

THE GOVERNMENT OF THE DEMOCRATIC REPUBLIC OF SUDAN  
FOOD FOR DEVELOPMENT PROGRAM  
PL480 TITLE III - FY1979 TO FY1983

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FOOD FOR DEVELOPMENT PROGRAM  
PL 480, TITLE III  
FY 1979 to FY 1983

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Supplement to Proposal - In response to AID/W Queries

## Definitions and Terms

1. Land Unit                    1 feddan = 1.038 acre
2. Sudan Fiscal Year        July 1 to June 30
3. Sudanese Currency        1 pound (LS) = 100 piasters (p.t.) =  
   1,000 milliems  
  
June 7, 1978 - 1 LS = U.S. \$2.50  
June 8, 1978 - 1 LS = U.S. \$2.01

## SUMMARY

The Democratic Republic of the Sudan (GOS) is facing severe financial difficulties. The balance of payments position has been gravely strained by large international debts. Domestic wheat demand is growing faster than the food supply; the import gap promises to expand every year. The projected grain deficit is approximately the same size as the annual amount of marketed domestic wheat. A multi-year PL 480 program, by complementing the IMF's Stabilization Program, will help the economy and its people through this difficult period.

A Title III Food For Development (FFD) program will assist the Sudan in three ways:

Hard currency that would otherwise have to be borrowed to finance commercial wheat imports can be invested in export earning or import substitution projects. This FFD program will provide the country with approximately \$100 million over a five-year period: FY1979-1983.

The PL 480 wheat and wheat flour will partially fill Sudan's food grain gap, giving the agricultural sector time to increase production through improved yields. The importation of wheat flour will help alleviate the demand for power during periods of peak use when local mills would otherwise have to reduce flour output. By not having to expend hard currency on the purchase or production of wheat, the Sudan can concentrate on the production of export, foreign exchange earning, crops.

Finally, and most importantly, local currency will be generated by the wheat sales and disbursed from a special account for agreed-upon development activities. These expenditures will be written off against the PL 480 credit under a grant-back arrangement. One hundred million dollars in local currency equivalent will be used to cover local costs of ongoing and new development projects that otherwise would suffer delays and setbacks from an austere budget. With the Title III program, the rural poor would be less adversely affected by the Stabilization Program. Title III projects will directly and indirectly increase the traditional farmer's income and generally improve the standards of living of the poorest of the poor.

## I. Introduction

### A. Development Horizon

The Sudanese economy is facing severe financial and developmental constraints which are forcing changes in the country's agricultural and trade positions. These immediate difficulties, important in their own right, also provide the opportunity to consider and redirect the economy so that it more efficiently utilizes its vast natural endowment and incorporates the poorer groups of people and agronomic zones in the development process.

Until recently development meant irrigation of cotton and wheat and adding to industry and the infrastructure. Little attention was paid to the poorly educated and under-utilized energies of millions of men and women. Another generation of children should not go unschooled. National economic integration is seen as being of central economic importance.

The country has arable land on a grand scale (200 million feddans) and it has only begun to be developed. Only 26 million feddans of a potential total of 85 million are being cultivated in crops. Two to three million feddans are under irrigated cultivation; the potential is nine million feddans. The 13 million feddans presently under rain-fed cultivation could be expanded to more than sixty million feddans. Much of the remaining arable land could be better utilized by herders with programs to improve livestock quality and to control desert encroachment. The horizon is vast, but much has yet to be learned about effective relationships of man to the land.

So while the economy's present difficulties are described in some length here, and a PL 480 Title III program is proposed to contribute to the alleviation of resource deficits, this development program by emphasizing traditional agriculture, the West and the South, and development planning, seeks to encourage a longer term, more equitable, ecologically stable development process.

### B. The Sudanese Poor

Sudan's poor majority reflects the diversity of conditions in this, the largest country in Africa. The traditional farmers and nomadic groups, accounting for well over half the total population, are the poorest in society. Traditional farmers are thinly dispersed over a vast geographic area with minimal access to any but local markets and the lowest kind of health or educational services, if any at all. Migrant agricultural workers, another group, are attracted to massive irrigation schemes by somewhat higher incomes and are consequently drawn away from traditional farming. Next, and probably higher on the income scale, come the urban unskilled workers whose wages tend to be

higher than rural daily wages and who, in general, have better access to government-provided services.

Finally come the relatively well-off tenant farmers who cultivate the country's two to three million irrigated acres and have access to education and medical services. Most of these tenants (about 200,000 of them) hire one million or so migrant workers each year for much of their labor needs on the large irrigation schemes bounded by the Blue and White Niles south of Khartoum. Female participation in the labor force is significant for the portage of water and fuel and in the rural market place. While husbands are away as seasonal migrants, running the family and the farm becomes their full responsibility.

It is estimated that the top 10% of households account for about a third of total income earned, in contrast to just 3% for the bottom decile, and only one-third for the entire bottom 50% of households. Average incomes in rural areas, approximately one-third those of urban dwellers, are well below the average per capita income of \$290.

Like most less-developed countries, Sudan has a large poor majority because the country's people and resources, spread over a vast area, are only now being integrated and developed. Sudan's substantial size with its sparse population, many living in remote areas, makes communication with many areas an exceedingly high cost item that also acts as an important constraint to rapid improvement, as does ethnic diversity. There is no all-weather road network (and therefore none during the rainy season or up to a third of the year) for most of the country.

The West (North and South Kordofan, North and South Darfur) and particularly the six provinces in the South, support much of the poorest of the population. Average incomes in these provinces may be only two-thirds that of the rural areas as a whole and one-fourth that of urban areas. The North and East enroll about three times the proportion of children in schools as the West, and the southern provinces only about one-sixth as many as the entire country. Female enrollments lag substantially behind those of male.

Sudan's modern economic development began in the latter part of the nineteenth century. Some fifty to eighty years ago the British constructed a port and the railway. In the 1920's they also developed the huge Gezira irrigation scheme. Together these investments provided the impetus to Sudan's development, but also charted a capital-intensive course which has left many people behind.

Equity is clearly the central focus of development plans. For Sudan it must have a multiple meaning: equity of access to public programs and services, and via transportation to the market, domestic and

international; and equity in the sense of sustainable crop systems, for it makes little sense to promote arid land cultivation and livestock strategies if the desert is also a consumer of arable resources.

Much can be done to strengthen effective programs in the West and South for poor groups in society. Infrastructure is vital for any strategy, but much needs to be learned about new forms of land use, marketing opportunities and integration. The future well-being of Sudan's poor lies in these yet inadequately charted directions. The purpose of the U.S. development program is to contribute to this undertaking and to promote broadly-shared development.

### C. Summary of Development Constraints

The constraints to the country's growth are briefly described here and then are discussed and illustrated at length in succeeding sections.

#### 1. Food Deficits and Deficiencies

Sudan produces half of its current wheat needs. A recent poor crop, increased consumer demand, and the lack of foreign exchange have caused a tight period to become more difficult and casts doubt on the country's ability to feed itself. The food problem also has to be seen more broadly in terms of what grains are consumed at what social cost and by whom, and in terms of the potential regional distribution of agricultural productivity.

#### 2. Balance of Payments

Foreign exchange constraints are cited by government officials and business leaders as the major factor preventing the economy from operating at full capacity. The effects pervade the economy, ranging from cutbacks in rural support activities, such as water services, to an industrial sector which operates at no more than 40 percent of capacity.

#### 3. Development Financing

The government's Stabilization Program has cut and curtailed ongoing and proposed development projects. Some activities have been reduced to caretaker status. Outreach programs to the rural population engaged in traditional agriculture are likely to suffer the most.

### D. Advantages of Title III

A multi-year PL 480 Title III program is an important form of assistance which can be well utilized by the GOS. It would address

major economic and physical constraints that not only thwart future development programs, but severely compromise the government's ability to provide required services to its rural (quasi-modern and traditional) sector. USAID and GOS officials have designed a multi-year program that is consistent with the spirit of the new PL 480 legislation.

A guaranteed source of food supply to reduce the wheat gap over the next five years will considerably relieve the pressure to follow a self-sufficient strategy in wheat. The Mission's projections are consonant with those of the World Bank under a Stabilization package which suggests that irrigated wheat acreage will at best be roughly stabilized at current levels. However, total wheat production levels are expected to increase through yield increases as indicated in the table on page 11. Even with these increases, the wheat shortfall is expected to increase drastically if other steps are not taken to constrain the growing consumer demand. A multi-year wheat import program is also intended to reduce the government's allocation of foreign exchange for food imports and to provide local currency support to maintain and expand GOS outreach services and developmental programs.

Poor planning over the past ten years has allowed new program activities to be emphasized at the expense of maintenance of ongoing ones. Thus, the operational infrastructure of both the GOS and the economy as a whole is worn out and in need of massive rehabilitation. The Title III Development Program is designed to contribute to solutions of these problems at the same time as priority is sustained if not increased for poor people in poor regions of the country.

In summary then, Title III has important advantages over Title I for the Sudanese people. A multi-year food commitment allows time for the GOS to reorder its agricultural and export priorities; it provides both the foreign exchange relief (including the possible forgiveness of Title I debt) and local currency resources to help implement objectives. Title III enables the GOS to direct attention and resources to research, planning and field programs needed to improve the agricultural productivity and public services for poorer groups in society.

## II. Sudan's Food Requirements

The country's food requirements are largely defined by its urban and modern agricultural sectors. While sorghum and other coarse grains have been staples for generations, cotton and wheat have been the principal products of the country's massive irrigation projects. With rapid urbanization and the need for a more convenient form of bread products, wheat flour has grown in importance. Wheat consumption has grown by 10% in the last few years, when the population growth rate was 2.4% and the urbanization rate 7%.

next p. 2 - see p. 2

In this section of the paper grain production, consumption needs, and the urban food system are described together with an analysis of the imported wheat requirement and related food and agricultural issues.

## A. The Domestic Food Grain System

### 1. Description of National Food Production Patterns

The three principal food grains grown in the Sudan are sorghum, millet, and wheat. Sorghum is the country's most important cereal (see the following table). It is grown in all provinces, but most of the output comes from the Blue Nile, Kassala, South and North Kordofan. Approximately 10 percent of the area cultivated is under irrigation and is found in the Gezira Scheme.

Millet is produced mainly under rainfed traditional conditions in the western provinces of Sudan. As in the case of sorghum, millet yields are low by world standards and, in recent years, have declined. The IBRD in its agricultural sector assessment concluded that "given the government's determination to assist traditional farmers and the number of projects being implemented in the millet growing area, it appears reasonable to assume...millet yield (will) stop declining and start a slow upward trend." The expected increase in yield is 15 percent, from 170 to 185 kilograms per acre.

Wheat is cultivated in the Sudan only under irrigation and has grown from less than 100,000 metric tons in 1968 to over 300,000 metric tons in 1978. The main areas of production are in the Gezira, Kassala and Northern Provinces.

Food Grain Production, 1973/74 - 1978/79  
1,000 Metric Tons

Grain	73/74	74/75	75/76	76/77	77/78	78/79 (prelim.)
Sorghum	1,638	1,744	2,026	1,900	2,046	2,128
Millet	281	444	403	468	469	464
Wheat	235	269	264	298	303	175
TOTAL	2,154	2,457	2,693	2,666	2,818	2,767

Generally it is agreed that the major potential for increased sorghum production will come from the mechanized rainfed sector. The need for consolidation and improved rotations, however, indicates that expansion of acreage will be slower than envisaged in the Six-Year Plan and increasing home demand for livestock feed as well as human consumption will leave only a modest surplus.

The Sudan produces approximately 57 percent of the wheat consumed annually. Wheat acreage for the 1978/79 crop year, 560,000 feddans, covers the apparent limit of irrigated land for this crop. It is not likely to produce more than last year's crop and may, in fact, yield much less. Flooding in the major producing areas and delays in applying adequate fertilizer dosages (in part for lack of foreign exchange) point to a possible reduction in the April 1979 harvest. More is said of how wheat and sorghum yields and production can be increased in Attachment A.

The potential for only limited grain surpluses has led the World Bank to conclude that the Sudan would be wiser to produce other export foodcrops for the Middle East markets, rather than "aspire to becoming the bread basket for its Arab neighbors." This view is considered further in the following analysis of wheat production and consumption in the Sudan.

When grain exports (sorghum and millet), animal feed and seed are subtracted from total production and imports are added in, the amount of food available and per capita consumption are estimated as follows:

Net Food Grain Available, 1973/74 - 1976/77  
(000 Metric Tons)

Description	73/74	74/75	75/76	76/77
Total Production <sup>1/</sup>	2,154	2,457	2,693	2,666
Feed, Seed & Waste <sup>2/</sup>	(194)	(216)	(236)	(218)
Exports <sup>3/</sup>	(110)	( 83)	( 41)	(135)
Imports <sup>4/</sup>	<u>194</u>	<u>120</u>	<u>138</u>	<u>210</u>
Sub-Total	2,044	2,278	2,554	2,523
Population (000)	14,855	15,226	15,607	15,997
Consumption <sup>5/</sup>	<u>138</u>	<u>150</u>	<u>164</u>	<u>158</u>

<sup>1/</sup> From Table - Food Grain Production

<sup>2/</sup> MAFNR<sup>1/</sup> figures for sorghum, millet, and wheat

<sup>3/</sup> MAFNR and Bank of Sudan foreign trade statistics - sorghum exports: 135,000 mt in FY77 and 260,000 mt in FY78

<sup>4/</sup> Wheat and wheat flour (grain equivalent)

<sup>5/</sup> Kilograms per capita

<sup>1/</sup> Ministry of Agriculture, Food and Natural Resources

The Ministry of National Planning (MNP) reports that the average daily intake per person in 1975 was 2,217 calories, 66 gms of protein and 53 gms fat. Cereals accounted for 55 percent of total caloric intake with sorghum contributing the largest share (35%). Cereals also provide 60 percent of total protein supply. The difficulty with these estimates is the variability between regions, income levels, and age groups. While the total food supply appears adequate, the problem of localized food shortages is common. These and other problems of poor food distribution are discussed later.

## 2. The Urban Food System

Wheat has rapidly become the food of the modern sector and therefore the food problem, seen from an urban point of view, is largely one of wheat supply and price. The urban population has grown at approximately seven percent per year. Rural to urban migration, higher per capita income levels, and consumer preference have raised the sales of wheat bread by an average of eight percent per year. The fact that wheat production and milling occurs nearer to the urban centers than does the production of coarse grain probably influences this trend, as well. Furthermore, the urban consumer benefits from a wheat subsidy (described below); consequently, wheat bread is cheaper than kisra (bread from sorghum), and it is also much easier to prepare and store or preserve. The GOS has also given priority to rail shipments of both domestic and imported wheat to urban centers.

Tenant farmers and migrant workers in the modern irrigated sector also consume wheat. On-farm consumption of wheat, excluding seed, has been estimated at 20 to 30 percent of production. This occurs in spite of the fact that tenant farmers on public schemes are allowed to produce sorghum. There appears to be a growing preference for wheat bread throughout the Sudan.

Consistent with the trend in northern towns, a 1976/77 household consumer survey of the six southern provinces states that "in the towns dura (sorghum) loses much of its importance and tends to be replaced by wheat flour and therefore bread....Finally, imitating the European pattern, even pasta and biscuits make their appearance."<sup>1/</sup>

Most of the domestic wheat produced is bought by the Gezira Board and boards of other irrigated schemes from farmers for LS 75 (approximately \$150) per metric ton and is sold by these boards to millers at LS 55 per metric ton. (The official LS 75 price was recently increased to LS 85.) The millers in turn sell to bakeries at LS 75 per metric ton. The government absorbs the price difference of LS 20 per ton and distribution and storage costs.

<sup>1/</sup> MEFIT Consulting Engineers, Regional Plan Vol. 3, Patterns of Consumption. Phase II, 1978.

Imported wheat, both commercial and concessional, is also sold to the mills at LS 55 per metric ton and flour is again sold to bakeries at LS 75 per ton. However, the imported grain delivered to Khartoum costs approximately LS 100 (\$201) per metric ton and so the total cost to the government is much higher for wheat imported commercially than for domestic grain. (See Attachment B for a discussion of wheat production and distribution costs.)

The mills, mostly publicly operated, sell flour to private bakeries. They in turn sell bread at a controlled unit price of four U.S. cents (two piasters) for a 200 gram loaf. (No other food commodities are subsidized.) While tenants are expected to sell all their marketed wheat to the Boards and bakeries are expected to observe the official bread price, a parallel market does exist and the official bread price is seldom observed as the size of the loaf is varied.

Wheat bread was first purchased primarily by the middle and upper income urban population, but its popularity has rapidly spread to formerly sorghum and cassava consuming urban centers, even in the South.

#### - Equivalency and Price Subsidy in the Urban Food System

Under Title III, it is required that the local currency allocated to the Title III Program be equal in value to the food commodities shipped under the Title III agreement.

We can use the present FY 79 PL 480 agreement and Sudanese prices to illustrate this point. At present, we plan to ship the remaining \$11 million worth of commodities under Title III to finance development projects. Therefore, these projects must be equivalent in value to \$11 million. However, U.S. wheat is sold at a stabilized price, in which case the government must allocate its own funds to make up for the subsidy.

Wheat delivered to the mills is sold at LS 44 (or \$111) per ton. The wheat purchased f.o.b. U.S. under the FY 79 PL 480 agreement cost \$144 per ton. In order for the agreement to allocate the full equivalent value of U.S. commodities to the Title III Development Program, the government will have to commit an additional local currency equivalent of \$2.53 million to the \$8.47 million generated by sales to the mills. The total is \$11.0 million. Should the government increase the mill price from LS 55 to LS 72 per ton, or 31%, the subsidy would be eliminated. (This increase does not, however, allow the government to recover costs for distribution and storage.)

