings have been calculated for each of the five criteria for each of the sectors and sub-sectors discussed. The calculations made to determine these rankings are shown in the Appendix to this DAP. The results of these calculations are summarized on the following table:

SECTORS	CRITERIA						RANKINGS	
Traditional	Pri.	Emp.	Inc. Dist.	C.O.R.	Mgt. Diff.	Total	Rank	Preference Zones
Mining	2	3	3	4	2	14	3	High
Sugar	2	2	2	4	2	12	1	High
Rice	2	4	4	6	4	20	7	Low
Forestry	2	2	2	6	6	18	5	Medium
Fishing	2	3	3	6	4	18	5	Medium
Health	3	3	3	-	6	15 plus	-	-
Education	3	3	3	-	6	15 plus	-	-
Infrastructure	2	3	3	6	4	18	5	Medium
New								
Crops	1	1	1	2	8	13	2	High
Livestock	1	4	4	6	8	23	8	Low
Industry	1	2	2	6	8	19	6	Medium
Housing	1	1	1	8	6	17	4	Medium
Infrastructure	1	4	4	6	4	19	6	Medium

As in the previous table, the lowest number reflect the "best" and the highest numbers the "worst"; and the rankings given the criteria of capital-output and managerial difficulties have been doubled to take into account weighting. The Rank column is the actual numerical rank of the total rankings for each sector and sub-sector. The Preference Zone column reflects the need to smooth out the individual rankings, since the calculations used to arrive at these rankings included a number of assumptions and judgemental factors. Thus, the Preference Zone column is the one to use in making any comparison of the sectors and sub-sectors.

The Preference Zone column indicates that the "best" sectors or sub-sectors are mining (bauxite), sugar and crops. The high preference for mining and sugar reflect the fact that the income to be generated in these areas along with the high degree of organization of the bauxite and sugar industries offsets to a considerable degree the fact that they have a secondary priority in the government's scheme of things and only have a modest employment and income effect (in this regard, sugar is "better" than bauxite). The high preference for crops, on the other hand, reflects the fact that the high priority allocated this area and the highly favorable employment and income effects associated with it, as well as its favorable income generating effects, which collectively offset the serious constraints that can be expected to be encountered in developing this area.

The low preference shown for rice reflects in the main the fact that its employment and income distribution effects are minimal, owing to the fact that increased production is expected to arise for the most part through increased yields on larger units; and the fact that the capital-output ratio effect is relatively low, reflecting the very large investments required for sea defenses and irrigation and drainage for increased production. The low preference for livestock indicates generally poor performance across the board in spite of its having a high priority; thus the employment and income effects are low, reflecting the high capital intensity of the industry, the income effect is low and managerial difficulties are estimated to be large.

Middle preferences are shown for forestry, fishing, industry and housing, and for infrastructural activities in both the coast and the interior. In some cases (housing and industry) this reflects the overwhelming negative influence of the income and management criteria. In others (coastal and hinterland infrastructure) this reflects the negative impact of income, employment and income criteria. For the balance, this reflects generally average performance across the board.

No ranking has been given the health and education sectors, since a capital-output ratio could not be calculated. However the rankings that are shown suggest that these sectors probably should be counted as being middle preferences.

Based on the foregoing, it appears that the USAID concentration should be in the crops area, which in fact is the sub-sector that has been selected by the USAID for concentration. Assistance to mining and sugar, which are the other two high preference areas, do not lend themselves readily to AID assistance criteria.

Third Approximation. The rankings shown in the foregoing table should be adjusted with respect to the criterion of income distribution. The rankings for this criterion are shown in the table to be identical to the rankings accorded the employment criterion. In the absence of any detailed analysis, it was assumed that employment and increased income to the poor can be expected to go hand in hand. However, the table does not take into account the other side of the income distribution equation, namely the decreased income of the affluent which, as noted earlier, is implied in the development effort in its totality. The difficulties in making an adjustment to accommodate this phenomenon arise because the transfer of funds from the affluent to the poor largely will come about through inter-sectoral shifts, specifically from the sectors of mining, sugar and rice to all the sectors of the "new" area. One possible way to account for this is to reduce the income distribution rankings in all of the sectors in the "new" area by some arbitrary amount, say by 1. This adjustment would not affect the general rankings of the sectors and sub-sectors in this area, although it does move housing into a position closer to a "1" ranking, i.e. housing begins to look like an attractive area of concentration. Larger numerical adjustments, of course, would push housing into a zone of high preference. Because of the many uncertainties involved in making such an adjustment, however, none has been made in the analysis.

