

ECONOMIC POLICY CHANGES IN THE  
DEMOCRATIC REPUBLIC OF THE SUDAN

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Annex: Table 1: Mass Consumption and Luxury Commodities

Table 2: Development Projects



Abbreviations

ABS	Agricultural Bank of Sudan
ACR	African Contemporary Record
BP	Basic Programme for Agricultural Development in the Democratic Republic of the Sudan 1976-1985
EFF	Extended Fund Facility
FIS	Food Investment Strategy 1977-1985
FR	Frankfurter Rundschau
FT	Financial Times
FYP	Five Year Plan 1970/71 - 1974/75
HTS	Hunting Technical Services
IBRD	International Bank for Reconstruction and Development
ILO	International Labour Office
IMF	International Monetary Fund
JMRDP	Jebel Marra Rural Development Project
LS	Sudanese Pound
MAFNR	Ministry for Agriculture, Forestry and Natural Resources
MEED	Middle East Economic Digest
MFC	Mechanized Farming Corporation
MFEP	Ministry of Finance and Economic Planning
MFNE	Ministry of Finance and National Economy
MFS	Mechanized Farming Scheme
MNP	Ministry of National Planning
NfA	Nachrichten für Außenhandel
NZZ	Neue Zürcher Zeitung
PPP	Prospects, Programmes and Policies for Economic Development 1982/83 - 1984/85
SYP	Six Year Plan 1977/78 - 1982/83
TYP	Ten Year Plan 1961/62 - 1970/71
UNDP	United Nations Development Programme

fd. = feddan

MT = metric ton



Weights and Measures

1 Kantar of Seed Cotton = 143 kg

1 feddan = 0.42 ha = 1.04 acres

Exchange Rate

	US \$/LS 1
1974/75	2.872
1975/76	2.872
1976/77	2.872
1977/78	2.872
1978/79	2.128
1979/80	1.702
1980/81	1.592
1981/82	1.125
1982/83	0.814



## Summary

In this study the economic policy changes in the 1970s in the Democratic Republic of the Sudan are analysed. To understand the real causes of the present crisis of stabilization in this country it is necessary to consider first of all the historical roots of the structural problems of the Sudanese economy. In Part II the implications of the weak inter- and intrasectoral interdependencies and of the high degree of export/import-dependency of the economy are analysed. It is shown that the economic policies pursued by the government after independence did not change fundamentally these structural characteristics. There was no consistent policy towards the development of the traditional agricultural sector and the development of industry based on the use of domestic resources. On the other hand, the traditional agricultural sector had been adversely affected by the economic policy changes since independence. All the development plans had a decisive impact on this sector which had nonetheless important functions as a supplier of migrant labour and as a source of cash crops.

In the early 1970s the concept of the Breadbasket was developed. It was hoped for to make the Sudan a major supplier of agricultural surplus products to the neighbouring Arab markets in order to make these markets more independent from third country food supplies. In Part III the economic policy changes which have led to this strategy and the concept itself are outlined in detail. The various documents of the Sudanese government and the regional Arab and the international organisations are analysed as far as they had an impact on the economic policy formulation. Thereby the sources, the objectives and the consequences of the intended economic policy changes could be deducted. It is shown that an over-ambitious programme with inconsistent economic objectives was formulated disregarding social and ecological aspects. Although only a part of this programme had been implemented up to 1978, the consequences were nonetheless profound.

In Part IV the obstacles and the macroeconomic consequences of the Breadbasket Strategy - which led to the planning and implementation of giant and large-scale agricultural/agroindustrial



development projects - were considered. The weakness of the economic management capacity of the country and the profound social and ecological conflicts arising during implementation of these development projects added to the economic imbalances (between savings and investments, public revenues and expenditures, exports and imports, debt servicing obligations and debt servicing capacity) which were growing since the beginning of the 1970s. The Breadbasket Strategy was pursued in a situation of growing macroeconomic disproportions. The intended for change of the structure of the economy could not materialize because of the internal and external shocks propagated by this strategy.

An analysis of the Economic Stabilization period after 1978 is given by referring to the economic policy recommendations of the IMF and the IBRD and the Sudanese government's responses to these recommendations. The crisis of stabilization in the Sudan is due to the fact that the inherited structural rigidities and the economic imbalances had been aggravated considerably during the 1970s so that the basis for economic stabilization became weaker than a decade ago. The adjustment capacity of the economy is more restricted than anticipated by those who give advice on stabilization.

Therefore a new approach to economic stabilization in the Sudan is necessary. In Part V such an alternative approach is outlined. Any strategy to reverse the current trend has to attack the basic structural problems - therefore it is necessary to look beyond the macroeconomic imbalances. Up to now the Sudanese government has not formulated and accepted a consistent strategy to reverse the trend. A strategy of economic recovery requires: a genuine support for the traditional agricultural sector, a strategy to use domestic resources for local industry and crafts, measures to improve the position of the real producer (not the middlemen), thereby making the incentives policies more efficient, a strategy of economic and political decentralization involving also a reallocation of the financial resource base of the state, and a strategy to scale down the tertiary sector which has grown unproportionately. A new approach to rescheduling of the foreign debts is also part of such a stabilization package.



## I. Foreword

The Sudan is an interesting country case for study: first of all, the Sudanese government tried to utilize the huge human and natural resources base of the country, by envisaging an ambitious development programme in the early 1970s: the Breadbasket Strategy; second, the 1970s was a critical period of development in the Sudan because of the imposition of the Breadbasket programme on an economy hit by increasing imbalances among macroeconomic variables (savings and investments, public revenues and expenditures, exports and imports, debt servicing requirements and debt servicing capacity). Third, the culmination of the stabilization crisis of the Sudan after 1978 led to an international involvement of donors and a reexamination of the development path pursued during the 1970s. In this context it is interesting to learn how far economic policies had been shaped by external and internal developments (shocks), what the determinants of economic policy changes are and how far the economic management of the country is able to respond to necessary changes. The question is raised what future economic policies may be required and what the economic policy options of the Sudanese government really are.

The Sudan is widely considered as a country endowed with huge and not yet exploited human and natural resources. So the government of the Sudan has pursued in the early 1970s an ambitious development programme (supported by the international and the regional donors community) to put to use these resources by mobilizing financial and technical support from the Arab countries and the West. The so-called Breadbasket Strategy was an attempt to change fundamentally the structure of production and trade of the economy towards the export of agricultural surplus products to the neighbouring Arab countries. A new regional division of labour was aimed for in order to reduce the one-sided dependency of the economy on the world market by diversification of the production base and the export structure. The programme was oriented mainly on the sectors of agriculture and agricultural industries (insofar the modern sectors of the economy). Giant and large-scale projects were planned and partly implemented.

In this study the economic policy changes are analysed as they



have led to this policy formulation. The macroeconomic consequences of the first steps of implementation of the Breadbasket Strategy are also analysed. In this context many questions had to be answered: Why have the intended economic policy changes since 1973 failed so far in the Sudan? What was the cause of the aggravation of fundamental economic imbalances in this period? Why have the economic stabilization measures since 1978 failed so far? What are the main factors being responsible for the ineffectiveness and inappropriateness of the economic policies pursued by the government? To what extent has the government of the Sudan incorporated the policy recommendations of IMF/IBRD into its economic policy measures? These questions are answered in this study. The purpose of this study is therefore to show how economic policy changes take place, how restricted the economic policy options of the Sudanese government really are and what the Sudanese government and the international donors can expect from the intended economic policy changes.

Many lessons can be learned from the case of Sudan: lessons about the impact of inherited structural rigidities on the economic policy formulation, the execution and the outcome of these policies, lessons about the impact of ambitious development programmes in the context of a weak social and economic environment, and lessons about the chances to stabilize economies like the Sudan after a long period of destabilization (with growing fundamental imbalances and uncertainties surrounding the domestic and the foreign investor).

The study gives also an outline of alternative economic developments and of required economic policy changes. Main areas of concern for future economic policies are considered: at the overall economic level, the sectoral level and the micro-level. Although the case of Sudan has some highly specific features, nonetheless some of the experiences may be of relevance to other African least developed countries and to other developing countries also. This refers especially to the problems created by a weak economic management capacity and the role of strong vested interest groups in the process of economic policy formulation and execution.



This study draws heavily on the published and unpublished research results of the Sudan Economy Research Group at the University of Bremen (see especially the book edited by Karl Wohlmuth and Peter Oesterdiekhoff on The Development Perspectives of the Democratic Republic of the Sudan, Weltforum Publishers, Munich/Cologne, 1983). This book discusses in great detail the concept of the Breadbasket strategy and the consequences for Sudanese agriculture, industry and development planning. Although the Breadbasket Strategy as an experiment of development failed so far, the causes of the failure have to be analysed carefully in order to design feasible development alternatives. The Sudan Economy Research Group at the University of Bremen will consider in more detail programmes of economic recovery for the Sudan which are compatible with the physical and human resource base, which are sustainable over the long run and which are realistic enough in view of the inherited and in the 1970s aggravated structural problems and imbalances.



## II. The Basis for Development in the 1970s: Structural Heterogeneity of the Sudanese Economy

The Sudan is the largest state in Africa covering over 2,500,000 square kilometers. Its potential of natural resources is considered to be huge: land, water and animals. The cultivable land is assumed to exceed 200 million acres of which only 15 million are cultivated presently. Regarding the question of human resources, this potential is believed to be under-utilized in regard to production and consumption. The population density is very low; however, the rate of population growth is estimated to be 2.8% p.a.

This seems to be a favourable position not only for food sufficiency, but also for an economic development based on agricultural exports. However, any development policy will have to manage the problems of an unbalanced economic structure. Both the different sectors of the economy and their interrelations can be described as structural heterogeneous.

This structure is a heritage of Sudan's colonial past, but even after independence none of the national governments succeeded in overcoming the structural deficiencies.

A brief outline of development up to the beginning of the 1970s - when the breadbasket strategy began to be implemented - and an analysis of the structural problems of the economic sectors and of the economy as a whole will be the basis of an evaluation of the following different phases of development policy.

### 2.1. Historical Outline of Development Policy and its Outcomes

The Sudanese economy is divided into two economic spheres which differ greatly in regard of income, mode of production, forms of property, technological standard etc.: the "modern" sectors of irrigated and mechanized agriculture, cattle ranches, industry, trade and transportation and the "traditional" sector of subsistence-oriented agriculture in which the overwhelming majority of the population earns its living.

This fact has been described as "dualism" of the Sudanese economy. However, the dual economy approach is based on partly false assump-



tions. It neglects the interdependence, the very close interrelations of the two sectors. The development of this relationship can be understood by referring to the history of the Sudanese economy. During the colonial period a system of export production was superimposed on the indigenous systems of production and reproduction. Whatever economic development took place during this period can be attributed to the dynamic export enclaves who were surrounded by a stagnant traditional sector.

The main economic linkages did not connect sectors of the Sudanese economy but connected its modern sectors with Great Britain, the colonial power, via:

1. export of agricultural raw materials
2. import of consumer goods and capital goods.

In this way the Sudanese economy became highly dependent on external factors for its own reproduction.

During the colonial period, the government's development policy was confined to provide basic infrastructure for (foreign) private investment. For this period there exists no GDP statistics, but as development was identical with export growth, the export growth rate can be used as an indicator for GDP growth: 8.6% p.a. (1910-49; Wahab 1976, 218). Imports rose in line with exports. However, only the wealthy and growing elite in trade, administration and services could afford to buy most of the imported consumer goods.

After the Second World War, the colonial government began to be committed towards an acceleration of development. Still, the main emphasis of public investment continued to be in the provision of infrastructure and the size of the development budget was determined by the extent of state revenue. Because the annual development expenditures were very low in absolute terms, they could be implemented without recourse to deficit financing. Development programmes continued to be a collection of isolated, unrelated projects without an overall frame of objectives.

After independence, the national government, being more development-oriented, began to recognize the importance of state activity and to institutionalize development planning. The emphasis of investment programmes shifted from infrastructure and social



services sectors to productive schemes in irrigation, mechanized farming and agricultural processing. The projects in these sub-sectors were more sophisticated and implied higher foreign exchange components. Thus, during this time relations with the World Bank and other international organizations were started (Wahab 1976, 220).

In 1962 the first comprehensive plan for economic development was presented: the Ten Year Plan (TYP) 1961/62-1970/71. For the first time this plan formulated broad national objectives. Still, this plan did neither aim at public sector leadership of economic activity nor present a strategy for the private sector investment - its behaviour was simply assumed. Furthermore, the plan did not aim at any substantial transformation of the Sudanese economy: the agricultural share of GDP was planned to decline from 57% in the base year to 51% in the terminal year and dependence on cotton from 65% to 61% of total export value (Wahab 1976, 223). Still, development policies remained to be confined to the modern sectors.

The TYP's successor, the Five Year Plan (FYP) 1970/71-1974/75, was more elaborate, more detailed in its objectives and more ambitious. While the TYP had planned an annual increase in real per capita income of 2.4% p.a., the FYP envisaged an increase of per capita GDP of 4.8% p.a. The emphasis on agriculture was maintained: its share in planned total public investment rose from 32% (TYP) to 38% (FYP). Besides that, investment in industry and public utilities rose from 13% to 20% resp. at the cost of transport, communication, social services and administration sectors (Wahab 1976, 225). Still, a rise of agricultural production by 60.8% was envisaged while industrial production was planned to rise by 57.4% only (Oesterdiekhoff 1979b, 21).

With the exception of the 1969-73 phase characterized by a declared socialist policy the FYP period maintained the strategy of encouraging the private sector activities. During the periods of TYP and FYP external indebtedness began to rise considerably. In 1961 it had amounted to LS 26m. resulting in a debt service ratio of 4% of export earnings; in 1972 the ratio was 22.3% (MFNE 1976/77, 215). In the same period the foreign exchange reserves fell from LS 60.2m



to almost nil, so that in 1966 and 1967 the first stand-by credits with the IMF had to be arranged.

All over the time agriculture remained the most important sector in regard to its share in production, trade, investment and employment. Its contribution to GDP declined from 61.0% in 1955/56 to 38.2% in 1971/72 (see Table 1). While in 1955/56 86.9% of the total labour force were working in agriculture, in 1969/70 the percentage was 79.7 (Oesterdiekhoff 1979a, 260; MNP 1977, Vol. 1, 89).

Tab. 1: Composition of GDP by Economic Sectors 1955/56-1973/74  
(Percentages)

Sector	1955/56	1960	1965	1971/72	1973/74*
GDP, Factor Cost (LS Million)	284,2	352,4	441,3	632,4	698,6
Agriculture, Livestock Forestry and Fishing	61,0	57,3	47,7	38,2	38,2
Mining, Manufacturing and Handicrafts	4,5	4,8	6,0	8,3	8,3
Electricity and Water	4,5	4,3	3,7	2,7	2,7
Construction	5,7	6,3	5,1	4,2	4,1
Commerce and Hotels	6,0	6,7	14,7	16,1	16,6
Transport and Communications	7,5	7,6	7,0	8,1	8,1
Finance, Insurance, Real estate, etc.	3,7	3,6	3,8	6,4	6,4
Government Services	6,7	8,6	10,4	14,5	14,5
Others	0,4	0,8	1,6	1,5	1,1
Total	100,0	100,0	100,0	100,0	100,0

Sources: Economic Planning Secretariat, "Ten Year Plan of Economic and Social Development, 1961/62-1970/71": National Planning Commission, "Economic Survey" of 1970, 73 and 74.

From: El Hassan (1977, 8)



However, these figures do not indicate a declining importance of agricultural production for the Sudanese economy. Up to 1970 the sector's share in annual export earnings exceeded 90% and subsistence agriculture continued to be the reproduction basis for more than 80% of the population. The declining shares of agriculture in GDP and in employment do not reflect a shift to other productive sectors but an inflated growth of the tertiary sector. While in 1955/56 only 9.9% of total labour force worked in this sector, in 1967/68 this percentage had risen to 22.5% (Oesterdiekhoff 1979a, 261).

At the same time, neither a developed internal sector of mass consumption goods production nor an adequate domestic capital goods sector had come into being. The lack of sectors producing inputs and forging a technological basis resulted in the necessity to earn foreign exchange to buy those commodities on the world market. Thus, the agricultural sector was taking over the role of a "quasi-capital goods sector". While this sector creates almost exclusively the import capacity, its input imports account for only 3.4 to 7.0% of total imports (Oesterdiekhoff/Wohlmuth 1983, 42).

Furthermore, the agricultural export sector was the basis for the state revenues. Over the period 1964-72 foreign trade taxes accounted for 38% of total government revenues (Ali Abdel Gadir Ali 1976, 150). Altogether, more than 60% of the revenues depend on foreign trade.

Export income was critically dependent on the competitiveness of exports and thus on the low remuneration of agricultural labour. Because of this the wages were significant as a cost factor only and the development of a broad domestic market was prevented.

Thus, the dualistic assumption of scarcely connected "traditional" and "modern" sectors is right in one sense: the former reproduces itself and does hardly benefit from consumer market goods. But its functions in the production sphere are a *conditio sine qua non* for the development of an export-oriented economy: they supply labour both for the modern schemes and for cash crop production within the traditional sector.

Thus it is wrong to regard this sector as "backward" or "traditi-



onal" in the original sense. It is modernized in a special sense. The connection between two different modes of production provides the solution for a central problem of Sudan's economy: the determination of the price of labour. Its level is essential, because Sudan's agricultural production is labour-intensive, concentrated on a small number of products and the international market is very competitive. The interaction of two modes of production enables the price of labour to be extremely low, because the greater part of its reproduction costs is borne by the "traditional" subsistence sector.

A socio-economic system of coexisting sectors - characterized by production relations based on different property relations on production factors representing different stages of historical development - is called "structural heterogeneous" (cf. Cordova 1973). However, a structural approach mainly oriented at sectoral limits and discrepancies will not be able to appreciate the problems of the mutual penetration of the sectors sufficiently. The dominance of the modern sectors over the traditional sector, whose resources are gradually absorbed, whose reproduction systems are deformed, has to be accounted for.

In this context the term "deformed" is used to describe a state of partial destruction of traditional sectors depriving them of their self-sufficiency but still leaving them a certain degree of reproduction capability. In this way they subsidize the modern, export-oriented sectors. Thus, its function can be described as tributary for the last sectors (cf. Tetzlaff 1979).

From this point of view, development of the traditional sector is revealed as a far more difficult task than conventional strategies assume. Its underdevelopment is not just a result of lack of capital, technology and knowledge, but it seems to be a more fundamental, a structural problem: it is created by the development of export agriculture and its continuation is essential for the functioning of the past and the present development path.

However, in the 1970s it became apparent that the neglect of traditional agriculture had disturbed the precarious balance of its simultaneously taking place preservation/destruction. One of the results was a rising subsistence-orientation of agricultural producers and the necessity of the first stabilization pro-



grammes in the 1960s indicated the limits of this model of economic growth.

## 2.2. The agricultural sector

During the colonial period, there were no general development plans of relevance, nevertheless the regional and sectoral conditions for economic development were set (cf. Oesterdiekhoff 1979a). There was no planning except for the external sector. Non-monetized sectors were regarded as not capable for development. As a result, not even a development path with the export sector as a "spearhead" was pursued. The profits from this sector were not utilized for overall development but were invested in the same sector and effected a rise of the net incomes of the tenants in the most important scheme (Gezira) to a standard 8-30 times as high as the national average - a result of the political influence of the Tenant's Association at that time (cf. Roden 1974). Besides this, a liberal trade policy allowed for an unlimited rise of imports of consumer goods. In this way potential "spill overs" - by reallocation of surpluses to other sectors or by formation of linkages - could not develop. The dominance of "pressure groups" representing the export sector effected the rise and continuation of regional and sectoral disparities.

In the 1940s some attention was paid to the traditional agriculture: In the Southern Sudan the Zande Scheme (production and processing of cotton) was initiated (cf. Onwubuemeli 1974), in the Nuba Mountains infrastructure was improved to extend cotton production, in the western provinces wells were drilled. However, these measures remained punctual and none of them was suitable to develop traditional agriculture. The purpose was not to change the subsistence mode of production in order to utilize specific ways of exploitation: These result from the self-sufficiency of the farmer's economy and the high value attributed to money. For the Zande Scheme management a low monetary reward was "really desirable" (Onwubuemeli 1974, 583). The establishment of water points in Darfur and Kordofan effected an agglomeration of population around them. The most important aim was to further cash crop production.



Thus, although traditional agriculture was not aimed at by, it lost its secluded self-sufficiency. Since the 1920s there was a penetration by jellabas (arabic: merchants) and a system of rural markets was established by the colonial government, furthered by the development of lorry traffic.

The second connection between traditional and modern sectors was created by the need of seasonal workers in the export schemes. It is important to notice that the supply of labour was far from being regulated by a perfect market, but the government had to intervene in order to ensure a steady flow of cheap labour (by subsidies on wages and transport costs).

A special kind of production system was created: a combination of two reproduction cycles by integration of subsistence agriculture into the export schemes. However, the contradicting interests of government (maximization of export production) and tenants (production of food crops as the primary aim) gave rise to conflicts.

The main elements of colonial agricultural policy continued in the programs of the national governments. During the phases of TYP and FYP the priority of development expenditure was given to irrigated export production. The 10 Year Plan distributed more than 70% of all investments in agriculture on 3 irrigated schemes: Managil-Extension of Gezira, Roseires-Dam and Khashm el Girba. Obviously neither regional aspects nor the development of traditional agriculture were taken into consideration. The official justification for this policy was a growth-pole strategy assuming that "in general more advanced growth in one region will spill over to other regions and that the former will supply the resources - without arresting its own growth - to develop the latter". (TYP, 46

However, the reason for this policy seems not to be the confidence in a sufficient "trickle down" to effect growth for all sectors, but strengthening the dominance of a subsector, whose monetary performance perpetuated the structure of dependent reproduction.

The drain of resources to giant projects even handicapped smaller projects within the modern sector. They could not exploit productive potentials fully, in some cases even had losses in production



because of lack of inputs. Thus the development plans seem not to have been able to organize an optimal allocation of resources within the frame of export production.

To reveal the interdependencies of the agricultural subsectors a close look must be given to each of them and to its production systems.

The modern sector divides into irrigation and mechanized rain-fed farming subsectors. The third subsector is the subsistence agriculture.