### 3. Food Programs for the Chronically Malnourished

Based on aggregates such as food grain availabilities, Sudan's population would appear to be reasonably well fed, with an average per capita intake of 2,200 calories (1974/75) and a projected increase to 2,700 calories by 1985. However, the public food system does not provide any direct non-market means for ensuring that the poorest people are able to obtain food. And, as mentioned earlier, the lack of purchasing power, poor productivity of the land, and a weak transport and marketing system can cause an otherwise adequate looking set of food statistics to disguise serious distributive problems. Much of the malnutrition in rural areas is a reflection of poverty and income disparities, seasonal inefficiencies or low levels of food production in many traditional farming areas, and to the lack of an effective food distribution system.

A few voluntary agencies and the World Food Program have MCH, school and other types of supplemental feeding programs in poorer regions of the country. The longer-term solution to malnutrition depends on the broadly-based development strategy now being pursued by the government provided nutrition objectives are integrated into agricultural planning and programs.

#### B. Food Grain Import Requirements

Sudan's food import needs are based largely on the deficit between domestic wheat production and consumption. Past trends do not show a sharp upward turn until FY78-FY79.

	Total Wheat Imports in FY74 - FY79 <sup>1/</sup>					
	(000 Metric Tons)					
	FY 74	FY 75	FY 76	FY 77	FY 78	FY 79 (Est.)
Commercial	174	100	138	165	95	264
Concessional	20	20	--	46	110	140
(PL 480)	(20)	--	--	(46)	(100)	(140)
Total	194	120	138	211	205	404

<sup>1/</sup> Fiscal Years (FY) for GOS, July 1 to June 30.

Future shortfalls are estimated in the following table. When reviewing this second table it should be noted that it encompasses wheat handled both by the public sector as well as the market. For

the purpose of this projection we have netted out annual variations in stock levels.

The importation of wheat flour will help alleviate the demand for power during periods of peak use when local mills would otherwise have to reduce flour output. By not having to expend hard currency on the purchase or production of wheat, the Sudan can concentrate on the production of export, foreign exchange earning, crops.

Projected Wheat Shortfall  
000 MT

Description	FY79	FY80	FY81	FY82	FY83
Flour Consumption <sup>1/</sup> (kg. per capita) <sup>2/</sup>	444 (25.8)	491 (28.5)	530 (30.0)	573 (31.7)	619 (33.4)
Wheat Equivalent <sup>3/</sup>	<u>516</u>	<u>517</u>	<u>616</u>	<u>666</u>	<u>720</u>
Domestic Production <sup>4/</sup>	175 <sup>6/</sup>	322	338	358	375
Seed and Waste <sup>5/</sup>	63	97	102	107	113
Marketable Surplus (via public & market)	<u>112</u>	<u>225</u>	<u>236</u>	<u>251</u>	<u>262</u>
Shortfall (2-5)	404	346	380	415	458
Title I	64				
Title III	76	158	144	130	66

1/ F.A.O. Sudan Food and Nutrition Study. Rome, 1976, Min. of National Planning and Min. of Commerce and Supply.

2/ Based on total population (Base year 1970/71, 13.795 million and 2.5 percent annual growth rate).

3/ Wheat to flour conversion equals 1:0.86.

4/ Department of Agric. Econ. and Agric. Statistics, MAFNR.

5/ Seed equals 50 kg/feddan. Waste equals 5 percent of total supply.

6/ Floods at planting time (1978), insufficient fertilizer, and a short winter caused a sharp decrease in the 1979 harvest.

The projected shortfall in the above table decreases 14% from FY 79 to FY 80 but thereafter the annual percent increase is around 10%. Title III will help to fill a proportion of this deficit (compare line 7 with line 6 of the above table).

Although the relative shares of foodstuffs and food grain in the import bill have declined between FY74 and FY77 from 41 to 20 percent, the renewed emphasis on cotton may cause dependence upon wheat imports to grow rapidly. Whether wheat shortfalls are as large as projected depends upon the success in increasing wheat yields, whether consumer wheat prices are increased, and whether a wheat-sorghum blend bread can be used - these issues are discussed later in this paper.

### III. Financial Constraints to Development

In this section, as in the previous one, we explain the origins of the current difficulties. The present financial crisis has its roots in previous development plans, in both their failures and their successes. This section is concluded with a discussion of the GOS/IMF Stabilization Program that was made necessary by the financial constraints and the contributing role that Title III can play in this Program.

#### A. The Five-Year Plan

The Five-Year Plan aimed at increasing foreign exchange earnings and reducing imports through diversification and import substitution. During that period severe bottlenecks resulted because of a shift in priorities from agriculture and irrigation to infrastructure development - the modern irrigated sector being completed well before the start of the plan. Other project investment decisions and inflation led to a development budget increase of 16 percent to LS 250 M, with half of that being expended only during the last year of the plan in FY 75. The Interim Action Program extended the F.Y.P. two years to FY 77, with the development expenditure over the total 1970/77 period totaling approximately LS 666 million. During this period a four to five percent real annual growth in the GNP was achieved.

Investment in modern agriculture amounted to approximately LS 146 M, representing 70 percent of the sector's 25 percent allocation of the total development budget. Performance in agriculture was variable. Mechanized farms increased in size by 2.9 million feddans and the irrigated acreage increased by approximately 300 thousand feddans. While total acreage increased considerably, yields remained either unchanged or declined; overall production increases were a function of the increased area cultivated.

In analyzing GOS annual development budgets, it is clear that FY 74 marked a period beyond which development efforts were very greatly accelerated. Balance of payments pressures began with the Interim Action Program, in FY 76 - FY 77, and intensified as the GOS launched its Six-Year Plan (S.Y.P.) in 1977.

B. The Six Year Development Plan FY 78 - FY 83

General development goals of the plan included:

- An increased growth rate of GDP to an average of 7.5 percent p.a. and of the agricultural sector to 6.5 percent p.a.;
- A gradual reduction of the inter-regional and urban/rural income disparities;
- Self-sufficiency in basic food commodities, with substitution, to the extent possible, of imported food commodities with national products;
- A large and diversified set of exports of agricultural products; and
- Production of additional agricultural raw materials for in-country industrial processing.

Within the plan, the agricultural strategy placed emphasis on (a) vertical (yield) improvements on irrigated land, (b) an expansion and modernization of traditional crops and livestock, (c) an expansion of export crops and import substitution with domestic foods, and (d) the establishment and upgrading of marketing infrastructure.

Review of the S.Y.P. development budget and food strategy document reveals an inconsistency in GOS policy goals and actual budgetary priorities. Under the S.Y.P. 63% of the proposed allocations were intended for new projects, 22% for projects under implementation, and only 15% for existing projects, but up to 70% of the planned allocation went to existing projects. Furthermore, despite the aim to improve regional equity, 85% of public crop development projects proposed were located in the northeast and only eight percent allocated for the western savannah and seven percent for the South.

The exploitation of Sudan's agricultural resource base is to a large extent its Achilles heel. Both the previous Five-Year Plan and the ambitious Six-Year Plan created medium term balance of payments deficits, partly because of ill-planned efforts to exploit the nation's agricultural potential too quickly. These well-intentioned efforts have been and continue to be severely constrained by the failings of vital services of communications, transport and power which were never designed to accommodate the volume of demand existing today. For example, the only supply line from Port Sudan on the Red Sea, a single rail, is the best maintained segment in the country yet is subject to

extensive washouts during the rainy season. The lack of transport and communications continues to subvert the best efforts of both government and private enterprise to produce or provide required services. Industrial operations are limited to between 30 and 40 percent of capacity due to lack of spares, replacement capital, equipment, and raw materials from the agricultural sector. Severe power fluctuations and outages also contribute to poor industrial performance and add to normal requirements for spare parts and maintenance. Deteriorating supportive infrastructure in Sudan has affected all members of society. Efforts to move the rural/traditional population up the economic ladder by bringing about increasing production with more equitable distribution of the proceeds will require considerable improvement.

The difficulties have fallen disproportionately on the southern, poorer, part of the country. Although a Special Regional Development Budget has been established for the Southern Region, allocations and disbursement are low. In FY 75 the allocation was LS 7.1 million (\$16.7 million); in FY 76, LS 7.2 million. Yet in FY 75 only 23% of the allocation to the south was disbursed.

#### C. Balance of Payments Crisis

Over the past few years, Sudan has received substantial amounts of external resources in the form of grants and long term concessional loans. Over this same period of time the portion of these external resources which could be classified as balance of payments support has declined as donors have increasingly tied the foreign exchange they have provided to the importation of specific commodities for projects. While the donor-assisted projects have provided the direct foreign exchange associated with their implementation, little, if any, allowance has been made for their indirect local and foreign exchange requirements. An example is specific site development: the foreign exchange and local currency costs of delivering required services, power, water, communications and roads, to a development site are often overlooked or are assumed to be a GOS development responsibility.

Recurrent costs are another example. Donors have provided capital equipment, infrastructure, and human resource development without making allowance for depreciation, operation, maintenance and repair costs.

The projects themselves do not usually have sufficient returns because of their long gestation periods. As a result, the foreign exchange burden associated with Sudan's ongoing development efforts has fallen upon Sudan's traditional exports and borrowing. Between 1973 and 1977 their value increased only 51 percent, while imports rose by 148 percent. Exports rose only marginally during the past year and a downturn in 1979 is probable because industry continues to produce far below capacity.

There can be little doubt of the serious and critical nature of the present crisis. Foreign exchange reserves are exhausted (in fact, negative) and about one billion dollars in public and private external obligations are overdue. The U.S. Ex-Im Bank has suspended the issuance of commercial credits to Sudan (despite GOS efforts to meet current Ex-Im obligations) and major international commercial banks are not honoring letters of credit drawn on either the Bank of Sudan or Sudanese commercial banks. Public external debt has risen dramatically from a total of \$340 million (disbursed and undisbursed) at the end of 1970 to a total of \$1,577 million at the end of 1975. Available estimates of borrowings by the Bank of Sudan, private institutions, commodity loans, and suppliers' credits to public enterprises indicate total balances outstanding in August 1978 could exceed \$2.5 billion. Now that the country's foreign exchange controls are coordinated and tightened, this "arrears-led" crisis should not occur again.

The table on page 16 summarizes the movements of the principal components of Sudan's balance of payments from FY 75 to FY 79. The recent IMF arrears estimates indicate the projection for 1978/79 was overly optimistic; the amounts as described above are much larger than originally estimated. Cotton production and earnings have not grown dramatically in recent years, but their earnings haven't declined as have yields. Unlike the balance of payments crisis of many of its neighbors on the continent of Africa, Sudan's difficulties do not stem from excessive imports of consumer goods. According to the 1977 Annual Foreign Trade and Statistical Reports, imports of the major consumer staples such as foods and textiles accounted for less than 20 percent of total imports in 1976/77, down from 1972 when they accounted for 38.4 percent of the import bill. While Sudan plans to reduce the relative share of consumer imports over the period of its Six-Year Plan, this is unlikely to save the current crisis.

In summary, the major source of the difficulty lies in Sudan's efforts to accelerate its rate of economic development by uncontrolled reliance on imports when the amount and composition of its external assistance has not kept pace with the recurrent local currency and foreign exchange implications of their project-related assistance. The immediate but unfulfilled need for local currency and foreign exchange, the burden of projects which had not been brought to completion, coupled with a decline in the volume of assistance for general balance of payments support, precipitated the current balance of payments crisis.

Principal Items in Sudan's Balance of Payments  
(In millions of U.S. Dollars)

	FY 1974/75	FY 1975/76	FY 1976/77	FY <sup>1/</sup> 1977/78	FY <sup>2/</sup> 1978/79
1. <u>Current Account</u>	-470.1	-309.0	- 25.3	-308.0	-540.0
Exports	443.9	507.7	665.3	656.0	NA <sup>3/</sup>
Imports	-813.8	-753.8	-641.8	-935.0	NA
Trade Balance	-369.9	-246.1	23.5	-279.0	NA
Services	-100.2	- 62.9	- 48.8	- 29.0	NA
2. Debt Repayments	NA	-112.0	- 65.0	- 90.0	-235.0
3. Accumulation of Arrears (minus - increase)	--	- 5.0	-405.0	-450.0	--
TOTAL (1-3)	--	-426.0	-495.0	-848.0	-775.0
4. Financing	--	426.0	495.0	848.0	775.0
Official Non-Monetary Capital	--	369.0	92.0	287.0	650.0
Counterpart of Arrears	--	5.0	405.0	450.0	--
Monetary Movements	--	96.0	- 2.0	72.0	125.0
Other Capital	--	- 44.0	--	39.0	--

1/ Source: IMF and Bank of Sudan estimates as of June 1978

2/ Projection as of June 1978

3/ NA: Not Available

The GOS sought IMF assistance in early 1978 and the resulting agreement and assistance package caused the S.Y.P. to be truncated for two years while the GOS implements the current Stabilization Program. This Program is still under consideration; the discussion which follows therefore only touches on a few of the general goals and policies that are to be implemented to address the nation's critical economic situation.

#### D. The Stabilization Program

In mid 1978 the GOS initiated discussions with the IMF on an Extended Fund Facility to accompany a Stabilization Program. As part of this reform program, the GOS devalued the Sudanese pound from LS. 2.50 to LS 2.01 to the U.S. dollar in June of 1978. To control the inflation rate of 25% a year, public spending is to be reduced and investments are to be directed to those projects that make the most productive uses of existing resources. The broad goals of the Program are as follows:

- existing project starts would receive priority to bring them to a productive phase, thus contributing to either export earnings or import savings;
- organizational changes will be made in the agricultural sector to increase the incentives of individual farmers;
- emphasis is to be directed to improving the provision of energy and transport which are the arteries upon which increased agricultural surpluses are generated and marketed; and
- fiscal controls will be tightened so severely that increased real allocations for development will be precluded during the current period (FY 79 - FY 80).

Sudan's Stabilization Program appears to follow in part priorities suggested by the IBRD in its agricultural sector review. Of the planned LS 202 million development budget for FY 80, agriculture is the priority sector to which 25 percent will be allocated. However, the extent to which the GOS will shift emphasis within this allocation away from the east-central region to outlying regions will place emphasis on harnessing the initiative of small-scale entrepreneurs and will encourage development schemes in the traditional sector. Tight budgetary constraints have forced some government programs to shift from operational to caretaker status. While the GOS is concerned with reaching its rural constituents, it is almost certain that resumption of some old and initiation of new efforts directed to the traditional sector during the next two-year period will depend on external financing.

Because the Government's Stabilization Program is still evolving, the extent to which Arab and other governments and institutions will provide balance of payments support during the next few years is yet to be announced. It is unlikely that sufficient support will be forthcoming, given the magnitude of Sudan's deficit. Therefore, the Sudan will need additional resources to those agreed to as part of the IMF package. (The Extended Fund Facility will provide \$260 million over three years.)

#### - Related Food and Agricultural Policy Changes

In order to implement the basic policy guidelines established with the IMF, senior officials of both Ministry of National Planning and Ministry of Agriculture, Food and Natural Resources plan to concentrate resources on yield-increasing techniques to attain increased production, thus deferring increases in cropped acreage. Unofficially, self sufficiency for some staple crops will be deferred.

Price changes on water and other inputs will place most irrigated crops on an equal footing with cotton. Most input subsidies will be reduced or removed. While the actual pricing structure is yet to be developed, all irrigated crops with the exception of dura (sorghum) will be subject to water and land use charges. This should bring about a more equitable allocation of these production resources through the market mechanism. The pricing changes will be implemented during the 1979/80 crop year. The extent to which the proposed pricing changes will significantly reallocate irrigated production resources to cotton and other export oriented crops remains to be seen. The devalued Sudanese pound and international inflation during the past year have increased the attractiveness of producing such import crops as wheat for domestic consumption.

The pricing policies on both the production and consumption sides of the wheat market clearly are in need of review. While available information is not complete, the table on page 53 in Attachment B indicates in net terms that the producer price for the 78/79 wheat crop is only 79% of import parity. Under the Stabilization Program it is expected that the government will offer higher prices to wheat farmers. It would also be sound economic judgement if the GOS would reduce the grain subsidy to the millers (see fig. 2).

#### - Title III: Contribution to the Stabilization Program

A Title III Food for Development (FFD) program will assist the Sudan in three ways:

Hard currency that would otherwise have to be borrowed to finance commercial wheat imports can be invested in export earning or import

substitution projects. This FFD program will provide the country with approximately 100 million dollars over the five-year FY 79 - FY 83 period.

The PL 480 wheat and wheat flour will partially fill Sudan's food grain gap, giving the agricultural sector time to increase cotton and wheat production through improved yields.

Finally, local currency generated by the wheat sales will be used to cover local costs of ongoing and new development projects that otherwise would suffer delays and setbacks from an austere budget. Without the Title III program, the rural poor would be considerably more adversely affected by the Stabilization Program.

Title III will also contribute in a minor way to an important food and agricultural issue: the blending of wheat and sorghum flour for the urban bread consumer. Title III local currencies in the amount of \$800,000 will complement the sorghum blending subproject under the Agricultural Sector Support Project (see page 34). Once more is known about blending, the GOS may require additional assistance to implement what could become a major component of a national food self-sufficiency strategy.

#### E. The Recurring Cost Burden -- and Title III Additionality

The government's developmental and financial difficulties reviewed in the preceding paragraphs reflect problems of project implementation. For the lack of staff, facilities, and transportation, few development projects are being completed at designed levels of productivity or social benefit. These constraints have been compounded by increased donor interest in and assistance for targeted projects as compared with their earlier support for modern capital-intensive projects. The government has not been able to mobilize sufficient domestic revenue and strengthen staff to support the growing operating expense burden of existing and ongoing projects. Cuts in developmental targets and resource allocations have fallen disproportionately on the traditional sector, on the West and the South, in short, on the poorer groups in society.

As the developmental emphasis has broadened to include other sectors, donors have been unwilling to finance governmental overhead costs. As a result, the staff, buildings, and vehicles needed to support donor-financed projects are often under-financed and occasionally absent. Projects that are otherwise well designed and supplied with imported components often cannot be implemented or operated as planned.