A second complication arising from the rankings is that not all the sectors and sub-sectors should be treated independently. Development in sugar, mining and rice, for example, cannot be treated separately from infrastructural developments that support them. Additionally, there is a direct connection between the mining sector (kaolin) and the industry sector (ceramics and porcelain plants). The most striking degree of interdependence, however, occurs in two of the sectors and one of the sub-sectors of the "new" area, i.e., the crops and livestock sectors and the agro-industry sub-sector of the industry sector. As regards the latter, it includes planned investments in fish processing and canning, a milk condensary, fruit and vegetable processing, solvent extraction (oils), and a textile plant. Together they total $10.1 million or 37.5% of the total investments shown on page 23 . As for

the interdependence of the three, the development of livestock is directly related to the development of feed grains, which are a part of the crops sub-sector; similarly, agro-industry is directly related to the crops sub-sector. Indeed it would appear that these areas should be treated as one sector. If they are referred to collectively as the "agriculture" sector and the remaining sectors of the "new" area (other industry, housing, and infrastructure) are grouped into a separate "other" category, the rankings would appear as follows:

SECTOR	CRITERIA						RANKING	
	Pri.	Emp.	Inc. Dist.	C.O.R.	Mgt. Diff	Total	Rank	Preference Zones
Mining	2	3	3	2	2	12	2	High
Sugar	2	2	2	2	2	10	1	High
Rice	2	4	4	4	4	18	5	Low
Forestry	2	2	2	4	6	16	3	Medium
Fishing	2	3	3	4	4	16	4	Medium
Health	3	2	2	-	6	15 plus	-	-
Education	3	2	2	-	6	15 plus	-	-
Infrastructure	2	3	3	4	4	16	4	Medium
New Areas: Agriculture	1	1	1	4	10	15	3	Medium
New Areas: Other	1	1	1	6	10	19	6	Low

The rankings shown in this table are somewhat different than the rankings shown in the previous table, reflecting the fact that for each criterion the array of values was necessarily reduced (from 13 sectors and sub-sectors to 10) and thus the rankings had to be readjusted. Additionally, for both sectors of the "new" area, the criterion of managerial difficulties was assigned a higher number (from 4 to 5, multiplied by 2), to reflect the fact that the combination of various factors should further increase managerial problems, owing to the increased complexity of dovetailing these elements.

This table indicates that mining and sugar still remain the most preferred areas. For the balance of the sectors and sub-sectors, it shows further that agriculture, forestry, fishing and coastal infrastructure have an edge over rice and the new "other" area.

With regard to the new agriculture area, any reduction in the managerial constraints facing developments in this area would make it very attractive. Arithmetically, for example, a reduction of the assigned value of 10 to say 8, would move it into the zone of high preference. Because of this possibility - and because such a possibility reflects the collaborative style of AID - the USAID could expand its present area of concentration of crops to include technical assistance in livestock and agro-industry, with a goal of assisting the Guyanese to overcome the many constraints to development in this area.

C. PROPOSED AREAS OF U.S. CONCENTRATION AND ASSOCIATED FUNDING AND PERSONNEL REQUIREMENTS

TECHNICAL ASSISTANCE

Guyana truly faces a large if not monumental task in accomplishing its related objectives of carrying out a basic realignment of its national purpose and direction while, at the same time, achieving the desired levels of economic growth. As for the latter, recent economic indicators, such as the levels of imports and exports and the retail price index, as well as declining per capita GDP indicate that the growth targets of the Development Plan may well be unrealistic, especially for the near term. Still, if these dual aims are to be realized to any appreciable degree, then Guyana will need substantial external assistance. It is in this light, then, that the USAID will direct its efforts to overcoming key constraints in the agriculture sector, an area not only at the core of the Development Plan but one in which A.I.D. is especially well suited to assist vis-a-vis the other international donors.

Against this background, the USAID proposes to concentrate its efforts over the next several years on providing technical assistance and limited capital assistance where the specific constraints are minimal. The technical assistance could take four forms:

1. Training
2. Institutional Development
3. Strengthening of Research Institutions
4. Sector and Sub-Sector Analyses

The focal point for these technical assistance activities would be in crops, their supporting infrastructure, and agro-industry and, secondarily, livestock. Since these areas fall within the highest priority areas of the government, there should be little prospect that these efforts would be diverted, or that the government would not respond favorably.