#### 2.2.1. The irrigation subsector

4 kinds of irrigation can be distinguished: gravity fed irrigation (in the Gezira and other big schemes), flood irrigation (Gash- and Tokardelta), Pump Schemes (at the Nile) and traditional forms of sagyia wells and basin irrigation. Except the traditional forms, whose importance is declining, the whole subsector is dominated by state influence. Both gravity fed and flood irrigation schemes are organized on the basis of a tripartite partnership: the state as owner of land and water, the tenants for organizing the work and the scheme administration (owned by the government) for management, supply of working tools and marketing of the export crop. The production relationship in the Gezira and in most of the other schemes was arranged in the form of a "joint account system". The tenants were allowed to cultivate part of their land with sorghum for subsistence needs, but all cost items of production were deducted from the total revenues received from cotton sales by the agricultural corporation concerned. The net revenues from cotton were then distributed (in Gezira; similar for other schemes) as follows: 36% to the government for land use, dam and canal maintenance and provision of water, 10% to the agricultural corporation for meeting overhead costs and 47% to the tenants. The rest was divided into tax, social services and a tenant's reserve fund. The tenant's share was then divided by total scheme production of seed cotton to arrive at a price per kantar of seed cotton payable to each tenant. In effect, therefore, input costs were recovered per kantar of cotton rather than per feddan of area cultivated (IBRD 1983b, 50). This worked as a disincentive



for productivity. Besides this, the costs from total production were charged on one crop's production. When some diversification was started in the middle of the 1960s (introduction of wheat, groundnuts and vegetables), this worked as a disincentive for cotton. In the presence of falling yields and rising production costs diversification was a concession to the farmers who regard production for the market and for own consumption as a traditional right, as a compensation for their attention of cotton as the "government crop" (Oesterdiekhoff 1979a, 299).

As the working capacity of the tenant's family is not sufficient at seasonal peaks, he has to rely on temporary workers. They constitute the main part of the labour force: 1971/72 their share was 58%, while tenant's families came to 30% and local wage workers to 12% (ILO 1972, Ann. A, 140). At the same time, the distribution of surpluses was very unequal: While the state realized high profits and the income of the tenants was much higher than the national average, the wages of the seasonal workers are estimated to be below LS 10 per season in the 1940s and they rose by 3% p.a. during the 1950s and 1960s, which meant a real decline. In 1972 an ILO-commission noted: "The wonder is that at such low wages and unsatisfactory conditions of work labour is available in the required numbers, which reflects the level of poverty and abundant supply" (ILO 1972, Ann. A, 145). This statement reflects the precarious balance of simultaneous destruction and preservation of subsistence agriculture.

While at the beginning of the century the wage level was high reflecting a shortage of labour which resulted from a high degree of self-sufficiency of the subsistence economy and an inverse supply of labour (cf. McLoughlin 1962, Hansohm/Woltersdorf 1984), the erosion of the subsistence economy resulted in a decline of the worker's position. Though even in recent times there have been seasonal shortages of labour, they cannot be interpreted as a general shortage, because subsistence agriculture lost its capability to reproduce its members, a tendency which led to a rising pressure for working migration (see below).

The ability to produce at low cost is the explanation for the relatively stable position of the Sudanese cotton export sector



on a competitive world market. It compensates for the standard of productivity which is low in international comparison (Oesterdiekhoff 1979a, 278).

In pump irrigation there is a variety of property and production forms. It was introduced by colonial government, but there were private schemes also. They produced cotton for export and food crops. Their rise came in the 1950s when a hausse on the market for raw materials channelled capital into cotton production. Investment in Pump Schemes was the most important item of productive investment of private companies up to 1958 (Oesterdiekhoff 1979a, 303). The cultivated area rose from 30,800 (1950/51) to 207,800 feddan (1958/59) (Oesterdiekhoff 1979a, 302). However, since then the development of Pump Schemes stagnated because of falling prices of cotton and falling yields. Still, even after the decline of cotton prices the investments in Pump Schemes amortized within few years (Oesterdiekhoff 1979a, 309).

Both state and private Pump Schemes are organized after the Gezira model: for cotton and other cash crops 60% of net profits (after deduction of export tax for cotton) goes to the scheme owner, the yield of subsistence farming goes to the farmer completely. However, Pump Schemes were not able to reach productivity and income levels of the Gezira.

A study from 1963 found out that 97.3% of the schemes were below the size of 1000 feddan (420 ha) which was considered to be the minimum size for larger pump units with a sufficient cost-benefit relation (Oesterdiekhoff 1979a, 305). The sub-optimal size of the schemes was due to land fragmentation on the shores of the Nile, insufficient capital and the government's land policy oriented at the concept of a "working tenant". The lower price for cotton paid in the Pump Schemes was reflected in a higher degree of subsistence production and a lower level of income. However, the incomes of the tenants and schemes vary to a great degree due to different soil fertility, pump capacity and financial resources.

The nationalizations in 1968 did not improve the situation of farmers or workers fundamentally, but they opened up the possibility to orientate the development planning concerning Pump



Schemes at national economic priorities, while before they were orientated at commercial interests of the investors. Beside this it made possible to skim a greater part of the surplus. Prior to the nationalizations the state revenues per feddan of cotton had been much smaller than in the Gezira.

#### 2.2.2. Mechanized Rainfed Farming

This sub-sector can be divided into two parts which differ greatly in their socio-economic character.

##### 2.2.2.1. Peasant farming in the Nuba Mountains.

Under the control of the state-owned Nuba Mts. Agricultural Production Corp. sorghum and cotton are cultivated on 15 feddan farms. The production is organized after the joint account system of the Gezira. Almost all of the farmers engage in traditional rotating agriculture besides their mechanized farm. The former activity has still first priority. The decision to put more weight on subsistence activities was the result of a rational calculation for the more profitable - after the fall of cotton prices - and secure alternative. The main reason for participation in the project had been to benefit from the corporation's services for cultivation of sorghum (Oesterdiekhoff 1979a, 323). However, this incentive will not be very effective as long there are land reserves. Besides that, yields in mechanized production have not been higher than in subsistence agriculture (Oesterdiekhoff 1979a, 323). Moreover, the relation of work to yield was much better for sorghum: work for cotton required more than half of total work effort, but the income of cotton sales was only 1/4 of total income (Oesterdiekhoff 1979a, 325).

##### 2.2.2.2. Mechanized Farming Schemes (MFS)

Mechanized farming of sorghum and, to a smaller extent, sesame and cotton, originates in government attempts to combat food deficits occurring during the 1940s by large-scale farming. This sector is concentrated on cracking clay soils in Kassala, Kordofan, Blue Nile and Upper Nile provinces. After the decline of the returns of the Pump Schemes mechanized farming became the most lucrative private investment opportunity in agriculture.



For a nominal rent investors, mainly from commerce and government service, were allocated farms of 1000 and 1500 feddan and benefitted by inexpensive credits for financing of machines and current expenditures and government service for marketing. The total cultivated area grew from 28,000 feddan (1950/51) to 875,000 feddan (1959/60; Oesterdiekhoff 1979a, 327), of which 80% was concentrated on sorghum. In the 1960s, however, further expansion of the sector was impeded by doubts on the competitiveness of Sudanese sorghum on the world market; an internal market was missing because of the prominent rank of sorghum both in subsistence and irrigation agriculture. Thus, a reallocation of land was planned: cotton was to increase to half of the cultivated area.

Nevertheless, mechanized farming received an increased importance in the beginning of the 1970s in the setting of the programme of import substitution and export diversification, which gave grain production for domestic consumption and export a high priority. The 5 Year Plan projected opening up of some more 2.8 mill. acres for state farms, cooperatives and private farms.

In 1968 the Mechanized Farming Corporation (MFC) was founded, when declining yields made the necessity of some form of planning and land control obvious. MFC runs some state farms, but is also engaged in land preparation and infrastructure in order to provide incentives for private investment. These "supervised schemes" were provided with consultancy and finance services, but there was no intervention or control authority for the MFC.

(As the main expansion of this subsector took place under the programs of the 1970s, see the evaluation below.)

### 2.2.3. Subsistence Agriculture

Both the expressions "subsistence" and "traditional" are misleading, because the different forms of social reproduction subsumed under this headline, are facing rapid changes. Their high degree of self-sufficiency has been replaced by systems of dependent reproduction. They have been instrumentalized for the export-oriented development path.

Subsistence agriculture is characterized by:



- a low share of market goods for reproduction,
- production targets which do not give the highest priority to maximal exploitation of labour and natural resources. Instead the security of material existence and an optimal relation of work effort and material result have first priorities.
- neither work nor land have a monetary value. Work extending the scope of a family is organized on a reciprocal basis. Land is owned by communities. For rainfed agriculture cultivators are allocated land in the way of usufruct rights. Only on irrigated land there are permanent land rights.
- except for irrigation intensity of land use is low
- standards of technology and productivity are low.

It is obvious that the economic rationality of traditional producers is not fully compatible with aims of national and economic development. Colonial as well as national governments did not recognize or consider their interests. The result was not only a neglect of this sector, but also a sub-optimal utilization of the resources of the modern sector (see above, p. 8).

The sector of subsistence agriculture is subject to partly contradicting influences. The factors destroying secluded subsistence agriculture have been functional for export production because they forced traditional producers to participate in modern agriculture. F.e. the very punctual state intervention to install water points in the west (see above) resulted in an overpopulation and ecological deterioration forcing farmers and nomads to work in modern schemes. Besides push factors like population increase, ecological problems, inflation, worsening internal terms of trade and beginning monetization of land and labour pull factors like new consumer goods and consumer habits have been important.

As noted above, there are two main links to the modern sectors: working migration and cash cropping. None of them contribute to a trickle-down of resources which would make a parallel growth of both sectors possible. On the contrary, they deprive the traditional sector of resources.

As for working migration, studies in Southern Darfur have shown that this is a little appreciated source of income which has a



function of "last resort" if no other possibilities are left. Migrant labour was found to be absent in areas which provided other sources of income to a sufficient extent. In areas where migrant labour was common, it was characterized to be "more a way of earning enough to stay alive than a major source of income". There was "no sign that the families of migrants are better fed or clothed than others: in fact the contrary may be the case" (HTS 1977, 48; HTS 1974, 33). It seems to be inappropriate to interpret this kind of economic activity as a way to develop traditional agriculture. The wage level was found to be so low, that it did not create a significant additional purchasing power (see the case study on the Gezira by Tait 1983).

Cash cropping seems to be a more profitable alternative for subsistence producers. However, the structure of marketing is a strong obstacle for a generation of income in the traditional sector. Surprisingly, the organization of marketing has often been described as efficient (Youngblood 1982, 61) and the differences between producer prices and export/market prices have been explained by transport problems or government price policy alone. In fact, the small share of the consumer/export price the producer can realize for himself seems to be caused by the nature of relations between farmers and traders, rather.

The most detailed study about marketing of agricultural products grown mainly in the traditional sector (groundnuts, sesame, gum arabic) and of livestock is provided by Oesterdiekhoff (1979d). He points out the imperfection of markets characterized by unequal positions of sellers and buyers. There is a horizontal (regional) and a vertical formation of markets. The first level (village) consists of primary markets, above them are secondary markets at the province capitals, who supply the terminal markets (Khartoum, Omdurman, Port Sudan). The first level is characterized by the following factors:

- production is seasonal, thus supply is fluctuating
- most producers are forced to sell immediately after harvest, so they cannot benefit from the great seasonal price discrepancies.
- suppliers are highly competitive, have limited market information and limited access to different markets (due to



transport constraints)

- a regionally different share of farmers has to utilize a traditional credit system (shayl) which forces them to sell their crop in advance far below market price
- purchasers have an oligopsonistic or monopsonistic position (often combined with oligopolies or monopolies).

Under these conditions, the system of government "minimum prices" did not work effectively. These prices rather protected small traders selling on primary and secondary markets, but for producers they were maximum prices, in fact.

The relations buyer/seller on secondary and auction markets were comparable to the primary markets: oligopsony on the demand side and competitive conditions on the supply side. On the auction markets joint private/public companies function to guarantee a minimum price. They are a means of government to participate in the export profits, but they are dependent on private trade because they operate on the highest market level only.

Because of these institutional factors only a small share of the profit which is realized from the sale of the export crops reaches the producer. This fact is important not only for the distribution of foreign trade benefits but also for the success of any agropolitical intervention. It has implications for all stabilization policies pursued in the 1970s and 80s relying on incentive policies in the agricultural sectors (see below Part IV). "It is meaningless to talk of raising agricultural productivity when the conditions of productivity and marketing are as described. The producers do not get the necessary incentive via price increases." (Beshai 1976, 268)

There are three main effects of the present marketing structure on Sudan's economy: resources for consumption and investment are drained off from the agricultural sector; reproduction costs of labour in urban areas, which are determined by agricultural prices to a great extent, are increased; the service sector is growing unproportionately and in a rather unproductive way.

The situation of producers in the modern sector is different. Markets are more organized, infrastructure is more developed, in



some areas co-operatives and the state have given support by credits. Thus, producers often have a chance to choose between different ways of marketing and financing. Shayl arrangements were practised in Gezira, the Pump Schemes and MFS also, but to a smaller degree than in subsistence agriculture. The government tries to wipe out shayl practices in export production.

There are no exact figures, but in subsistence agriculture shayl still seems to be spread widely. As there are no alternative credit sources, the farmer in need of money has an extremely weak bargaining position. This is reflected in the low price which may sum up to only 1/6 of the crop's market price (HTS 1977, 66). In this way farmers often get caught in a "debt trap". Then traders will have a monopsony/monopoly position, which enables them to get profits of several hundred percent. For Kordofan 300-400% are reported (Oesterdiekhoff 1979d, 25).

In the livestock sector, seller's position is gradually better, because marketing institutions are more varified and the seasonal maximum of supply coincides with the demand- and price peak (for cattle; cf. HTS 1976, 56). In this sector differences between producer and market prices are not as great as for field products and cattle owners might be able to benefit from export booms (Oesterdiekhoff 1979d, 83).

### 2.3. The industrial sector

Industrial production did not have any significance before independence. It was confined to production for final consumption; in 1955/56 62,5% of the output was for private households, and 17.8% for export (Oesterdiekhoff 1979c, 3). Industry relied mostly on processing of domestic agricultural products. Its contribution to GDP was less than 1% in 1955/56, to employment less than 0,5% (of male employees), to capital formation (gross fixed investments) only 3% (Oesterdiekhoff 1979c, 2).

After independence the sector expanded. The national government introduced incentives for private investment - tax reductions, subsidies and protection of the domestic market - which accounted for 94% of total investment in industry in 1961 (Oesterdiekhoff 1979c, 11). The main areas of investment were textiles,



household products, shoes, parfumes and paper products. However, mainly because of the limitations of domestic markets, the extent of private investment was insufficient. The higher profit rates in competitive investment spheres as marketing and construction prevented the hoped-for boom to come true.

Thus, in the period of the TYP (1961/62-1970/71) the state became the main investor in industry. It was planned to raise the share of industry in GDP from 9% (1960/61) to 16% (1970/71; Oesterdiekhoff 1979c, 15), the industrial output by 500%, mostly in the production of consumer goods like edible oil, sugar, canned fruit, milk powder, cigarettes, shoes and matches. The TYP envisaged to save LS 26.8 mill. of foreign exchange yearly by import-substitution, most of this by industrial production (Oesterdiekhoff 1979c, 16). State investment was concentrated in food production for the mass market, while private activities diversified into new areas as luxurious food and chemical and metal production for final consumption.

However, industrial development was stagnating in the beginning of the 1970s: capital goods imports and output of the main products were declining. This seems to reflect shrinking possibilities for import substitution of industrial products with a relatively small capital input. The diversification process into more exclusive markets resulted in smaller production units with higher cost. A small degree of capacity utilization resulting from the limitations of the markets, the lack of international competitiveness and the insecure supply of raw materials effected the state industry as well. It operated with losses which amounted to LS 7.3 mill. in 1969/70, or 54% of investments (Oesterdiekhoff 1979c, 29). Insufficient development of the industrial sector and political changes induced the government to nationalize a big part of the industrial companies in 1970, so that the share of the state rose to more than 50% of total industrial production (Oesterdiekhoff 1979c, 28) and the state acquired strong, partly quasi-monopolistic positions in the production of beverages, tobacco, leather, cement and building materials. However, from 1973 onwards there is a tendency of reprivatization which puts private capital in its former positions in this sector.



At least during the period 1970-73 foreign capital did not play a significant role in the industrial sector. In 1970/71 only 8.3% of the capital of a sample of 210 companies analysed in the Industrial Survey 1970/71 was of foreign origin (Oesterdiekhoff 1979c, 30).

Table 2 shows the structural deficiencies typical for the economy of an underdeveloped country:

- production of capital goods is almost absent
- diversification of production is confined to the range of consumer goods.

Table 2: Structural Shifts of Industrial Production (in % of gross value added)

ISIC	1955/56	1959/60	1968/69	1970/71
31 Food, Beverages, Tobacco	72	62	33	32.6
32 Textiles, Footwear	1	5	30	39.2
33 Wood, Furniture	2	2	4	0.3
34 Paper and Printing	3	5	7	5.2
35 Chemical Products	6	9	12	10.4
36 Non-metallic products	9	10	5	4.2
38 Metal and metallic products	7	7	9	8.1

Source: GÜSTEN and KÜNKEL, 1963, 220; Industrial Survey 1968/69, Industrial Survey 1970/71.

from: Oesterdiekhoff (1983, 166)

After independence the orientation of the economy shifted from the processing of raw materials to production based on import substitution. This sector had not basic links to the domestic potential of raw materials and other resources.

Oesterdiekhoff (1979c; an abridged version in English is published in Oesterdiekhoff/Wohlmuth 1983) provides a detailed study about the structure of the industrial sector with its intra- and intersectoral linkages. The intensity of linkages with other sectors on the input side (backward linkages) is illuminated by the level of secondary demand impulses (see Table 3).



Table 3: Input Coefficients of the Industrial Sector, 1962/63

	Normal Co- efficients	Inverse Co- efficients
Agriculture	0.2786	0.2820
Food processing and allied industries	-	1.0030
Construction and mining	0.0005	0.0060
Transport and services	0.1858	0.2170
		1.5080

Source: SHEIRA, 1968, 36 and 38

from: Oesterdiekhoff (1983, 169)

The inverse coefficients sum up the first and all further demand impulses of the increment of output in the industrial sector. While the numbers show a very low degree of sectoral integration, the industrial sector nonetheless is most intensively backward-linked as compared to other sectors: The sum of all demand impulses effected by an increment of its output is 1.5080, compared to only 1.104, 1.329 and 1.073 for agriculture, construction/mining and services resp. (Oesterdiekhoff 1979c, 37).

The intra-sectoral backward-linkages are very different for the sub-sectors: While the quantitatively most important sectors, food industry and textile industry (with 72% of industrial production and 71.8% of value added) transfer only 3.3% and 8.5% of their demand to other industrial subsectors, branches with stronger backward linkages (f.e. metal industries with 16.1% and 14.4%) are too unimportant to influence structure and dynamics of the industrial sector significantly (Oesterdiekhoff 1979c, 39). For an analysis of the relation of imported to domestic inputs the industrial sector is divided into 4 subsectors: agricultural food processing, agricultural non-food processing, non-agricultural manufacturing and services. The four subsectors are defined in terms of ISIC as follows (Oesterdiekhoff 1983, 170):



- Agricultural Food Processing (abbr.: AF) consists of ISIC 31; important products are sugar, oil and flour.
- Agricultural Non-Food-Processing (abbr.: ANF) comprising ISIC 32, 33 and 3412; is represented by the textiles, leather and paper industries.
- Non-Agricultural Manufacturing (abbr.: NAM) is composed of ISIC 35, 36, 37 and 38 (except for 3813), as f.e. glass, cement, and metal ware.
- Services (abbr.: S) embrace a few workshops and the printing industry only (ISIC 3420 and 3813).

The relations of imported to domestic inputs were 47.25%, 100,73%, 151.24% and 24,155.55% resp. (Oesterdiekhoff 1979c, 44). These data show that the structural shift during industrialization (to NAM and S) led to a rise in relative imports. This is true in the first instance for private investments, while the state engaged itself mostly in agricultural processing, a sector which has a higher percentage of domestic inputs. However, these are raw materials, mostly. Thus, the degree of intra-industrial linkages is very low. Most of the linkages go to other sectors: agriculture, export, import. Still, only 6.78% of total agricultural output were absorbed by industry in 1968 (Oesterdiekhoff 1979c, 47). This shows that the agricultural potential was utilized only marginally for industrial processing, although industries relying on agricultural resources suffered from shortages of raw materials. This was not the result of an absolute shortage, but of a lack of coordination between agricultural and industrial development planning.

The relations of imported to domestic raw materials in the 4 sectors - 42.2%, 93.3%, 170.1% and 140,433.3% resp. show the import dependence of NAM and S sectors even more drastically (Oesterdiekhoff 1979c, 50, based on Industrial Survey 1968/69). This structure was favoured by foreign trade policy: low tariff rates on raw materials and a high protection of domestic production mostly of "luxury" goods. Thus the government had supported an import-substitution for limited markets with little backward linkages. Exceptions to this structure were textile and leather production with a lower ratio of imports to domestic inputs and a higher labour-intensity (Oesterdiekhoff 1979c, 55).



For an analysis of the output structure according to final use the industrial sector may be divided into 4 sub-sectors: production of intermediate inputs, mass consumer goods, luxury consumer goods, exports.

As for the inputs for agriculture and industry, the first sub-sector was far from being able to meet the domestic demand. A vertical production structure could partly be established in leather and textile processing. Still, heavy imports of yarn and leather were necessary. The lack of leather was the result of strong competition by the export trade, which received an export-subsidy of 15% (Oesterdiekhoff 1979c, 61).

The production for consumption is by far the most important branch: The Industrial Survey 1970/71 calculated that 82.0% of fixed assets were invested in branches of consumer goods production. The industry structure was following the demand structure, which was characterized by the high rank of final demand and within this of the demand for food and textiles. The GDP share of private consumption fell from more than 90% in the 1950s to 68% in 1973/74, but the disposable income share of consumption rose from 89.9% in 1955 to 98.4% in 1967 (Oesterdiekhoff 1979c, 65).

1967/68 consumption of all households was distributed on food (71.6%), textiles (8.1%), lodging (7.6%) and miscellaneous (12.6%). (Oesterdiekhoff 1979c, 65). At this aggregate level, the industrial sector - concentrating on food and textile production - seems to have adapted itself perfectly to the consumption structure. However, an analysis of the sectoral, regional and social distribution of consumption gives a different picture.

Both the extent of expenditure and its structure differ greatly between income groups. The regional and the urban/rural differences seem to reflect the regional distribution of income groups. If food, lodging and clothing are classified as "basic needs", 89.8% of rural and 81.4% of urban consumption expenses are spent on them. While the consumption expenditures on food are income-inelastic, those on shoes and textiles are rising with rising income. As for lower-income groups in rural areas self-produced items have a high importance, it can be concluded that higher income groups benefit much more from industrial products.



The extent of "luxury consumption" can be derived from the share of non-essential goods (expenses in the category "miscellaneous") in total household expenditures. Rural and urban households with expenses under LS 200 spent 7.8% and 9.6% on this resp., whereas households with expenses over LS 500 spent 22.6% and 25.3% resp. (Oesterdiekhoff 1979c, 79).

In order to analyse to which extent domestic industrial output is directed to overall domestic needs it is useful to divide industrial production in mass consumer goods and luxury consumer goods (for the methodology see Annex, Table 1).

Oesterdiekhoff calculated that 32.2% of value added and 46.8% of fixed assets of consumer goods industry accounted for production of mass consumer goods (Oesterdiekhoff 1979c, 101). The output of the remaining branches is not significant for the reproduction of the majority of the population. At the present overall standard of living these products have the character of luxury consumer goods.