Under these circumstances, the distinction blurs between recurring costs and "developmental" costs, between administrative staff and developmental officers, between physical infrastructure and fuel needed to run a government and the same overhead needed to construct a project. The latter -- developmental -- forms of government activity cannot assume that the former are in place. If the staff is not paid and vehicles do not have fuel, the projected benefits of additional projects will be non-existent.

Furthermore, to insist upon wholly new activities, in the face of numerous incompleting and poorly maintained programs, compounds the recurring cost burden without helping to solve it. Support for ongoing development programs, in sectors which meet AID criteria, therefore contribute to development. These activities are already designed and have been evaluated for their contribution to equitable growth. The availability of foreign technical assistance and voluntary agencies also makes it possible to be confident our assistance will be well spent. The government has selected these projects because the absence of local currency is the principal constraint. Other components such as project design, technical assistance and materials are currently available or are not foreseen as slowing the project. The completion of some ongoing projects will allow pay-off by the projects to occur where otherwise they would remain half finished, waiting until some future date when they can be completed. By providing this form of project assistance we also hope to encourage other donors to view development broadly and more responsibly. In the absence of Title III support, the projects proposed in this program would not be financed by the government in the near term, nor does this assistance displace or fulfill the planned contributions of other donors. <sup>1/</sup>

The mission has designed two projects which integrate dollar and PL 480 resources. The dollar sector grants for agriculture and health require Title III local currency funds to cover operational costs for implementation. Should Title III resources not be available for these dollar financed projects, additional dollar funds would have to be authorized or the dollar projects curtailed.

We recognize that the Sudan's recurring cost burden is partially of its own creation; the GOS must make greater efforts to mobilize domestic resources to strengthen its capacity to implement its development program. The Stabilization Program is a major step in this direction. The Title III program also contributes to this objective by requiring that this Development Program be equal in value to the

<sup>1/</sup> For a fuller discussion of this sector modality issue see Annex B of the Mission's Agricultural Sector Support PID, December 22, 1978.

U.S. food commodities imported under this agreement. In the absence of this requirement, Title III resources would subsidize the government's urban food program. With it, public and private resources are mobilized for high priority development projects. We cannot make the case for a broader form of U.S. developmental support in the absence of a similar GOS commitment. At the mid point in this Program the Mission may wish to assess the government's contribution to each project and its ability to sustain all recurring costs.

#### IV. Sudan's Title III Program

The Government of the Democratic Republic of the Sudan requested the approval of U.S. Concessional wheat sales in the amount of 200,000 MT in October of 1978. The sale was concluded under a PL 480 Food For Peace Agreement for FY 79 similar to previous years' agreements.

At that time, USAID/Khartoum recommended that the GOS consider utilizing a new provision of PL 480 called Title III Food For Development. The Minister of National Planning has accepted the idea and is proceeding with the preparation of a multi-year Title III Food For Development Agreement. Officials in the Ministry of National Planning (MNP) have identified seven development activities that are being delayed due to lack of local currency. These project activities meet our requirement that they address the developmental needs of the poorer groups of people in Sudanese society.

##### A. Title III Commodities To Help Meet a Food Need

The commodities required under the Title III program are presented in the following table. This multi-year food grain need, in amounts and terms provided, is explained and justified in previous sections of this paper. In brief, these grains support the government's food, foreign exchange and local currency requirements during a transitional period in the economy when undue hardships would otherwise be borne by the Sudanese people. At the broadest level of generality the goal of Title III is to help the government become food self-reliant and possibly self-sufficient in a manner that ensures equity growth for all its people.

Title III Commodity Schedule for Wheat - FY 79-FY 83

	FY 79	FY 80	FY 81	FY 82	FY 83	Total
Dollar Value (M.I.)	11	25	25	25	14	100
Tonnage	76,000	158,000	144,000	130,000	66,000	574,000
(\$/MT @ 10%/yr)	(144)	158	174	192	211	

## B. Title III Local Currencies For the Development Program

The amount of local currency equivalent in value to the Title III wheat shall be programmed for agreed-upon development projects. The general justification for and beneficiaries of these projects have been described in earlier sections; specific statements are included with each project described below.

## C. Title III Beneficiaries

In addition to specific beneficiaries described under each project, these seven projects will provide three additional kinds of benefits needed to implement equitable growth objectives.

First, the emphasis upon the traditional agricultural sector directs resources to groups of people clearly poorer than those on modern, irrigated land. These projects will enhance labor and land productivity and income in the West and South. A larger, longer term pay off to agriculture and to tapping Sudan's vast but undeveloped arable land lies in these directions.

Second, transportation is so poorly developed that it explains slow, and certainly inequitable, growth in the economy. With an area equal to the United States east of the Mississippi, the very poor quality of the existing primary and secondary transport infrastructure (the little that exists) is a major factor contributing to regional isolation and inequities, particularly in the South and West where six to seven million of the country's 16 million people live. Public investments are poorly maintained and commercial markets are underdeveloped and weakly integrated as a consequence. Until national integration is an economic as well as a political reality it will be difficult for public and private investments to enhance access to employment and services.

While decentralization has resulted in greater autonomy for the South, action at the province level in response to local decisions is increasingly constrained by deteriorating transport infrastructure and a concomitant decline in central government logistic support for traditional agriculture, regional industries and a host of fledgling services. Further, central government and donor programs aimed at improving the lives of the traditional people are severely delayed and limited in meeting effective implementation schedules.

Third, improvement in development planning will enhance the government's capabilities to determine alternative crop priorities, rain-fed and irrigated land strategies, and to study ecologically

Title III Development Program  
(Millions Dollars)

<u>Program or Sector</u>	<u>FY79-83 Local Currency Requirements<sup>1/</sup></u>
A. Railway Rehabilitation	27.5
B. Agricultural Sector Support	16.6
C. Health Sector Support	7.5
D. Rural Planning	39.6
E. River Transport Rehabilitation	5.0
F. University of Gezira Outreach	0.8
G. Desert Encroachment Control and Rehabilitation Program (DECARP)	<u>3.0</u>
Total	100.0

<sup>1/</sup> Presented in millions of U.S. Dollar equivalent.  
One U.S. Dollar = 0.495 Sudanese Pound

stable land use patterns. Even in the face of obvious deficiencies in development infrastructure and standards of individual well-being, the government needs to strengthen institutions of development planning and research to determine, for example, what rain-fed mechanization strategy is consistent with the human and ecological requirements of each agronomic zone.

#### D. Introduction to Development Projects

The Title III program will provide 44 percent of its resources for projects in the South and 56 percent for the northern sector in the central part of the country. By sector, 59.2 percent is allocated for traditional agriculture, 0.8 percent for irrigation, 32.5 percent for rural transportation systems, and 7.5 percent for rural health.

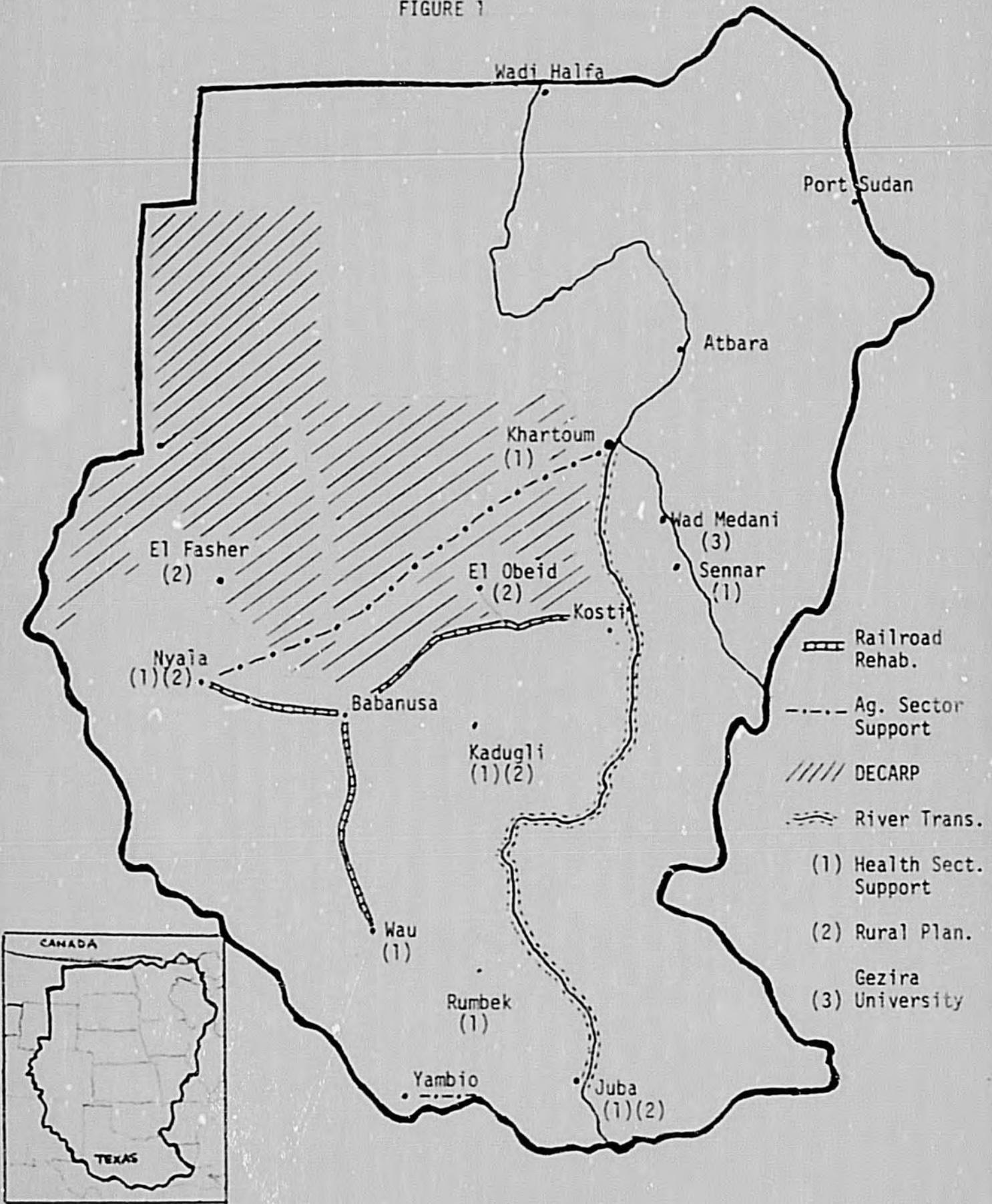
These projects have been selected by the government on the basis of their expected impact on the traditional sector in the West and South, their local currency requirements, and their labor intensiveness. AID/Khartoum has reviewed these projects for relevancy to equity and growth in the West and South (see map).

The railway project is the only ongoing program. The other six projects are at the design stage.

Sudan PL 480 Title III Special Account  
Disbursement Schedule  
 (millions dollars)

Projects	SOS Fiscal Year					Total
	'80	'81	'82	'83	'84	
1. Railway Rehabilitation						
a. Kosti-Nyala-Wau Route	9.9	8.5	4.1	3.0	2.0	27.5
2. Agriculture Sector Support	1.8	6.3	4.3	4.2	—	16.6
a. Northern Provinces	0.8	4.7	2.7	2.6	—	10.8
b. Southern Provinces	1.0	1.6	1.6	1.6	—	5.8
3. Health Sector Support	1.0	1.7	2.1	2.7	—	7.5
a. Northern	0.5	0.9	0.8	1.1	—	3.3
b. Southern	0.5	0.8	1.3	1.6	—	4.2
4. Rural Planning	3.2	7.9	9.7	9.4	9.4	39.6
a. Planning Support						
- Northern Provinces	1.1	1.4	0.6	0.3	0.3	3.7
- Southern Provinces	1.1	0.5	0.1	0.1	0.1	1.9
b. Rural Development Fund						
- Northern Provinces	—	3.0	6.0	6.0	6.0	21.0
- Southern Provinces	—	4.0	3.0	3.0	3.0	13.0
5. River Transport Rehabilitation	0.1	1.6	2.0	1.3	—	5.0
6. University of Gezira Outreach	—	0.2	0.2	0.2	0.2	0.8
7. Desert Encroachment Control and Rehabilitation Program	—	0.3	1.2	0.8	0.7	3.0
<b>TOTAL</b>	<b>16.0</b>	<b>26.5</b>	<b>23.6</b>	<b>21.6</b>	<b>12.3</b>	<b>100.0</b>

FIGURE 1



## E. Projects

### 1. Railway Rehabilitation

The Ministry of National Planning (MNP) has identified the need for improved inland transport as a vital element in the economic development of the Sudan. The principal mode of transport for passengers and freight is the railroad, which extends into the four geographic regions. Rail transport carries the country's imports, consumer and capital goods, and agricultural exports, the primary source of foreign exchange.

Improvements in the delivery of essential commodities and services will help raise standards of living and reduce the uncertainties of productive input supply, marketing access and effective government development support. Upgrading of the western rail system to the south will increase the flow of agricultural inputs such as improved seeds, petro chemicals, fertilizer, fuel and farm machinery. At the same time, gasoline and consumer goods will become more readily available. On the backhaul to the East and North farmers will be assured of more timely delivery of their crops and livestock for market. Post harvest losses should be reduced owing to less storage time at the rail head. In 1978, 36,000 MT of groundnuts were lost because they could not be shipped to market.

The GOS has attempted to budget funds for upgrading the entire rail system. Approximately 25 percent of the Six-Year Development Plan Budget was approved for capital investments and operating expenditures that would increase the capacity for passenger and freight transport and improve the overall efficiency of the railway system. Actual disbursements have not met approval levels due to the lack of foreign exchange and local currency. The Sudan Railway Corporation (SRC), a semi-autonomous body, has been forced to cut back on planned improvements. As a result, the implementation of the government agricultural development projects, and those sponsored by AID and other donors, has been delayed. Activities that are intended to expand production and increase employment and income of traditional farmers in the West and South have been hindered by these delays.

The implementation of the Sudan Railway Project will complement the World Bank's rehabilitation project by improving railway performance and expanding its capacity in the southwestern and western regions. At present the western and southern lines carry only 18% of the rail volume for 40% of the population. This project will finance the re-laying of line to permit the operation of heavy locomotives to the Babanusa junction. Light locomotives will then be concentrated in the southern route (Wau) and western (Nyala). This will permit the increase in the number of scheduled freight trains actually running to three per day, from one per week, thus increasing annual capacity as follows:

RAILWAYImplementation Targets

	<u>'79</u>	<u>'80</u>	<u>'81</u>	<u>'82</u>	<u>'83</u>
1. Communications Ground Cable laid (kms)	-	225	225	-	-
2. Operating Deep Bore Wells	-	27	17	20	-
3. Relay Aradeiba/Abu Zalad Ties (kms)	-	-	160	-	-
4. Protection Works (Widening and Raising Banks and Bridges) (kms)	-	-	160	30	-
5. Station and Quarters constructed					
a. Stations	-	-	9	13	-
b. Maintenance Staff Quarters	-	-	100	250	180
6. Recondition Baban_usa/Wau Ties (kms)	-	-	-	225	225
7. Retimber and Paint Baban_usa/Wau Bridges	-	-	9	-	-
8. Civil Engineering Shop Machinery, Tools and Survey Instruments Purchased	-	-	1	-	-
9. Baban_usa/Wau Locomotive Workshop					
a. Watering facilities improved	-	-	1	-	-
b. Wau, Wedweil and Baban_usa Sheds improved	-	-	1	-	-
c. Baban_usa Platform Completed	-	-	1	-	-

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RAILWAY  
Financial Plan

	Expenditures (US\$ millions)				
	<u>'80</u>	<u>'81</u>	<u>'82</u>	<u>'83</u>	<u>'84</u>
1. Babanusa/Wau Ground Cable	2.4	2.4	-	-	-
2. Station Watering	2.8	-	-	-	-
3. Aradeiba/Abu Zabad Rehabilitation	2.5	-	-	-	-
4. Western Sudan Rail Bed Protection Works	-	0.6	1.2	1.0	1.0
5. Western Sudan Stations and Quarters	2.2	4.1	2.0	1.0	1.0
6. Southern Sudan Track Reconditioning	-	0.9	0.9	1.0	1.0
7. Southern Sudan Bridges Improvement	-	0.1	-	-	-
8. Civil Engineering Shop Improvement	-	0.2	-	-	-
9. Southern Sudan Locomotive Workshop Rehabilitation	-	0.2	-	-	-
TOTAL	9.9	8.5	4.1	3.0	3.0

## 2. Agriculture Sector Support

The PL 480 Title III Program provides \$16 million in local currency to complement in foreign currency \$26 million made available under the Agricultural Sector Support Project. These funds are to be directed to the development of the traditional agricultural subsector in northern and southern Sudan. The support is designed to restore traditional subsector programs which were originally included in, but then cut from, the 1978/79 GOS budget in the wake of devaluation and the imposition of tight fiscal and monetary restrictions.

The project is to assist the GOS in overcoming constraints to improving the productivity and income of traditional producers. Four constraints have been identified and are to be addressed by an integrated dollar and Title III local currency sector program. These constraints are:

- lack of adequate water supply in areas of traditional crop and livestock production,
- inadequate flow of services in support of animal health and marketing,
- lack of adaptive research in support of small farmers, and
- underdeveloped skills in data collection and analysis and traditional subsector project formulation.

The project is structured around four component activities that address these constraints:

a. Rural Water Infrastructure: In the northern provinces the Rural Water Corporation (RWC) will construct aquifers, water stations and hand wells according to the Six-Year Plan's Rural Water Project and the MOA Livestock Route Development Project. The RWC will also conduct ground water research to determine the rate of water withdrawal and changes in water quantity and quality in aquifers.

In the southern provinces the Rural Water Development Department of the Southern Regional Ministry will develop water supplies through the construction of water catchments (haffirs), shallow wells and machinery pump maintenance workshops.