With regard to training, institutional development and the strengthening of research institutions, an earlier section of this DAP indicated the need for assistance here; and indicated the many areas that will require attention as well. Those areas which are most logically related to the new agriculture area and are likely candidates for assistance are as follows:

- Extension, Research, and Economic Division of the Ministry of National Development and Agriculture

- Agricultural Development Bank

- Guyana School of Agriculture
- Diagnostic Laboratory (treatment of cattle)
- Diary and Swine Research Laboratory
- Inland Fisheries Laboratory
- Food Production Unit
- Special Rural Constabulary

As for the possibility of assistance to these areas through USAID central/regional programs, the type and level of Mission utilization to date has been as follows: 1) International Soybean Program of the University of Illinois-Mission-funded task order providing for 10-1/2 months of TDY assistance; 2) North Carolina State University contract on soils fertility and improvement - TDY consultation and training and procurement support as regards the establishment of a soils research laboratory; 3) CIMMYT - one participant in corn breeding; 4) CIAT - USAID/GOG participation at the February 1973 Seminar on the Improvement of Field Beans and other Food Legumes; 5) IITA - two trainees in palm oil production. Regarding the first listed, the provision of services will continue through FY 74. Continued utilization of the second is expected on an occasional TDY basis. As for the third and fourth, the Mission anticipates the expansion of its training efforts at these institutions. Beyond the above, Guyana has been selected as the research country by the University Livestock Consortium. However, the GOG has not yet made a final determination as to whether they will participate or not. Finally, there is a possibility that the Georgia Tech program in employment generation in small industry could be useful to the GOG in conjunction with their planned agro-industry investments.

In addition to the above list, several of the other new institutions and organization improvements which are planned, while not directly related to the new agricultural sector, could be expected to materially benefit that area and, accordingly, should also be considered as possible candidates for technical assistance. They include the following:

- National Productivity Center
- Bureau of Standards

- National Research and Scientific Council
- Advisory Board for Technical Education
- Department of Management Studies at the University of Guyana
- Department of Extra-Mural Studies at the University of Guyana
- Regional Development Offices
- Local Authorities
- Secretariat of the Ministry of Economic Development
- Ministerial Planning Units

Training would be provided the civil service to upgrade its skills, in the professional and managerial categories, a program that already is being developed under a grant-financed feasibility study. As indicated earlier, however, the funds expected to be provided in this connection probably will have to be augmented in order to accommodate the training needs associated with the development of new institutions and the strengthening of old ones.

With respect to "institution building", a final cautionary note is in order. Since the Mission has had only limited experience in this field, the extent to which the socialist Cooperative Republic of Guyana will accept such assistance, with its possible policy-making connotations, is largely an unknown factor at this time.

With regard to sector studies, they should give the Guyanese a better grasp of the magnitude of the constraints facing them; as well as provide them with the framework for orderly development. One such study is now about to begin - in the crops sub-sector. Either an expansion of this study or a similar one could be undertaken with respect to the beef cattle portion of the livestock industry. Following their completion, feasibility studies might be required for either or both. A feasibility study of the dairy cattle industry, to be financed under an active USAID loan, has already been planned and should commence before year end. For the agro-industry area, feasibility rather than sector studies are needed, since the GOG has already made the political decision that the five investments mentioned earlier will be made. In the same light, but with a wealth of experience and a livestock and crop economic analysis (USAID-financed) supporting them, the GOG has decided to move ahead with the full-scale development of the Intermediate Savannahs. Towards this end, it is anticipated that a feasibility study,

to be financed under the same USAID loan as the Dairy Cattle Study, will begin sometime in early 1974. Collectively, these studies will not only provide several possible avenues for subsequent capital assistance, but would also provide the Guyanese with the necessary framework for development, with an understanding of the problems and issues involved and with a better assessment of the requirements for the society to realize its objectives.

The general underlying rationale for the technical assistance described above is simply that Guyana does not have the institutional infrastructure to pursue the bifurcated approach to development on which it has pinned its hopes. Several years of concentrated and perhaps large-scale technical assistance, pinpointed to the relevant elements of the society, and including institution building, training, the development of research capabilities, and the provision of proper planning documents should provide this base.

CAPITAL ASSISTANCE

As mentioned in the previous section, the planned and anticipated sector and/or feasibilities studies in the crops, agro-industry and livestock areas should provide, toward the end of CY 74, several alternatives for capital assistance. Also at this time we would expect to submit a detailed Agricultural Sector Assessment as Part II of the DAP. At this stage, however, it is too early to say which of these areas or combinations of areas and geographic locations might emerge as warranting the priority attention of the USAID, although crops is expected to be the focal point. In making such choices, it will, of course, be incumbent upon the USAID to assure itself that all of the critical supporting elements such as credit, marketing, storage, transportation, extension, etc., will be available in the quality and quantities needed.