Besides the input/output linkages the employment effects of industrialization represent an important sectoral linkage. However, the share of employment has always been much smaller than the share of GDP and the trend after independence has been to increase capital intensity: While in 1955/56 industry's share was 0.5% and 2.8% resp., up to 1968 the GDP share rose 4.5 times, but the employment share 3.3 times only (Oesterdiekhoff 1979c, 116). This reflected both a rise in capital input in existing production processes and an establishment of new industries in luxury-goods and semi-finished products which are characterized by higher capital-intensity.

The capability of industry to absorb labour, an important function in the presence of fast rising urban population, was very low: in 1967/68 only 0.89% of urban population were employed in the industrial sector (ILO 1972, 66).

These facts reveal an interdependent relationship between income distribution and employment growth: The increasing orientation of industrial production at the demand of higher income groups enforces capital-intensive production. This results in a small capacity to absorb labour with the effect of rising income dis-



parities. The high capital intensity of Sudanese industry did not reflect a high productivity of labour but a type of accumulation of capital which was made possible by protection through government policies of import-substitution. Thus, the profitability on the micro-level was a result of different forms of government intervention which ensured high rates of effective protection: On the basis of the Industrial Survey 1970/71 total value added (at world market prices) of industrial sector was 5.5% of its value (in domestic prices) only. In 7 branches total value added (at world market prices) was even negative (Naseem 1977, 79).

#### 2.4. The services sector

The term 'services sector' is used here to refer to all economic activities other than those in material production (agriculture, manufacturing, electricity and water). Its most important sub-sectors are trade, transportation and government services. Furthermore it includes construction, real estates, banking and insurance. As Table 1 shows, the services sector accounted for 29.6% of GDP in 1955/56 and for 49.7% in 1973/74.

This unproportionate growth of the tertiary sector can be attributed both to an expansion of government activities and to private investment. Soon after independence the number of civil servants increased immensely: from 9739 in 1955 to 13992 in 1958; 550 British colonial employees were replaced by 4803 Sudanese (Tetzlaff 1982, 31). This reflects a take-over of new responsibilities (as education, institutional modernization, development planning), but also new fiscal and personnel policy principles. While colonial government's objective had been to minimize the costs of administration, national government was interested to create employment and income. It took over the role of a "last resort" for qualified manpower. Thus, the number of employees in central government rose by 800% between 1950 and 1976/77 (Tetzlaff 1982, 31).

However, at the same time the efficiency of government services was declining. This was due to:

- limited resource availability (fiscal and personnel; as over-staffing and inappropriate staffing can reduce efficiency considerably)



- lack of institutional autonomy and flexibility
- hierarchical structure and high degree of centralization
- vertical and horizontal fragmentation of government activities.

As was shown above (cf. p. 15 ff.), trade (and other tertiary activities as construction) gives higher, quicker and more certain returns to investment than productive activities. In addition, this sector is easier to enter and to leave. Thus, enforced by inflationary tendencies, the services sector was the favourite field of investment for the private sector. As Salih calculated, from 1970/71-1979/80 83% of the private investments went to the tertiary sector, mainly to construction and equipping of residential and commercial buildings, to the purchase of transport equipment and to commercial, distributional and service-rendering activities (Salih 1983, 3/10).

Summing up, it may be said that neither public nor private investments in the services sector were able to overcome some central bottlenecks to development as transportation, marketing and development planning and implementation capacity. At the same time, the preponderance of the tertiary sector was neither reflected in an adequate performance nor appropriate to the level of economic development in general.



### III. The Concept of the Breadbasket Strategy

In the 1970s the Sudanese government initiated an ambitious development programme called the "Breadbasket Strategy". This strategy involved a massive restructuring of production and trade in order to take advantage of a regional Arabic division of labour. The principles and the necessary strategies are set out in the documents of the Six-Year Plan of Economic and social development 1977/78-1982/83 (SYP), the Food Investment Strategy (FIS) and the Arab Fund's Basic Programme for Agricultural Development in the Democratic Republic of the Sudan 1976-1985 (BP).

Shortly after the beginning of the plan period an IMF/World Bank "stabilization plan" became effective which determined the government to defer plans for all new projects and only to carry forward projects already under implementation. However, the SYP expresses the conception of the breadbasket strategy perfectly, and a number of large projects started before the moratorium on projects was being pressed forward.

All of the three documents laid their emphasis on modern agricultural subsectors. While the government's SYP allocated most of the funds to irrigated cultivation of cotton and groundnuts for export, the FIS and the BP have envisaged huge investments, mainly from Arab countries, in the subsectors of mechanized cereals production, large scale cattle husbandry and various agroindustrial branches. Besides that, an intensified exploitation of the traditional sector's export potential was planned.

A fourth important document is the report of the ILO commission to Sudan in 1975 which differs partly in regard to basic assumptions and recommendations. Within the context of the analysis of economic structures in the Sudan in part II, the impact of the Breadbasket Strategy on structural heterogeneity and socio-economic perspectives can be evaluated.

#### 3.1. The Six Year Plan 1977/78-1982/83

At first sight, the plan objectives seem to reflect a fundamental change in economic policy, an attempt to restructure Sudan's economy in order to overcome the deficiencies resulting from the



deformed economic structure (cf. Part II):

- It aims at balanced and accelerated growth (of 7.5% annually in constant prices).
- It is to combine development with social equity.
- Traditional agricultural sector is to be developed and modernized.
- Self-sufficiency in selected food and other agricultural commodities is to be reached at.
- Country's natural resources are to be conserved.
- Regional and sectoral distribution of development efforts is to be more equitable.

"A basic objective of the plan is to distribute benefits of development as equitable as possible among various income groups and regions. In order to achieve this objective, development of traditional agriculture which includes livestock, must receive more attention than in the past." (MNP 1977, Vol. 1, 49). It is recognized that steps are necessary to reduce migration from rural to urban areas (MNP 1977, Vol. 1, 151).

However, the 16 plan objectives are not integrated systematically, but they are unconnected and part of them seem to be abstract declarations of intention only, because they are not reflected in the allocation of resources. The actual catalogue of measures even has some contradictory effects.

As Table 4 shows, agriculture is to continue to be the leading sector. It is argued that this emphasis would be advantageous, because of realizing Sudan's comparative advantages. However, independent of the question if and how far these advantages really exist, the same policy commits the Sudan to a continuation of exporting a few primary goods only, preventing it from overcoming a one-sided dependency on the world market.



Table 4: Planned Growth Rates and Sectoral Changes (%)

SECTORS	1976/77 (a) %	1982/83 %	Annual Growth Rate %
Agriculture	39	37	6.5
Manufacturing & Mining	9	10	9.5
Electricity & Water	1	1	8.0
Construction	4	5	9.0
Transportation	6	6	7.5
Commerce, finance and Real Estates	24	24	8.0
Government & other Services	11	11	7.5
GDP at M.P.	100	100	7.5

Source: MNP 1977, Vol. 1, 32

(a) Actual 1976/77 data are not yet available. Structural relationships of 1974/75 for which actuals are available were maintained for 1976/77.

The dominant role of the public sector in the economy is enforced by the SYP: Its share in total investment was planned to rise from 56% during the Five Year Plan period (1970-75) to 59% (MNP 1977, Vol. 1, 37). The public investments are distributed sectorally as follows: agriculture and irrigation 32%, industry, mining, power and tourism 25%, transport and communications 24%, social services and public administration 19% (MNP 1977, Vol. 1, 39). The private investments (including projects financed jointly by the government of Sudan, the Arab Authority for Development and Investment and the Sudanese private sector) were estimated to distribute as follows: 26%, 18%, 16% and 39% resp. (the private services sector consists of housing mostly; MNP 1977, Vol. 1, 41).

While the manufacturing sector has the highest growth rate (9.5% p.a.), its intra-sectoral structure of investments follows the same pattern as before: main investments go to food, textile and leather industry. The objective of this agro-industrial strategy was both import-substitution (in sugar, textile and cloth) and a partial export-substitution, f.e. of cotton by yarn and cloth, of hides and skins by leather. However, the capability of export-substitution as an instrument to establish and strengthen domes-



tic linkages is limited, because it replaces only raw materials by semi-finished products. A dynamic structure of specialization cannot come into being as long as the limits of export- and import-substitution are not overstepped. Its dependence on a competitive world market and a small domestic market characterized by a declining purchasing power of the majority tend to prevent a progressive growth in quantity and quality.

To finance its huge gross investments of LS 1570 mill. the government was dependent on foreign resources to a great degree: They were planned to cover 53% of total. Even 38% of the domestic share was planned to be financed by deficit financing (see Table 5).

Table 5: Financing of the Public Sector Investment

	(LS Million) <u>1977-83</u>	% of <u>Total</u>
DOMESTIC RESOURCES	<u>735</u>	<u>47</u>
(i) Revenue surplus at trends in the recent past	100	6
(ii) Deficit Financing	285	18
(iii) Additional Fiscal Effort	350	23
FOREIGN RESOURCES	<u>835</u>	<u>53</u>
Total	<u>1,570</u>	<u>100</u>

Source: MNP 1977, Vol. 1, 56

Realization of the revenue surplus of LS 450 mill. depends on the growth rate of public revenues and expenditures. They were planned to be 7.5% and 6.5% resp. (MNP 1977, Vol. 1, 57). Especially the last assumption seemed to be critical because it relied on the ability of government to contain the growth of public expenditures.

As Table 6 shows, the private sector depends on foreign resources to almost the same degree: 50%. This makes the foreign resources share of total investment 52%, while deficit financing accounts for 11% of the total.



Table 6: Financing of Investment During  
1977-83

(LS. Million)

	Public Sector		Private Sector (a)		Total Investment	
	Amount	% of Total	Amount	% of Total	Amount	% of Total
TOTAL Gross Investment	<u>1,570</u>	<u>59</u>	<u>1,100</u>	<u>41</u>	<u>2,670</u>	<u>100</u>
Financed by:						
I. Domestic Resources	<u>735</u>	<u>28</u>	<u>550</u>	<u>20</u>	<u>1,285</u>	<u>48</u>
(a) Public Savings	450	17	-	-	450	17
(b) Private Savings	-	-	550	20	550	20
(c) Deficit Financing	285	11	-	-	285	11
II. External Resources	835	31	550	20	1,385	52

(a) including the semi-private sector financed jointly by the Arab Authority, the Sudanese private sector and the Government of the Sudan.

Source: MNP 1977, Vol. 1, 55

The public investments in agriculture, amounting to LS 425 mill., are concentrated on its modern sub-sectors heavily: LS 48.8 m. go to the Public Agricultural Production Corp., LS 20.4 m. to the Sudan Gezira Board, LS 40.1 m. to the Rahad Corp., LS 155.2 m. to irrigation and LS 19.9 m. to extension of state directed production of coffee, tea and rice. The LS 55.2 m. for livestock mostly can be regarded as modern sector investment also. Thus, LS 340 m. or 80% of public investment in agriculture go to modern subsectors directly. Private investment, which is estimated to amount to LS 290 m., plus the LS 340 m. from public sector make up LS 630 mill. or 88% of total investment going to modern subsectors. Besides that, most of the public investments in "services" (LS 71 m.) benefit the same subsectors. (MNP 1977, Vol. 2, 28ff.)

Projects directly aiming at traditional agriculture receive LS 21.5 m. only - 5.1% of public or 3.0% of total investments in agriculture. Besides that, the strategy of "modernizing the traditional sector" aimed at an expansion of modern cultivation practices - like mechanization of rainfed crop production, establishment of



modern ranches in the Savannah region - instead of modernizing the existing farming systems. This kind of modernization is inaccessible to the small peasants. Thus it was foreseeable that it would rather strengthen social inequalities than help to reduce them.

The huge production increases envisaged were planned to be arrived at in the way of horizontal rather than vertical expansion. "With vast untapped land resources in the country, the horizontal expansion of agricultural production holds promise for a quick and economical increase in production." (MNP 1977, Vol. 2, 10).

As Table 7 shows, for the most important crops the targets of production increase are to be achieved by area expansion more than by higher yields: for cotton the area increase was planned to be 32% compared to a yield increase of 15%, for sorghum the figures are 52% and 30%, for groundnuts 57% and 19% and for sesame 23% and 27% resp.

Table 7: Crop Production Targets

Area in Thousand Feddans, Yield in Kgs. per Feddan, Output in Thousand MT.

Product	1974/75 (Actual)			Base Year 1976/77 (Provisional)			Target 82/83			% Annual increase in Output
	Area	Yield	Output	Area	Yield	Output	Area	Yield	Output	
1. Cotton:										
Long Staple	856	617	529	760	635	483	790	707	559	2.5
Medium "	222	459	102	210	500	105	350	849	297	18.9
Short "	141	116	16	155	122	19	350	200	70	24.3
Total	1219	531	647	1125	540	607	1490	621	926	7.3
2. Sorghum (Dura)	5577	306	1702	6000	316	1900	9100	411	3740	12.0
3. Wheat	591	461	269	622	500	311	890	750	668	12.6
4. Millet (Dukhn)	2576	156	402	2500	160	400	2800	185	518	4.4
5. Rice (Paddy)	15	492	7	24	500	12	100	570	57	29.7
6. Maize	197	231	46	210	250	53	315	380	120	14.6
7. Cassava	80	1144	92	110	1500	165	180	2000	360	13.9
8. Sesame	2173	107	233	2200	110	242	2700	140	378	7.7
9. Groundnut	1792	519	930	1840	456	839	2900	541	1568	11.0
10. Coffee	1	500	0.5	3	500	1.5	15	670	10	37.2
11. Tobacco	1	200	0.2	1	200	0.2	8	200	1.6	41.4
12. Sugar Cane	40	32250	1290	40	30230	1200	288	30210	8700	39.1
13. Horsebeans	38	763	39	36	800	29	55	850	47	8.4

Tea target is not shown. The present tea area is negligible. It will rise to 6,000 feddans by 1982/83 and production will rise slowly to 1,000 tons in 1982/83.

Source: MNP 1977, Vol. 2, 7



As far as regional development is concerned, the government's allocation to this sector of LS 75 m. or 4.8% of total public sector investment (MNP 1977, Vol. 1, 153) and the objective of greater regional equity stand in a sharp contrast. As an analysis of investment distribution shows, public investments were still concentrated in modern sector projects in East Central Sudan, while private investments expanded in new areas: the western Savannahs (Southern Darfur, Southern Kordofan) and Southern Funj (mechanized farming and livestock). Still, this plan was a limited step to regional equity: investments in the South amounted to LS 4 mill. or 1.4% of total private Investments only, although its natural resources are believed to be considerable. The objective to conserve natural resources seems to reflect a realization of detrimental ecological effects of some development measures as the unplanned installation of water points and the introduction of mechanized farming. Nevertheless, state policy and sectoral allocation of private investments in agriculture did not take account of these considerations at all: more than 40% go to mechanized farming directly and more than 20% to livestock in the presence of deteriorating range conditions (MNP 1977, Vol. 2, 37).

### 3.2. The Food Investment Strategy 1977-85

Issued by the Ministry of Agriculture in 1977, this strategy left out export-production and aimed at selfsufficiency in wheat, sugar, rice and all basic food commodities. It claimed to lay "emphasis on the improvement of small-scale (traditional) farming". (MAFNR 1977, 2). However, like the SYP, its focus lies on modern subsectors: Realization of the production targets is expected from mechanized farming, which was believed to allow a quick expansion of the cropped area at low cost. Productive investments were confined to East Central Sudan, while interventions in the traditional sector concentrated on the provision of basic physical infrastructure and the institutional framework as pre-conditions for expansion of market- and exportproduction. FIS envisaged projects amounting to LS 28.2 m. for the small peasant sector (mostly in research) - a very small sum compared to LS 500 m. expected as total foreign investment (MAFNR 1977, 23).



Thus the FIS did not plan to arrive at self-sufficiency by the way of developing peasant farming systems but through investments by private capital (both domestic and foreign) in mechanized farming. As the areas, where mechanized farming was planned to be introduced - S. Darfur, S. Kordofan, S. Funj - were dominated by subsistence agriculture and partly densely populated (in relation to natural resources), the FIS accepted a further displacement of traditional food production systems. Thus, even if the production targets were reached at that would not mean a solution to food problems automatically. The transport system would be a major bottleneck and, more important, rising income disparities raise the danger that the people most in need will not be able to benefit from the increase of mechanized grain production. FIS did not put forward a solution for the distribution problem, which has been a central problem of processes of agricultural capitalization all over the Third World.

### 3.3. The Basic Programme for Agricultural Development 1976-85

This is the central, most comprehensive and most ambitious formulation of the breadbasket strategy. The projections and expectations contained in this document are obviously a major source from which both SYP and FIS have drawn. It bases on assumptions about the huge agricultural potential of Sudan: an irrigable area of 9.0 m. fd, a potentially cultivable area under rainfed conditions of 71.0 m. fd while only 33% and 17% resp. were presently under cultivation. Realization of this potential would make possible an increase in grain production from less than 2.0 m. tons (1972/73) to 27 m. tons, in oil-seed crops from less than 1.0 m. tons to 12.0 m. tons (mainly groundnuts, sesame and cotton seed), cotton from 0.6 to 3.6 m. tons, fruits and vegetables from less than 1 m. to over 7 m. tons, pulses from 35,000 to 250,000 tons and sugar from 110,000 to 2.7 m. tons in the long terms. Even after full implementation of these increases the meat production potential is believed to be 8-10 times the present level of production (3.5 m. tons compared to 4-500,000 tons).

However, these potentials are expected to be realized only several decades after the turn of the century. Table 8 shows the production targets for the plan period of the BP:



Table 8: Agricultural Commodity Production Targets for 1985  
(In 1000 tons)

Commodity	Years		% increase
	1972-72	1985	
Cotton	555	1250	125
Grains (traditional) *	1700	3700	120
Wheat	150	860	470
Oil Seeds crops**	1222	2880	140
Pulses	35	75	115
Fruits & Vegetables	925	1830	100
Sugar	110	810	640
Tea, Coffee, Tobacco	Nil	52	-
Meats (Red)	375	808	120
Fish	22	57	160

\* : sorghum, millet and maize

\*\* : mostly groundnuts, sesame and cotton seed

Source: Arab Fund 1976, 20

These targets are based on an annual expansion in the cultivated area of 150,000 fd and 500,000 fd of irrigated and rainfed agriculture, resp. That would result in a total increase of the irrigated area from 3 to 4.5 m. fd and of the rainfed area from 12.0 to 17.0 m. fd. Likewise, the annual growth rate of livestock production was planned to be 5.5-6%. These targets were to provide for a considerable expansion and diversification of agricultural exports. The overwhelming share of cotton, which accounted for 60% of agricultural export earnings (in 1970-73) would decline to 23% in 1985. Grains, oil seed crops, livestock products and gum arabic would expand and new export commodities would become available: sugar, wheat, rice, fruits and vegetables.

The structure of the export targets (Table 9) had been orientated towards food requirements of other Arab countries. Except for cotton and gumm arabic, they were believed to be potential markets for all of Sudan's export products. The 1985 target of net agricultural export earnings was LS 330 m. (Arab Fund 1976, 21).



Table 9: Export Targets of Major Agricultural Commodities (1985) and actual 1970-73 Exports (in 1000 tons)

Commodity	Years		% increase
	Average* 1970-1973	1985	
Oil-seeds crops**	500	1500	200
Cotton (lint)	240	260	10
Meat & Fish	15	175	1070
Sugar	(159)***	405	-
Gum-Arabic	40	100	150
Sorghum and Millet	55	500	810
Wheat & Rice	(190)	130	-
Fruits & Vegetables	-	205	-
Hides and Skins	7	20	190

\* Rounded

\*\* Oil seeds and their equivalents of vegetable oils and oil seed meals and cakes.

\*\*\* Numbers in parenthesis indicate imports.

Source: Arab Fund 1976, 21

The costs of the BP, consisting of some 100 projects, amount to LS 2,300 m. (in 1975 prices), of which the foreign currency component is LS 1,500 m. or 65% (Arab Fund, 22ff.). The BP, however, does not alter the former pattern of investment concentration on the East Central Sudan fundamentally. Despite the engagement in mechanized farming and livestock subsectors in the West, the share for this region amounts to only 24% of total investments in agriculture, industry and trade. The Southern Region receives 4% (Arab Fund 1976; Glaubitt/Lageman 1981, 295).

The approach of the BP relies on two main assumptions:

1. availability of a surplus of "unused" land with heavy underpopulation
2. feasibility of expanded MFS.

Both assumptions have to be questioned. The vast savannahs of the West had been utilized appropriately in the past by systems of rotational farming, combined animal husbandry and farming and nomadic cattle breeding. Because of unfavourable climatical and geological conditions which allowed only for an extensive



land use, the presence of fallow land cannot be taken as proof of underutilization. As Lebon stated in 1965, "statistical under-population has little correspondence with reality" (Lebon 1965, 158). Indeed, a lot of evidence points to a condition of acute and increasing shortage of land. The reason for this lies in intensification of land use and increasing population density, starting to disturb the fragile ecological balance of the savannah from the 1930s onwards. The problems were intensified by the establishment of modern sector projects in irrigation and mechanized farming which almost always caused a high level of expulsion of native peasants and nomads from the ecological most favourable areas. For a long time phenomena of overgrazing, over-cultivation and soil erosion have been registered mostly in the West (Darfur and Kordofan), but also in the Red Sea area, the Butana and even in the South. This situation stands in a sharp contrast to a prospectus issued by the Ministry for Agriculture, Food and Natural Resources to attract foreign capital: "With population of about 16 m., the Sudan has one of the lowest man-land ratios in the world. This feature is associated with predominantly Government-owned agricultural land which facilitates development whether in the public or private sector, since long-term land leases are meant to provide investors with security of tenure. Moreover, there is no current nor presently foreseeable population pressure on land." (Quoted from: Oesterdiekhoff 1976b, 38.) This statement in the presence of evidence of severe ecological degradation highlights the character of a policy aiming at maximization of exports without consideration of effects on traditional producers. They have to bear the opportunity cost of expansion of the modern sector which the government declares to be zero.

As far as the feasibility of expansion of MFS to the western savannahs and other areas is concerned, this has to be doubted in regard to technical, economical, ecological and social considerations. Mechanized production systems are characterized by extensive cultivation with high capital input. Start up costs of new farms (1000 or 1500 fd each) include US-\$ 27,000 of foreign exchange for tractors and wide level discs (IBRD 1984a, 20). Yield levels are generally high after initial clearing but decline after a short time. Sorghum which accounts for 93% of mechanized



cultivated area in 1984, may yield 1000 kg/fd initially but decline to 100-200 kg/fd after 6-10 years. In 1983/84 the average sorghum yield was 230 kg/fd only (IBRD 1984a, IV). For this reason, farmers leave their land after a few years and move to new areas. In comparison with traditional agriculture, mechanized farming achieves at best slightly higher yields but the costs of production are almost double as high (Saaed 1980; UNDP/IBRD 1982, 11; Alkafi 1980, 61f.). Thus, the return per feddan of sorghum is calculated comparatively higher only because of higher sales prices (Saaed 1980, 170) or even lower than in traditional farming, as Alkafi (1980, 62) calculated both for sorghum and sesame.