The beneficiaries will be the rural people, particularly women, for they often are forced to portage water long distances. Clearer water will also provide some improvement in health.

b. Animal Services: The improvement of water points, veterinary, and transportation services is considered a necessary component in development of Sudan's western livestock route for traditional herders. The MOA Livestock and Meat Marketing Corporation will construct feed/water and veterinary stations along this 1,600 kilometer route. In addition, disease control programs for rinderpest, ticks, and abu qinait will be expanded.

In the Southern Region the Ministry of Agriculture will utilize Title III local currency to rehabilitate livestock/crop production schemes in the six southern provinces. These schemes will contribute to the standard of living of subsistence nomads and farmers through expanded production and increased yield and offtake. Working closely with PVO's the Ministry will implement extension and input supply programs that have been seriously hindered by lack of development funds.

c. Adaptive Research: A cereals production and marketing activity will fund additional research conducted by the staff of the Agricultural Research Corporation (ARC). The activities will be directed to improve the production, marketing and storage of small grains, such as wheat, sorghum and millet. The work will include investigation of the incentive structure for the supply and demand of grain. The GOS cereals marketing efforts to improve Sudan's ability to stimulate the domestic production of wheat and sorghum at growth rates will result in either stabilization or decline in the demand for imported grain. Total local currency funding for this activity is expected to be approximately \$800 thousand over the five-year period.

The principal responsibility for agricultural research in the South lies with the Yambio Agricultural Research Station. In accordance with the national plan<sup>1/</sup> for agricultural research the Yambio station is charged with conducting its own research program as well as coordinating all agricultural research conducted institutions in the Southern Region. This project will cover construction and operating costs of a new adaptive research and training program at the Yambio station.

The beneficiaries of this activity will be the nation as a whole and modern and traditional producers of wheat and sorghum. The testing and development of new varieties and agronomic practices will enable planners to act knowledgeable with respect to a food self-sufficiency strategy. It will also enable farmers to improve their yields. An increase in sorghum yields would significantly affect the rural traditional farmers in the West because sorghum is their main food staple.

<sup>1/</sup> See the "Sudan Agricultural Research Capability" prepared by International Agricultural Development Service, November 1977.

The introduction of sorghum flour in the preparation of wheat/sorghum, bread and new sorghum products, such as biscuits, "desert rice",<sup>1/</sup> and desserts would provide new markets to all surplus sorghum producers. The increase in demand could add incentive to the increased production through more favorable prices for sorghum in urban and rural market centers.

d. Project Development, Implementation and Evaluation Capacity: This project will contribute funds to the establishment of a Department of Agricultural Statistics in the MOA, and strengthen the agricultural information collection and analysis in the northern provinces. Funds will be utilized for provincial development planning activities.

<sup>1/</sup> "Desert rice" is the name given to decorticated sorghum. When boiled it has the appearance and taste of rice.

## Agricultural Sector Support

### Implementation Targets

	<u>'80</u>	<u>'81</u>	<u>'82</u>	<u>'83</u>
<b>1. Rural Water Infrastructure</b>				
<u>Northern Provinces</u>				
a. Aquifers, water stations and wells constructed	81	81	81	81
b. Ground water research conducted (areas)	--	ongoing	--	--
<u>Southern Provinces</u>				
a. Construction/rehabilitation of haffirs, wells and drilling workshops	53	45	39	37
<b>2. Animal Services</b>				
<u>Northern Provinces</u>				
a. Water/veterinary stations constructed	20	15	15	13
b. Disease control projects implemented	--	3	--	--
<u>Southern Provinces</u>				
a. Rehabilitation of livestock/crop production schemes	--	ongoing	--	--
<b>3. Adaptive Research</b>				
<u>Northern Provinces</u>				
a. Cereals Production and Marketing Research	--	ongoing	--	--
<u>Southern Provinces</u>				
a. Yambio Agricultural Research Station Rehabilitated	--	ongoing	--	--
<b>4. Project Development, Implementation and Planning Capacity</b>				
<u>Northern Provinces</u>				
a. Dept. of Agric. Econ. and Statistics budget support	--	ongoing	--	--

## Agricultural Sector Support

Financial Plan  
(U.S.\$ millions)

	<u>FY80</u>	<u>FY81</u>	<u>FY82</u>	<u>FY83</u>	<u>Total</u>
1. Rural Water Infrastructure					
<u>Northern Provinces</u>					
a. Aquifers, water stations and wells constructed	--	3.5	1.5	1.4	6.4
b. Ground water research conducted (areas)	0.15	0.12	0.12	0.11	0.5
<u>Southern Provinces</u>					
a. Construction/rehabilitation of haffirs, wells and drilling workshops	0.16	0.14	0.14	0.06	0.5
2. Animal Services					
<u>Northern Provinces</u>					
a. Water/veterinary stations constructed	0.5	0.7	0.7	0.6	2.5
b. Disease control projects implemented	--	0.15	0.15	0.15	0.45
<u>Southern Provinces</u>					
a. Rehabilitation of livestock/crop production schemes	--	1.0	1.0	1.0	3.0
3. Adaptive Research					
<u>Northern Provinces</u>					
a. Cereals Production and Marketing Research	0.1	0.2	0.2	0.3	0.8
<u>Southern Provinces</u>					
a. Yambio Agricultural Research Station Rehabilitated	0.8	0.5	0.5	0.5	2.3
4. Project Development, Implementation and Planning Capacity					
<u>Northern Provinces</u>					
a. Dept. of Agric. Econ. and Statistics budget support				U.S.\$25,000/yr.	0.1

### 3. Health Sector Support

The purpose of this project is to assist the Ministries of Health in the North and the South to overcome constraints to the implementation of Sudan's National Health Program, which has as one of its priority objectives increased access of the rural poor to health services. The project will support two government programs in particular, Primary Health Care and Safe Water Supply. It will also strengthen rural Mother and Child Health (MCH) activities and initiate activities designed to strengthen the overall planning and management ability of the Health Ministries.

Local currency in the amount of U.S. \$7,489,000 will be used primarily to support the following activities: a) construction of primary health care warehouses for drugs and medical supplies, b) construction of primary health care units and dispensaries, c) wells to provide safe water for all primary health care units, d) protection of wells from human and animal contamination, e) in-country training of midwives in maternal and child care, and f) in-country training of sanitary overseers. Like the Agriculture Sector Support Project, Title III also supports the local currency costs of the dollar-financed Health Sector Support Project.

The project has been designed to support all levels of the MOH capacity in the North and South, including the provincial MOH staff and lower levels of the delivery system. Budgetary support to the SWP will include (with dollar assistance under the Health Sector Support Project) a limited amount of in-country and participant training and some technical assistance. The SWP is being implemented by the Rural Water Corporation in Northern Sudan, and the Ministry of Cooperative and Rural Development in Southern Sudan.

Inputs for the project were carefully selected, using several criteria: a) they must not duplicate assistance under A.I.D.'s current Northern and Southern Primary Health Care Projects or other donor activities in PHC and SWP; b) they had to involve minimal recurrent cost obligations and yet allow the program to move forward; and c) they had to be realistic in view of the existing constraints, especially on health manpower.

The Primary Health Care Program is based on comprehensive and detailed plans of action designed with the assistance of WHO.<sup>1/</sup> It provides the base of the health delivery system and as such is the vehicle through which other health programs can be implemented. The PHCP is low cost, based on community self-help, and utilizes community selected workers to deliver preventive as well as curative services. The thrust of the PHCP strategy promotes equity in the distribution of health services to the rural population.

<sup>1/</sup> See DRS, Primary Health Care Programme - Eastern, Northwestern, Central and Western Regions of the Sudan, May 1976, and Primary Health Care Programme Southern Region Sudan, February 1976.

The PHCP appears to be the only feasible scheme to improve the physical well-being and productivity of the great majority of the Sudanese population. Most of the population live in rural areas, remote from existing dispensaries. The PHCP, through the construction of Primary Health Care Units (PHCUs) and the training community selected Primary Health Care Workers (PHCWs), hope to provide complete coverage of the entire country by 1984.

The Safe Water Program (SWP) will provide palatable drinking water, free from animal and human contamination, and in sufficient quantity to permit good personal hygiene to a large proportion of the rural population. Such a program will carry multiple health benefits since the majority of cases seen in rural dispensaries are being treated for complaints related to lack of access to sufficient quantity and quality of water.

Health Sector Support  
Implementation Targets

	<u>FY80</u>	<u>FY81</u>	<u>FY82</u>	<u>FY83</u>
1. Medical Supply Warehouses				
Northern Provinces	1	1	-	-
Southern Provinces	-	-	2	14
2. Primary Health Care Units or Dispensaries				
Southern Provinces	31	56	56	56
3. Bore and Shallow Wells constructed				
Northern Provinces	94	94	94	98
Southern Provinces	60	60	60	60
4. Well Protection Works				
Northern Provinces	235	235	235	
Southern Provinces	235	235	235	
5. Village Midwives and Sanitary Overseers retrained				
Northern Provinces	-	1,720	1,721	1,721
Southern Provinces	-	120	121	121

Health Sector Support  
Financial Plan  
 (U.S. \$1,000)

	<u>FY80</u>	<u>FY81</u>	<u>FY82</u>	<u>FY83</u>	<u>Total</u>
1. Medical Supply Warehouses					
Northern Provinces	175	227	-	-	402
Southern Provinces	-	-	160	200	360
2. Primary Health Care Units or Dispensaries					
Southern Provinces	267	475	640	757	2,149
3. Bore and Shallow Wells					
Northern Provinces	200	260	338	440	1,238
Southern Provinces	128	166	216	290	790
4. Well Protection					
Northern Provinces	131	171	222	289	813
Southern Provinces	132	171	223	289	815
5. Midwifery and Sanitary Overseer Training					
Northern Provinces	-	206	228	368	802
Southern Provinces	-	14	20	26	60
TOTAL	1,033	1,690	2,047	2,659	7,429

#### 4. Rural Planning/Development Project

This activity will utilize Title III local currency to strengthen the GOS Decentralized Rural Planning Program in the Sudan's eighteen provinces. Provincial Officers' and some staff housing will be constructed, largely from local materials, for a permanent small technical core staff in each of the provincial capitals. It will be the responsibility of this staff to design and implement socio-economic surveys in their province.

This resultant data will serve as the basis of local and national micro analysis and macro decision making, respectively. The Provincial Development Fund, equivalent to 500,000 dollars in local currency per province per year, will be programmed by the core staff with assistance from the central ministries, Ministry of National Planning, and the Southern Regional Ministry of Planning. Projects eligible for financing from the fund will be those that alleviate constraints to development and contribute to the wellbeing of the rural poor. The criteria for project selection will predetermine and guide the design of rural development projects that are self-help in nature and address the needs of the rural poor. Projects will only be approved (by the Provincial Commissioners) if they have as their goal one or more of the following:

- a. Increased production of food by small farmers and herders through the provision of necessary inputs and services.
- b. Greater access to health, education and social services, such as medical facilities, schools, and potable water systems.
- c. Conservation and rehabilitation of natural resources through on-farm or community projects, e.g., prevent desertification, overgrazing, and contamination of water points.
- d. Augment traditional farmers' income by way of cash crop production that would generate new sources of income for producers and the community.
- e. Enhance the role of women in the home and the community and increase her access to the social and economic benefits of development.

Rural Planning  
Implementation Plan

	<u>FY79</u>	<u>FY80</u>	<u>FY81</u>	<u>FY82</u>	<u>FY83</u>
1. Rural Planning Offices					
a. Constructed*					
Northern Provinces	5	12	12	12	--
Southern Provinces	6	6	6	6	--
b. Operational					
Northern Provinces	--	6	12	12	--
Southern Provinces	--	6	6	6	--
2. Provincial Development					
Projects Approved**					

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\* Numbers are cumulative

\*\* This will depend on the type and cost of the provincial rural development self-help project prepared and approved in each province.

Rural Planning  
Financial Plan  
(000 Dollars)

<u>Rural Planning</u>	<u>'79</u>	<u>'80</u>	<u>'81</u>	<u>'82</u>	<u>'83</u>	<u>Total</u>
<b>A. Public Investment</b>						
North						
1. Construction	1,080	1,080	--	--	--	2,160
2. Local Staff and Operating Expense	--	270	625	270	270	1,435
South						
1. Construction	1,080	--	--	--	--	1,080
2. Local Staff and Operating Expense	--	535	635	135	135	1,440
<b>B. Provincial Dev. Fund</b>						
North (\$500,000/Prov.)	--	3,000	6,000	6,000	6,000	21,000
South (\$500,000/Prov.)	1,000	3,000	3,000	3,000	3,000	13,000

## 5. River Transport Rehabilitation

Passenger and cargo transport along Sudan's rivers is slow and irregular. Boats and barges that have passed their useful life are long overdue for replacement. Without improvement in the river fleet Sudan's waterways will remain grossly underutilized. Those who would continue to suffer most are the inhabitants of the South who heavily rely on the North for supplies and would like very much to initiate trade in the North for southern agricultural products. River transport is potentially their cheapest and only feasible mode of transport.

The River Transport Corporation (RTC) is responsible for regulation and operation of all shipping on Sudan's waterways. Most (71 percent) of the riverboat and barge transport is conducted on the Blue and White Niles, from the capital to Sennar on the former and to Juba on the latter. Fluctuations in the level of these rivers, seasonal passenger and cargo transport demand, and the condition of vessels, river port facilities and handling equipment determine the flow and capacity of the RTC to serve the country.

Passenger and cargo transport levels for recent years are shown in the following table, River Passenger and Freight Traffic, as reported in the Transport Bulletin of the Ministry of National Planning, July 1977.

### River Passenger and Freight Traffic

Year	Passenger Traveled (000)	Passenger-km (million)	Freight Moved (000)	Ton-km Million
1973/74	182	84.4	91	74.3
1974/75	229	87.7	101	82.5
1975/76	309	87.7	110	89.5

Activities to be funded in the river transport sector will increase the passenger/freight capacity and operating efficiency of the Sudan's major transport mode to its Southern Region. The RTC will utilize local currency to undertake labor intensive construction and repair of signalling, water passage, and dock/shop facilities. Title III funds will also be used to meet approximately one half of the counterpart financing required for the implementation of a U.S. \$36 million development loan agreement with the Government of Norway (GON). The equivalent U.S. \$5 million from Title III would be additional to the LS 10 million (U.S. 20 million) that the GOS has been able to program under the revised development budget for FY 80 to FY 83.

Attachment E presents a summary of the RTC/GON loan for the acquisition of new vessels and cargo-handling equipment. These commodities will enable the RTC to replace antiquated and inefficient vessels and thereby increase the delivery of diesel fuel, agricultural equipment and industrial machinery to the Southern Region.

The expected beneficiaries are the southern Sudanese who rely on the river transport system for delivery of fuel; food, when stocks are exhausted (the rural poor, particularly nomads who trade cattle for sorghum during the dry season); and other consumer goods. Poor handling facilities and antiquated river vessels presently preclude the development of northern markets. Rehabilitation of river transport should open these markets to southern growers of coffee, tea, sugar, fruits and vegetables during much of the year.

As the RTC Chairman states in Attachment E, their new vessels and barges will facilitate the transport of equipment and supplies needed in the South for development projects. By overcoming the transport bottleneck the Southern Regional Government and international development agencies, including USAID, will be better able to work with the rural poor.

The implementation plan for this activity is being finalized and will be approved prior to the arrival of commodities financed under the RTC/GON loan. Local training support (LC) will be required in FY 80. Rehabilitation of facilities and operational support will be programmed for FY 81 to FY 83.

The approximate schedule of Title III disbursements for the project would be as follows:

River Transport Rehabilitation (U.S. \$ millions)				
<u>FY80</u>	<u>FY81</u>	<u>FY82</u>	<u>FY83</u>	<u>Total</u>
0.1	1.6	2.0	1.3	5.0

## 6. University of Gezira Outreach Program

The Gezira University Outreach Program is to be structured around the establishment and running of extra-curricula education and action activities, cutting across all major departments and units of the University. The community outreach program to be supported with PL 480 LC includes: promotion of cottage industries in rural towns, agricultural training for small farmers on the new production schemes, dissemination of health/sanitation information at the community level, and analysis of socio-economic and environmental problems. The cost of the program to be structured and implemented, beginning in FY 1980, is approximately U.S. \$800,000. Specific implementation targets and a financial plan for FY 1980 to FY 1983 will be finalized and jointly approved in late FY 1979.

## 7. Desert Encroachment Control and Rehabilitation Program (DECARP)

Desert encroachment is a serious problem in Sudan. It threatens Nile irrigation schemes, some 2.5 million feddans<sup>1/</sup>, up to seven million feddans of mechanized crop farming, range for about 10 million head of livestock, and the gum arabic producing area including expanses of other tree-covered areas. Surveys<sup>2/</sup> show that the desert advanced 90 to 100 kilometers within a 17-year period and is currently advancing at the rate of five to six kilometers per year.

The area involved lies between latitudes 12°N to 18°N and traverses the Sudan from the Nile on the east to the Chad border on the west. It also includes a northwest strip along the Nile up to the Egyptian border between longitude 30° to 32° east. These areas cover approximately 650,000 square kilometers (250,965 square miles or about 161 million acres).

The purpose of this activity is to assist in reversing the degradation of these environmentally fragile lands through anti-desertification measures. The activity will complement the joint AID/IDA Western Sudan Agricultural Research Project begun in FY 1978 that was integrated with Sudan's Desert Encroachment Control and Rehabilitation Program (DECARP). This program was proposed in 1974 by Sudan's National Council for Research.<sup>3/</sup> In 1976 the U.N. development and environmental programs and FAO assisted the GOS in establishing a DECARP action program that was to be implemented through the existing institutional framework, namely, the Ministry of Agriculture, et al.

There is an immediate need for transforming semi-arid agriculture as practiced by traditional farmers and herders, especially in North Kordofan and North Darfur Provinces, in the rainfed millet and gum arabic belt immediately between the desert, in order that these regions may once again contribute to the provincial and national economies as they have done in the past. Continuation of environmental deterioration will incur a large social and economic cost as development efforts are retarded, production declines, and impoverished families are forced to move to other rural areas or to towns and cities.