The Intermediate Savannahs is perhaps worthy of particular mention here. The feasibility study planned for this self-contained geographic region will, according to the Ministry of Agriculture officials preparing the scope of work, encompass the state-owned and operated livestock and crop producing areas of Ebini and Kibilibiri, respectively, as well as that segment planned for settlement by individual farms and cooperative groups. For all three, but particularly the last, the study must closely examine not only production and its related inputs and services but also the provision of needed infrastructure, both real (i.e., roads and drainage and irrigation) and social (i.e., housing, school, and medical and recreational facilities). If USAID capital assistance to the Intermediate Savannahs which includes these infrastructural components should materialize, it could mean, in effect, the inclusion within the USAID's

total assistance package of the two previously excluded sectors (i.e., non-coastal infrastructure and housing) of the "new" developmental areas. Such action would require an amendment to the DAP at that time if AID's portion of such assistance included those two sections. This possibility is mentioned here since there does not appear to be any other geographic area of potential USAID assistance which would require such sizable infrastructural inputs within the four-year time frame projected for the DAP.

FUNDING REQUIREMENTS

The major funding requirements for such a program over the years 1974-1977 are estimated to be in order of magnitude as follows:

1st Training Loan	-	primarily to upgrade the civil service, US$ 1 million
2nd Training Loan	-	primarily to accommodate the growth in institutions and the strengthening of old ones, possibly including research facilities, US$ 1 million
1st Technical Assistance Loan	-	primarily to provide assistance to key "new" areas that need immediate attention, US$ 2 million
2nd Technical Assistance Loan	-	primarily to expand the technical assistance effort into less critical but still important "new" areas, US$ 2 million
Feasibility Study Loan	-	to provide for feasibility studies in the food crops, agro-industry and livestock areas, US$ 1 million
Capital Assistance Loans	-	to provide such capital as can be employed in specific "new" areas as determined by the various sector and/or feasibility studies to be undertaken over the next year, US$ 5 million

The USAID's recent planning called for a food crops sub-sector loan in the crops area in FY 74. It is proposed that consideration for this loan be postponed until FY 75. However, if the food crops sub-sector study is able to pinpoint a specific area where capital assistance can be efficiently employed, a feasibility study, as noted above, will be undertaken to determine such capital assistance. The USAID's current planning also calls for a second Rural Water Loan. It is proposed that other donors be encouraged to underwrite this activity and the feasibility study is directed towards this end. Additionally, it is proposed that the USAID phase out its present Title II activities. These decisions reflect the underlying rationale for the proposed USAID concentration in institutional, manpower and planning development, and they reflect, in the case of water and Title II, the relatively low priorities given these areas by the government as well as the inordinate administrative and managament difficulties associated with those low priority programs.

The grant requirements associated with these loan estimates are estimated to be as follows:

Feasibility Study for 1st Training Loan	-	$ 25,000 (of which $ 18,000 funded from prior year funds)
Feasibility Study for 2nd Training Loan	-	$ 25,000
Feasibility Study for 1st Technical Assistance Loan	-	$ 50,000
Feasibility Study for 2nd Technical Assistance Loan	-	$ 50,000

Timing, in terms of obligations, for these efforts should be about as follows:

	Fiscal Year (terms: US$ 000)			
Loans	1974	1975	1976	1977
1st Training Loan	1,000			
2nd Training Loan			1,000	
1st Technical Assistance Loan		2,000		
2nd Technical Assistance Loan				2,000
Feasibility Study Loan		1,000		
Capital Assistance Loan		2,500		2,500
	1,000	5,500	1,000	4,500

Grants*	1974	1975	1976	1977
1st Training Study	7			
2nd Training Study		25		
1st Technical Assistance Study	50			
2nd Technical Assistance Study			50	
Total Grants	57	25	50	-
Grand Total	1,057	5,525	1,050	4,500

*Excludes Technical Support and Special Development Activity projects.

D. U.S. PERSONNEL REQUIREMENTS

The USAID personnel needed to administer this program would be oriented around a core of professionals, who would perform the necessary managerial monitoring functions. Because of the complexities of the technical and capital assistance efforts such as the ones proposed, these functions could be expected to be diverse and involved. Direct relationship with the government and contractors would have to be firmly established. These key persons would comprise:

1 Rural Development Officer
1 Agricultural Economist
1 Capital Development Officer
1 Engineer
1 Program Officer

The Capital Development Officer is needed as a reflection of the complexities of the kinds of loans proposed; and also to assist in the USAID's monitoring responsibilities with respect to its ongoing loans.

The Program Officer would handle the continuing duties associated with that traditional position.