At present yields/cost relationships in mechanized farming are precarious. A study about the Central Plains area found out that the present average sorghum yield is very close to the break-even point which means that theoretically almost every second farmer makes a loss. For sesame, which accounts for 6% of the mechanized area, the situation is even more severe. While the average sesame grower's yield is 133 kg/fd, the average mechanized sesame grower's yield is 67 kg/fd only (IBRD 1984a, 21).

These figures of critical average returns of farming reflect the risky character of mechanized farming which is characterized by wide fluctuations in yields. The low yield per area unit has to be compensated for by area extension. Under present conditions, mechanized production systems directed at horizontal expansion do not offer comparative advantages (cf. UNDP/IBRD 1982).

However, the government - favouring mechanized farming development-subsidizes this subsector by provision of land at a nominal rent, credits to be repaid over 25 years at well below market rates of interest and by a dual exchange rate which allows producers to import inputs at the official rate but to export at a higher "incentive rate" (IBRD 1984a, 14). An additional indirect subsidy of the subsector is the loss of the MFC and the Agricultural Bank of Sudan (ABS) caused by a very low capital repayment performance which amounts to LS millions.

The actual profits of leaseholders are estimated to be much higher than the critical return on farming. They were estimated to be 10 to more than 100% (for the average of several years;



O'Brien 1983a, 28) and 52-56% (for 1975-76; Affan 1978, 38). One reason for this is that many of the farmers act as distributors of sorghum and sesame as well. Most leaseholders market their crops outside the areas of production where they can realize higher profits. A side-effect of this is the creation of local shortages in producing areas (Shepherd 1983, 309).

A second factor contributing to financial feasibility is the Saudi-Arabian market offering a price for Sudanese sorghum above the world price level. At present low yield Sudanese exports are not competitive at the world market price but entirely dependent on the Saudi-Arabian price premium (S. Arabia (CIF Jeddah) price of US-\$ 190/t compared to the world price (FOB US-Gulf) of US-\$ 130/t (IBRD 1984a, V)). But this market is under pressure from alternative suppliers (Thailand, Malaysia) and it depends on the willingness of Saudi-Arabia to afford the premium for Sudanese sorghum in the long term.

These factors make mechanized farming production systems financially feasible, even highly profitable, as the continued enthusiasm of merchants for leases indicates, although in a strict economic sense these undertakings are not feasible. But even more important for an evaluation of MFS are its ecological and social implications. The transplantation of a system practised on the clay soils in East Central Sudan to the sandy soils of the West has - besides lack of technical feasibility (transport, input supply, management) - serious side-effects on the fragile ecological balance of the savannah. This landscape is characterized by poor soils and low rainfalls. It is not known how long abandoned land takes to recover. While in the East abandoned land (in the 60s) is recorded to be cultivated again as a result of provision of infrastructure (road-building; Simpson and Simpson 1978), in the West former MFS land seems rather to be lost to desert.

In present mechanized farming systems the farmer is not interested in long term consolidation and sustained yields on his farm, but in a quick return on the huge investments. For him it is more feasible to move to new areas: land has practically a price of zero and government even gives incentives to expand.

A lot of expansion, especially on marginal lands, is completely



uncontrolled. But even the expansion supervised by the MFC is carried out without the necessary technical support of land surveys and soil studies to determine suitability and stability of production over extended periods (IBRD 1984a, 24). This is due to the inability of the MFC to enforce its rotation guidelines. Moreover, there is doubt that compliance with the regulations would significantly alter the destructive effects - the existing projects involved clear-cutting vast tracts of land of all forest and bush cover thus exposing them to erosion (O'Brien 1983a, 20).

The majority of lessees in all schemes seem to be merchants (Adam 1983, Affan 1978, O'Brien 1983a and others). Their practical monopoly is mostly a result of the large fixed capital and liquidity requirements to obtain credits from MFC or ABS. This practice effectively prevents local farmers from acquiring leases.

One aim of setting up the MFC was to combat ecological deterioration by enforcing crop rotation including fallow. However, "the financial logic understood by the merchants has been far stonger than any strictures of the MFC" (Shepherd 1983). This logic is determined by the rate of profit in the trading sector, which is much higher unless high yields can be achieved in agriculture relative to a small capital input. This explains the very selective mechanization (land clearance; weeding and harvesting are manual operations) and the dependence on cheap land and cheap labour.

The social origin of the investors and the real cost/profit relations determine the pattern of re-investments of the profits. Less than 20% go to agriculture, the rest to urban areas/the tertiary sector (Affan 1978, Saaed 1980).

As all land is used to a greater or lesser degree by traditional producers, MFS disrupt the indigenous production system (cf. Affan 1978, O'Brien 1983a). The first priority of them is food security, which means that traditional farmers are more interested in a long-term sustained production. Besides that, the disruption cannot be offset by employment in the new large-scale farms because they are rather capital-intensive than labour-intensive



(cf. Adams 1979, 512). Adam (1983, 75) reports a labour displacement effect of 38% for the Nuba Mts. Area. The benefits are concentrated on a relatively small number of investors while the costs have to be born by the majority of small farmers.

The factors outlined above make it evident that the implementation of the breadbasket strategy as envisaged is neither compatible with ecological nor with social aims stated in national development plans - besides a doubtful technical feasibility. It represents rather the opposite of equitable development. The breadbasket strategy is not designed with due regard to supposed comparative advantages of Sudan's international trade (cf. Nashibi 1980). "Rather, the breadbasket strategy is justified by the growing need to export in order to finance the imports considered necessary. The strategy is characterized by the overwhelming goal of maximising agricultural net exports, regardless of the sectoral, regional and social imbalances created in Sudanese agriculture as a consequence". (Oesterdiekhoff/Wohlmuth 1983, 49). In this way it does not overcome colonial deformed economic structure, but on the contrary, enforces structural heterogeneity with export-oriented growth poles on one side and labour supplying "homelands" on the other. This strategy may be interpreted as an attempt to create artificially comparative advantages needed for export expansion by ignoring the real opportunity cost of labour (Oesterdiekhoff/Wohlmuth 1983, 49f.).

Although the rapidity of implementation of the breadbasket strategy was severely reduced after 1978, the doubts on its economic, social and ecological feasibility are still ignored by its defenders. As the present director of MFC says: "About 90 mill. fd of feasible land for rainfed agriculture investment have not been exploited and are waiting for private or joint entrepreneurs who possess the technical and financial ability as well as willingness to establish large-scale farming projects" (IBRD 1984a, 18). Or Mohammed Hashim Awad of the University of Khartoum, who in his answer to criticism does not mention social implications and institutional bottlenecks to implementation, ignores the ecological deterioration and relativizes doubts on economic feasibility by arguing that the data relating to the past would be irrelevant because the breadbasket strategy would be based on future food



shortages (Awad 1983, 22). For him, its failure is just a result of a "lack of political will" (Awad 1983, 25f.).

### 3.4. The ILO conception

In contrast to the breadbasket strategy the ILO proposal gives main priority to the traditional sector. While the former strategy leaves this sector almost untouched claiming to expect its development from outside (trickle down), the ILO claims that, on the contrary, government policies of allocation of resources led to growing social and regional inequalities. Thus, "a considerable effort of political will" (ILO 1976, 33) would be necessary to reverse this trend to disparity.

But this reorientation is, according to ILO, not only a social imperative, but economical feasible, because:

- the potential growth rate of traditional agriculture is not less than that in irrigation and mechanized sectors
  - the investments per farm and per head are much less than in modern sectors
  - traditional agriculture can respond swiftly to market impulses.
- Furthermore, only this sector can create employment sufficiently (ILO 1976, 34).

However, ILO does not see any conflict in regard to resources between modern and traditional sectors. It envisages a parallel development of both sectors, which is regarded not only to be compatible, but complementary. This view is based on 3 critical assumptions:

- 1) ILO shares the over-optimistic opinion of the SYP, the FIS and the BP about the "vast land resources" (for an evaluation see above Ch. 3.3.).
- 2) It claims that the financial surplus the government can derive from modern schemes will be allotted to the development of traditional agriculture.
- 3) It supposes that the rural labour market is working efficiently under conditions of almost pure competition which ensures that the employment of temporarily hired migrants is to the benefit of the traditional sector. From the available evidence it must be concluded that this market is non-perfect and oligopsonistic and that this connection of modern and traditional sectors must be characterized



as a flow of resources in the reverse direction (see above, p. 14f; for the structure of rural labour markets cf. Affan 1977, Tait 1983). O'Brien (1983b) claims that since the middle of the 1970s market imperfections are giving way for a true national market of agricultural labour but he recognizes that through the destruction of autonomous systems of social reproduction and through a partial mechanization a rising supply of labour (relative to demand) will keep wages low.

While migrant workers are an important, indispensable labour force for modern schemes, their income does not raise welfare, but rather prevents their falling under the minimum of existence. Government estimated their share of total income of traditional producers at 10% (MAFNR 1977, 14) - this calculation does not include the loss for subsistence production from the absence of workers.

The opinion that traditional agriculture is capable of a fast and high expansion of cash crop cultivation is based on the hypothesis of an elastic supply response of agriculture. The fast expansion of groundnut cultivation in the West is interpreted in this way. However, as Adams (1979, 509) states, "due to the exploitative methods of production used, these increases are unlikely to be sustained. Although there has been a very great increase in cultivation in S. Darfur over the last 5 years, there has been no significant increase in the market supply of cash crops".

In the presence of declining yields and a declining land productivity it would be counterproductive merely to improve infrastructure in order to stimulate market production, as ILO proposes. This would further social differentiation and endanger food security.

While ILO offers a more appropriate understanding of "modernizing the traditional sectors" - starting from its own institutional structure and resources and envisaging a gradual reform - than government plans do, its view is misleading because it does not account for experiences in ecological development and for sectoral interdependencies (see above Part II). Also, it underestimates greatly the institutional constraints to implementation.



The lack of realism becomes obvious in a claim to set up a new Ministry for the "backward areas", not mentioning the long history of failures in setting up rural development ministries in the Sudan (cf. Adams 1979, 514). As Adams states, "the organizational obstacles to effective implementation are complemented by attitudinal obstacles". "Primarily, the problem is the attachment of both government officials and politicians to the visible and professionally attractive crop or livestock production scheme and the notion that dramatic transformations offer the most rewards both personally and nationally, despite the evidence of costly and frustrating failure." (Adam 1979, 516).

However, the main obstacle to consider traditional producer's interests is located on the level of basic material interests: "In the absence of successful rural development programmes in Sudan, it is difficult to get this message across, especially as there are powerful groups both within the country and outside where commercial, professional and personal interests do not, by any stretch of imagination, coincide with those of the powerless and threatened traditional farmer." (Adam 1979, 518)



#### IV. Results of the Breadbasket Strategy and Attempts at Stabilization

It is not possible to distinguish the phase of the Breadbasket Strategy consistently from the following phase of Economic Stabilization. The deteriorating course of Sudan's economy had been obvious for a long time - and parts of the Breadbasket Concept are still incorporated in government's development plans. However, the year 1978 marks a fundamental turnaround in government's economic development policy.

Since 1977 the balance of payments difficulties had forced the government to negotiate with the IMF about credit support. While in May 1978 the government cancelled the talks because of disagreement with credit conditions, later in the same year these were accepted. From that date onwards government policy fell in line with IMF/IBRD policy recommendations step by step.

##### 4.1. Obstacles to Implementation and Macroeconomic Consequences of the Breadbasket Strategy

The huge investments necessary for the implementation of the ambitious Breadbasket Strategy effected new distortions of the Sudanese economy and strengthened old ones:

- the imbalance of public revenues and expenditures
- the imbalance of investments and savings
- the imbalance of exports and imports.

As Table 10 shows, there was a gap between government revenues and expenditures already before the Breadbasket phase, but this gap was not serious before 1974/75, when development expenditures rose by 145% and raised total public expenditure to LS 366.4 m. which was LS 78.6 m. more than revenues. This gap rose to LS 84.3 m., LS 118.2 m. and LS 171.8 m. during the following years.



Table 10: Fiscal Performance: 1970-1978

	1970/71	1971/72	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78
GDP (Ls million)	761.1	832.4	896.8	1246.2	1510.8	1848.0	2339.0	2882.0
Current Rev.	164.5	163.7	176.2	209.5	287.8	332.0	388.4	465.3
- % change	--	0.5%	7.6%	18.9%	37.4%	15.4%	17.0%	34.3%
- as ratio to GDP	21.6%	19.7%	19.6%	16.8%	19.0%	18.0%	16.6%	16.1%
Current Exp.	146.4	153.3	171.9	189.6	264.0	303.2	351.2	451.2
- % change	--	4.7%	12.0%	10.3%	39.2%	14.8%	15.8%	28.5%
- as ratio to GDP	19.2%	18.4%	19.2%	15.2%	17.5%	16.4%	15.0%	15.7%
Develop. Exp.	17.2	22.3	23.8	41.8	102.4	113.1	155.4	185.9

Source: Ministry of Finance and Economic Planning, Closing Accounts Department  
from: Umbadda/Shaaeldin (1983, 7)

One reason for the widening gap was the failure to raise public savings to a sufficient extent. On the contrary, current revenue as a ratio to GDP fell from 21.6% in 1970/71 to 16.1% in 1977/78. This points to the inelastic nature of revenues with respect to income (Umbadda/Shaaeldin 1983, 6).

The share of domestic savings at gross domestic investment was 34.9% in 1974/75, 63.0% in 1976/77 and fell to 32.3% in 1978/79. In the same year government savings became negative (see Table 11).

Table 11: SUDAN: FINANCING OF DOMESTIC INVESTMENT (CURRENT PRICES), 1974/75-1982/83  
(LS MILLION)

ITEM		1974/75	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83
DOMESTIC SAVINGS	62	92.6	243.2	251.7	182.5	139.2	285.4	175.7	-138.1	-79.5
(O/W GOVERNMENT)	15	35.0	39.0	51.4	35.6	-61.3	-63.3	-112.2	- 84.5	53.8
EXTERNAL RE-SOURCE GAP	52	172.5	184.3	148.0	231.2	292.2	449.6	723.3	1,299.1	1,478.5
CLOSED BY:										
NET FACTOR IN-COME	11	-15.0	-17.8	-17.8	-17.8	-32.4	-34.5	- 44.0	-139.6	-174.4
NET CURRENT TRANSFERS	12	23.0	52.5	59.9	76.9	112.8	122.8	191.6	311.1	528.3
EXTERNAL CAPITAL/A	54	164.5	149.7	105.9	172.0	211.9	361.3	575.7	1,127.6	1,124.7
GROSS DOMESTIC INVESTMENT	4	265.1	427.5	399.7	413.4	431.4	735.0	899.0	1,161.0	1,399.0

SOURCE: MINISTRY OF FINANCE & ECONOMIC PLANNING AND BANK STAFF ESTIMATES  
A/EQUIVALENT TO THE CAPITAL ACCOUNT IN THE BALANCE OF PAYMENTS.  
from: IBRD 1983c, Vol. 2, 19



Anyway, an imbalance between expenditures and savings had been taken account for in government planning and there would not have been reason for concern if the assumptions of the plans would hold. However, as El-Shibly/Thirlwall (1981) disclose, the SYP projections of investment and import requirements and of savings and export earnings suffer from inconsistencies which result in heavy underestimates of the savings-investment gap and the export-import gap (by 40% and 49-54% resp.). They conclude that the foreign resource flows would have to be 50% higher than envisaged in the plan for the growth rate of 7.5% p.a. to be achieved.

Table 12 shows the parallel emergence of the rising government deficit and the balance of trade deficit. Exports and imports, in a balance in 1970/71, moved in opposite directions since then. While imports maintained their share in GDP at about 15%, the export share fell from 14% in 1970/71 to 7% in 1977/78 (Nashashibi, 1980, 33). In real terms, exports registered a decline of 13% between 1970 and 1977, while imports grew at real rates of 18.5% annually (Umbadda/Shaaeldin 1983, 8).

Table 12: SUDAN: TRADE, DEVELOPMENT EXPENDITURE, PUBLIC SECTOR DEFICITS, AND CREDIT EXPANSION, 1970/71-1978/79  
(In millions of Sudanese pounds)

	1970/71	1971/72	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78	1978/79	Annual Rate of Growth
Exports	109.2	107.3	127.4	90.3	149.7	191.7	206.8	191.9	181.2	8.1
Imports	109.9	116.9	120.9	171.8	322.3	369.7	343.3	413.7	460.0	21.0
Balance of trade	-0.7	-9.6	6.5	-81.5	-172.6	-178.0	-136.5	-221.8	-278.8	
Net services	-9.3	-11.9	-16.0	-23.7	-34.9	-14.4	-18.8	-25.6	-24.4	
Current account	-10.0	-21.5	-9.5	-105.2	-207.5	-192.4	-155.3	-247.4	-303.2	
Development expenditure	26.6	29.8	29.6	50.7	102.4	117.2	159.4	185.0	198.0	
Government deficit	-22.2	-25.3	-29.3	-54.5	-128.7	-143.5	-199.2	-130.0	-245.0	
Net domestic assets (end of period)	152.2	180.4	206.1	301.1	399.7	562.5	721.7	887.1	1,093.7	32.5

Source: Bank of Sudan, Bulletin, and Ministry of Finance  
1) Fiscal years ended June 30; all trade values are based on customs records and are converted at the past official exchange rate of LSd 1 = US \$ 2.87. Growth rates for trade are evaluated for the averages of 1970/71-1971/72 and of 1977/78-1978/79. Net domestic assets are defined as credit extended to the Government, public corporations, and the private sector minus "Other Items (Net)" of the banking system.  
from: Nashashibi (1980, 34)



As Umbadda/Shaaeldin calculate, in order to close the resource gap (a cumulative balance of trade deficit of more than \$ 2bn between 1970 and 1978), exports would have had to grow at a rate of 24% p.a., more than double of that envisaged by the SYP (11%).

Indeed, export performance was very weak during this period. This can be explained by price and quantity changes. The terms of trade were moving against the Sudan at an annual rate of 12-15% (Umbadda/Shaaeldin 1983, 8). The main cause for this was, probably, the oil price explosion, which resulted in rising prices of other imports also. However, not the change in price relations seems to be the primary cause for Sudan's unsatisfactory export performance, but the falling quantity of exports.

As Table 13 shows, the cumulative increase in export earnings could have been \$ 252.8 m. or 23% higher, had Sudan maintained its 1970 export quantities. Had it not been for the increase in the quantities of groundnut exports (mostly through area expansion), the decline in cotton exports would have taken away more than \$ 500 m. (almost 50%) of the total increase in export earnings.

Table 13: Decomposition of Changes in Export Earnings (1970-78) into Price and Quality Effects  
US \$ million

	$V_{it} - V_{io} = \sum (P_{it} - P_{io}) Q_{io} - \sum (Q_{it} - Q_{io}) P_{io} + \sum (P_{it} - P_{io}) (Q_{it} - Q_{io})$			
1. Cotton	407.1	=	+ 925.22	- 255.19
2. Groundnuts	448.3	=	+ 96.15	+ 191.56
3. Sesame	183.4	=	+ 157.7	+ 15.0
4. Gum arabic	13.0	=	+ 168.62	- 80.16
5. Sorghum	52.6	=	+ 9.5	+ 32.01
Total	1104.4	=	1357.2	- 96.8
				- 156.9

Notes: 1. The identity;  $V_{it} - V_{io} = \sum (P_{it} - P_{io}) Q_{io} + \sum (Q_{it} - Q_{io}) P_{io} + \sum (P_{it} - P_{io}) (Q_{it} - Q_{io})$

where  $V_{it}, V_{io}$  are the values of exports of the ith commodity at terminal and initial years respectively.

$P_{it}, P_{io}, Q_{it}, Q_{io}$  are prices and quantities of exports of ith commodity.

Suggests that growth in export earnings could be decomposed into

- (i) price (terms of trade) effect
- (ii) quantity effect, and
- (iii) interaction effect (i.e. export earnings, due to price and quantity changes).

2. Differences between LHS and RHS figures due to rounding (LHS: Left Hand Sums; RHS: Right Hand Sums)

Source: Own computations from data obtained from FAO Trade Year Books - various issues.

from: Umbadda/Shaaeldin (1983, 10)



Cotton exports declined continuously between 1973 and 1978, reaching a low mark of 93,000 tons in 1974 - equaling only 40% of the 1970 level (Umbadda/Shaaeldin 1983, 9). The low production figures of cotton can be attributed to falling yields, mostly, and to an area reduction. The area under cotton was down by 20-30% to make room for groundnuts, wheat, sorghum and rice. Reasons for this policy had been difficulties of marketing cotton, experienced in 1973 and 1974, a sharp rise in the world price of cereals (IMF survey 1.9.80, 267), a drive for food self-sufficiency and the plan to become a food exporter to the Arab region. The decreasing productivity was due to shortages in imported inputs, agricultural machinery and equipment, ageing irrigation systems and, most important, the decreasing profitability of cotton for Gezira (and other) tenants resulting from the Joint Account System. This system of distribution of costs and profits charged all production costs on the cotton crop which was marketed by the state corporations, while the other crops were sold by the tenants themselves. Thus these other crops gave a return much higher for the tenants. In fact, the effective government share of the surplus (taxes plus profit share) of cotton amounted to 31% of the output value, while the tenant's share was negligible (1.3%; Nashashibi 1980, 55).

The second very disappointing production performance - gum arabic -, was due to declining production which in 1976-78 averaged only 30% of its 1973 level (Umbadda/Shaaeldin 1983, 11). This can be traced back to the very low producer price level of gum arabic making it more profitable in many areas to sell the trees as firewood and to a beginning displacement by intensification of agriculture (especially mechanized farming).

Another factor relates to imports. Irrigated and mechanized rain-fed crops as well as industrial production are highly import-dependent. Thus it is important to note that the quantity of many imported commodities was falling considerably during this period relatively to its values.

A serious bottleneck seems to be the shortage of labour. As far as the labour migration to Arab countries is concerned, the remittances are a significant part of Sudan's foreign income (\$ 400 m.



in 1981) so that the country could not do without under the strained economic conditions. Nevertheless, they do not compensate for the loss of skilled labour (IBRD 1982a, 12). The absent workers account for 6-7% of the total labour force (Glaubitt/Lageman 1981, 306). Acute labour shortage is recorded in most of the modern schemes both in agriculture and industry as a severe restriction to production. A significant proportion of the cotton crop (in some schemes perhaps as much as 25%) is reported to have been lost due to the failure to complete cotton picking (IBRD 1982a, 65).

Labour shortage is stated as a major reason for the high degree of mechanization. However, an overall evaluation of highly mechanized schemes indicates that their technology is not appropriate to Sudan's economy both in regard to capital and to employment. The Rahad scheme, which started in 1973, and aimed at fully mechanized irrigated agricultural production, is facing severe difficulties. Yields declined and incomes have been lower than required to break even. An analysis of mechanized versus hand cotton picking showed that the former is neither economically justified nor probably sustainable (IBRD 1982a, 75).