<sup>1/</sup> 1 feddan equals 1.038 acres or 0.42 hectares

<sup>2/</sup> Report on the desert encroachment reconnaissances, Northern Sudan, N.C.R., Sudan (1975), Lamprey, H. F.

Dune trends and their implications in Central Sudan -- Zeit geomor. suppl. (1970), Warren, A.

As quoted in Sudan's Desert Encroachment Control Rehabilitation Programme (DECARP)

<sup>3/</sup> Desert Encroachment Control, the National Council for Research, Khartoum, May 1974.

By adopting appropriate cropping systems and altering agronomic practices small farmers and pastoralists may prevent further deterioration and gradually restore environmental productivity. A series of interrelated efforts will include the following:

- a. Restoration of critically degraded sites by cover crop re-seeding and tree crop replanting;
- b. relocation of families and related compensatory measures for families whose land would be affected;
- c. reduction or alteration of shifting agriculture through alternative cropping systems that improve soil conservation and soil fertility, crop yields and efficient use of production inputs and practices;
- d. investigation of research methods for more socially acceptable methods for managing pasture land and water resources;
- e. formulation of a socially oriented agricultural development plan integrating the above actions for the western region;
- f. dissemination of research results related to the improved practices;
- g. establishment of a pilot development scheme to test and demonstrate recommended practices; and
- h. strengthening of institutions involved in anti-desertification and environmental rehabilitation.

The principal beneficiaries are the rural population of northern Kordofan and Darfur, one of the poorest areas of Sudan. Research to be carried out will estimate income levels and ownership of resources and their distribution. Impacts of the program on the rural poor will be continuously examined and evaluated.

The program has as a goal the establishment of a more secure resource base from which to gain a livelihood, assisting with a general upgrading of the quality of herds, and the improvement of yields while reducing overgrazing.

D.E.C.A.R.P. ProjectImplementation Plan

	<u>FY81</u>	<u>FY82</u>	<u>FY83</u>	<u>FY84</u>	<u>Total</u>
1. Monitoring Network					
- equipment purchased	*				
- personnel in place	*	*			
- training	*	*	*		
2. Protection areas selected		*			
3. Desert encroachment research		*	*	*	
4. Water points improved and protected		*	*	*	
5. Establishment of shelter belts				*	

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Financial Plan  
 (U.S.\$ millions)

1. Monitoring Network	0.1	0.1	0.1	--	0.3	
2. Protection Survey	0.2	0.2	--	--	0.4	
3. Desert encroachment control techniques	--	0.4	0.2	0.2	0.8	
4. Water points protection	--	0.3	0.2	0.2	0.7	
5. Shelterbelts	--	0.2	0.3	0.3	0.8	
Total	U.S.\$	0.3	1.2	0.8	0.7	3.0

## F. Implementation Arrangements

The program will be implemented by the Government of Sudan (GOS) under the overall coordination of the Ministry of National Planning (MNP) while operational and reporting requirements will be the responsibility of the particular Ministry charged with the carrying out of the specific project or sub-activity.

### 1. GOS Responsibilities

The GOS through the MNP agrees to meet the following responsibilities:

- a. Serve as the primary liaison office with the various Ministries and AID.
- b. Submit quarterly reports to AID on project implementation and disbursements.
- c. Facilitate the flow of disbursements to agreed upon program activities.
- d. Establish and maintain a special account solely for the deposit of Sudanese pounds generated from the sale of program commodities and to provide funds to cover any difference between the commodity value (f.o.b., U.S.) and the actual sales generation value.
- e. Prepare and submit a comprehensive annual report addressing the progress achieved under the Food for Development Program. The report shall include a comparison of results with projected targets, a specific accounting of funds generated and their use, the outstanding balance in the Special Account at the end of the most recent U.S. fiscal year and any recommendations for modifications or improvement in the Food for Development Program.
- f. Maintain adequate records on the project for not less than three years after the completion of the Program.

### 2. USAID Monitoring

Normal technical monitoring channels will be maintained between the Ministry of National Planning, the involved Ministries and the USAID.

### 3. Evaluation Plan

The program will be evaluated annually commencing approximately one year from the date of the first disbursement for project activities. The evaluation will review the progress of the projects, the utilization of funds, the results achieved against project benchmarks, and will serve as an annual report. Furthermore, the joint evaluation team will make appropriate recommendations with regard to the continuation of the agreement.

## ATTACHMENT A: Domestic Production of Wheat

In Sudan, wheat can be grown only under irrigation and only in areas north of 12° latitude where the winter temperatures are sufficiently low to promote growth of the wheat plant. The winter elsewhere is too short generally to allow full realization of the production potential of wheat. The area that can be brought under wheat is, therefore, limited to about 600,000 feddans.

Any substantial increase in wheat area can come only at the cost of valuable cash crops like cotton and groundnuts or after substantial new investments in additional irrigation facilities. In 1977/78 the area and average yield production of wheat were as follows:

Wheat Area, Output and Yield, 1977/78 and 1981/82

Production Center	1977/78 Actual			1981/82 Projected <sup>e/</sup>		
	Area <sup>a/</sup>	Output <sup>b/</sup>	Yield <sup>c/</sup>	Area <sup>a/</sup>	Output <sup>b/</sup>	Yield <sup>c/</sup>
Gezira	430	241	560	450	270	600
New Halfa	90	32	355	120	60	500
Northern	56	30	536	30	30	1,000
Total	576	303	530 <sup>d/</sup>	600	360	600 <sup>d/</sup>

a/ Area in thousands, feddans: 1 feddan = 0.42 hectares

b/ Output in thousands metric tons

c/ Yield in kilograms per feddan

d/ Average yield, equivalent to 1,252 kg/hectare in 1977/78 and 1,429 kg/hectare projected for 1981/82

e/ Department of Agricultural Services, Ministry of National Planning

The New Halfa scheme was unable to plant the full rotation area (120,000 feddans) in wheat in 1977/78. A rehabilitation program is about to be implemented that should permit full rotation of wheat and also an improvement in yields per feddan to the projected 1981/82 levels.

Measures for Increasing Wheat Yield:

a. Proper land preparation: This is related to the availability of adequate machinery to carry out land preparation. The GOS has taken

action to equip agricultural projects with adequate cultivation machinery and other inputs necessary for proper performance.

b. Timely sowing: Much of the wheat at present is sown after the 15th of November when all sowing should have been finished. The reason lies in the lack of adequate machinery and the continued watering of groundnut crops in October and November. Efforts have been made to advance the sowing date for groundnuts, thereby advancing its harvesting so as to release irrigation water for wheat from the beginning of October. Availability of adequate machinery and release of irrigation from groundnut crops will together make it possible to sow all wheat in time in order to obtain higher yields.

c. Fertilizer use: Arrangements have been made to insure a supply of 48,000 tons of urea for application at the recommended 2N dose of fertilizer on all wheat.

d. Pest control: Arrangements have been made for two aerial sprayings of insecticides on wheat to control aphids.

#### High Yielding Varieties

Research efforts for selecting high yielding dwarf varieties have been intensified both in Gezira and New Halfa and some promising strains are at final stages of testing. Test plot wheat yields of 1,200 kg per feddan have been obtained as compared with domestic wheat yields of 530 kg per feddan.

**ATTACHMENT B: Comparative Cost Structure of Domestic and Imported Wheat\***

The costs of wheat production have risen by approximately 20 percent per annum. Table, Wheat: Costs of Production and Net Returns in Gezira, presents a listing of major cost categories, average yield per feddan, guaranteed price per ton and net revenues for the period 1973/74 to 1978/79.

While costs have increased, yields declined from 0.660 metric tons in 1973/74 to 0.360 metric tons in 1975/76 and recovered to 0.530 metric tons in 1977/78. The low yields for 1974/75 and 1975/76 may have been due to farmer resistance to reporting harvest estimates when world wheat prices were exceptionally high. Some GOS officials feel the farmers withhold their harvest when the difference between the official domestic farm gate price and the world market price is large. This may explain the unusually low reported yields in 1974/75. When world market wheat prices declined in 1976/77 reported yields increased. In 1976/77 the official price was raised to LS 75 per ton and in FY 79 again raised to LS 85 per ton. The net return to the farmer remains very small. At the pre-July 1978 exchange rate of LS 1 = U.S. \$2.50 he earned only U.S. \$16.74 per feddan or U.S. \$83.71 on the total five feddans cultivated in wheat.

The table on page 53, Wheat Pricing, compares commercial imports of wheat and domestic production in terms of world market prices versus domestic mill and farm gate prices. This table provides a general view of the economics of wheat import versus domestic production. It would appear that the difference between the import parity price and the farm gate price continues to be significant.

The figure on page 54, Wheat Flows and Related Costs 1977/78, suggests that the subsidy to the consumer is also a factor in the wheat pricing/production question. Commercial wheat imports are valued at \$200 per ton<sup>1</sup> delivered in Khartoum, the main urban consumer center. The wheat grain is sold to the millers for \$110 per ton who process it into a high extraction flour (1.0 ton grain yields 0.86 ton flour) and sell to the bakers for \$150 per ton. At the milling level the GOS, sole importer of wheat, absorbs a loss of \$50 per ton. This in turn is roughly the value added plus profit that the miller receives when he sells to the baker. A small amount is also earned from the sale of wheat bran as livestock feed. Sudan's flour milling capacity is shown in the following table.

1/	174.6 per ton at Port Sudan
	25.4 per ton transport and handling
	200.0 per ton at Khartoum

\* Drafted by Agriculture Development Office, USAID/Sudan, April 1978

Wheat Pricing (1973/74 - 1978/79)  
(U.S. \$ per metric ton)

<u>IMPORTS</u>	<u>1973/74</u>	<u>1974/75</u>	<u>1975/76</u>	<u>1976/77</u>	<u>1977/78</u>	<u>1978/79</u>
1. Price C & F, Port Sudan <sup>1/</sup>	225.25	195.00	179.00	136.00	175.00	189.00
2. Handling, Bags, Transport, Storage, etc., to Khartoum <sup>1/</sup>	19.50	19.93	19.69	19.04	25.00	25.00
3. Exchange Taxes and Duties <sup>1/</sup>	36.25	39.00	35.80	27.20	35.00	37.80
4. Delivered Cost at Mill <sup>1/</sup>	281.00	253.93	234.49	182.24	235.00	251.80
5. Import Parity Price <sup>1/</sup> (line 1 + 2 + 3)	244.75	214.93	198.69	155.04	200.00	214.00
<u>DOMESTIC PRODUCTION</u>						
6. At Mill Price <sup>1/</sup>	137.50	138.05	138.05	136.28 <sup>3/</sup>	110.00 <sup>4/</sup>	110.00
7. Subsidy (line 8 + 9 - 6)	21.60	36.95	36.95	63.72	50.00	70.00
8. Transport to Mill <sup>2/</sup>	12.00	12.50	12.50	12.50	10.00	10.00
9. Producer Price at Gezira (line 6 - 8)	147.10	162.50	162.50	187.50	150.00	170.00
10. Producer Price as % of Import Parity Price (line 9 + 5)	60%	76%	82%	121%	75%	79%
11. Explicit and Implicit Taxation	40%	24%	18%	-21%	25%	21%

Sources:

- <sup>1/</sup> Ministry of Finance; various shipments summed by weighted average.  
<sup>2/</sup> Estimate.  
<sup>3/</sup> Mills claimed that cost had gone up.  
<sup>4/</sup> Devaluation of Sudanese pound after domestic harvest.

Wheat: Cost of Production and Net Returns in Gezira  
1973/74 to 1977/78  

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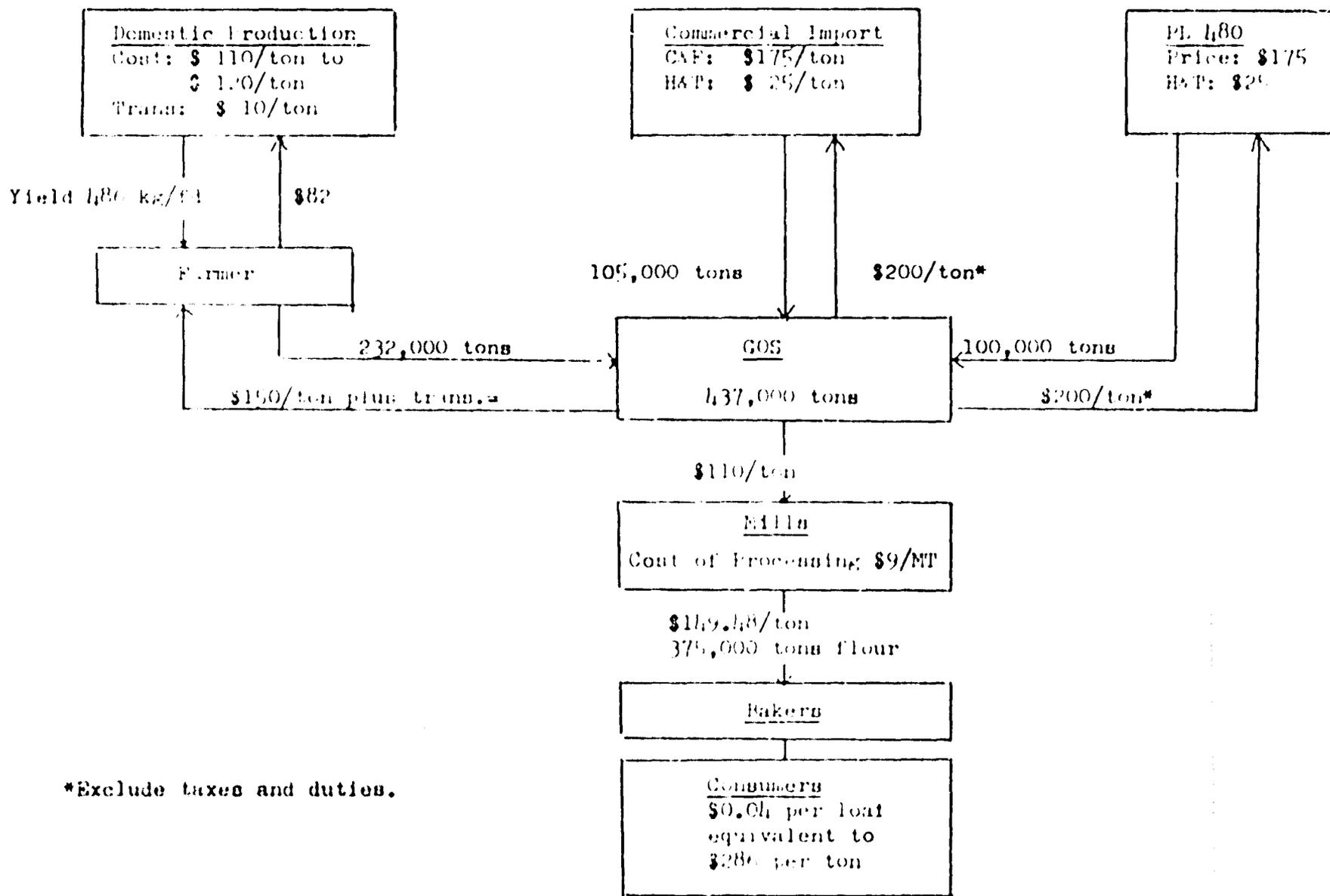
  
(U.S. Dollars)<sup>1/</sup>

	1973/74	1974/75	1975/76	1976/77	1977/78
A. Land Preparation/fed	5,125	6,438	6,150	6,188	6,495
B. Agricultural Operations/fed	13,600	17,200	17,400	20,775	21,833
C. Materials/fed	23,375	29,900	32,350	42,922	54,233
(Fertilizer)	n.a.	n.a.	n.a.	30,300	31,815
TOTAL (LS/fed)	42,100	53,538	55,900	69,885	82,561
Average Yield-M.T./feddan (M.T./hectare)	.660 (1.571)	.386 (0.919)	.360 (0.857)	.500 (1.190)	.530 (1.262)
Cost per ton	63.80	150.35	155.00	157.23	155.78
Price per ton	158.25	162.50	162.50	187.50	187.50
Net Revenue/ton	94.45	12.13	7.50	30.28	31.73
Net Revenue/fed	62.35	4.70	2.70	15.15	16.83

<sup>1/</sup> Pre-July 1978 exchange rate, LS 1.00 = U.S. \$2.50

Source: Agric. Economics and Statistics Dept., Ministry of Agriculture, Food and Natural Resources, November 1978

Figure 2 - Wheat Flows and Related Costs (GOS FY 78/79)



\*Exclude taxes and duties.

The consumer usually buys his loaves of bread from retail outlets. Without an up-to-date household consumer survey, bread consumption and expenditure levels are difficult to estimate. The official price of bread is \$0.04 for a 200 gram loaf. Bread consists of about 70 percent flour by weight and 30 percent water. Thus, the equivalent value of the flour is \$286 per ton with value added.<sup>1/</sup> The sum of the value added and profit for the baker, wholesaler, and retailer is at least \$136 per ton of flour.

If the price margins are equitable, cover costs and provide a reasonable profit for the miller, baker, and bread outlets, and the GOS were to charge the full value of the wheat grain, then the price of bread to the consumer, ceteris paribus, would increase by 0.02 to 0.06.<sup>2/</sup> Theoretically, his expenditures now are only 67 percent of what they would be without the subsidy.

Sudan Flour Milling Capacity, October 1978

<u>Mill</u>	<u>Full Capacity M.T./day of flour</u>
Flour Mills	400
Ahlia	240
Gos Kabboro	170
Blue Nile	150
Gezira	200
N. Halfa	80
P. Sudan	240*
Total	1,480 MT/day = 532,800 MT/year (360 days)

\* will double next year

A. In two years new mills will have been licensed with a capacity of 153,000 MT/year under construction. When they are in operation the annual milling capacity will be 685,000 M.T.