Directly over these key personnel there is need for a senior officer who would act as Chief of Operations. He may be called an Assistant Director or Deputy Director, but his major duty would be supervision of professional staff.

With regards to staff operations, there is need for a senior officer to assume those responsibilities normally associated with executive officers and controllers. Under him would be the necessary local staff for him to carry out his responsibilities in an effective way, chief of which would be a well-trained local national to handle GSO-type operations, and a well-trained local national to handle accountancy matters. In addition to these key local personnel, there would need to be recruited a very well-trained local national to handle matters normally taken care of by an assistant program officer.

Finally, there needs to be a Mission Director and two American secretaries.

The total number of Americans needed to carry out the program comes to ten. This compares with a USAID staffing pattern now of sixteen (LA staffing pattern and personnel roster of March 21, 1973)and an operating strength of 12 (including Director and Program Officer positions, both

now vacant). Of these, six are presently on board: The USAID's Assistant Director, Rural Development Officer, Engineer, Controller/ Executive Officer (nominee) and secretaries. Of the eleven remaining on the staffing pattern, the Tax Advisor, one of the Engineers, and the Public Safety Advisor (vacant slots) positions need not be filled. The APO position would not be filled after the end of tour of the incumbent; and the Accountant incumbent moves to the Controller/ Executive Officer position after the end of tour of the incumbent Controller. Both of these positions would be vacated in mid-CY 1974. The Executive Officer position can be eliminated immediately since the key local in that division is presently on board and the incumbent officers in the Controller's office can assume such supervisory responsibility as is required. The present second Engineer position can also be eliminated with recruitment of the Capital Development Officer, as he will assist in the extensive monitoring duties. Thus, the positions to be filled at this time (October 1973) are: 1) Mission Director; 2) Program Officer; 3) Agricultural Economist; and 4) Capital Development Officer.

A P P E N D I X

The calculations for the rankings shown in the section in the text on sectors are as follows.

Priority. The priority rankings indicate the USAID's estimate of the GOG's priorities. All activities related to the "new" developmental area accordingly are shown as having a priority of 1; the health and education sectors, which clearly have the lowest priority, have been accorded a priority of 3; while all other sectors or sub-sectors are in between these two and thus have been accorded a priority of 2 (there does not appear to be any variation among these "2" sectors that would suggest that a further breakdown is warranted).

Employment. The Development Plan shows an increase in employment of 56,000 persons between 1970 and 1976. Only rough allocations by sector of this overall increase are shown in the chapters of the Plan that discuss individual sectors; and these do not add to this total. These allocations are:

Mining	1,900	Education	2,500
Forestry	2,900	Industry	4,300
Fishing	1,500	Infrastructure	2,500
Health	2,500	Agriculture	10,000
	Total	28,100	

Using these data as a basis, a rough order of employment increases was allocated to the several sectors and sub-sectors under consideration in the DAP. These allocations did not have to be accurate, since what was sought was an order of magnitude that permitted comparisons between the sectors and sub-sectors. The results are as follows:

Traditional	Employment Increase		Ranking	Preference Zones
Mining	1,900	(Plan figure)	8	Low
Sugar	3,000		4	Medium
Rice	0		12	Very Low

Traditional	Employment Increase		Ranking	Preference Zones
Forestry	2,900	(Plan figure)	5	Medium
Fishing	1,222	(Plan figure minus Inland Fisheries)	9	Low
Health	2,500	(Plan figure)	6	Low
Education	2,500	(Plan figure)	6	Low
Infrastructure	2,100		7	Low
Sub-total	16,122			
New				
Crops	7,278		2	High
Livestock	Insignificant		11	Very Low
Industry	4,300	(Plan figure)	3	Medium
Housing	The most		1	High
Infrastructure	400		10	Very Low
Sub-Total	12,040	Plus		

The Plan increase in agriculture of 10,000 persons was divided for arbitrarily between sugar and crops at 3,000 and 7,000, respectively, since there was no basis to make a calculation. Under crops, an additional 278 was added for Inland Fisheries. This figure was calculated by assuming that Inland Fisheries share of the employment increases expected for the entire fishing industry would be the same proportion as its anticipated share of investment for the industry (i.e., $2.5 of $13.5 million or 18.5%). It was assumed that employment increases in rice production would be accounted for by increased yields and that additional rice acreage

would be amalgamated into existing farms. This assumption reflects the trends shown in the USAID's January 1973 evaluation of its Rice Modernization Loan. Housing was assumed to increase employment "the most" because of the tremendous increase projected in house building. This assumption was checked by dividing the number of houses to be built by 5 (number of years in which goal is to be accomplished) and making assumptions regarding the number of men to be employed per house and the number of houses that might be built annually by each work "gang" in one year. While there are many combinations possible, it appears that the allocation of "the most" to housing is reasonable. The 2,500 new employees shown in the Plan for infrastructural development was divided between the coast and the interior in accordance with estimates of the total infrastructural investment to be expended in each area over the Plan period. The "insignificant" assigned to livestock reflects the very high capital intensity of this sub-sector.