Mechanization led to a decline in project derived incomes both for tenants and for labourers and resulted in deepening the diversity of interests between those and the scheme management (USAID 1982, IV).

Several factors indicate that the apparent present shortage of labour is neither an absolute one nor is it likely to rise in the future. The main factor restraining the labour supply is the insufficient level of wages (IBRD 1983c, 41). In fact, from the 1950s to the mid 1970s the rise of average wages was below the inflation rate, i.e. real wages declined. In recent years, nominal wages increased more, but because of higher inflation still there was no significant increase in purchasing power (Heinritz 1982, 574). The low wages are even far from representing the net incomes, because the major part of them has to be spent on food, housing etc. during the working period (for the Rahad scheme 1/2-2/3 of the wages ; USAID 1982, 10).

Thus, agricultural wage labour is not able to create a signifi-



cant additional income (see above, p. 14f.). These conditions may make it more advantageous to revert to subsistence agriculture and other sources of income (cf. Hansohm/Woltersdorf 1984). However, the decomposition of subsistence agriculture and a high population increase rate - recently estimated at 2.8% p.a. (MEED 9.9. 1983) - enforce the pressure to migrate and will do so to a rising extent in future.

In 1978 the financial situation of the Sudan had become precarious. Total foreign indebtedness (public and publicly guaranteed) had risen by 387% in the period of 1973 to 1978 and was estimated to be more than \$ 2bn (see Table 14) and the Bank of Sudan had no foreign reserves any more. Debt service was accounted for more than 1/3 of total export earnings.

In the meantime it had become obvious that one main assumption on which the Breadbasket Strategy was based did not hold: the idea of Pan-Arabism, of Arab integration containing a regional food self-sufficiency. This conception had implied a transfer of capital resources primarily for political reasons and only in the second instance oriented at comparative advantages in international comparison. In reality, the Arab states (mostly Saudi-Arabia and Kuwait) were willing to invest in projects, but not to give balance of payments aid without conditions. From 1976 onwards Sudan received no programme aid (payments and budgetary support) from Arab countries while at the same time direct Arab investment was rising (FT 5.5.79, NfA 4.10.79). The political basis for Arab integration had faded away, among other things because of the Egypt/Arab League conflict about Israel, and the Sudanese became sceptical because of the "meagre welfare benefits out of the past integration activities" (Glaubitt/Lageman 1981, 306). The hard-line attitude of Arab donor countries became apparent, when in Sept. 1978 the Sudan was \$ 56 m. in arrears in repaying its debt to Kuwait. Kuwait agreed to a moratorium on all repayments, but only for a short term (up to March 1979); moreover, the Sudan was allowed no grace on the interest on loans accruing throughout the whole period of repayment (up to 1988; ACR 1978-79). - In early 1979 Saudi-Arabia held up the payment of two installments of \$ 84 m. of a \$ 300 m. loan agreed to in Sept. 1978, because it was "apparently not satisfied that Sudan was negotiating earnestly enough with the IMF" (ACR 1979-80).



The acute shortage of foreign exchange forced the Sudan to arrange with commercial banks for emergency loans at commercial rates of interest. The fall in international assistance (on a disbursement basis) from \$ 245 m. in 1974 to \$ 82 m. in 1975 forced the government to a high level of short term borrowing in order to maintain its investment levels (IBRD 1976, Ann. II, 3). Also, for fear of social unrest following an imposition of IMF credit conditions, the government rather accepted the higher costs of private loans and postponed the acceptance of IMF policies as long as possible.

Thus, rising debts forced the Sudan into a vicious cycle: rising indebtedness resulted in a shift from official to commercial loans, from long term to short term loans and from project loans to balance of payments loans accompanied by rising interest rates. As Table 14 shows, from 1973-78 the share of official lenders declined from 82.6% to 64.7% (in total outstanding loans, disbursed), while the share of private lenders rose from 17.4% to 35.3%.

Table 14: Sudan's Indebtedness (US \$ Millions)

	1973	1975	1977	1978
PUBLIC/PUBLICLY GUARANTEED DEBT				
Debt Outs. inc. Undisb.	971.8	1,960.4	3,202.4	3,847.2
Official Creditors	816.5	1,359.2	2,345.8	2,786.6
Private Creditors	155.3	601.1	856.5	1,060.6
Debt Outs. Disb. (DOD)	500.5	1,272.8	2,083.9	2,435.7
Official Creditors	413.4	804.9	1,399.3	1,575.3
Private Creditors	87.2	467.9	684.6	860.5

Source: IBRD 1984 b

Rising interest rates, shortening grace and maturity periods as well as declining grant elements reflect, besides the internal economic difficulties of the Sudan, the international monetary crisis. Mirghani (1977) calculates that between 1969 and 1973 the imported capital goods price index witnessed an increase of 46% which would imply a more or less equal decline in the purchasing power of the loans. He stated that the "structure of external indebtedness has



not been adapted to foreseeable repayment capacity" and warned that "Sudan can not for economical, political and social considerations allow its development to be subordinate to a growing dependence on external loans and aids over the course of several decades" (Mirghani 1977, 56).

Resulting from rising import costs and rising deficit financing by increasing the money supply inflation was speeding at an average rate of 12.3% and 17.6% p.a. from 1974-78 officially (see Table 15). Observers commented this rate as "wildly underestimated". Inflation effected an overall decline of standards of living, but especially the rural population was hit hard by the unfavourable development of internal terms of trade against agriculture. In general, cost of living for low income groups rose more heavily. Thus, inflation implied an income redistribution towards high income groups.

Table 15: Consumer Price Index Numbers (CPIN) - AU items, and Consumer Price Index (CPI) - some items. 1970 = 100

Year	CPIN	%	CPI <sup>+</sup>	%
1971	101	-	107.5	-
72	113	11.9	118.2	10.0
73	133	11.7	137.7	16.5
74	167	25.6	172.3	25.1
75	207	24.0	211.2	22.6
76	211	1.9	215.0	1.8
77	246	16.6	251.8	17.1
78	295	20.0	301.9	20.1
79			399.0	32.2
80			503.1	26.1
81			623.7	24.0
82			787.1	26.2

24.3

Sources: (1) CPIN: UN, 1979/80, Statistical Yearbook, N. 4  
(2) CPI: Department of Statistics, Internal Trade Division, P.O. Box 700, Khartoum

Notes: (1)<sup>+</sup> These are simple averages of Low- and High salaried Sudanese, assuming that the weights are the same (when checked against UN index, the difference was found minimal).  
(2) Figures of the Dept. of Statistics are the official figures and hence they are by far lower than actual market prices.  
(3) The CPI includes foods, shelter, clothing, education, health, transportation, and recreation.  
from: Fadlalla 1983



Another result of inflation was the unproportional growth of the tertiary sector which offered more lucrative profit rates than the sectors of material production (agriculture and industry). Profits in trading activities were also raised by the scarcity of foreign commodities created by tight import controls (the import licensing system gave traders direct access) and by the "Nil Value" import license system. This system was introduced in 1972 to permit residents to repatriate foreign exchange held abroad in commodity form. However, imports under the "Nil Value" system expanded far beyond the planned scope - they became a "white link" in a cycle of illegal export-import-currency deals (Acharya 1979, 71).

The unfavourably diverging development of terms of trade resulted, among other reasons, in a cost explosion of the huge development projects being highly dependent on imports. The cost for Kenana, planned to become world's largest sugar factory, were calculated at \$ 150 m. in Oct. 1973. By Sept. 1976 the figure had risen to \$ 475 m. and the Ministry of Industry announced that the project was still short of \$ 260 m.; unofficial sources estimated the costs as high as \$ 1bn (ACR 1977-78, B 134; Wohlmuth 1983, 198). The second main reason for this tremendous increase was the lack of consideration of infrastructural investment necessities.

Lack of infrastructure was a constraint characteristic for most projects which had been extremely underestimated. Together with the shortage of raw materials, power supply, fuel, foreign exchange and both skilled and unskilled labour it resulted in low capacity utilization and production losses. The inadequacy of the railroad was dramatically illustrated in winter 1977/78 when a record groundnut crop harvested in the West could not be transported over the period of an entire year. More than 80,000 tons were left to spoil (Nashasbib 1980, 54).

Some of the new projects were forced to rely on more imports than planned because the lack of transport prevented the planned use of domestic inputs (MEED 18.7.80). Many of the industrial factories were operating at 25% capacity only. The six public sector weaving factories remained idle because of the failure of a spinning factory which had been intended to supply inputs into the weaving units (A Sudanese Economist 1983, 66). Cotton mills



deliberately sited to create employment in remote areas had to remain idle because of lack of inputs (Guardian 9.7.82). The same reason led to the poor performance of sugar production. Of 4 sugar plants established during the early 1970's, two remained idle, the third operated at 25% capacity and the fourth worked at a cost of production four times that of the two public sector firms established in the 1960's (A Sudanese Economist 1983, 66). The feasibility studies for the big sugar schemes worked out in the beginning of the 1970's calculated a competitive position for Sudanese sugar production under the conditions of sharp rising world prices for sugar. As the assumption that the price rise would keep pace with the rise in sugar production costs did not hold, the competitiveness approached zero even under ideal conditions (not taking regard of the many bottlenecks emerging in practice; cf. Nashashibi 1980, 44). At the same time when the country should have reached self-sufficiency in sugar, it spent over \$ 1 m. per day for sugar imports (ACR 1980-81).

As Table 16 shows, sugar production did not rise significantly higher than consumption (68.3% and 65.8% overall resp.).

Table 16: TOTAL PRODUCTION AND CONSUMPTION OF SUGAR DURING THE PERIOD  
1968/69-1977/78

YEAR	Guneid	New Halfa	Sennar	Total Production	Local Consump- tion	Production As a Percentage of Local Con- sumption
1968/69	29,149	52,965	-	82,114	189,939	43
1969/70	18,460	56,857	-	75,317	210,342	36
1970/71	37,079	35,503	-	72,582	230,000	31
1971/72	28,475	62,905	-	91,380	241,000	38
1972/73	42,133	70,508	-	112,641	250,000	45
1973/74	45,268	75,303	-	120,571	269,754	45
1974/75	52,727	75,924	-	128,651	242,570	53
1975/76	54,155	59,794	-	113,949	274,149	42
1976/77	55,074	57,168	26,465	138,707	295,915	47
1977/78	48,336	58,214	31,659	138,209	314,981	44

Source: Public Corporation for Sugar Trade.

from: Bank of Sudan (1978, 16)



It became obvious that too many projects had been started (see Annex, Table 2). Under the condition of shortage of foreign exchange, new projects had been implemented at the expense of existing ones. The result was a decapitalization of the traditional industries of the food industry, the leather industry, the oil mills industry and even the already established sugar industry (Oesterdiekhoff 1982, 61).

The ambitious development plan had not only gone beyond financial resources, but also beyond government's planning and implementation capacity as is shown by the lack of project coordination. As noted above, the overall plan objectives are not reflected in an integrated approach at project conception and implementation level. Rather, the individual projects are unconnected and inconsistent in regard to development targets. Furthermore, most donor countries prefer projects which have high visibility and, therefore, quick political return.

This lack of coordination between projects prevents a creation of intra- and intersectoral linkages which would help to overcome the economy's structural heterogeneity.

#### 4.2. Analysis of the economic crisis and proposed strategies of IMF and IBRD

At the beginning of an evaluation of IMF and IBRD concepts one has to bear in mind that the same institutions had supported the Sudan actively in pursuing the described capital-intensive and import-intensive development path and that they were not much faster to recognize the extent of the adverse effects. Still in Dec. 1976 an IBRD official stated that the rapidly grown investment would "soon be reflected in rapidly increasing output" and that the outlook for the Sudanese economy in the medium term would be bright (IBRD 1976, Ann. II, 5).

The diagnosis and the policy recommendations of IMF and IBRD do not differ basically but in the degree of precision, the policy emphasis and the time horizon. In order not to give an impression of interfering in internal affairs, the IMF concentrates on a monetary analysis and fixes quantitative macroeconomic performance criteria, mostly on the demand side, as conditions



for Stand-By credits with a time horizon of 1-3 years (for the financial programmes). IBRD programmes are characterized by a longer time horizon (5-7 years), include both supply and demand aspects and give more precise advices in their real economy programmes. This refers to the sectoral and overall structural adjustment programmes.

Starting point of their analysis is the reflection of the distorted structure of the Sudanese economy as evidenced in the fundamental disequilibrium in the balance of payments. The diagnosed imbalances include those between consumption and savings, investment and savings, exports and imports, physical and management capacity of the economy and public revenues and expenditures.

The balance of payments crisis is described as a "consequence of inadequate economic management" mostly (IBRD 1983b, 2). This reflects a tendency to regard Sudan's problems primarily as technical ones. As primary causes are stated internal factors:

- distortions in the allocation of resources resulting from an overvalued currency, restricted trade and payments regimes and inadequate government price policy
- expansionary public sector financial operations
- inflated money supply
- inefficiency of parastatals
- overinvolvement of the government and suppression of private sector activities
- lack of skilled and unskilled labour
- inability to mobilize domestic resources
- lack of infrastructure

This situation is stated to be aggravated by external factors:

- worldwide inflation
- weak international demand for Sudan's export commodities
- falling terms of trade.

Very recent studies also mention the excessive rates of profit in trade which has negative effects both in draining investments from productive sectors and in furthering luxury imports (IBRD 1983c, 62).

The overvaluation of the currency is understood to be both a disincentive for exports and a benefit for imports. Furthermore, government price/cost policies are considered to be a strong bias against the most important export crop cotton (see above) and



also gum arabic, and to favour food crops (wheat and sorghum).

From this analysis the recommended strategy is deducted. The IMF performance criteria being the conditions of Stand By credits include:

- exchange rate adjustments (devaluation)
- an overall ceiling of domestic credit, with subdivisions for the borrowing by the central government and the private sector
- reduction of the deficit in the government's budget by holding down both current expenditures and development expenditures and by increasing the rate of tax revenues to GDP
- restraint of consumption
- removal of state subsidies.

Besides these exchange rate and demand-oriented targets the IBRD provides some supply-oriented policy suggestions:

- deferment of all new state projects and rehabilitation of the existing ones to raise the degree of utilization of their production potential
- removal of price and cost distortions
- price incentives for production of export goods
- removal of price controls to allow prices to rise with the result of a shift of income from those who save less (consumers, traders) to those who save more (producers)
- shifting emphasis from large public projects to support the small scale entrepreneur
- liberalization of production relations in the state schemes: displacement of the Joint Account System by land and water charges
- individual account systems and reallocation of land from food crops to cotton and groundnuts

Certainly, many of these measures - especially the policies to remove the bias against agricultural producers - are steps in the right direction. However, some misconceptions and inconsistencies have to be noted. Some of them can be deducted from the theoretical model of the Sudanese economy and society underlying the analysis. Basic assumptions are:

- the free play of market forces will produce an acceptable pattern of investment, production and trade



- internal und external imbalances (inflation and balance of payments deficits) are caused by excessive internal demand
- market forces will be able to produce a sustained growth in production and employment, if not disturbed by government interventions or inflation (cf. Tetzlaff 1980, 249).

These conditions are perhaps fulfilled to a high degree in integrated Western industrial countries. However, in the Sudan as in many other Third World countries this model does not account for some important structural imperfections (as described in Part II). As a consequence, some of the measures proposed might not reach the desired aim or might even have contrary effects. Most important, IMF/IBRD analyses confining themselves to the economic sphere fail to appreciate the reasons for the apparent "mismanagement" of the Sudanese economy. They do not take account of the different meaning of the term "state" in Sudanese reality: The state's small - and dwindling - social and economic basis restricts its real options severely.

The approach to raise industrial and agricultural output by giving incentives to primary producers is to be welcomed. However, it does not account for the marketing structure which prevents that producers receive a reasonable part of consumer/export prices for most commodities (see above Part II). Instead, the profits accruing to the big traders far exceed the returns to the farmers. The real producer prices tend to be overestimated because they are usually equated with the minimum prices (cf. above). In fact, marketing costs tend to be equated with transport costs and producer prices are calculated by deduction of taxes, marketing and transport costs from fob export prices (IBRD 1979, Ann. 7, 7). This misconception of the marketing structure reveals itself in a recommendation to set up an Agricultural Price and Marketing Bureau to advise government in producer price making (IBRD 1979, Ann. 7, 13).

Besides the marketing structure, in order to overcome the "supply rigidities" of agricultural production the following variables have to be taken into account: the ownership structure, the credit system, supply and costs of inputs, infrastructure facilities and the impact of mechanized farming (A Sudanese Economist 1983, 68). For the modern sector schemes incentives are to be



given to producers by changing the production relations from crop sharing systems to cost recovery systems. However, this approach does not account for another aspect of the production relations between the de jure tenants and the de facto operators of the tenancies - the tenant's family in the Gezira is assumed to contribute 20% of the total tenancy labour requirements only (IBRD 1983a, 44). The divorce between ownership and operation is likely to cause sluggishness in the response to price changes and incentives. Furthermore, it hinders the preservation of soil fertility (Shaaeldin 1983).

The proposed change in production relations will enforce the polarization between the absentee tenants on the one side and the landless labourers on the other side: the cost recovery system favours large farm units because it results in high fixed costs and a larger share of marginal production increase for the tenants (see below).

The great hope set in private investment seems both to overestimate the capability and willingness of the private sector to invest in productive enterprises and to underestimate the adverse effects of this investment. As was noted above, present agricultural systems give return lower than in trading activities. Thus, capital investment tends to realize short term profits at the cost of long term effects. It should not be forgotten that one reason for the expansion of public activity was the lack of private capability to become active in certain sectors.

The proposition to hand over economic activities to the private sector is substantiated by the inefficiency of the parastatals. However, it seems not to be proved that private entities would be more capable to do the same jobs. One of the largest private textile factories had to give up and a second is on the verge of collapse. Perhaps other factors than inherent inefficiency may be more important - as lack of spare parts, maintenance, infrastructure etc. - for an explanation of the poor performance of industrial enterprises (cf. Umbadda/Shaaeldin 1983, 17).

Often, rapid expansion of groundnut cultivation and mechanized farming are stated as proofs of positive private initiative which is believed to be prevented to unfold fully only by government



The term "private sector" seems to reflect a misconception because it does not differentiate between traditional producers and investors in modern sectors. In fact, almost all of the planned measures aim at the second sub-sector affecting the first adversely. Indeed, IMF/IBRD programmes admit that their recovery programmes would imply broadening social inequality (IBRD 1980).



interventions. The limits and adverse impacts of both have been analyzed above. While as early as 1979 it was recognized that priority should be given to have "greater caution in awarding large land concessions to the private sector" (IBRD 1979, Vol. 1, ii), an unqualified advice to encourage private investment is carried on up to the present. Due to lack of domestic facilities the alternative to government action has often been the engagement of foreign capital. However, the history of this engagement has shown that its terms have been disadvantageous for the Sudanese economy in several respects: It enforced the processes of adjustment of the local production systems to the international demand conditions and of adaptation of the local demand structure to the production profile of the foreign firms (luxury goods production) which was accompanied by an income redistribution favouring the rich segments of the population (see above Ch. 2.3.). Furthermore, the foreign capital succeeded in getting special advantages like exemption from taxes, import duties and restrictions, shifting of capital and market risks to the government etc. (cf. Oesterdiekhoff 1982, Wohlmuth 1983).

IBRD plans include the conception of a parallel development of modern and traditional sectors in the long run. They assume a complementarity of both sectors and expect benefits of the working migration for the second sector. As well the first assumption (at least for mechanized farming) and the second have to be questioned (see above).

Moreover, while the importance of giving more emphasis to the traditional sector at least in the medium and long term is stated in every overall plan, in practice almost nothing has come out yet. 3 projects in Southern Darfur were expected to reverse land degradation and to give higher income opportunities to traditional farmers and pastoralists through improved farming (IBRD 1979, Vol. 1, 44). Five years later, only one project went beyond the experimental stage and to a very limited extent. The activities in the Western region sink into insignificance compared to the severe threats the traditional agriculture is facing. Besides of lack of funds, this can be traced back to insufficient implementation capacity, the Sudanese over-centralization, lack of integration of development efforts and lack of cooperation with



local farmers and nomads. In regard to land resources, IBRD reports still assume an unparalleled potential of which only 10% are cultivated (IBRD 1982a, 1), although they admit that "virtually all of Sudan's productive land is used in some form" (IBRD 1982a, 58).

As the reports themselves recognize, two main objectives of the Economic Recovery programme are contradicting: first, the drive to rapid export production to relieve the country from the immense debt burden and second, the reduction of imports and current and development expenditures. As the irrigation subsector who is supposed to yield the highest output growth in the short-term and the industrial sector are highly import dependent (cotton has import contents of 43%; UNDP/IBRD 1982, 3), their performance is endangered by import restraints, effected by foreign exchange shortages and devaluations. Furthermore, credit became less available due to credit ceilings. Thus, a devaluation without a backing by availability of considerable foreign exchange for inputs would result in shortages throughout the production structure and lead to a contraction of the economy.

The main conflict between programme objectives seems to occur between the short term objective to restore financial equilibrium in the shortest possible time and the long term objective of a sustained economic development. Not mentioning the adverse social impact of lifting food subsidies with the result of enforcing income inequalities the danger is great that the requirements of short term financial stabilization policies may destruct the long-term perspectives of the Sudanese economy.

The programme enforces the regional concentration on East-Central Sudan, the sectoral concentration on modern sectors and the commodity concentration (cotton, groundnuts). This means a continued high dependence on the world market, an unpredictability of economic development even in the short term (one season). Infrastructural projects, which are considered to be of central relevance - the neglect of these was identified as a major cause for low economic performance - are neglected again because of low rates of return and long gestation periods (IBRD 1983c, Vol. 1, 20).



The negative long term economic, social and ecological impact of mechanized farming which is accepted for the sake of short term profitability has been documented above. Another example of sacrificing long term objectives for short term ones is listed in the Agricultural Rehabilitation Programme: "Although extensive use of chemicals would continue to pose long-term risks, it would not be economically feasible to produce cotton without chemical pest control." (IBRD 1983b, 19).

The high costs of irrigated agriculture in terms of health and ecology have not been appreciated in the major research reports. However, an analysis of incidence rates of diseases in the Gezira concludes with the statement that "they are enough to warrant classifying the Gezira scheme a failure for the local people who live and work there." (Pollard 1981, 26).

In general, the advice to expand agricultural export production as suggested by the IBRD (1981) has to be questioned because - under conditions of highly competitive markets for the commodities concerned - widespread acceptance of that advice will inevitably result in a decline in prices.

#### 4.3. Government Policies and its Outcomes

Since mid 1978 the Sudanese government pursued an economic stabilization policy consisting of an exchange and trade reform programme, a financial stabilization programme and a restructuring in the agricultural sector to promote export cultivation. In June 1978 the IMF had approved two loans totalling \$ 62.8m, including 25.8m balance of payments support disbursed immediately (MEED 7.7.78). However, Sudan was not willing to accept the IMF conditions for these credits and for a credit package of a \$ 130m IMF Stand By-credit and about \$ 700m as soft loans from Saudi Arabia. The negotiations were deadlocked several times and an agreement was not reached at before May of next year.