B. Approximate Wheat Flour  
Requirements Khartoum:

6,000 sack flour/day  
1 sack = 70 kilos  
420 MT/day  
153,300 MT/year/flour (86% rate)  
178,256 MT/year/wheat grain

$$\frac{1}{\$ 0.04} = \$286$$

0.14,kg 1 metric ton

2/ If the subsidy is eliminated LS 45 would be added to the cost per ton of wheat, raising it from LS 143 to LS 188. To cover this cost, using current figures, the price of a loaf of bread would be:

## ATTACHMENT D: Outstanding Food and Agricultural Issues

The Government of Sudan is very concerned that its import bill for food is climbing rapidly without end in sight, and with the absence of even a conceptual strategy for ensuring food self sufficiency or self reliance. It is, therefore, useful at this point to spell out some of the issues facing the government as it reviews policy in coming years.

## 1. Sorghum's Role in the Future

We know enough about sorghum as a staple, its low cost, and its rainfed production to prevent its easy dismissal as a modern food. In the face of a very large projected food gap and continued availability of domestically produced sorghum, the present FAO pilot project to blend sorghum and wheat flour for urban consumption should be given encouragement. This is an important way to reduce the demand for wheat flour since decorticated sorghum flour is generally mixed with wheat flour in a 20% dura-80% wheat flour proportion for a mixed loaf. In the face of wheat's growing subsidy burden there is also a financial reason to do so. And most importantly, in terms of national integration, the encouragement of sorghum production would also give market incentive for a rainfed traditional agriculture.

The one clear benefit of switching away from kisra (unleavened sorghum bread), the traditional staple preparation of which takes much time, is that it reduces women's work. Bread as prepared by modern mills bakeries is very convenient. In urban areas it is said this switch is not contributing to female underemployment because of the availability of other urban work.

In order that composite wheat/sorghum flour should be attractive to bakers, dura flour prices should not exceed those of wheat flour. With the present marketing arrangements, it is difficult to achieve this since sorghum prices are determined by the market while wheat is obtainable at a fixed subsidized price. If the wheat subsidy is removed millers will be able to obtain sorghum cheaper than wheat. This would force the price of bread up and, if done suddenly, could be unpopular.

If the subsidy on wheat were phased out gradually, the accompanying rise in the bread price would be manageable, and a dual price system with a cheaper mixed flour loaf and a more expensive all-wheat flour loaf might placate the price-conscious segment of the population. Many of the urban dwellers are more interested in supply than in price and probably would not protest paying a higher price for wheat flour bread.

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## 2. Food Grain Self Sufficiency or Self Reliance

The IBRD and the IMF have urged the Government of Sudan to cut back on its irrigated wheat production. Their analysis of the situation indicates that the GOS is subsidizing wheat at the expense of cotton, an export crop and foreign exchange earner. However, the IMF and IBRD evaluation has not taken into account all factors in the situation, such as internal transport costs. Recent discussions indicate that both IMF and the IBRD may have eased their pressures for a cutback in wheat acreage.

In any event, given the vagaries of the international grain and cotton markets, it may make sound economic sense to stress sorghum production and blending, and wheat yield increases, at the same time that renewed efforts are made to increase cotton exports earnings. Furthermore, it is too early to tell what potential rainfed agriculture holds. At least one study suggests that traditional agriculture and not irrigated, or even mechanized rainfed agriculture, is the most inexpensive strategy to ensure food grain self sufficiency by 1990.<sup>1/</sup> Should this thesis prove valid, Sudan can be both food sufficient in basic grains within a decade and still enjoy agricultural export earning. Whether and how such a strategy is pursued is an open question. In any event, we have signalled the undesirability of concessional food import dependency by showing an absolute decline in Title III grain over the five-year period.

## 3. Developmental Uses of Food

The Government should look beyond the present Title III use of food to other kinds of food policies and programs. The present public food system is not as effective as it might be in terms of marketing efficiency or equity. For example, food security can be achieved by reliance upon reserves (from domestic and imported sources) to prevent urban food prices from exceeding certain predetermined levels. While the private traders would be encouraged to play a relatively larger role, socially and economically determined food price ceilings (and floor prices for tenants and cultivators) could be enforced by this type of public program. Grain would be sold to the mills only at some predetermined price. To the extent the present system serves a price stabilizing role, its operation is costly.

With respect to equity, the present controlled price for bread does not appear to ensure its consumption by the poorest urban groups. The government may wish to consider direct approaches to alleviate severe malnutrition as it occurs.

<sup>1/</sup> "Prospects for Production and Export of Food in the Sudan: A Cautionary Note" by George Alibaruho, Working Paper 78/9 CGFPI, International Food Policy Research Institute, Washington D.C., March 1978.

Food aid can play an important role in providing the government food reserves as prices are altered. Reserves can have important development benefits to ensure that food price increases do not act to break employment and purchasing power expansion programs in the economy.

Another way of describing the above proposals is to say that the present system has some characteristics which may act as a disincentive on domestic production. So while the port and storage facilities appear to be adequate, the relative prices of official and market wheat, the absence of a needs test in the public system, and the relative scale of purchasing power in the urban economy may be depriving wheat and sorghum cultivators of markets they might otherwise enjoy.

Whatever policy the government may decide to implement to improve the efficiency and equity of its present system, food aid provides resources and time during which options can be analyzed and discussed and gradually implemented.

#### 4. Competition for Water in the Gezira Scheme, the Importance of Groundnuts, Cotton, and Related Issues

The Gezira Scheme cultivates approximately 75 percent of Sudan's wheat acreage and yields roughly the same proportion of national production. In this scheme the average tenant farmer has fifteen feddans. Traditionally, the scheme's managing board sets the cropping levels. Each farmer plants five feddans of groundnuts (peanuts) from June to July and five feddans of cotton from late July to mid August. These crops are harvested in late October/early November and from February through April, respectively.

In the past when groundnuts were harvested there has been an overlap with wheat planting on the last third of the tenant's land. During this period there is competition for water because it is used to soften the soil for groundnut harvesting. Now, the Government reports it is preparing to take measures to remedy this situation. Wheat is harvested mechanically during March and April.

GOS analysts argue that wheat competes with cotton for water, but review of the planting schedule indicates wheat only competes with groundnuts for scarce water during a two or three week period when groundnuts are harvested late and wheat is planted. Together these two crops share the available water with cotton over a two-crop season year in the Gezira. However, because of decreasing cotton yields on the Gezira, groundnuts -- a leguminous crop -- becomes a critical factor for soil building in crop rotation to control soil depletion by the cotton crop. This rotation is an exceedingly important effort for reversing the current cotton yield trend and makes groundnuts a key rotation crop as well as being an important food and export crop.

About 43 percent of the groundnut production of some 700,000 tons is exported (plus some oilcake) and the remainder is domestically consumed as nuts or oil.

The Gezira Board oversees the application of fertilizer and water by the tenants and supervises cultivation. A lowering of the price offered for the farmer's wheat (in relation to cotton) and higher input charges for crops other than cotton would undoubtedly help to rationalize the efficient utilization of costly inputs and irrigated land for all crops.

Sudan accounts for only two percent of total cotton production worldwide, but it accounts for about 40% of long staple cotton exports. Recent analysis suggests that production by Egypt, Sudan's major competitor for long staple cotton, will be decreasing, thereby providing the opportunity for the GOS to increase its share of the long staple market.

Thus, the economic argument supporting cotton lies with its greater efficiency in producing value added for the economy. This argument, however, has to take into account export market parameters and the domestic strategic value placed on wheat production.

#### Planting and Harvesting Schedule

<u>Crop</u>	<u>Planting</u>	<u>Harvesting</u>
Dura	June - July	October - November
Groundnut	June - July	October - November
Cotton	Late July - Mid August	January - April
Wheat	Mid October - Mid November	March - April
Rice	June - July	October - November

## ATTACHMENT E

Development: RTC Stays Afloat <sup>1/</sup>

Under an agreement signed in Khartoum on the 14th of last month, the Norwegian firm Oil Industrial Services (OIS) of Kirstiansand will supply the River Transport Corporation with vessels and cargo-handling equipment as part of a project to improve the efficiency of river services between Juba and Khartoum. The cost, estimated at Nkr 181 million (LS 18 Million), will be met by a Norwegian government loan. Repayment will be over 15 years, at 5.5 per cent interest, after a three-year grace period.

The loan was first offered two years ago, when an agreement was signed with a Norwegian ship-building firm, which subsequently went bankrupt and is now incorporated into the OIS group.

"All the money will be used in developing our capacity and efficiency," said Mr. Ali Ameer Taha, chairman of the River Transport Corporation (RTC). "We are greatly hindered by the fact that the majority of our fleet is extremely old -- much of it over 30 years. Sixty percent is currently out of order and the rest is incapable of working to full capacity."

The present RTC fleet consists of three flat-topped barges, five general-purpose barges, six push-tugs bought from Ireland two years ago, and five ships with barges strapped alongside, used for passenger transport.

"Much of the heavy equipment needed by the projects in the south has been difficult or impossible for us to handle," said Mr. Ali Ameer. "Our existing barges only have a 120 ton capacity."

The problems faced by the RTC in terms of insufficient and out-dated equipment are exacerbated by those of the other national freight handling agency, Sudan Railways.

With insufficient wagons available to meet the fuel requirements of the Southern Region, nearly all oil, other than diesel, has come in from Kenya by lorry in recent months. Sudan Railways has only been able to transport 1,200 tons of diesel a month from Port Sudan. To help make up the short-fall, the RTC has diverted barges from its other services.

"In an endeavour to meet the demand, four of our barges are currently shuttling between the oil pipe-line terminal at El Shejera and Kostf, instead of their scheduled route between Kostf and Juba," Mr. Ali Ameer explained. The barges are carrying around 2,400 tons of diesel fuel a month, mainly to project sites in the south -- notably Kenana, Bentiu, Jonglei and Malakal.

The new fleet will consist of two floating swing-cranes with a lifting power of 50 tons, six 300-ton oil barges with pumps and fire-fighting equipment, eight 500-ton flat-topped barges able to carry the heavy agricultural machinery and industrial equipment beyond the capacity of the barges presently available and five 500-ton cargo barges.

In addition, sixteen 1,000 HP tugs capable of pushing up to four 500-ton cargo barges and equipped with VHF radio will be supplied by OIS. "The tugs we have at the moment are hard to manipulate," said Mr. Ali Ameer, "and have almost no pushing power left."

Delivery is due to start this August, 1979, and by January 1981 all of the equipment should be in service on the Nile. The tugs and barges will be freighted in parts, to be re-assembled at Khartoum dry-dock. A Norwegian training team is due to arrive in August, to teach additional welders and assembly workers.

ANNEX A

P.L. 480 TITLE I AGREEMENT PROVIDING  
FOR A TITLE III FOOD FOR DEVELOPMENT PROGRAM

The Government of the exporting country (United States of America) and the Government of the importing country (Democratic Republic of the Sudan):

Recognizing the policy of the exporting country to use its agricultural productivity in a manner which will establish a strong relationship between food assistance and efforts by the importing country to increase the availability of food for the poor, and to improve in other ways the quality of their lives; and

Having agreed upon a proposal for the intended use of commodities or funds generated from the sale of such commodities to increase the access of the poor in the importing country to a growing and improving food supply through activities designed to improve the production, protection and utilization of food, and to increase the well-being of the poor in the rural sector of the importing country; and

Desiring to set forth the understandings that will govern the sale of agricultural commodities in the importing country in order to carry out the above-mentioned proposal pursuant to the authority of the Agricultural Trade Development and Assistance Act of 1954, as amended (hereinafter referred to as the Act), and the measures the two Governments will undertake to further the above-mentioned policies;

Agree as follows:

Item I. Responsibilities of the Government of the Exporting Country.

A. Subject to the availability of funds and commodities, the Government of the exporting country agrees to furnish credit under authority of Title I of the Act to the Government of the importing country for the purchase of agricultural commodities over the life of the Food for Development Program as set forth in Annex B of this Agreement.

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B. On receipt of satisfactory evidence of disbursements from the special account for eligible uses by the Government of the importing country described below for the projects and/or programs described in Annex B, the Government of the exporting country will apply such disbursements against the Title I payment obligation incurred under this agreement as set forth in Items II and III below.

Item II. Responsibilities of the Government of the Importing Country.

A. The Government of the importing country agrees to carry out the program detailed in Annex B. In carrying out such program, the Government of the importing country agrees that it will:

1. Use the \$10 million of the proceeds generated from the sale of agricultural commodities financed under this Agreement to finance the development activities specified in Annex B.

2. Submit on or before November 1 of each year during the period of this Agreement a comprehensive report to the Government of the exporting country on the activities and progress achieved under the Food for Development Program, for the United States fiscal year ending September 30 including, but not limited to, a comparison of results with project targets, a specific accounting for funds generated, their uses, the outstanding balances at the end of the most recent fiscal year, and any recommendations of the Government of the importing country for modification and improvement of the Food for Development Program.

3. Maintain adequate records for not less than three years after completion of the program to permit review and audit by the Government of the exporting country of measures taken to implement the Food for Development Program.

B. The Government of the importing country agrees to establish a special account in which it will deposit not later than six calendar months after the date of disbursement by CCC the proceeds generated from the sale of the commodities provided to it for the Food for Development Program set forth in Annex B of this Agreement.

Item III. Credit for Title I Loan Indebtedness

The Governments of the exporting and importing countries agree that:

A. The dollar equivalent of local currency disbursed for eligible uses identified in Annex B shall be calculated at the exchange

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rate specified in Part I, Article III G of this Agreement, applicable on the date of disbursement from the special account. The dollar equivalent of local currency disbursed for the eligible uses identified in Annex B shall be credited toward the payment of the earliest installment coming due according to Part I, Article II H of this Agreement or any other Title I, P.L. 480 agreement, if specifically provided for.

B. For the period during which disbursements are made in accordance with paragraph A, above, the Government of the importing country will furnish the Government of the exporting country a quarterly report of the deposits and disbursements made, certified by the appropriate audit authority of the Government of the importing country, and a description of the activities for which the disbursements were made.

C. The Government of the exporting country reserves the right to review use of disbursements and to determine eligibility for application against Title I payment obligations under this Agreement. If the Government of the exporting country determines that a disbursement was made for an ineligible use, notice of such ineligibility shall be given by the Government of the exporting country to the Government of the importing country, and the two Governments shall, upon the request of either, consult regarding such ineligibility. If the notice of ineligibility is not rescinded by the Government of the exporting country within 90 days of receipt of such notice by the Government of the importing country, disbursements for ineligible uses shall not be eligible for application to any indebtedness, and, at the option of the Government of the exporting country, the equivalent amount shall be restored to the special account. To the extent that any disbursements for ineligible uses were previously applied by the Government of the exporting country against the Title I payment obligation such application will be cancelled.

D. The Government of the exporting country shall have the right at reasonable times to inspect projects, and inspect and audit records, procedures and methods pertaining to the disbursements made from the special account.

E. If currencies remain in the special account after completion of the program set forth in Annex B, the Government of the importing country shall use the remaining currencies for such economic development purposes as the two Governments may agree.

F. Annually at such time as the two Governments may agree, representatives of the parties will meet in a place mutually

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agreed upon to discuss and review the progress of the Food for Development Program, to consider modifications and improvements, and to determine the amounts and kinds of commodities to be financed under this Agreement during that year of the Food for Development Program.

ITEM IV. Implementation of the Food for Development Program.

A. The Food for Development Program, which is further described in Annex B, will consist of activities of the Government of the importing country designed to encourage and facilitate official Sudanese efforts to meet the country's food grain requirements (particularly wheat), to redirect food production and pricing policies within the context of the Government's national food security strategy, and to mobilize local currency resources for uninterrupted development of the Sudanese traditional sector. Annex B amplifies the above description of the Food for Development Program.

B. From time to time, the parties may use jointly agreed-upon implementation letters to confirm and record their mutual understanding on aspects of the implementation of this Agreement. Implementation letters will not be used to amend the text of this Agreement but can be used to record revisions or exceptions which are permitted by the Agreement.

C. For the purpose of negotiating and executing implementation letters, the Government of the importing country will be represented by the individual holding or acting in the Office of the Undersecretary, Ministry of National Planning, and the exporting country will be represented by the Director, United States Agency for International Development (USAID), each of whom, by written notice, may designate additional representatives. Each party will provide the other party with the names of its representatives and their specimen signatures, and may accept as duly authorized any implementation letter signed by any one of such representatives of the other party prior to receipt of written notice of revocation of their authority.

ITEM V. Suspension of the Agreement.

The Government of the exporting country shall annually review the performance and implementation of this Agreement by the Government of the importing country. If the Government of the exporting country finds that the provisions of this Agreement are not being substantially met, no further financing under this Agreement shall be extended until the end of the following United States fiscal year or

until the situation is remedied, whichever occurs first, unless the failure to meet the provisions is due to unusual circumstances beyond the control of the Government of the importing country.

## ANNEX B

### PROGRAM DESCRIPTION

#### I. Background:

The analysis and justification for a five-year Title III program in the Sudan is presented in The Government of the Democratic Republic of Sudan Food for Development Program PL 480 Title III FY1979-FY1983, dated April 1979. The purpose of the multi-year program is to encourage and facilitate official Sudanese efforts to meet the country's food grain requirements (particularly wheat), to redirect food production and pricing policies within the context of the Government's national food security strategy, and to mobilize local currency resources for uninterrupted development of the Sudanese traditional sector.

The Sudan Title III program provides resources to enhance GOS commitments to basic human needs and equitable growth among those peoples heretofore not fully participating in the development process. It specifically addresses major socio-economic and physical constraints to development in four major sectors, namely agriculture, transport, health, and rural planning. Seven projects have been identified, designed, and endorsed by the GOS and USAID for local currency funding support.

#### II. Program Description:

##### Introduction:

A. The Title III program will provide the Sudan with approximately \$100 million over a five-year period: FY1979-1983. Hard currency that otherwise would have to be borrowed to finance commercial wheat imports can be invested in export earning or import substitution projects.