The "ranking column" is the actual arithmetic ranking of each sector or sub-sector. The column showing "preference zones" reflects the grouping of reasonably close increases under one heading - because of the errors inherent in the arithmetic calculations this appeared to be the best way to show relative rankings.

Income Distribution. It was assumed that changes in income distribution go hand in hand with increases in employment, and thus the rankings shown for this criterion are the same as those shown for employment.

Capital-Output Ratio. The capital side of the capital-output ratio reflects the actual investments shown in the Development Plan. These are as follows:

Million US $

Housing	$ 125.0	Water Transport	$ 8.0
Crops	-	Quarrying	.5
Industry	31.0	Power	41.0
Sugar	19.0	Sewage & Refuse	2.5

Forestry	32.0	Communications	15.9
Health	9.6	Fishing	13.5
Education	25.0	Livestock	10.8
Mining	47.5	Rice	5.0
Roads-Coastal	28.0	Drainage/Irrigation	16.0
Roads-Interior	23.0	Sea Defences	20.0
Water	12.0	Agric. Equipment	23.0
Air Transport	5.3	Minor Canals	3.5

TOTAL $ 517.1 (89 percent of total Plan investments; balance in other areas not relevant to the DAP)

These investments were combined in various ways, for agriculture and infrastructure, to yield the following capital costs for the sectors and sub-sectors under consideration in the DAP:

Million US $

Traditional		
Mining	$ 47.5	(Plan Figure)
Sugar	28.6	
Rice	42.5	
Forestry	32.0	(Plan figure)
Fishing	11.0	(Plan figure minus Inland Fisheries)
Health	9.6	(Plan figure)
Education	25.0	(Plan figure)
Infrastructure	113.2	
Sub-Total	309.4	

New		
Crops	16.4	(Includes Inland Fisheries at M $2.5)
Livestock	12.3	(Plan figure)
Industry	31.0	(Plan figure)
Housing	125.0	(Plan figure)
Infrastructure	23.0	
Sub-Total	207.7	

The allocation of the US $136.2 million shown in the Plan for infrastructure (roads, water, air transport, water transport, quarrying, power, sewage and refuse, communications) was divided between the hinterland the the coast by allocating everything but interior roads to the coast. Although a part of these infrastructure categories probably should be allocated to the interior, it was felt that this was minor and that the allocation made was a reasonable one. The allocation of the various parts of agricultural investment (drainage and irrigation, minor canals, sea defences, agricultural equipment) among sugar, rice, livestock and crops was accomplished by adding to the Plan figures for each of these sectors and sub-sectors, a portion of this agricultural investment calculated as follows:

Million US $

	Plan	D-I	Canals	Sea Def	Ag Equip.	Total
Crops	-	2.0	1.0	2.0	8.9	13.9
Sugar	19.0	-	-	5.0	4.6	28.6
Rice	5.0	14.0	2.5	13.0	8.0	42.5
Livestock	10.8				1.5	12.3
		16.0	3.5	20.0	23.0	

The drainage and irrigation allocation between crops and rice was arbitrary, reflecting the fact that for the most part this investment is related to the rice area, with a small amount affecting the crop area, that is, for those crops expected to be raised along the coast. Sugar is assumed not to be affected by the investment in drainage and irrigation, since the sugar people maintain their own drainage and irrigation systems. It is also assumed that livestock will be unaffected by these investments, reflecting the fact that livestock development is to be in the interior for the most part. The same reasoning holds true for the investments associated with empoldering and the construction of minor canals. For sea defences, the major portion of this investment is divided between sugar and rice. In accordance with estimates of the acreages expected to be in cultivation for each crop; and a modest amount of this investment was allocated to crops, to reflect again that some crops are to be grown in the coastal area. Because livestock development is expected to be largely an interior affair, again no allocation of investment is made to livestock. For agricultural equipment the allocation reflects the relative increase in acreage for each of the sectors over the Plan period. A modest allocation is made to livestock, to reflect the need for pasture improvement.