However, the government implemented some measures meeting the claims of the IMF half way in the hope to get the approval for new credits. The currency was devaluated by 20% (IMF had requested 30%). The 1978-79 budget planned to increase general expenditures by 22% (due to wage rises of 15% on average under



the Job Evaluation and Classification Scheme and foreign loans debt service mostly), while total revenue was forecast to rise by 11.5%. The development budget was planned to decrease by 18.8% because the government was bound to adhere to the stabilization programme, as the Minister of Finance explained (ACR 1978-79, B 132) - the IMF had requested big cuts in public expenditure and development spending. Investment was down by 30% to LS 115m (\$ 287.5m). A moratorium of new projects until those under way were finished was set also (MEED 23.3.79). In September 1978, President Numeiri announced several austerity measures including acting against the black market and cuts in government current expenditures.

In May 1979, the government and the IMF agreed about the conditions for a 3-year Extended Fund Facility (EFF) of \$ 256.8m, half of which as a supplementary facility (giving the possibility to draw up to 100% - instead of 25% a year of the \$ 113m quota; MEED 11.5.79). In a letter of intent, the government agreed to hold down domestic credit, particularly in the public sector, to restore financial balance and to reallocate wheat- and sorghum-growing areas to cotton and groundnuts. The government committed itself of keeping short term borrowing during 1979/80 down to \$ 200m (excl. refinancing) with no more than \$ 50m for loans of one to five years. First priority was to boost export earnings from irrigated crops, the second priority to improve infrastructure. The value of cotton exports was planned to increase by 15% a year from about \$ 320m in 1978/79 to \$ 470m in 1981/82. Total exports should increase by 20% a year from about \$ 600m to \$ 1100m in 1981/82 (MEED 11.1.80).

In April 1979 the First Investment Plan of the Basic Programme (BP) was revised. Total investment was reduced by 53%. From 61 projects originally planned, 13 were selected for implementation in 1979. The main criterion of the selection was short- or medium-term profitability. Thus the infrastructural projects of the BP have less importance in the revised plan (Glaubitt/Lageman 1980, 196ff.).



In mid 1979 the Export Action Programme was initiated in co-operation with the IBRD, planning to raise the volume of cotton exports at 7% p.a. during 1979-91. The programme included the allocation of foreign exchange to finance inputs in order to arrest decapitalization and a series of rehabilitation projects in the major schemes where cotton is grown (IBRD 1983b, 4,9).

Following an IMF condition to lift subsidies, the government announced a rise in sugar prices by a third, a removal of subsidies on wheat and other essential cereals, an increase of duties on tobacco and alcohol and a two-thirds increase in petrol price (MEED 17.8.79). However, after violent resistance the petrol price had to be reduced by 20% again.

In Sept. 1979 new economic measures were introduced: a currency devaluation, abolishment of the 'Nil Value' import system, abolishment of several import taxes and permission for Sudanese working people abroad to hold foreign exchange accounts. A two-tier exchange rate was set up: a official rate of LS 1 = \$ 2 for essential imports (31 items including wheat, sugar, tea, coffee, medicines, crude oil, petroleum) and a parallel rate for all other transactions. Furthermore, several publicly owned industries were to be transferred to the private sector.

This programme was welcomed by the IBRD who believed it would create incentives. However, doubts remained about the capability of the banking system to handle the dual currency rate. Economists feared that the lack of confidence in stability and predictability of government policy would lead to a diversion to the black market. Furthermore, they argued that the vital issues of productivity and export incentives had been overlooked (ACR 1979-80, B 127). Within the programme of agricultural restructuring, government announced in June 1980 to replace the Joint Account System by an individual account system. Tenants would be charged for each input for each individual crop. Their debts as cash advances, inputs, services and land and water charges would be recorded primarily on a per feddan basis. This means higher fixed costs and at the same time a larger share of marginal production increases for the tenant with the result of a bias to large farm units. Furthermore, crop prices were to be announced



before harvest and the tenant's profit share was to be paid promptly on delivery of the crops. This system was to be introduced on all schemes from 1981/82 onwards (IBRD 1983b, 10).

Following an IMF request, in late 1980 more commodities were set on the parallel rate. Only politically sensitive food imports, petroleum and petroleum products and pharmaceuticals remained at the official rate.

In Nov. 1980, the IMF agreed a further \$ 289.7m credit supplementing the June 1979 EFF, basically on the same terms (MEED 1.11.80). However, in 1980/81 the disastrous state of the economy continued to deteriorate and the government was not able to make drawings on the EFF credit in the third and fourth quarters because of non-compliance with agreed targets as trimming the budget and cutting back on imports. Subsequently, government increased prices of petrol, cigarettes, liquor as well as other prices and import duties.

In January 1981 the Second Three Year Public Investment Plan (1980/81 - 82/83) was revised following the principles of the economic stabilization policy. The objectives of the SYP remained the basis, but investment was reduced to a core programme consisting of completion of ongoing projects with sufficient performance, rehabilitation of the productive capacity leading to the highest profits in the short term (irrigation subsector) and alleviation of major infrastructural constraints (MNP 1981, 13). While the transport and communication sector receives 14.8% of total expenditure, investment in this sector is endangered by lack of consistency with the overall aim to confine the programme mainly to projects "designed to produce quick returns" (MNP 1981, 21). This contradiction between the long term target of sustainable economic development and the short term obligation to pay debt service became more dominant after 1978 and the Sudan lost its capability to pursue alternative options more and more. While foreign resource availability was not considered to be a serious constraint because for most projects foreign financing had already been secured, local resources were identified as a limiting factor. For the government's programme, ceilings of LS 120m, LS 150m and LS 190m were set for the three



years resp. Of the total investments (LS 1342.6m), domestic resources accounted for 41.4% while foreign resources (loans and grants) amounted to 58.6% (MNP 1981 Ann. 1).

After the IBRD had stopped all aid in Sept. 1981 because of unpaid debt and the IMF had scrapped the \$ 480m EFF from 1979 because of failure to meet the IMF conditions, further measures were taken in Nov. 1981 in an 18 point economic recovery programme. These measures included a devaluation by introduction of a unified exchange rate of LS 1.00 = \$ 1.11, a 40% increase in taxes on petrol and petrol derivatives, a 10% rise in taxes on imports, an immediate end to the subsidies for cooking oil and a gradual phasing out of wheat and sugar subsidies (ACR 1981-82, B 104). These measures resulted in a sharp rise of food prices - the sugar price rose by 62% (FR 1.2.82).

During 1982, again the Sudan was not able to comply with all of the conditions for a one year IMF Stand By credit. Consequently, the Stand-By agreement was cancelled. Because the 2<sup>nd</sup> tranche was not disbursed, the Sudan had to delay its debt service and bilateral and commercial bank reschedulings were frozen in September 1982.

The government took new measures in December 1982, including a 31% devaluation and a medium term development programme: Prospects, Programmes and Policies for Economic Development 1982/83 - 84/85 (PPP; MFEP 1982). Besides the necessity of economic stabilization and structural change, it stressed the importance of taking a long-term perspective into account (1981/82 - 1991/92) and to introduce a better integrated approach. However, the proposed actions focus on the same targets as before, to enhance production by concentration on the agricultural sector, to restore the foreign trade balance, to improve debt management, demand management and resource allocation, to enhance domestic resource mobilization and to increase the role of the private sector. Like its predecessors, PPP is characterized by a lack of comprehensiveness and a lack of integration of the different targets, the relative priorities and the time-phasing. A real GDP growth rate of 5.6% p.a. over the period of 1981/82 - 1991/92 was estimated.



It was admitted that this target appeared quite optimistic on the background of past experience. However, it was based on the assumptions of a "significant amount of productive capacity built up during the last decade" waiting to be exploited and on the hope on Sudan's mineral oil deposits. As far as the second assumption is concerned, moderate estimates given at the date when the PPP was issued (Oct. 1982) put total reserves in Chevron's concession area at just 200m barrels, not enough for an export industry based on refined products. Furthermore, it was doubted that exploitation of Sudan's oil fields would be economical at all for the time being because of technical reasons. Anyway, in 1982 the government had to abandon the plans for a second refinery and to replace this by a pipeline project because of financing problems. The cost for a pipeline was estimated for about the same as a refinery (\$ 900m), but the return on investment is much faster. As a foreign observer commented, this is another example that "long-term national interest is to be sacrificed for immediate and pressing needs". (FT 8.10.82).

As a result of rehabilitation projects and good private profitability prospects guaranteed by policy reforms, agricultural production was estimated to grow by 5.5% p.a. at an average during the long term and even by 6.4% p.a. during the next 5 years (medium term). Crop production, where most of the investment goes, was projected to grow by 7.2% p.a. in the medium term. In contrast, imports are planned to grow by 3.4% in the medium term and by 4.1% in the long term only.

While the assumption of "vast land resources" is still held unqualified, the experiences with capital-intensive development up to now seem to be reflected in an option to rely more on domestic resources and to adopt simple technological innovations requiring only minimal imported capital inputs; this is mentioned in PPP's chapter about long-term perspectives (MFEP 1982, 5). However, this option does not reappear in the catalogue of actual measures.

The expectation that the economy will improve rapidly after 1984/85 is based on two other important assumptions: the development of the terms of trade and of the workers' remittances.



Both assumptions may be questioned. During the medium term (5 years) export and import prices are projected to rise by 12% and 19% resp., during the long term by 46% and 79% resp. This would be an overall worsening of the terms of trade of 6.25% in the medium term and 22.6% in the long term. This seems not to be consistent with past experience (see above). As the same programme states, a given volume of exports in 1982 could purchase less than 60% of the volume of imports it could buy ten years ago (MFEP 1982, 137). In fact, Sudan's terms of trade declined by more than 20% in both 1981/82 and 1982/83 (IBRD 1984c, 64). As far as remittances are concerned, they are assumed to grow by 34.1% in the medium term and by 180.5% in the long term. It is true that the amounts of remittances rose considerably after the liberalization of foreign exchange regulations, but future developments are dependent as well on the confidence in the Sudanese economy as on external factors as the economic prospects of the Arab oil-exporting countries which are not predictable for the long run. In reality, the amount of remittances fell far behind of the estimated figures, mostly because of the still unfavourable exchange rates.

PPP includes a new Three Year Public Investment Plan covering the period 1982/83 - 1984/85. It maintains the sectoral allocation of the plan before, giving priority to irrigated agriculture (see Table 17, p. 69).

Sectoral allocation to transport and communication rises from 14.8% to 20.8%. The domestic resources share is 42.1% compared with 41.4% in the previous plan.

The policy action programme of the PPP bases on the economic stabilization programme from 1978 (see above). However, it is noted that the introduction of the free exchange market in September 1981 resulted in substantial luxury goods imports and an increasing dependency on imported intermediate inputs aggravating thereby the effect of the external imbalance on production (MFEP 1982, 138). The goal of demand management is to reduce the consumption share in GDP from 88% to 84% by 1984/85 and to 80% by 1991/92 (MFEP 1982, 144). This is to be done by increasing incentives to savings in order to overcome present highly nega-



Table 17: Three Year Public Investment Programme  
Three Year Total Investment  
Distribution by Sectors

Sector	Local	Foreign	Total	Percentage of total
	(LS million)			
Agriculture	190	343	533	32.3
Manufacturing	36	69	105	6.4
Energy and Mining	47	145	192	11.6
Water	29	39	68	4.1
Transport & Communication	128	215	343	20.8
Services	89	79	168	10.2
Regional Development	176	65	241	14.6
Total at current prices	695	955	1650	100.0
Total at 1981/82 constant prices	541	742	1283	

Source: MFEP 1982, 57

tive rates and by adopting price policies that make consumption, particularly of luxury goods, less attractive.

It is too early to evaluate this new stabilization programme, but as it follows the same line as the first stabilization programme in 1978, the actual development of the macroeconomic data since 1978 can give an idea about the degree of success.

We would like very much to join those who judge the recent performance of the Sudanese economy as encouraging as do IMF and IBRD representatives (IBRD 1983d). However, the development of most economic indicators give rise to grave doubts.

The optimistic point of view is substantiated by the rise of export production, which is interpreted as a result of the incentives reform and the technical rehabilitation. Indeed, cotton production rose by 50.4% from 1980/81 to 1981/82, by another 26.4% to 1982/83 and was estimated to be slightly higher than



this in 1983/84 (MEED 27.1.84). However, in a long term view 1982/83 yields are equaling the yields of 5 years ago and are less than the yields of 8 years ago. Overall development from 1974/75 - 1982/83 has shown a decline of 7.7% (IBRD 1983c, Vol. II, 117). Nevertheless, the rise in productivity is encouraging: yield increased from 2.2 kantar/fd in 1980/81 to 3.7 and 4.2 during the following two seasons, resp. Still, it is hard to discriminate the reasons for the erratic development of agricultural yields.

The volume of the second important irrigation crop, groundnuts, has declined continually between 1979/80 and 1982/83 by 41.2% (overall). In the same time the yield declined by 14.4% (IBRD 1983c, Vol. II, 117). For sorghum, volume is erratic and the yield is declining. From the main crops only cotton and wheat realized significant increases of productivity (IBRD 1983c, Vol. II, 117ff).

For sugar, with the opening of the Kenana scheme in 1979, the degree of self-sufficiency has risen considerably, to 60% in 1981/82 and an estimated 75% in 1982/83 (Bank of Sudan, 1982). However, complete self-sufficiency which was expected by the government for 1981 even in late 1980 (MEED 19.12.80), will not be reached at before the 1990s. Furthermore, the sugar produced at Kenana is estimated to be among the most expensive in the world (for the evaluation of the Kenana model of trilateral co-operation see Wohlmuth 1983).

The evaluation of the agricultural production trends by the Sudanese government, the IMF and the IBRD seems not to be fully consistent with reality but to be biased towards a positive appreciation of their own strategies: While the positive developments in the irrigated subsector is claimed to be a result of the government policies, the production declines in rain-fed agriculture is blamed on the "poor rainy season" (IBRD 1984c, 40, 49). In this way the main factors restraining the productive potential of both mechanized and traditional subsectors are ignored.



The industrial sector had to suffer heavily from devaluation, since it depended on imported inputs and machinery to a high degree. At the same time, credit became less available due to credit ceilings. Prices for industrial commodities rose considerably, production declined for most commodities (Umbadda/Shaaeldin 1983; IBRD 1983c, Vol. II, 130ff) and capacity utilization rate for most factories was between 20 and 40%. Under conditions of liberalized foreign trade regulations the economic stabilization programme implied a bias against industrialization and a commitment of the Sudan to a role as a supplier of raw materials to the world market.

As the Table 18 shows, the considerable rise in agricultural production between 1980/81 and 1982/83 was not reflected in a parallel rise in export earnings. In fact, income from export (merchandise) rose by only 5.7% in the same time while imports rose by 6.8%. For the overall stabilization period (1977/78 - 1982/83), exports declined by 14.8%, while imports rose by 46.7%.

Table 18: SUDAN: BALANCE OF PAYMENTS, 1973/74 - 1982/83  
(US \$ Million)

ITEM		1973/74	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83
Exports (GNFS)	98	479.6	526.7	639.9	708.9	696.1	699.4	798.4	698.9	704.2	839.0
Merchandise (FOB)	3	418.2	452.9	550.6	594.1	551.2	526.9	594.0	478.9	381.2	506.0
of which: Cotton	246	164.1	159.5	300.4	285.7	295.9	320.8	334.3	182.1	69.2	168.1
Non-Factor Services	230	61.4	73.8	89.3	114.8	144.9	172.5	204.4	220.0	323.0	333.0
Imports (GNFS)	99	618.6	1,022.1	1,169.2	1,134.0	1,360.0	1,321.3	1,563.5	1,850.4	2,165.7	2,042.5
Merchandise (CIF)	4	540.8	918.2	1,063.2	986.0	1,188.1	1,115.8	1,338.9	1,631.4	1,884.7	1,742.5
of which: Petroleum	247	52.0	87.6	87.0	107.7	121.5	158.5	263.3	394.2	494.7	439.6
Sugar	248	56.9	119.8	91.0	58.6	43.7	28.0	124.1	183.6	158.5	52.5
Non-Factor Services	231	77.8	103.9	106.0	148.0	171.9	205.5	224.6	219.0	281.0	300.0
Resource Balance	100	-139.0	-495.4	-529.3	-425.1	-663.9	-621.8	-765.1	-1,151.5	-1,461.5	-1,203.5

Source: IBRD 1983c, Vol. 2, 23



The failure to reach export earnings targets even with rising production were due to weak international demand. This shows drastically the risk of unpredictable future developments of an economy based on one or two products whose price is a fixed external date. From 1978 up to now austerity policy has not been able to turn around the drive to increasing indebtedness. Since 1978 insolvency could be avoided with the help of 5 rescheduling agreements only (a sixth is under way). The official figures show a rise of 109% from 1978 - 1982 (see Table 19). However, foreign observers put the total debt figure at \$ 8bn in late 1981 and more than \$ 10bn in 1984 (NZZ 3.4.84).

Table 19: SUDAN'S DEBT  
(US \$ Millions)

	1978	1979	1980	1981	1982
<hr/>					
PUBLIC/PUBLICLY GUARANTEED DEBT					
DEBT OUTS. INC. UNDISB.	3,847.2	4,812.3	5,368.1	5,949.1	6,455.9
Official Creditors	2,786.6	3,830.3	4,416.9	4,428.4	5,017.6
Private Creditors	1,060.6	981.9	951.2	1,520.8	1,438.3
DEBT. OUTS. DISB. (DOD)	2,435.7	3,375.7	3,890.6	4,806.4	5,093.5
Official Creditors	1,575.3	2,564.7	3,092.1	3,401.9	3,772.8
Private Creditors	860.5	811.0	798.5	1,404.5	1,320.7

Source: IBRD 1984b, 98

Present foreign aid amounts to \$ 700 - 800m p.a., hardly enough to cover the balance of payments deficit, not to speak of additional investment.

US aid, amounting to some \$ 250m p.a., distributes on balance of payments aid (almost 50%), military aid (25%), food aid (20%) and just 10% to development aid. (NZZ 3.4.84)

Tables 20 and 21 show that during the stabilization phase the budgeted revenues grew by 189.4%, current expenditure by 259.1% and development expenditure by 98.7% (1977/78 - 1983/84), while actual figures were 170.3%, 180.4% and 138.4% resp. (1977/78 - 1982/83). While development expenditure amounted to 46.8% of



current expenditure in 1976/77, this ratio declined to 43.9% and 29.1% in the next two years and rose to a climax of 37.3% in 1982/83 (actual figures) and was planned to be 34.7% in 1983/84. This reflects the inherent bias of the stabilization programme against development expenditures. The overall deficit could be reduced in 1982/83 for the first time. However, for 1983/84 a LS 864.0m deficit is planned, 51.8% more than in the year before (actual).

Table 20: SUDAN: CENTRAL GOVERNMENT OPERATIONS (BUDGET), 1974/75 - 1983/84  
(LS Millions)

ITEM		1974/75	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84
Revenues	42	277.2	337.3	448.3	552.7	686.2	912.0	1,005.6	1,048.0	1,342.6	1,599.4
Tax Revenues	68	165.3	184.7	250.4	280.8	366.0	413.4	448.4	793.0	1,007.7	1,261.0
Non-Tax Revenues	69	111.9	152.6	197.9	271.9	320.2	498.6	557.2	255.0	334.9	338.4
Current Expenditures	70	268.3	304.4	378.0	489.4	660.9	820.7	944.7	1,045.7	1,202.0	1,757.2
Current Balance	79	<u>-8.9</u>	<u>-32.9</u>	<u>-70.3</u>	<u>-63.3</u>	<u>-25.3</u>	<u>-91.3</u>	<u>-60.9</u>	<u>-2.3</u>	<u>-140.6</u>	<u>-157.8</u>
Development Expenditures	80	156.6	131.6	254.2	306.9	202.9	284.9	329.9	476.0	502.2	609.8
Other Expenditures /A	88	-	-	-	-	-	-	-	50.0	39.9	96.4
Total Expenditures	142	<u>424.9</u>	<u>436.0</u>	<u>632.2</u>	<u>796.3</u>	<u>863.8</u>	<u>1,105.6</u>	<u>1,274.6</u>	<u>1,571.7</u>	<u>1,744.1</u>	<u>2,463.4</u>
Overall Balance	87	-147.7	-98.7	-183.9	-243.6	-177.6	-193.6	-269.0	-523.7	-401.5	-864.0

Source: IBRD 1983c, Vol. 2, 81/82; MEED 10.6.83



Table 21: SUDAN: CENTRAL GOVERNMENT OPERATIONS (ACTUALS), 1974-75 - 1982/83  
(IS Millions)

ITEM		1974/75	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83
Revenues	42	284.1	322.5	383.3	458.8	504.2	581.9	732.1	890.6	1,240.3
Tax Revenues	68	222.7	273.0	310.0	360.6	413.9	471.7	591.6	736.0	1,038.0
Non-Tax Revenues	69	61.4	49.5	73.8	98.2	90.3	110.2	140.5	154.6	202.3
Current Expenditures	70	249.1	283.5	332.4	423.2	565.5	645.2	844.3	975.1	1,186.5
Current Balance	79	<u>-35.0</u>	<u>-39.0</u>	<u>-51.4</u>	<u>-35.6</u>	<u>-61.3</u>	<u>-63.3</u>	<u>-112.2</u>	<u>-84.5</u>	<u>-53.8</u>
Development Expenditures	80	102.4	113.0	155.4	185.8	164.6	221.3	290.5	306.4	443.0
Agriculture	81	21.5	31.4	42.1	43.2	55.4	46.9	59.7	59.6	113.4
Industry	82	36.1	35.7	32.1	39.0	33.5	37.9	32.0	88.9	119.0
Transport & Communication	83	23.1	27.9	39.0	55.0	26.2	33.7	39.6	44.3	77.3
Services	84	20.3	9.7	17.0	15.9	-	-	-	-	-
Other	85	1.4	8.3	25.2	32.7	49.5	102.8	159.2	113.6	133.3
Other Expenditures /A	88	-	-	-	-	74.7	61.7	128.4	205.9	180.0
Total Expenditures	142	<u>351.5</u>	<u>396.5</u>	<u>487.8</u>	<u>609.0</u>	<u>804.8</u>	<u>928.2</u>	<u>1,263.2</u>	<u>1,487.4</u>	<u>1,809.5</u>
Overall Balance	87	-67.4	-74.0	-104.0	-150.2	-300.6	-346.3	-531.1	-596.8	-569.2

Source: IBRD 1983c, Vol. 2, 81/82

An encouraging development can be noted in the sphere of origin of government revenues: the share of direct taxes in total revenue rose from 10.5% in 1977/78 to 16.3% in 1982/83 (IBRD 1983c, Vol. II, 84). However, a rising taxation of higher income groups to this extent did not outweigh the relative decline of lower incomes effected by the cutting of subsidies on basic foods. Stabilization policy did not succeed in raising the relative rate of revenues. From 1977/78 - 1982/83 the share of total revenues in GDP declined from 15.9% to 13.7% (in 1974/75 it had been 18.8%; IBRD 1983c, Vol. II, 86).