The Government of Sudan agrees that local currencies generated by the sale of Title III wheat will be used to cover local costs of ongoing and specifically approved new development projects that otherwise would suffer delay or diminution of objective due to the austere development budget recently promulgated as part of the GOS Stabilization Program. All of the proposed projects are designed, and in one case already under implementation. Each has been selected for its consonance with Title III criteria. Projects generally will be carried out by well-established, "line" institutions which often are bolstered by voluntary agency support. This institutional configuration bodes well for the Title III projects and ensures a more effective utilization of the local currency resources. The Government of Sudan proposed projects on the basis of a

new three-year investment plan that was prepared in conjunction with the IMF agreement and the Government's Stabilization Program.

In mid 1978 the GOS initiated discussions with the IMF on an Extended Fund Facility to accompany a Stabilization Program. As part of this reform program, the GOS devalued the Sudanese pound from U.S. \$2.50 to U.S. \$2.01 per Sudanese pound in June of 1978. To control the inflation rate of 25% a year, public spending is to be reduced and investments are to be directed to those projects that make the most productive uses of existing resources. The broad goals of the Program are as follows:

- existing project starts would receive priority to bring them to a productive phase, thus contributing to either export earnings or import savings;
- organizational changes will be made in the agricultural sector to increase the incentives of individual farmers;
- emphasis is to be directed to improving the provision of energy and transport which are the arteries upon which increased agricultural surpluses are generated and marketed; and
- fiscal controls will be tightened to a point of limiting growth in real allocations for development during the current period (FY79 - FY81).

Sudan's Stabilization Program appears to follow in part priorities suggested by the World Bank in its agricultural sector review. Of the planned LS 202 million development budget for FY80, agriculture is the priority sector to which 25 percent will be allocated. However, the extent to which the GOS will shift emphasis within this allocation away from the east-central region to outlying regions will place emphasis on harnessing the initiative of small-scale entrepreneurs and will encourage development schemes in the traditional sector.

Tight budgetary constraints have forced some government programs to shift from operational to caretaker status. While the GOS is concerned with reaching its rural constituents, it is almost certain that resumption of some old and initiation of new efforts directed to the traditional sector during the next two-year period will depend on external financing.

To implement the basic food and agricultural policy guidelines established with the IMF, the Ministries of National Planning and of

Agriculture, Food and Natural Resources plan to concentrate resources on yield increasing techniques to attain increased production of crops. The expansion of acreage will be deferred indefinitely. Furthermore, self sufficiency goals for some staple crops have been modified, wheat being the most prominent example.

Price changes on water and other inputs will place most irrigated crops on an equal footing with cotton. Most subsidies will be reduced or removed. While the actual pricing structure is yet to be developed, all irrigated crops with the exception of dura (sorghum) will be subject to water and land use charges. The pricing changes will be implemented during the 1979/80 crop year. The extent to which the proposed pricing changes will significantly reallocate irrigated production resources to cotton and other export oriented crops remains to be seen.

The proposed pricing policies on both the production and consumption sides of the wheat market will be reviewed over the life of the program. Under the Stabilization Program it is expected that the government will offer farmgate prices more consistent with the wheat import parity price.

#### B. Recurring Cost Burden -- and Title III Additionality

The government's developmental and financial difficulties reflect problems of project implementation. For the lack of staff, facilities, and transportation, few development projects are being completed at designed levels of productivity or social benefit. These constraints have been compounded by increased donor interest in and assistance for targeted investment projects as compared with their earlier support for budget support and modern capital-intensive projects. The government has not been able to mobilize sufficient domestic revenue and strengthen staff to support the growing operating expense burden of existing and ongoing projects. Cuts in developmental targets and resource allocations have fallen disproportionately on the traditional sector, on the West and the South, in short, on the poorer groups in society.

As the developmental emphasis has broadened to include other sectors, donors have been unwilling to finance governmental overhead costs. As a result, the staff, buildings, and vehicles needed to support donor-financed projects are often under-financed and occasionally absent. Projects that are otherwise well designed and supplied with imported components often cannot be implemented or operated as planned. Under these circumstances, the distinction blurs between recurring costs and "developmental" costs, between administrative staff and developmental officers, between physical infrastructure

and fuel needed to run a government and the same overhead needed to construct a project. The latter -- developmental -- forms of government activity cannot assume that the former are in place. If the staff is not paid and vehicles do not have fuel, the projected benefits of additional projects will be non-existent.

Furthermore, to insist upon wholly new activities, in the face of numerous incompletd and poorly maintained programs, compounds the recurring cost burden without helping to solve it. Support for ongoing development programs, in sectors which meet AID criteria, therefore contribute to development. These Title III activities are already designed and have been evaluated for their contribution to equitable growth. The availability of foreign technical assistance and voluntary agencies also makes it possible to be confident our assistance will be well spent. The government has selected these projects because the absence of local currency is the principal constraint. Other components such as project design, technical assistance and materials are currently available or are not foreseen as slowing the project. The completion of some ongoing projects will allow pay-off by the projects to occur where otherwise they would remain half finished, waiting until some future date when they can be completed. By providing this form of project assistance we also hope to encourage other donors to view development broadly and more responsibly. In the absence of Title III support, the projects proposed in this program would not be financed by the government in the near term, nor does this assistance displace or fulfill the planned contributions of other donors.

### C. Equivalency

Under Title III it is required that the local currency generations be equal in value to the food commodities shipped under the agreement. The GOS will deposit in a special account the local currency equivalent of the dollar F.O.B. (U.S.) value of the Title III wheat. Using current Sudanese and United States prices, the equivalency requirement can be illustrated for the FY 1979 portion of the commodity schedule.

Wheat delivered to the mills is sold at LS 55 (or \$110) per ton. The wheat purchased F.O.B. U.S. under the FY 79 PL 480 agreement cost \$144 per ton. In order for the agreement to allocate the full equivalent value of U.S. commodities to the Title III Development Program, the government would have to commit an additional local currency equivalent of \$34 per ton to that generated by wheat sales to the mills. A similar formula utilizing current Sudanese

and U.S. prices will be used for each successive year to compute the equivalency payment. The calculation similarly will be based on the price spread between the U.S. F.O.B. price and the GOS sale price to the mills.

D. Commodity Schedule:

The commodities required under the Title III program are presented in the following table:

Title III Commodity Schedule for Wheat - FY79-FY83

	FY 79	FY 80	FY 81	FY 82	FY 83	Total
Dollar Value	11	25	25	25	14	100
Tonnage	76,000	158,000	144,000	130,000	66,000	574,000
(\$/MT @ 10% yr)	(144)	(158)	(174)	(192)	(211)	

E. Summary Project Descriptions

The Title III program will provide 44 percent of its resources for projects in the South and 56 percent for the northern sector in the central part of the country. By sector, 59.2 percent is allocated for traditional agriculture, 0.8 percent for irrigation, 32.5 percent for rural transportation systems, and 7.5 percent for rural health.

These projects have been selected by the government on the basis of their expected impact on the traditional sector in the West and South, their local currency requirements, and their labor intensive-ness. USAID/Sudan has reviewed these projects for relevancy to equity and growth in the West and South.

The GOS agrees to undertake the projects described below over a five-year period. The project summaries were jointly prepared by the GOS and USAID, based on GOS-approved project documents and the relevant supporting technical and socio-economic data.

Project Titles and Special Account  
Disbursement Schedule  

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(millions dollars)

Projects	GOS Fiscal Year <sup>1/</sup>					Total
	'80	'81	'82	'83	'84	
1. Railway Rehabilitation						
a. Kosti-Nyala-Wau Route	9.9	8.5	4.1	3.0	2.0	27.5
2. Agriculture Sector Support	1.8	6.3	4.3	4.2	---	16.6
a. Northern Provinces	0.3	4.7	2.7	2.6	---	10.8
b. Southern Provinces	1.0	1.6	1.6	1.6	---	5.3
3. Health Sector Support	1.0	1.7	2.1	2.7	---	7.5
a. Northern Provinces	0.5	0.9	0.8	1.1	---	3.3
b. Southern Provinces	0.5	0.8	1.3	1.6	---	4.2
4. Rural Planning	3.2	7.9	9.7	9.4	9.4	39.6
a. Planning Support						
- Northern Provinces	1.1	1.4	0.6	0.3	0.3	3.7
- Southern Provinces	1.1	0.5	0.1	0.1	0.1	1.9
b. Rural Development Fund						
- Northern Provinces	---	3.0	6.0	6.0	6.0	21.0
- Southern Provinces	---	4.0	3.0	3.0	3.0	13.0
5. River Transport Rehabilitation	0.1	1.6	2.0	1.3	---	5.0
6. University of Gezira Outreach	---	0.2	0.2	0.2	0.2	0.8
7. Desert Encroachment Control and Rehabilitation Program	---	0.3	1.2	0.8	0.7	3.0
<b>Total</b>	<b>16.0</b>	<b>26.5</b>	<b>23.6</b>	<b>21.6</b>	<b>12.3</b>	<b>100.0</b>

<sup>1/</sup> July 1 to June 30

(Specific project descriptions are presented in Section IV E of the GOS Food for Development Program Paper, April 1979.)

III. Implementation Arrangements:

The program will be implemented by the Government of Sudan (GOS) under the overall coordination of the Ministry of National Planning (MNP) while operational and reporting requirements will be the responsibility of the particular Ministry charged with the carrying out of the specific project or sub-activity.

A. GOS Responsibilities

The GOS through the MNP agrees to meet the following responsibilities:

1. Serve as the primary liaison office with the various Ministries and AID.
2. Submit quarterly reports to AID on project implementation and disbursements.
3. Facilitate the flow of disbursements to agreed upon program activities.
4. Establish and maintain a special account solely for the deposit of Sudanese pounds generated from the sale of program commodities and to provide funds to cover any difference between the commodity value (f.o.b., U.S.) and the actual sales generation value.
5. Prepare and submit a comprehensive annual report addressing the progress achieved under the Food for Development Program. The report shall include a comparison of results with projected targets, a specific accounting of funds generated and their use, the outstanding balance in the Special Account at the end of the most recent U.S. fiscal year and any recommendations for modifications or improvement in the Food for Development Program.
6. Maintain adequate records on the project for not less than three years after the completion of the Program.

B. USAID Monitoring

Normal technical monitoring channels will be maintained between the Ministry of National Planning, the involved Ministries and the USAID.

C. Evaluation Plan

The program will be evaluated annually commencing approximately one year from the date of the first disbursement for project activities.

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The evaluation will review the progress of the projects, the utilization of funds, the results achieved against project benchmarks, and will serve as an annual report. Furthermore, the joint evaluation team will make appropriate recommendations with regard to the continuation of the agreement.

Frank Diamond  
AFR/DP  
Paul Russell  
AFR/DM/HHD

**Office of the General Sales Manager**

**UNITED STATES DEPARTMENT OF AGRICULTURE**

10/5/79

To: John Wooten, AFR/EA  
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→ From: Besa Kotati, USDA/OGSM/PPD *ELK*

Subject: Sudan Title III-Draft Annex B

Attached is a draft reflecting changes that John Wooten and I had discussed on Monday, 10/1/79.

Your comments are greatly appreciated. If I do not hear from you by COB on 10/10/79, I will assume that you agree with the draft.

Besa Kotati  
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ANNEX B  
PROGRAM DESCRIPTION

ITEM I. GOAL:

The goal of this Food for Development Program is to assist the Government of Sudan (GOS): ~~in four ways:~~

- A. To provide the country with U.S. \$100 million ~~which would~~ *long-term credit* ~~otherwise have to be borrowed~~ to finance commercial wheat imports, over a five-year period: FY 1980-84.
- B. To help fill Sudan's food gap, thus giving the agricultural sector time to increase production through improved yield.
- C. To generate local currency by the sale of wheat, which will be used to finance development activities.
- D. To support the policy reforms of the IMF's Extended Fund Facility (1979), and to ensure that the GOS' development budget allocation to poorest of the poor are not disproportionately reduced as the Sudanese cut back overall expenditures consistent with the GOS/IMF Stabilization Program.

ITEM II. BACKGROUND:

- A. The analysis and justification for a five-year Title III program in the Sudan is presented in "The Government of the Democratic Republic of Sudan: Food for Development Program - P.L. 480 Title III - FY 1979-FY 1983" and supplement dated April 1979. The purpose of the multiyear program is to encourage and facilitate Sudanese efforts to meet the country's food grain requirements
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(particularly wheat), to redirect food production and pricing policies within the context of the government's national food security strategy, and to mobilize local currency resources for uninterrupted development of the Sudanese traditional sector.

- B. The Sudan Title III program provides resources to enhance GOS' commitments to basic human needs and equitable growth among those people heretofore not fully participating in the development process. This Title III supports GOS' agricultural reforms under the country's Economic Stabilization Program by providing a multi-year commitment for wheat imports, thus lessening the potentially immediate and strong negative impacts of major policy reforms.
- C. Both the GOS and the USG will have a sincere interest in working jointly to determine whether Sudan can become an efficient producer of wheat under realistic conditions. In addition to funding agreed-upon projects and detailed herein, a portion of the local currency proceeds will be used to facilitate continuing assessment of Sudan's food needs and to support the GOS in its efforts to formulate and implement broad agricultural and related policies. The GOS, in cooperation with the USG, will initiate and undertake policy-related study.
- D. Anticipated proceeds from the sales of agricultural commodities will be used to finance the following projects during a five-year period (1980-84):

Handwritten marks: a checkmark, a question mark, and the number 79.

Total U.S. \$ Millions

1. Railway Rehabilitation.....	27.500
2. Agricultural Sector Projects.....	15.265
3. Health Sector Projects.....	7.429
4. Rural Planning.....	36.955
5. River Transport Rehabilitation.....	5.090
6. University of Gezira Outreach Program..	4.000
7. Desert Encroachment Control and Rehabilitation.....	<u>3.000</u>
Total (U.S. \$ Million).....	99.239 or 100.000

ITEM III. PROGRAM DESCRIPTION:A. Introduction:

1. A detailed program description is presented in Title III program proposal: "The Government of the Democratic Republic of Sudan: Food for Development Program - P.L.480 Title III - FY 1979 to FY 1983" (April 1979).
2. The Title III program will provide Sudan with approximately \$100 million or \$20 million per year over a five-year period: FY 1980-84. A summary of anticipated proceeds and their use is presented in Table B:1.

B. Title III Additionality:

1. The government's developmental and financial difficulties reflect problems of project implementation. Due to the lack of staff, funds, facilities and transportation, few development projects are being completed at desired levels of productivity or social benefits. These constraints have been compounded by increased donors' interest in and assistance

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for targeted capital formation projects as compared with their earlier support for budget support and modern capital-intensive projects.

2. As the developmental emphasis has broadened to include other sectors, donors have been unwilling to finance governmental overhead costs. As a result, the staff, buildings, and vehicles needed to support donor-financed projects are often under-financed and occasionally absent. Projects that are otherwise well designed and supplied with imported components often cannot be implemented or operated as planned. Under these circumstances, the distinction blurs between recurring costs and developmental costs, between administrative staff and developmental officers, between physical infrastructures and fuel needed to run a government and the same overhead needed to construct a project.
3. In the <sup>fact</sup> of numerous incompletes and poorly maintained programs, and the recurring cost burden ~~without helping to solve it~~, the GOS has selected these projects (see Tables B:1 and B:2) because the absence of local currency is the principal constraint. Other components such as project design, technical assistance and materials are currently available or are not foreseen as slowing the project. The completion of some on-going projects will allow pay-offs by the projects to occur where otherwise they would remain half finished, waiting until some future date when they can be completed. By providing this

form of project assistance, other donors will be encouraged to view development broadly and more responsibly. In the absence of Title III support, the projects proposed in this program would not be financed by the government in the near future, nor does this assistance displace or fulfill the planned contributions of other donors.

- 4. Tables B:1 and B:2 give a summary description, targets and total costs of each project to be financed with Title III resources. For a detailed project description a reference should be made to the original program proposed and supplement dated April 1979.

C. Equivalency:

- 1. Under Title III it is required that the local currency generations be equal to the food commodities shipped under the agreement. The GOS will deposit in a special account the local currency equivalent of the dollar <sup>FAS</sup>~~FOB~~ (U.S. \$) value of the Title III wheat.
- 2. Any difference from the value of commodities sold for local currency and value of commodities shipped must be made up by the GOS.

D. Commodity Schedule:

- 1. This multiyear Title III program calls for Sudan to import wheat (and/or wheat flour) valued at U.S. \$20 million per year, or U.S. \$100 million over five-years (FY 1980-84).

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2. During the first year of the program, it is estimated Sudan will import 118,000 MT if prices remain at U.S. \$170/MT. ✓  
Each year thereafter, the tonnage will be set according to wheat prices at that time.

E. Benchmarks for FY 1980-84 Activities:

1. Policy Analyses for FY 1980-84:

Given both governments' policy interests and the desirability of studying in greater detail the food production and marketing issues, the following policy analyses and implementation activities will be undertaken:

FY 1980/81 Policy Analyses:

In FY 1980, establish priorities for policy study requirements from the problem are as noted below and arrange for consultant services, if necessary, to initiate two or more of the studies in FY 1980 and complete all studies by end of FY 1981: ✓

- Study #1: Compare real costs of growing wheat in Sudan with imported wheat, including transportation costs (and in turn their opportunity costs) to Khartoum.
- Study #2: Examine the impact on wheat and cotton production of rationalizing water and other charges between these crops in the Gezira.
- Study #3: Assess the effects on consumption of wheat and sorghum of <sup>the</sup> removal of wheat subsidies to consumers. ✓

Study #4: Assess effectiveness and any changes needed in the wheat research and production program of the GOS.

Study #5: An overall nutrition assessment of GOS food production/marketing goals and policies, with particular emphasis on impact of wheat and sorghum ~~and~~ on nutrition levels in Sudan.

*Should be separate item - life of project*

FY 1982-84 Policy Implementation:

Any specific policy activities for years FY 1982 through FY 1984 will be determined on the basis of results achieved in FY 1980 and 1981.