The output side of the capital-output ratio reflects the contribution to GDP shown in the Plan for each sector. The basic Plan figures are as follows:

	Million US$
Sugar	+ $13.5
Rice	+ 10.0
Crops	+ 10.0
Livestock	+ 2.5
Fishing	+ 3.5
Forestry	+ 6.5
Mining	+ 18.5
Industry	+ 7.5
Housing (Rent of Dwellings)	+ 6.0
Transportation & Communication	+ 5.5
Engineer & Construction	+ 22.0

These increases in the GDP were similarly combined in various ways to yield the following increases for the sectors and sub-sectors under consideration:

	Million US$	
Traditional		
Mining	$ 18.5	(Plan figure)
Sugar	13.5	(Plan figure)
Rice	10.0	(Plan figure)
Forestry	6.5	(Plan figure)
Fishing	2.9	(Plan figure)
Health	-	
Education	-	
Infrastructure	23.1	
Sub-total	$ 75.1	
New		
Crops	$ 10.6	(Plan figure + Inland/ Fisheries)
Livestock	2.5	(Plan figure)
Industry	7.5	(Plan figure)
Housing	6.0	(Plan figure)
Infrastructure	4.4	
Sub-total	$ 30.4	

The allocation of GDP between coastal and interior infrastructure represents the estimate of the relative infrastructural investment expected to occur in the coastal areas and in the interior; the figure allocated was the sum of the Transportation & Communication and Engineering & Construction categories. No output was shown for Education and Health, since there was no basis on which to make a calculation.

Under Crops, the $.6 million attributed to inland fisheries was calculated by assuming that their contribution to the total increase in GDP expected for the entire fishing industry would be the same proportion as their anticipated share of investment for the industry; (i.e., $2.5 of $13.5 million or 18.5%).

The capital output ratio was calculated by dividing the output figures (additions to GDP) by the input figures (estimated investment). The results of this calculation are as follows:

	Ratio	Ranking	Preference Zones
Traditional			
Mining	.38	3	Medium
Sugar	.47	2	Medium
Rice	.23	6	Low
Forestry	.20	7	Low
Fishing	.26	4	Medium
Health	-		
Education	-		
Infrastructure	.20	7	Low
Total Area	.24		
New			
Crops	.65	1	High
Livestock	.20	7	Low
Industry	.24	5	Low
Housing	.04	9	Very Low
Infrastructure	.19	8	Low
Total Area	.14		

This capital-output ratio obviously is a crude one. It does not take into account the stream of income to be created beyond the Plan period as a result of investments made during the Plan period; nor does it take into account ancilliary income that may be induced as a consequence of the investments in the macro-economic categories of Financial Transactions, Distribution, Government and the like. What these ratios provide is only a very rough way to compare the various sectors and sub-sectors considered in the DAP with respect to income generation.

Managerial Difficulties. The criterion of managerial difficulties is meant to indicate some notion of the complexity and seriousness of the constraints facing development in each of the sectors and sub-sectors. They are purely judgmental, and reflect the USAID's assessment of the situation in each area. The results of this assessment are as follows:

		Ranking
Traditional		
Mining		1
Sugar		1
Rice		2
Forestry		3
Fishing		2
Health		3
Education		3
Infrastructure		2
	Average	2
New		
Crops		4
Livestock		4
Industry		4
Housing		3
Infrastructure		2
	Average	3

The low numbers assigned to mining and sugar reflects the relatively high degree of organization that characterizes these two industries. The high numbers assigned to crops, livestock and industry reflect the large number of serious constraints that can be expected to face development in these areas, all of which have been discussed in the text. All other sectors lie between these extremes, although there appears to be a need for a further division. Thus, in the field of infrastructure, the several government departments and corporations involved generally are well run, although there can be expected to be constraints regarding the recruitment and training of personnel. The same assessment holds for fishing. Rice probably could be a "3" or a "2", depending on the role one expects of the small marginal rice farmer. The assignment of a "2" here reflects the trend to eliminate the small rice farmer from the industry, thus reducing the managerial problems considerably. The "3"s assigned the sectors of housing, education and health reflect recruitment problems plus the general difficulties of managing diverse activities and handling large numbers of people. The "3" for forestry reflects the constraints of marketing in this sector, although probably an argument could be made to move this into the "2" category, since general management seems to be fairly well established.