As the Table 22 shows, the shift of sectoral shares noted during the Breadbasket phase continued after 1978: While the GDP share of primary production fell from 43.6% in 1974/75 to 37.7% in 1978/79 and to 34.6% in 1982/83, the figures for secondary production are 13.4%, 12.8% and 14.7% resp. and for services 43.0%, 49.5% and 50.8% resp.



While Table 22 shows a rise of GDP (in current prices), the real growth rate of GDP from 1977/78 - 1982/83 was negative: -3.9% p.a. (Fadlalla 1983, 3).

Table 22: SUDAN: GDP BY SECTOR (CURRENT PRICES), 1974/75 - 1982/83  
(Millions of Sudanese Pounds)

ITEM		1974/75	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83
Primary Production	117	584.7	628.0	818.4	1,044.1	1,093.0	1,322.5	1,776.5	2,416.5	2,909.0
Agriculture	118	580.1	622.6	816.9	1,042.5	1,089.5	1,318.2	1,770.4	2,406.3	2,893.2
Mining	119	4.6	5.4	1.5	1.6	3.5	4.3	6.1	10.1	15.8
Secondary Production	120	180.4	224.2	269.2	304.1	370.1	507.9	680.3	912.0	1,234.0
Manufacturing	121	95.7	108.6	132.1	147.5	201.8	280.4	372.4	490.3	649.8
Construction	122	63.8	87.0	102.8	118.0	123.3	159.3	215.8	297.5	414.3
Public Utilities	123	20.9	28.6	34.3	38.6	45.0	68.3	92.1	124.3	169.9
Services	124	577.0	770.1	996.4	1,229.1	1,433.0	1,892.2	2,514.9	3,329.6	4,274.2
Transport and Storage	125	88.4	186.4	220.9	273.4	338.9	355.6	487.2	687.4	801.0
Commerce	126	214.1	259.5	372.7	481.2	564.4	793.0	1,090.6	1,433.2	1,864.4
Banking, Insurance & Finance	127	91.5	117.3	132.4	152.7	175.1	227.5	303.0	403.7	545.5
Housing	128	-	-	-	-	-	-	-	-	-
Public Admin. & Defense	129	153.5	173.5	220.0	265.6	282.4	423.8	513.8	648.1	856.2
Personal Services	130	29.5	33.4	50.4	56.2	72.2	92.3	120.4	157.2	207.2
Gross Domestic Product	131	1,342.1	1,622.3	2,084.0	2,577.3	2,896.1	3,722.6	4,971.7	6,658.1	8,417.2

Source: IBRD 1983c, Vol.2, 13

The target to reduce relative consumption was not reached: The share of consumption in gross domestic expenditures was 84.6% in 1974/75, 87.4% in 1977/78 and 86.4% in 1982/83 (IBRD 1983c, Vol. 2, 14).

As far as money supply is concerned, stabilization policy seemed to be successful in curbing the rise in money and quasi-money from 30-40% p.a. between 1976/77 and 1978/79 to 22.1% p.a. in 1979/80. However, the figures rose to 38.6%, 31.3% and 37% in the following 3 years resp. (Bank of Sudan 1977-82; IBRD 1984c, 50).

As a result of this and reduced outputs and imports the inflationary pressures intensified (see above Table 15). Thus, the stabilization programme did not succeed in overcoming the negative real interest rates of -10% or more (IBRD 1984c, 68)



which are one of the major obstacles to a sound economic development.

On the background of the economic indicators listed up above it is hard to understand the optimism expressed in the documents of the Consultative Group meetings. In spite of the failures to reach the targets set at the previous meetings another number of targets is fixed which are characterized by the same lack of realism. F.e., the negative growth rates of the GDP during the last years do not give reason to anticipate the danger of a continuation of this trend in future years, but on the contrary it is envisaged to reach an even higher rate of growth than the planned 6% of PPP II in order to compensate for the shortfalls (IBRD 1984c, 41). None of the stabilization programmes - including the PPP II presented in December 1983 - constituted a substantial change in priorities and measures of stabilization policy as well as the expectations on its outcomes (IBRD 1984c).

Another factor giving rise to doubts is the choice of indicators in order to substantiate the "success" of the stabilization programme. Some of them give informations about the success in implementation of the programme only, which should not be confused with the success of the programme itself. One example is the abolishment of the official exchange rate for most drugs and medicines. Now they are required to be imported with foreign exchange purchased at the market rate. The negative impact on the living conditions of the lower income groups is evident, not so its positive impact on economic recovery.

In general, the real basis for the aim to "maintain a reasonable consumption per capita level" (IBRD 1984c, 76) in the presence of real declines for the majority of the population has to be questioned.

In spite of all the harmony between government policy and IMF/IBRD expectations a few reservations of the international organizations have to be noted. At the Consultative Group meetings in April 1983 as well as in December of the same year IMF and IBRD expressed concern about the 15% allocation of the public investment programme for regional development and the plan to



establish universities at the regional level with reference to the scarcity of resources and the limited planning and implementation capacities at the regional and local levels (IBRD 1984c, 71ff). While the second point has to be considered seriously, the history of decentralization gives evidence to the fact that the main reason for the insufficient implementation is lack of resources due to the lack of political will at the central level (see Ch. 5.6. below).

Another two reservations must be welcomed. The first of them refers to the "lack of specificity" of the PPP II (IBRD 1984c, 76). This is corresponding to our analysis of PPP I (see above p. 66).

The second reservation refers to the establishment and fast expansion of the Military Economic Corporation (MEC). The MEC was established in April 1982 with the announced intent to put idle men and equipment of the armed forces to work producing food and providing transport services for the military. However, the MEC went beyond the use of existing assets as well as those economic activities. (On MEC's Takeovers see: Sudanow, June 1984.) Today it is a conglomerate of at least 7 holding corporations covering all economic sectors (IBRD 1983c, Vol. 1, 20). This is of concern because the MEC is able to obtain special treatment and at the same time it is beyond central control and not included in the public investment programmes.

Thus it undermines the declared policy of privatization of economic entities and gives comparative disadvantages to all other economic entities. Furthermore, the economic viability of some of its investments may be doubted and the objective of maximizing economic benefits to the nation may easily fall behind other objectives.



## V. Conclusions: Lessons and Alternatives

The analysis of the stabilization policy since 1978 (see Ch. 4.3.) gives evidence to the fact that this policy failed to attain its own targets and, more important, to achieve any significant improvements in the direction of structural changes which would be the basis of a long-term sustained development of the Sudanese economy. Basically, the structural malformation of the economy analyzed in Part II was rather enforced than surmounted both during the Breadbasket period and during the stabilization period (cf. Part III and IV).

Nevertheless, the series of failures did not result in a fundamental change in policy aims and methods of the successive stabilization programmes. During the stabilization period Sudan has lost its capability to pursue alternative options to a rising extent because of the pressure of the debt service. The short term need to earn foreign resources in order to continue the interest payments on foreign debt superseded the long term aim of sustained economic development as the first priority of the national economic policy. The analysis of the government policy shows that it became more and more a pure short term crisis management policy.

At the same time, the Sudan government lost essential elements of national sovereignty. Its economic policy is conditioned by external advisers: the Consultative Group, the Joint Monitoring Committee and the External Finance Coordinator.

In financial terms, the chronic economic crisis in Sudan results from a degree of indebtedness which is not appropriate to the resources and the level of development of Sudan's economy.

It is important to note that the reason for the over-indebtedness of the Sudan is not an "economic mismanagement" of the Sudanese government. While the national government has to be held responsible for the overambitious development plans, external factors are of the same importance for an explanation of the unrealistic and inappropriate development path pursued from the beginning of the 1970s. The Sudan was encouraged to choose this capital-intensive and export-oriented way both by international organizations and by foreign governments offering cre-



dits and investments. These advices can be explained partly by excessive capital sources in industrial countries and, more important, in oil exporting countries. Thus, it must be stated that the donor countries are responsible for a solution to Sudan's economic crisis to the same degree as the national government.

The extent and the quality of the debt crisis show that the limits of the traditional stabilization policy must be overstepped. Instead of the dominating short-term view a long-term perspective must be taken in order to allow the government to disconnect the aim of sustained economic development from the pressure to repay debts.

To make this possible a release of debts combined with a moratorium for all interest and debt repayments for several years is necessary.

The scope of this analysis does not allow to present a detailed alternative strategy. However, starting from the results of Parts II, III and IV, the main qualitative changes being necessary can be outlined.

#### 5.1. More reliance on the own resources

As was noted in Part II, the basis for development in the 1970s was a disintegrated and unbalanced economic structure. The foreign trade sector played a dominating role: The production aimed at foreign markets mostly and both modern agriculture and industry were highly import-dependent. Furthermore, foreign trade was the main basis for state revenues. At the same time, the domestic market had to remain very limited.

The Breadbasket Strategy tried to overcome the narrow pattern of agricultural exports by diversification and expansion of agricultural and agro-industrial production based on huge injections of foreign capital (of Arab origin). This was an attempt to replace Sudan's unilateral integration into the world market by a form of South-South cooperation.



However, this cooperation revealed itself as another example of a relation of countries with different levels of development based on an unequal division of labour resulting in unfavourable conditions for the Sudan (see above Ch.4.2.). Soon it became obvious that Sudan was not able to absorb those huge amounts of capital in technical, economic management and political respect. Furthermore, in connection with capital intensive technologies the Sudan had to rely on foreign skilled manpower.

When the stabilization policy was implemented from 1978 onwards, it had been recognized that the Sudan was overindebted. However, the chance to switch to an alternative policy resting on domestic resources use was not utilized. It was believed that a continuation of the former development path based on the export of a few agricultural products was feasible. The results was an even increased dependence on foreign resources (capital, manpower, commodity imports). Especially worth mentioning is the rising dependence on food imports. Also there is evidence of food shortages and malnutrition in different regions. In the presence of the overwhelming share of agricultural production in the GDP this points to a major misallocation of resources.

The eminent position of the foreign trade sector implied a dependence on some external factors beyond the control of the Sudanese government - most important the export and the import prices.

This led to a high degree of uncertainty about future economic development even in the short term hindering economic planning and, more important, the foreign trade balance was severely affected by deteriorating terms of trade.

These are dangers of every industrialization strategy based on foreign credit, which is necessarily an industrialization in dependence from the world market development. Also, the long term export possibilities for Sudan's traditional as well as potential export commodities have to be considered rather pessimistically, because in some agricultural raw materials markets the production structures of the Sudan and of its main importing countries are rather competitive than complementary (Oesterdiekhoff/Wohlmuth 1979, 18).



An alternative policy has to set an optimal utilization of the domestic resources and the production for the domestic market as first priorities. The most pressing necessity is to attain food self-sufficiency. A satisfaction of the most important basic need is not only a social imperative but also a precondition for the utilization of Sudan's human resources.

It is neither possible nor desirable for the Sudan to pursue a policy of complete autarky, but the quantity and quality of imports has to be selected carefully. Consumer goods imports should be confined to essential commodities (the term "essential" refers to the commodities satisfying basic needs). Capital goods imports should be selected by criteria of technical, economical and social adequacy. As was noted above, the value of capital intensive technologies as utilized in the Kenana and Rahad schemes and in mechanized farming has to be doubted. Besides immense difficulties of technical implementation the economic viability is questionable, skilled labour has to be imported while Sudan's domestic human resources are used insufficiently and the social impact is negative.

It was noted that the present labour shortages are due mostly to the low wage level. As a policy consequence, it would be more adequate to raise the wage level than to mechanize (see above). Besides the social imperative to reverse the trend of declining standards of living, this would stimulate the growth of the domestic market for mass consumer goods. At the present stage of development, rather the labour force is a resource than capital.

After all, some members of the Consultative Group realized that another development strategy might be necessary. On the last Consultative Group meeting in December 1983 some donors suggested reducing the capital and import intensity of new agricultural investments (IBRD 1984c, 14). This policy would allot a new function to the foreign trade sector: It would not determine the economy any more, but would have a supplementary role.

The same policies apply to foreign aid and investment. The past and present policy to maximize the inflow of aid and investments regardless of its conception resulted in suboptimal or even ne-



gative effects due to lack of coordination and to a reduction of national sovereignty. In the past, development aid donors favoured capital and import intensive projects for obvious reasons. Therefore, every foreign engagement should be examined carefully in regard to its adequacy to national priorities.

In the field of economic cooperation, an alternative option would be to replace the unequal form of cooperation between Sudan and the rich Arab countries by cooperation with Arab LLDCs and African neighbouring countries. While the present trade volume with these countries is very small, it should be analyzed to which extent this direction of trade and economic and technical cooperation is feasible.

The conception of South-South cooperation on the basis of equal economic development levels and, therefore, economic power would have two important advantages: Firstly, it would allow a fruitful exchange of technical, economic and social development experiences. In this context it is worth mentioning that Sudan made positive experiences with agricultural technology imported from Third World countries like India which proved to be much better adapted to Sudanese conditions than Western products. Secondly, as the Sudan is too small in regard to population to make a strategy of total self-sufficiency feasible, the concept of "collective self-reliance" might be a viable alternative. An economic cooperation on the African level as proposed by the Lagos plan would create a bigger market making possible a regional division of labour including agriculture as well as industrialization on an equal basis.

However, presently the conditions for realizing this plan seem to be missing in the African context. Many of the countries are heavily indebted and in political crisis so that their governments are preoccupied with solving immediate problems.

## 5.2. Promotion of Small Scale Agriculture

In colonial times as well as after independence the main emphasis of development policy has been laid on modern agricultural schemes, neglecting the traditional sectors. While the development plans of the Breadbasket Strategy mentioned the importance of developing



the traditional sector, this remained lip service.

The stabilization policy reinforced the concentration on modern sectors. This was justified by short term needs: It was claimed that irrigated agriculture and mechanized farming have quicker returns on investment while development of traditional agriculture would be a long term task. However, one of the most recent statements of the Minister of Finance and Economic Planning forecasts a declining traditional sector's share of GDP and only a marginal increase in the absolute value of output of the traditional sector (IBRD 1984c, 42).

Neglecting this sector had the results of declining standards of living of the majority of the population. From the perspective of overall development, the concentration on capital-intensive projects implied a long term technical and financial dependence on Western and Arab countries and a sub-optimal utilization of resources. For example, the kind of mechanized farming practised in Sudan seems to imply simply labour-substitution. At the same time the net contribution effect ( in terms of inherent productivity, i.e. yield per unit area) is insignificant or even negative (see above).

In general, claims of yield and intensity effects of mechanization have yet to be substantiated by evidence. A detailed analysis gives evidence for South Asia showing that mechanization was neither an important factor for increased intensity nor for increased yields (Binswanger 1979). For the Gezira, during the same period, during which capital intensity and mechanization were increasing, yields continued to decline (IBRD 1983c, Vol. 3,25).

We share the opinion of the ILO that developing the traditional sector is socially imperative and economically feasible. This sector is able to create employment and widely distributed income to a higher degree and the investments necessary per farm and per head are much less than in modern sectors.

However, the ILO's over-optimistic interpretation of the traditional sector's capability to raise production in the short term



must be qualified. A simple injection of capital will not attain the desired objectives. It must be accompanied by the solution of several structural problems. The absorptive capacity of the sector and implementation capacity of the institutions concerned are limited and, most important, the present marketing structure prevents any significant income increase (see above). The government efforts to solve this problem from above by imposing minimum prices etc. have failed. A sensible alternative would be to support producer cooperatives both for sale of agricultural products and for the necessary purchase of production inputs and consumer goods. In Sudan there is a history of cooperative development. However, it became obvious that cooperatives operating on the primary level have not been viable in the face of the overwhelming power of the merchant capital without active support by the government. This approach would be advantageous also in respect to the scarce government resources because it would raise producer prices without involving government expenditures on a large scale and without raising consumer prices but by reducing the excessive trade profits. At the same time, this would reduce the comparative disadvantage of investment in productive sectors.

The mentioned perspectives show that the development of the traditional sector is both a political and a long term task. The initiative of the IMF/IBRD to support the private sector has to be welcomed, but with an important qualification: The experiences with capital injections in agriculture from outside the sector have been negative. As for private investments, their short term profit interests mark a contrast to the national economic interest in many cases (see above). Almost all of the projects resulted in displacement of traditional producers and a further decomposition of subsistence agriculture.

Instead of this, the original producers should be supported. This evolutionary approach to intensify the agriculture with the first priority of food self-sufficiency does not promise quick results but requires a long term perspective. From the point of view of traditional stabilization policy activity has to be concentrated in sectors yielding quick returns. However, it has become obvious that the return is both slower to realize and smaller than anticipated. Furthermore, the production of other sectors like



subsistence agriculture and industry declined. This policy enforces the structural unbalances which the development policy tries to overcome. This points to the necessity to disconnect the policy priorities from the short term pressures. As most of the overall economic benefits of the traditional agriculture will realize in the middle or long term, the usual (traditional) economic criteria of evaluation are not sufficient. They favour the export and the privileged local markets. Thus, they represent the present deformed structure of the economy. Instead, an evaluation has to anticipate the overall changes resulting from a comprehensive strategy including all sectors.

Until today the potential of the traditional agriculture has been underestimated. This potential includes skilled manpower (in regard to this mode of production), knowledge and adaptation and innovation capability. Micro-level studies have shown that traditional farming systems are much more labour-efficient than any other sector (A.A.G. Ali 1977, Huntington 1981). On a second look, this is not surprising: The success of traditional farming systems is based on long experience and the producer's own interest. In contrast, all of the modern projects are characterized by lack of knowledge about local conditions and by conflicting interests between the scheme managements and the producers.

The approach of the IBRD to give incentives to producers is a step in the right direction. However, its success is limited because it did not take into account the difference between formal and real producers in the agricultural schemes. Thus, any reform policy has to start with a reallocation of land resources to the real producers. Combined with an appreciation of the producer's interest this would bring an end to the irksome conflicts between scheme managements and producers who maintain their own strategy in pursuing off-scheme interests. This can be interpreted as a form of passive resistance against a government policy from above neglecting the peasant's and the nomad's interests.



### 5.3. Taking into Account the Producer's Perspective

As was noted above and substantiated with several examples, the divergence of government's/government schemes' interests and producer's interests resulted in severe shortcomings of actual performance compared to the plans and to limitations of productivity. The lack of taking account of the producer's interests is due to the lack of information, the theoretical models applied which are unable to understand the economic rationale of traditional producers and an alienation of the planners and the objects of "development".

For irrigated agriculture it has been recognized that "manpower problems will remain if the incentive of laborers themselves to produce more remains little changed. More needs to be understood about tenants', sharecroppers' and laborers' motives and perceptions of the proposed changes." (IBRD 1982b, 16).

However, while many studies point to the conflicting interests on farmer and national level (Hansohm/Woltersdorff, 1984, analysed the relation of traditional working behaviour and the objectives of national economy), these problems seem to be ignored up to the present day. This means a disclusion of big parts of the population from development, resulting not only in declining standards of living but also in an insufficient utilization of Sudan's human resources. The development schemes are unable to take account of innovations which the tenants have made, as Barnett (1981) reports for the Gezira.

In recent times some attempts have been started to develop and support existing farming systems instead of imposing foreign systems from above. These include the Western Savannah Agricultural Research Project which is still in its preparatory period and the Jebel Marra Rural Development Project which supplies credits for camel drawn ploughs (produced by local blacksmiths) and fertilizers, herbicides etc. The second project represents an impressive example of learning of development planners: After a 20 year long experience of failure to implement irrigated and mechanized agriculture on a large scale in this area they switched to a much more modest but, after all, realistic target.



While it is too early to evaluate this project which started in 1980, farmers realized significant yield increases immediately after the utilization of camel drawn ploughs (JMRDP 1982). However, it must be noted that, due to limited credit facilities and limited implementation capacity of the project, even this relatively inexpensive technology benefits a small minority of farmers.

Ch. 5.1., 5.2. and 5.3. point to the necessity of a broader definition of "resource mobilization". In the IBRD reports this term is confined to the financial sphere. In the context of the under-utilized resources base of Sudan not only the long term saving capacity of a supported traditional sector, but also the human resources capacity have to be included. The most important means to mobilize human resources will be material incentives.

#### 5.4. Restructuring of the Industrial Sector

The deformed structure of the industrial sector has been analysed in Ch. 2.3. During the period of the Breadbasket Strategy its orientation at foreign markets and luxury goods markets was enforced. During the stabilization period most branches being highly import-dependent were hit hardly by import restrictions because of successive devaluations. In addition to input shortages, labour shortages, power shortages and marketing difficulties due to transportation bottlenecks have been noted. The mutually enforcing trends towards unequal income distribution, capital intensity/low absorptive capacity for labour and production for high income groups have been demonstrated (see above). From this analysis follow the objectives for a restructuring of the industrial sector:

The output structure should be orientated at the essential needs of consumption. This would result in a shift to mass consumer goods production.

Agricultural and industrial development should be integrated as far as possible. For example, the stimulation of small scale agriculture will create a market for less sophisticated industrial inputs.

In order to stimulate positive spill overs and to alleviate the



employment problem, industrial units (in the branches of sugar, leather, textiles) should be decentralized as far as possible. Agroindustrial factories should be situated close to the agricultural production areas in order to create employment and to save transport costs. Oesterdiekhoff (1979b) provides a concept for a decentralized leather processing industry.

Taking account of the lack of skilled labour, power and transport bottlenecks and the financial situation the applied technologies should be selected carefully.

More emphasis should be given to develop the existing resources in the field of industrial and handicraft capabilities. Sudan has an impressive history of handicraft development in many branches and some of these are showing an astonishing ability to adapt to changing conditions (Oesterdiekhoff 1984). However, the government promoted capital intensive industries which have to base on imported inputs, technology and skilled manpower. At the same time, many of these industries are competitive to existing small scale handicraft and industry. Because of this, many existing valuable human capabilities are fading away presently. While it has to be recognized that the development of this sector is a long term task with small gross returns compared to the capital intensive industry, the sector seems to have economic advantages in respect to cost/return relations, employment creation, income distribution and regional development. However, presently there is a lack of **empirical research** which would allow to evaluate the feasibility for different branches of this sector.

#### 5.5. Reduction of the Tertiary Sector

It was noted that the tertiary sector had grown unproportionately since independence, both in regard to its performance and to the scarcity of resources at this stage of development (see above). Up to the present day the relative growth of this sector - being a heavy burden for Sudan's economy - has continued.

As for the public subsector, raising efficiency in the state bureaucracy would have to be accompanied by the creation of more productive employment for the underemployed members of this subsector. However, this seems to be rather a political than an economic problem.



As for the private subsector, its inflated growth could be reversed by a reduction of the excessive profit rates in trade with the means of supporting marketing cooperatives (see above Ch. 5.2.).