2. Railway Rehabilitation Project:

FY 1980 Activities:

*ACTIVITY #1*  
~~Study #1:~~

Sudan Railway Corporation (SRC) will install half of the Babanousa to Wau ground cable (225 kms) necessary for scheduling of trains, commodity deliveries and operating safety. The SRC will also drill and establish 27 bore hole water stations along its western route, so that maintenance crews and stations personnel will have drinking wtaer. The rail wagons that now have to carry water to these distant points will be available for carrying fuel and other necessary goods (see Table B:3 "Railway Implementation Targets").

Activity Study #2: SRC will increase the number of scheduled freight trains from one per week to three per day. Thus increasing annual capacity as described in Table B:2 Project Summaries (see "Project Targets" for Railway Rehabilitation).

FY 1981-84 Activities:

Depending on progress made in FY 1980, activities for FY 1981 through FY 1984 are presented in Table B:3 "Railway Implementation Targets."

3. Agricultural Sector Support Projects:

FY 1980 Activities:

*Very delay in signing could have an adverse effect on this schedule.*

Activity Study #1: Start and completion of:

- a) 01 aquifers, water stations and wells in Northern Provinces.
- b) 53 rehabilitation of haffirs, wells and drilling workshops in Southern Provinces.
- c) 20 water/veterinary stations.

Activity Study #2: Implementation targets for the agricultural sector support are given in Table B:4.

FY 1981-84 Activities:

The activities during FY 1981 through FY 1984 will follow the schedule presented in Table B:4.

4. Health Sector Support:

FY 1980 Activities:

The Ministry of Health will undertake the following activities:

Construction of:

- one health supply warehouse in Northern Provinces,
- 31 health care units in Southern Provinces,
- 94 bore and shallow wells in Northern Provinces,
- 60 bore and shallow wells in Southern Provinces,
- 235 well protection works in Northern Provinces, and
- 235 well protection works in Southern Provinces.

FY 1981-84 Activities:

A tentative schedule for FY 1981-84 is presented in Table B:5.

Revisions will be made to reflect previous year's progress and evaluation.

5. Rural Planning:

FY 1980 Activities:

Activity Study #1: Through the Ministry of National Planning, the Government of Sudan will carry out these activities:

Construction of provincial offices:

6 in the North and

6 in the South.

Activity Study #2: Under the Provincial Development Fund, project selection criteria will be established and

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completed by GOS planning staff in Khartoum and regional staff in Juba, before any projects are approved.

These criteria will then be transmitted to Provincial Planning Offices for use in identifying and designing provincial and district levels. Project proposals will then be submitted to the central planning offices (Khartoum for 12 Northern Provinces and Juba for 6 Southern Provinces) for review by GOS planning staff. Both offices will have one resident USG-sponsored expert in provincial planning, area development and related topics to be financed under the separate USG Rural Planning project (No. 650-0012). Part of the responsibility of these technicians will be to train GOS planning staff in project evaluation from the point of technical feasibility, cost-benefit analysis measurable benchmarks and development impact.

FY 1981-84 Activities:

Upon a successful implementation of FY 1980 activities, the GOS will undertake activities presented in Table B:6, and those projects which have been approved under 5b above and have been incorporated under that year's amendment to the Title II program.

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6. River Transport Rehabilitation:

FY 1980 Activities:

The River Transport Corporation (RTC) will carry out a feasibility study of communication and navigational aids and improvements along with southern waterways. Such a study will permit the RTC to optimally program the utilization of new vessels and barges provided by the Government of Norway. The objective of improvements in the river transport system is to increase the flow of capital and consumer goods to the south and facilitate the access of goods produced in the south to the northern markets.

FY 1981-84 Activities:

Specific FY 1981-84 activities will be determined after a thorough review of the progress made in implementing FY 1980 activities.

7. Gezira Outreach Program:

FY 1980 Activities:

Activity Study #1:

The University of Gezira will design and implement extra-curricular activities cutting across all major departments and units of the University.

Activity Study #2:

The submission of agreed upon benchmarks for activities, which will be designed and implemented in paragraph 7a above, will be a "condition precedent" to disbursement of funds from the Special Account under this agreement.

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FY 1981-84 Activities:

Specific activities will be determined in accordance with the implementation plan presented in paragraphs 7a and 7b above (see FY 1980 Activities).

8. Desert Encroachment Control and Rehabilitation Program (DECARP):FY 1980 Activities:

*Activity Study* #1: Although specific implementation targets are under preparation, activities will include all projects presented in Table B:7.

*Activity Study* #2: The submission of agreed upon benchmarks for these projects will be a "condition precedent" to disbursement of funds from the Special Account of this agreement.

FY 1981-84 Activities:

Activities for FY 1981 through FY 1984 will be agreed upon at the completion of FY 1980 activities which will be implemented as outlined in paragraphs 8a and 8b above.

ITEM IV. IMPLEMENTATION PROCEDURES:A. General:

1. The program will be implemented by the Government of Sudan (GOS) under the overall coordination of the Ministry of National Planning (MNP).
2. Early in each U.S. fiscal year throughout the life of the FFD agreement, the GOS and the USG will agree on the specific

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quantity and value of P.L. 480 commodities to be supplied during that year.

B. GOS Responsibilities:

1. The GOS through the MNP will carry out FY 1980 through FY 1984 activities under Item II, paragraphs E:1-8 (Benchmarks for FY 1980-84 Activities) of Annex B.
2. The GOS will submit reports to USG on project implementation and disbursements.
3. The report submitted by the GOS on an agreed-upon date by the GOS will include the following:
  - a) Accounting of funds generated and their use.
  - b) Current status of the project implementation plans/targets.
  - c) Current results of the project and their impacts on the target group/beneficiaries.
  - d) Progress made and results achieved under the IMF Stabilization Program.
  - e) Course of action taken to improve project implementation.
4. The GOS will maintain adequate records on the project for not less than three years after the completion of the program.

C. USG Monitoring and Responsibilities:

1. Specific monitoring channels will be agreed upon at the beginning of program implementation.
  2. These channels will be maintained between the Ministry of National Planning and the USG Mission in Sudan.
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3. In consultation with the GOS, the USG will monitor all aspects set forth in Annexes A and B of the agreement.
4. The responsibilities of the USG are prescribed in Annex A, Item I:A and B.

ITEM V. EVALUATION AND AUDITS:

*Check with Frank  
Diamond*

A. General:

1. As provided in Item III of Annex A, paragraph 6, the GOS and the USG will carry out an evaluation of the FFD program by (date to be agreed upon prior to the signing of this agreement).
2. In the context of paragraph A:1 above, a formal evaluation of progress on the commitments and measures noted in Item III:E, and Item IV:A, B and C of Annex B will be a key factor in deciding on the size and composition of the succeeding year's P.L. 480 assistance. The development and implementation of evaluation methodology and associated criteria will be key items in the review of each year's progress of the Title III program.
3. Individual project evaluations will be carried out jointly by the GOS and USG representatives on a timetable specified in paragraph A:1 above.
4. The evaluation and audit will have a mid-year review (6 months from the beginning of each project) and an annual evaluation during the first year of program implementation. Thereafter, only an annual evaluation will be carried out.

5. The evaluation will be completed to provide sufficient time for the USG/GOS programing decision for the following year.
- B. Review/Evaluation Methodology:
- Details of methods to be used in reviewing and evaluating each project will be worked out during the mid-year review process.
- C. Review and Evaluation Criteria:
1. Unless otherwise specified, Item III:E (Benchmarks for FY 1980-84 Activities) and Item IV:A, B and C (Implementation Procedures) requirements set forth major criteria to be used in reviewing and evaluating each project of this agreement.
  2. The annual evaluation will include but not limited to the following:
    - a) Utilization of Food for Development funds disbursed to each project.
    - b) Financial aspects of each project implementation.
    - c) Qualitative and quantitative results of each project and their impacts on the target group.
    - d) Progress made and results achieved under the IMF Stabilization Program and agreement.
    - e) Suggestions and recommendations to improve and make adjustments of the overall program implementation.
    - f) Project areas of additionality differentiating Title III from Title I programing and implementation.
  3. At each stage of program review/evaluation, the joint evaluation team will make appropriate recommendations with regard to the continuation of the project concerned.

TABLE B:1 ANNEX B  
SUMMARY BUDGET  
FOOD FOR DEVELOPMENT PROJECTS FY 80-84

I. ANTICIPATED PROCEEDS FROM SALES OF COMMODITIES <u>-(US \$ Million):-</u>	<u>FY 80</u>	<u>FY 81</u>	<u>FY 82</u>	<u>FY 83</u>	<u>FY 84</u>	<u>Total</u>
		20.000	20.000	20.000	20.000	20.000
<hr/>						
II. <u>DEVELOPMENT PROJECTS (US \$ MILLION):</u>						
1. Railway Rehabilitation	9.90	8.50	4.10	3.00	2.00	27.500
2. Agricultural Sector <i>Project</i>	.45	6.31	4.31	4.12	-	15.265
	-	.025	.025	.025	-	
3. Health Sector Support	1.033	1.690	2.047	2.659	-	7.429
4. Rural Planning	7.885	10.260	9.405	9.405	-	36.955
5. River Transport Rehab.	.100	1.690	2.000	1.300	-	5.090
6. University of Gezira Outreach <i>Program</i>	.800	.800	.800	.800	.800	4.000
7. Desert Encroachment Control and Rehabilitation	-	.300	1.200	.800	.700	3.000
<hr/>						
TOTAL (\$ MILLION)	20.168	29.575	23.887	22.109	3.500	99.239 or 100.000

Table B:2-Project Summaries

<u>Project Title</u>	<u>Management/ Administrative Responsibility</u>	<u>Project Description</u>	<u>Project Target</u>	<u>Costs (US \$MILLION)</u>															
1. Railway Rehabilitation	Sudan Railway Corporation (SRC)	<p>This is an existing project which will complement the World Bank's rehabilitation project by improving railway performance and expanding its capacity in the southwestern regions of Sudan.</p> <p>This project will finance the re-laying of line to permit the operation of heavy locomotives to Babanusa Junction.</p>	<p>(1) Increase the number of scheduled freight trains from one per week to three per day.</p> <p>(2) Increase annual capacity as follows:</p> <table border="1" data-bbox="1499 504 1892 579"> <thead> <tr> <th></th> <th>Present Capacity</th> <th>Expected Capacity</th> </tr> <tr> <th>Loco</th> <th>1976/77</th> <th></th> </tr> </thead> <tbody> <tr> <td>(1) Bahad/</td> <td>226,000 MT</td> <td>780,000 MT</td> </tr> <tr> <td>(2) Babanusa/ Nyala</td> <td>156,000 MT</td> <td>468,000 MT</td> </tr> <tr> <td>(3) Babanusa/ Wau</td> <td>74,000 MT</td> <td>312,000 MT</td> </tr> </tbody> </table>		Present Capacity	Expected Capacity	Loco	1976/77		(1) Bahad/	226,000 MT	780,000 MT	(2) Babanusa/ Nyala	156,000 MT	468,000 MT	(3) Babanusa/ Wau	74,000 MT	312,000 MT	27.500
	Present Capacity	Expected Capacity																	
Loco	1976/77																		
(1) Bahad/	226,000 MT	780,000 MT																	
(2) Babanusa/ Nyala	156,000 MT	468,000 MT																	
(3) Babanusa/ Wau	74,000 MT	312,000 MT																	
2. Agricultural Sector Support	Ministry of Agriculture, Food and Natural Resources; Rural Water Corporation; and Agricultural Research Corporation.	<p>The support is designed to restore traditional subsector programs which were originally cut from the 1978/79 GOS budget in the wake of devaluation and the imposition of tight fiscal and monetary restrictions.</p>	<p>To assist the GOS in overcoming the following constraints to food production and producers' income:</p> <p>(1) Lack of water supply in areas of crop and livestock production.</p> <p>(2) Inadequate flow of services in support of animal health and marketing.</p> <p>(3) Lack of adaptive research in support of small farmers.</p> <p>(4) Underdeveloped skills in data collection and analysis.</p>	15.265															

Health Sector Support

Ministry of Health

This project is to assist the Ministers of Health in the North and the South to overcome constraints to the implementation of Sudan's National Health Program, which has as one of its priority objectives increased access of the rural poor to health services

To support two government programmers in particularly,  
(1) Primary Health Care  
(2) Safe Water Supply

7.429

4. Rural Planning

Ministry of National Planning

To support the GOS in its efforts to decentralized rural planning programs in Sudan's 18 provinces

To construct housing and accommodation facilities for provincial officers and save staff in each provincial capital, who have the responsibility to design and implement socio-economic survey in their respective province.

36.955

5. River Transport Rehabilitation

River Transport Corporation (RTC)

Activities to be supported will be to increase the passenger/ freight capacity and operating efficiency of Sudan's major transport mode to its Southern region. Passenger and cargo transport along Sudan's rivers is slow and irregular.

To rehabilitate vessels and barges which are needed to overcome transport bottleneck in Southern Sudan. Activities to include:  
(1) Local training support  
(2) Rehabilitation of transport facilities.

5.090

B

6. University of Gezira Outreach Program University Gezira

This project will establish an outreach program of extra-curricula educational activities, cutting across all major departments and units of the University of Gezira

The Community outreach program to be supported with PL 480 resources include:

4.000

- (1) Promotion of Cottage Industries in rural areas/towns
- (2) Agricultural training for small farmers on new production schemes.
- (3) Dissemination of health sanitation information at the community level.
- (4) Research of socio-economic and environmental problems.

7. Desert Encroachment and Rehabilitation

The purpose of this project is to assist the GOS in reversing the degradation of these environmentally fragile lands through anti-desertification measures. The principal beneficiaries are rural population of northern Kordofa and Darfur, which are one of the poorest areas of Sudan.

Interrelated efforts to include the following activities:

3.00

- (1) Cover crop re-seeding and tree crop replanting
- (2) Relocation of families and related compensatory measures for families whose land would be affected
- (3) Alternative crop systems to improve soil conservation
- (4) Research of acceptable methods of land management
- (5) Pilot development schemes
- (6) Strengthening of institutions involved in rehabilitation.

Table B:3-RAILWAY

Implementation Targets

	<u>FY 79</u>	<u>FY80</u>	<u>FY81</u>	<u>FY 82</u>	<u>FY 83</u>
1. Communications Ground Cable laid (kms)	-	225	225	-	-
2. Operating Deep Bore Wells	-	27	17	20	-
3. Relay Aradeiba/Abu Zalad Ties (kms)	-	-	160	-	-
4. Protection Works (Widening and Raising	-	-	160	30	-
5. Station and Quarters constructed					
a. Stations	-	-	9	13	-
b. Maintenance Staff Quarters	-	-	100	250	180
6. Recondition Babanusa/Wau Ties (kms)	-	-	-	225	225
7. Retimber and Paint Babanusa/Wau Bridges	-	-	9	-	-
8. Civil Engineering Shop Machinery, Tools and Survey Instruments Purchased	-	-	1	-	-
9. Babanusa/Wau Locomotive Workshop					
a. Watering facilities improved	-	-	1	-	-
b. Wau, Wedweil and Babanusa Sheds Improved	-	-	1	-	-
c. Babanusa Platform Completed	-	-	1	-	-

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Table B:4-Agricultural Sector Support

Implementation Targets

	<u>FY80</u>	<u>FY81</u>	<u>FY82</u>	<u>FY83</u>
1. Rural Water Infrastructure				
<u>Northern Provinces</u>				
a. Aquifers, water stations and wells constructed	81	81	81	81
b. Ground water research conducted (areas)	--	ongoing	--	
<u>Southern Provinces</u>				
Construction/rehabilitation of haffirs, wells and drilling workshops	53	45	39	37
2. Animal Services				
<u>Northern Provinces</u>				
a. Water/veterinary stations constructed	20	15	15	13
b. Disease control projects implemented	--	3	--	--
<u>Southern Provinces</u>				
Rehabilitation of Live-stock/ crop production schemes	--	ongoing	--	
3. Adaptive Research				
<u>Northern Provinces</u>				
Cereals Production and Marketing Research	--	ongoing	--	
<u>Southern Provinces</u>				
Yambio Agricultural Research Station Rehabilitated	--	ongoing	--	
4. Project Development, Implementation and Planning Capacity				
<u>Northern Provinces</u>				
Dept. of Agric. Econ. and Statistics budget support	--	ongoing	--	

as

Table B:5

Health Sector Support  
Implementation Targets

	FY80	FY81	FY82	FY83
1. Medical Supply Warehouses				
Northern Provinces	1	1	-	-
Southern Provinces	-	-	2	14
2. Primary Health Care Units or Dispensaries				
Southern Provinces	31	56	56	56
3. Bore and Shallow Wells constructed				
Northern Provinces	94	94	94	98
Southern Provinces	60	60	60	60
4. Well Protection Works				
Northern Provinces	235	235	235	245
Southern Provinces	235	235	235	245
5. Village Midwives and Sanitary Overseers restrained				
Northern Provinces	-	1,720	1,721	1,721
Southern Provinces	-	120	121	121

Table B: 6

Rural Planning  
Implementation Plan

	<u>FY79</u>	<u>FY80</u>	<u>FY81</u>	<u>FY82</u>	<u>FY83</u>
1. Rural Planning Offices					
a. Constructed*					
Northern Provinces	6	12	12	12	--
Southern Provinces	6	6	6	6	--
b. Operational					
Northern Provinces	--	6	12	12	--
Southern Provinces	--	6	6	6	--
2. Provincial Development					
Projects Approved**					

\* Numbers are cumulative

\*\* This will depend on the type and cost of the provincial rural development self-help project prepared and approved in each province.

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Table B:7 D.E.C.A.R.P. Project  
Implementation Plan

	<u>FY81</u>	<u>FY82</u>	<u>FY83</u>	<u>FY84</u>	<u>Total</u>
1. Monitoring Network					
-equipment purchased	*				
-personnel in place	*				
-training	*	*	*		
2. Protection areas selected		*			
3. Desert encroachment research		*	*	*	
4. Water points improved and protected		*	*	*	
5. Establishment of shelter belts				*	