Assessments. The sum of the unweighted individual numerical rankings and resultant preference zones is indicated in the following table. The lowest number indicates the "best", the highest number, the "worst". Thus, a ranking of 1 is to be interpreted as:

for priority, the highest priority

for employment, the greatest employment increases

for income distribution, the most income made available to the poor

for capital-output ratio, the highest income generation

for managerial difficulties, the least constraints

	Pri.	Emp.	Inc. Dist.	C.O.R.	Mgt. Diff.	Total	Rank	Preference Zones
Traditional								
Mining	2	3	3	2	1	11	4	Medium
Sugar	2	2	2	2	1	9	2	High
Rice	2	4	4	3	2	15	8	Low
Forestry	2	2	2	3	3	12	5	Medium
Fishing	2	3	3	3	2	13	6	Medium
Health	3	3	3	-	3	12+	-	-
Education	3	3	3	-	3	12+	-	-
Infrastructure	2	3	3	3	2	13	6	Medium
New								
Crops	1	1	1	1	4	8	1	High
Livestock	1	4	4	3	4	16	9	Low
Industry	1	2	2	3	4	12	5	Medium
Housing	1	1	1	4	3	10	3	High
Infrastructure	1	4	4	3	2	14	7	Low

Those unweighted rankings indicate that sugar, crops, and housing are in a zone of high preference, while rice, livestock, and interior infrastructure are in a zone of low preference. Since AID instructions indicate that a higher weight should be assigned to the wishes of the host government, employment and income distribution,these criteria were weighed by a factor of 2. Arithmetically, since the lowest number is the "best", the values of the criteria of capital output and managerial difficulties were therefore doubled. The results are shown on the following table, which is the same as the table used in the text.

	Pri.	Emp.	Inc. Dist.	C.O.R.	Mgt. Diff.	Total	Rank	Preference Zones
Traditional								
Mining	2	3	3	4	2	14	3	High
Sugar	2	2	2	4	2	12	1	High
Rice	2	4	4	6	4	20	7	Low
Forestry	2	2	2	6	6	18	5	Medium
Fishing	2	3	3	6	4	18	5	Medium
Health	3	3	3	-	6	15+	-	
Education	3	3	3	-	6	15+	-	
Infrastructure	2	3	3	6	4	18	5	Medium
New								
Crops	1	1	1	2	8	13	2	High
LIvestock	1	4	4	6	8	23	8	Low
Industry	1	2	2	6	8	19	6	Medium
Housing	1	1	1	8	6	17	4	Medium
Infrastructure	1	4	4	6	4	19	6	Medium

With these weighted rankings, mining joins sugar and crops in the high preference zone, replacing housing which slips into the medium zone. Rice and livestock stay in the low preference zone, while interior infrastructure moves up into the medium zone.

When the "new" area is treated as two sectors, the numerical rankings for each criterion have to be readjusted, reflecting the fact that the number of sectors and sub-sectors are reduced from a total of 13 to 10. The results of these readjustments by criterion and in total are shown in the following tables:

For the criteria of employment and income distribution:

Sectors and Sub-sectors	Employment	Rank	Preference Zone
Mining	1,900	7	Low
Sugar	3,000	3	Medium
Rice	0	9	Very Low
Forestry	2,900	4	Medium
Fishing	1,222	8	Low
Health	2,500	5	Medium
Education	2,500	5	Medium
Infrastructure	2,100	6	Low
Agriculture	8,778	1	High
Other	The most	1	High

For the criterion of income generation (capital-output ratio):

Sectors and Sub-sectors	C.O.R.	Rank	Preference Zone
Mining	.38	3	High
Sugar	.47	1	High
Rice	.23	4	Medium
Forestry	.20	5	Medium
Fishing	.26	3	Medium
Health	-	-	-
Education	-	-	-
Infrastructure	.20	5	Medium
Agriculture	.40	2	High
Other	.09	6	Low

For the criterion of managerial difficulties:

Sector or Sub-sector	Rank
Mining	1
Sugar	1
Rice	2
Forestry	3
Fishing	2
Health	3
Education	3
Infrastructure	2
Agriculture	5
Other	5

With regard to managerial difficulties, the new areas of agriculture and "other" are given a ranking of 5 (which compares with an average ranking for this area of 3.4 when the five elements that comprise it are considered individually) because of the increased managerial difficulties that should be encountered when these elements are made to dovetail with each other.

The final calculations, based on these individual calculations, are shown in the following table (with appropriate weights taken into consideration):

	Pri.	Emp.	Inc. Dist.	C.O.R.	Mgt. Diff.	Total	Rank	Preference Zones
Mining	2	3	3	2	2	12	2	High
Sugar	2	2	2	2	2	10	1	High
Rice	2	4	4	4	4	18	5	Low
Forestry	2	2	2	4	6	16	4	Medium
Fishing	2	3	3	4	4	16	4	Medium
Health	3	2	2	-	6	15 +	-	-
Education	3	2	2	-	6	15 +	-	-
Infrastructure	2	3	3	4	4	16	4	Medium
Agriculture	1	1	1	2	10	15	3	Medium
Other	1	1	1	6	10	19	6	Low