#### 5.6. Political Decentralization

From colonial times onwards up to the present day the Sudan has pursued a growth pole development strategy concentrating on the East-Central Sudan. It became obvious that this strategy failed to achieve the desired spread of capital and skills. Political and economic power remained in the same region. This led to growing dissatisfaction in the West and in the South. Presently the conflict in the South has reached the state of military fights.

In the sphere of government, the over-centralization of bureaucracy, which is an extreme form of separation of the decision makers and the objects of their decisions, was one of the reasons for the limited implementation capacity of the state (see above). In line with the proposed promotion of small scale agriculture and of partial decentralization of industry a political decentralization is necessary.

In 1980 the government implemented a kind of decentralization: The country was divided into 8 regions, Khartoum province obtained a special status. However, up to now there is no clear delineation of responsibilities and the regional governments did not receive a sufficient level of autonomy. For an effective decentralization the decisive point is the financial resource base of the regional and local government. Presently 75-80% of the regional budgets are financed by transfers from the central government. The local taxes include minor taxes like animal tax and crop sales tax only (interviews with officials in Darfur and IBRD 1983c, Vol. 1, 76). Up to now, the regional governments have been described as supplementing the central institutions rather than replacing them (Affan 1984, IBRD 1983c, Vol. 1, 77).

At the same time, local observers characterize the decentralization policy as a means to reduce the budget deficit by devolving responsibilities to the regional governments without the adequate supply with financial resources. Furthermore, forthcoming aid to



a region is utilized to reduce national support for the region concerned. While it has to be recognized that it takes time to build up a planning and implementation capacity at the regional level, the main reason for the insufficient performance of the decentralization policy seems rather to be resistance within the central institutions to devolve political power and to transfer labour power to institutions out of Khartoum (interviews with officials in Darfur and Khartoum). In fact, it is important to reduce the size of the central bureaucracy parallel to the transfer of government tasks to the regions.

Despite these difficulties the essential development of the regions should not be delayed additionally by reduction of the planned allocations to regional development, as was proposed at the Consultative Group meetings.

This applies especially to the planned establishment of universities at the regional level. In the presence of an educational system in Khartoum which creates urban values and is directed to humanities and foreign labour markets rather than to domestic needs, the approach to create educational institutions aiming at the needs of the regions is to be welcomed. This could be part of a strategy to end the labour drain to foreign countries which has so disastrous effects on the Sudanese economy.

#### 5.7. Political Participation

While decentralization is a step to narrow the gap between policy makers and its objects, this measure will not be sufficient without an increasing political participation of all of the population groups. Sudan's political system has always been characterized by a low degree of participation and the country's sole party (SSU) which has the formal task to organize and channel political participation failed in this respect. On the contrary, only a few social groups - the military, the "national capitalists", the professionals, the workers and the Gezira tenants - are more or less capable of influencing the government policy. Basically, the reason for the economic misallocation of resources is the lack of political control which would ensure an allocation in the general interest of the nation. The small internal economic and social basis and the unilateral dependence on the world market



result in a severe limitation of the capability of the state to pursue aims of development. Instead, the main priority is the simple survival of the government and its beneficiaries.

The lack of participation is characteristic not only for the political sphere, but also for the government agricultural and industrial schemes and for the government institutions relevant for small scale producers. They are characterized by an authoritarian and hierarchical structure preventing both the participation of the objects of "development" and of the lower ranks of the bureaucracy itself. This separation is a decisive reason for the lack of response and motivation.

While the necessity of better integration of the producers in the development process is recognized by many development planners, the main problem will be that any participation can not be imposed from above. The rural population must find ways to articulate its interests first.



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# Annex

Table 1: Mass Consumption and Luxury Commodities

<u>Branch</u>	<u>Mass Consumption</u>	<u>Luxury Consumption</u>
ISIC 31	sugar edible oil	wheat flour wheat bread butter canned fruits cigarettes alcoholic and non- alcoholic beverages
ISIC 32 and 33	underwear cotton cloth	ready-made textiles leather shoes sandals woolen cloth sheets blankets wooden furniture
ISIC 35	soap cleaner slipper plastic shoes	perfume cosmetic
ISIC 38		aircooler airconditioner refrigerators electrical household machines radios metallic furniture

Source: OESTERDIEKHOFF, 1979 c, p. 99.

from: OESTERDIEKHOFF, 1983, 179



# DEVELOPMENT PROJECTS

Development has been one of the main themes of the May Revolution. During the last ten years, Sudan has witnessed remarkable progress in this direction. In the following pages, Sudanow presents a list of major projects:

## AIRPORTS

PROJECT	PROVINCE	DESCRIPTION	DATE BEGUN	COMPLETION DATE	TOTAL COST	GOVERNING AUTHORITY	FINANCE	EXECUTING AGENCIES
Juba Airport	Eastern Equatoria	Lengthening of the runway and construction of a new apron and terminal area and installation of equipment for night flying	1979-80	1982	\$15,725,900	Civil Aviation Department	Under negotiation \$3,642,380; EEC \$12,083,520	Consultants: Brian Colquhoun and Partners (British)
Kassala Airport	Kassala	Lengthening and metalling of runway, construction of terminal buildings and installation of runway lights	1978	1979 all work completed except terminal building due to be finished	n/a	Civil Aviation Department	Central Government	Civil Aviation Department
Khartoum Airport Instrument Landing System	Khartoum	Installation of an instrument landing system at Khartoum Airport	June 1976	End of 1979	n/a	Civil Aviation Department	n/a	n/a
Malakal Airport	Upper Nile	Improvement of existing airport and terminal to take larger aircraft and permit night flying	n/a	1982	\$21,897,400	Civil Aviation Department	World Bank Group \$14,827,820; Civil Aviation Department \$7,069,580	Consultants: Brian Colquhoun and Partners (British)
El Obeid Airport	Northern Kordofan	Improvement of existing airport by extending runway to 2,500 metres and installing equipment for night flying	1977/78	1978/79	£5798,000	Civil Aviation Department	Sudanese Government	Civil Aviation Department
Port Sudan Airport	Red Sea	A new airport 20km south of Port Sudan to serve as an alternative international airport to Khartoum	n/a	1982	\$21.299	Civil Aviation Department	Saudi Development Fund \$17,638,630; Civil Aviation Department \$3,659,800	Consultants: Brian Colquhoun and Partners (British)
Wau Airport	Bahr El Ghazal	Construction of a new, all-weather airport	n/a	1982	\$18,657,680	Civil Aviation Department	World Bank Group \$14,278,130; Civil Aviation Department \$4,379,550	Consultants: Brian Colquhoun and Partners (British)

## ANIMAL AND AGRICULTURAL RESOURCES

PROJECT	PROVINCE	DESCRIPTION	DATE BEGUN	COMPLETION DATE	TOTAL COST	GOVERNING AUTHORITY	FINANCE	EXECUTING AGENCIES
Lake Nubia Fisheries	Northern	The commercial exploitation of fish, with the project acting as a base for similar schemes in the future	1973	Continuous	To be known after completion	Animal Production Public Corporation; Fisheries and Hydrobiology Administration	People's Republic of China	China
Rahad Irrigation Scheme	Kassala; Blue Nile; Gezira	Utilisation of Blue Nile waters stored at Roseires dam for second largest irrigated scheme in Sudan covering 820,000 feddans	1973	1980/81	\$346m	Rahad Corporation and Ministry of Irrigation and Hydroelectric Power	International Development Agency \$62m; Kuwaiti Fund \$50m; Saudi Fund \$28m; Arab Fund for Economic Development \$15m; USAID \$11m; Sudan \$180m (Local currency)	Consultant: Sir Murdoch McDonald and Partners (British); Louis Berger

Source: Ministry of Culture and Information, Khartoum/Sudan



PROJECT	PROVINCE	DESCRIPTION	DATE BEGUN	COMPLETION DATE	TOTAL COST	GOVERNING AUTHORITY	FINANCE	EXECUTING AGENCIES
Jebel Marra Project	Southern Darfur	Completion of a resources survey and synthesis of an integrated rural development plan; the identification of feasible investment projects in irrigated and rain-fed agriculture, animal husbandry, forestry and physical infrastructure	1963	1977	£s10.5m	Ministry of Agriculture and Western Savanna Development Corporation	Sudan Government; EEC/EDF	Hunting Technical Services (British) sub-contractors to FAO and Ministry of Agriculture
Tea Development Project	Whole of Southern Region	To achieve self-sufficiency in tea production and contribute to the development of the Southern Region	1970/71	1982/83	£s3m	Ministry of Agriculture	EEC	EEC; Sudan Government
Malakal Rice Project	Upper Nile	Cultivation of 10,000 feddans irrigated rice under programme to achieve self-sufficiency	1977/78	1979/80	£s4.7m	Ministry of Irrigation	Austrian Government	Andrertz (Austrian)
New Halfa Project	Kassala	Expansion of mechanised wheat and groundnut production	1970/71	1982/83	£s8m	Public Corporation for Agricultural Production (PCAP)	EEC; British Ministry of Overseas Development	Public Corporation for Agricultural Production
Mechanised Farming Phase III	Whole of Sudan	Improvement of mechanised farming	1979	1982	\$26m	Mechanised Farming Public Corporation (MFPC)	World Bank \$16m	Mechanised Farming Public Corporation
Jonglei Development Project	Upper Nile	A rehabilitation, economic and agricultural project for the whole area	1974/75	1981/82	£s1.8m	National Council for Jonglei Development Projects	EEC and Dutch Government for feasibility study	Euroconsult (Dutch); Mefit SPA (Italian)
Savanna Development Project Phase II	Southern Darfur	Implementation of an integrated rural development plan for a 65,000 sq km area	1974	Continuous	£s38.2m April 79 amended to £s28.5m (\$57m)	Western Savanna Development Corporation	World Bank £s8.5m; Saudi Development Fund £s4.2m; Abu Dhabi Fund for Arab Economic Development £s2.2m; Britain £s4.2m; Sudan £s9.4m	Hunting Technical Services (British)
Southern Darfur Project	Southern Darfur	Resources survey of 27,000 sq km and the implementation of an integrated rural development for devising, testing and demonstrating improved farming methods to local farmers	Feasibility study 1971-74	Continuous	\$14.58m	Western Savanna Development Corporation	Abu Dhabi Fund for Arab Economic Development 16.5m dirhem; British Ministry of Overseas Development £3.614m	Hunting Technical Services (British) contractors

## CEMENT

PROJECT	PROVINCE	DESCRIPTION	DATE BEGUN	COMPLETION DATE	TOTAL COST	GOVERNING AUTHORITY	FINANCE	EXECUTING AGENCIES
Nile Cement Company Rehabilitation	White Nile	Maintenance and modernisation of the plant to increase production to 120,000 tons annually	1976	1980	£s1.96m	Ministry of Industry and Building Materials Corporation	German Bank £s1.96m	Engineering: Kroop (West Germany) Supply of equipment and spare parts: Klockner Industry Anlagen GMBH (West Germany)
Maspio Cement Corporation Extension	Nile	Addition of new production facilities to increase output by 230,000 tons annually	1976	July 1980	£s22m	Ministry of Industry and Building Materials Corporation	Sudan £s22m, with credit facilities from Denmark	F. L. Smedth (Danish)



## EDUCATION

PROJECT	PROVINCE	DESCRIPTION	DATE BEGUN	COMPLETION DATE	TOTAL COST	GOVERNING AUTHORITY	FINANCE	EXECUTING AGENCIES
University of Gezira	Gezira	Construction of a technically based university on a 2,000 feddan site, on the semester system and with a current intake of 200 students	1977	1979	£s 800,000	Gezira University	Kuwait £s150,000 University budget £s0.5m Donation £s150,000	Sudanese Korean Co., (Sudanese) South Korean
The Islamic University	Khartoum	Construction by Omdurman Islamic University of a new campus on 800 feddans in Fettihab, Omdurman in two phases. Phase I includes Faculties of Arts and Social Affairs; Phase II the Faculties of Science, Agriculture, Medicine and Engineering	Start of 1979	Phase I 1983 Final completion 1999	£s75m	Islamic University	Sudanese Government £s30m; and Islamic world	Architects and planning consultants: Ayoub and Omer Salim (Sudanese) and Abdel Monsim Mustafa (Sudanese) SWECO (Swedish)
Second Educational Project	All provinces	Construction of 40 educational training centres, a number of general secondary schools and the expansion of Bakht el Ruda Teacher Training Centre	1975	Continuous	£s16.89	Ministry of Education and Guidance	Sudan Government £s8.3m; IDA £s8.5m; UNESCO £s88,000; W. German Government £s6,000	Condaco LDA (Portuguese)
Juba University	Eastern Equatoria	Establishment of a national university in the Southern Region, on a 65sq km site, at Deiling Yang 16km from Juba, for training students in practical subjects.	After signing of Addis Ababa Accord in 1972	Official opening October 1 1977	£s30m	Juba University	EEC \$5.6m for expansion of teaching facilities; Kuwait	Contractors: Ali El Mahi; Mirghani El Khelr; Moma Yassin Company (All Sudanese)

## ENERGY

PROJECT	PROVINCE	DESCRIPTION	DATE BEGUN	COMPLETION DATE	TOTAL COST	GOVERNING AUTHORITY	FINANCE	EXECUTING AGENCIES
Third Energy Project.	Blue Nile	To expand country's power supply to meet energy needs to 1986 including improvements to Burri, Roseires and Sennar power stations, plus the construction of a new plant at Hillat Huku.	1979	1986	\$500m	Public Electricity and Water (PEWC) Corporation	British Government £s50m grant; World Bank \$50m for phase I & II.	Burri extension and Transmission reinforcement; La Mayer International (W. German); Roseires Dam; Alexander Gibbs and Partner (British) Khartoum North Steam Station: not yet decided.

## HOTELS

PROJECT	PROVINCE	DESCRIPTION	DATE BEGUN	COMPLETION DATE	TOTAL COST	GOVERNING AUTHORITY	FINANCE	EXECUTING AGENCIES
Khartoum Hilton	Khartoum	Construction of a 274-room, luxury hotel at the confluence of the Blue and White Niles	1974	Jan 77 Fully operational May 1977	\$13m	Hotels and Tourism Corporation 51%; Kuwait Hotels Company 49%	Fully paid in cash by shareholders	Turnkey contractors: Comstock Int. (Canadian) Engineering: Sibdo Engineering (Sudanese)
Grand Hotel Reconstruction	Khartoum	Conversion of Grand Hotel into a de luxe hotel with 159 rooms and 16 suites	1975	May 1978	£s3.9m	Hotels and Tourism Corporation	Italy £s2.2m	Salvaranay (Italian); Istria (Italian)
Green Village Hotel	Khartoum	Erection of a prefabricated hotel with 135 rooms and holding 270 people; in 10 months	1977	1978	\$4m	Sudanexpo	Sudan Government	Deita Necko (French) Management: Clingendael Group (Dutch)
Araak Hotel	Khartoum	Construction of a 200 bed, first-class hotel in the centre of Khartoum, including French restaurant and cocktail lounges	1976	May 1978	£s2.6m	Araak International Group	Italy and other European countries	Araak International Group



## MINERALS AND METALS

PROJECT	PROVINCE	DESCRIPTION	DATE BEGUN	COMPLETION DATE	TOTAL COST	GOVERNING AUTHORITY	FINANCE	EXECUTING AGENCIES
Sudanese-German Project for Geology and Ground-water (Bayuda desert)	Khartoum and Northern	Geological survey and mine exploration in the Bayuda desert including assessment of ground-water potential for domestic use in the Khartoum area	Feb 76	May 1979	£s1.3m	Department of Geology and Mineral Resources	West German Government £s1m; Sudan £s300,000	Department of Geology and Mineral Resources with 15 foreign experts
Serokoit Gold Project	Red Sea	Pilot plant for the extraction of 5kgs of gold a month	Survey 1976 Mining 1977	Continuous	\$1m	Department of Geology and Mineral Resources	n/a	Sudan jointly with Minex Corporation (America)
Sherik Mica Project	Nile	Construction of a modern mine to exploit an estimated reserve of 170,000 tons of mica at 500 tons annually	1974	Continuous	£s3m	Department of Geology and Mineral Resources	Ministry of Energy and Mining	Department of Geology and Mineral Resources

## PIPELINE

Port Sudan-Khartoum Multi-product line	Red Sea and Khartoum	To transport gasoil, petrol, kerosene and aviation turbine fuel. Annual throughput of 600,000 tonnes at 90 cu metre/hour. A micro-wave system links centres	March 73	June 1977	26m Kuwaiti dinars	Ministry of Industry and Petroleum Products Pipeline Public Corporation	Kuwait: 17m Kuwaiti dinars	Kuwaiti Metal Pipe Industries Construction: joint-venture between Sudrahan (West Germany) and Sir Alfred McAlpine (British) Engineering: Kenomac (Kuwaiti)
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## REGIONAL DEVELOPMENT

PROJECT	PROVINCE	DESCRIPTION	DATE BEGUN	COMPLETION DATE	TOTAL COST	GOVERNING AUTHORITY	FINANCE	EXECUTING AGENCIES
40 Water Centres	Kordofan, Darfur, Blue Nile and Kassala	The construction of water centres to supply the needs of nomad communities across the country; replacing existing wells	1977	1981	£s17m	Rural Water Corporation	World Bank	Engineering Consultants Inc. ECI (American)
Seleit	Khartoum	A livestock and meat marketing project covering 14,000 feddans on the outskirts of Khartoum North, aimed at collecting sheep and cattle from all over Sudan to fatten, slaughter and process them for export	Aug 75	1981	£s16.8m	Sudanese Animal and Agricultural Production Co.	World Bank's International Finance Corporation (IFC)	Guinness Peat (British)
Wadi Halfa Rehabilitation Project	Northern	Aimed at making the town self-sufficient in agriculture and later to produce a large surplus for export; to provide running water in houses and to improve community sanitation	1977	open ended	Local £s9.7m; Foreign \$633,000	Commission for the Reconstruction and Development of Wadi Halfa and Lake Nubia	United States Agency for International Development (USAID) \$498,000; Catholic Relief services \$120,000; Canadian and Australian Embassies in Cairo \$15,000	International Voluntary Services (IVS) (American)
Second Southern Region Rehabilitation	Southern Region	A two-phase project to produce sorghum, oil seeds, maize, coffee and cotton as part of the programme to develop regional self-sufficiency	July 79	1983	£s48m	Regional Ministry of Agriculture Food and Natural Resources	World Bank; International Fund for Agricultural Development (IFAD); British Ministry of Overseas Development	Regional Ministry of Agriculture, Food and Natural Resources



PROJECT	PROVINCE	DESCRIPTION	DATE BEGUN	COMPLETION DATE	TOTAL COST	GOVERNING AUTHORITY	FINANCE	EXECUTING AGENCIES
Hilat Kuku Poultry Research and Production	Khartoum	To produce poultry for meat and eggs, and intensification of research activities at Kuku; the creation of a modern poultry industry in Khartoum and Gezira provinces by improving Medani Poultry Research Centre and training poultry technicians	1970-71	1982-83	£s123,000	Poultry: Khartoum Province. Research centre: Augmentation of Animal Production Research Station	Sudan Government; British Ministry of Overseas Development	Animal Production Services Administration
Gash Delta and River Bank Strengthening and Improvement Project	Kassala	Raising the height of bridges over the Gash and building embankments to prevent flooding	July 76	Continuous	Indefinite	Public Agricultural Production Corporation (PAPC)	Dutch Government 1.2m guilders; Ministry of Irrigation and Hydro-electric Power £s300,000	ILACO (Dutch)
Nile Waters Study	Nile hydrological system	To develop a comprehensive model for exploitation of the Nile waters up to the year 2000	Oct 77	Nov 78	Unknown	Ministry of Irrigation	World Bank	Sir Alexander Gibb and Partners (British); Hunting Technical Services (British); Sir Murdoch McDonald (British); Coyne et Bellier (French)
Jonglei Canal Scheme	Upper Nile	Construction of a 380km canal to drain part of the Sudd swamp and reclaim 4m cubic metres of water now lost annually through evaporation; to shorten the journey between Juba and Malakal	1976/77	1983	£s90m Subject to increase	Technical Commission for Nile Waters and the Ministry of Irrigation and Hydro-electric Power	Canal excavation: expected France £s10.5m; Sudan £s8m; Egypt £s4.5m	Euroconsult (Dutch); La Compagnie Constructions Internationales (French); La Compagnie Francaise d'Entreprise (French)
Sag El Naam Agricultural Scheme	Northern Darfur	Development of underground water resources for agriculture	Phase I 1974/75 Phase II 1978	Phase I 1977/78	Unknown yet	Department of Planning and Ministry of Agriculture	Sudan Government	Hunting Technical Services (British); Creusot Loire (French)
Rotun Dairy	Eastern Equatoria	Development of a mixed farm on a 500 acre site, mainly to supply Juba with fresh milk	1974	1976	£s100,000	Regional Development Corp.	RDC	RDC

## ROADS

PROJECT	PROVINCE	DESCRIPTION	DATE BEGUN	COMPLETION DATE	TOTAL COST	GOVERNING AUTHORITY	FINANCE	EXECUTING AGENCIES
Nyala-Kas-Zalengi Road	Southern Darfur	Construction of a 200km road	1975	1980	£s44m	Roads and Bridges Public Corporation (RBPC)	Saudi Fund £35m; West Germany DM 83m; Islamic Bank £5.1m	GMBH Dortmund (West German)
Port Sudan-Haya Road	Red Sea	Construction of 208km stretch of the Port Sudan-Khartoum road	1974	start of 1979	£s29.775m	RBPC	Abu Dhabi Government £s24m; Sudan £s5.775m	Construction: Strabag-Bau (West German) Engineering: Italconsult Stipe (Italian)
Sennar-Singa Ed Damazin Road	Blue Nile	Construction of a 240km road	late 1978	1982	£s30m	RBPC	Arab Fund; Kuwaiti Fund for Arab Development	Louis Berger (American); Kampsax (Danish)
Wad Medani-Gedaref Road	Gezira and Kassala	Construction of 227 km section of Khartoum-Port Sudan road	1973	1977	£s16m	RBPC	China Sudan £s9.6m £s6.4m	China
Gedaref-Kassala	Kassala	Construction of 220 km section of Port Sudan-Khartoum road	1975	end of 197	£s31.9m	RBPC	Arab Fund for Economic	Engineering: Italconsult Stipe



PROJECT	PROVINCE	DESCRIPTION	DATE BEGUN	COMPLETION DATE	TOTAL COST	GOVERNING AUTHORITY	FINANCE	EXECUTING AGENCIES
Road		Sudan-Khartoum Road					and Social Development £s9.4m; African Development Bank £s1.6m	(Italian) Construction: Panski Put (Yugoslavian)
Kassala-Haya Road	Red Sea and Kassala	Construction of a 350 km section of Port Sudan-Khartoum road	1973	1980	£s55m	RBPC	Sudan	Joint construction Recchi Impresit and Lodigioni (Italian) Engineering: Italconsult (Italian)
Kosti Bridge	White Nile	Construction of road bridge over White Nile; 19 metres wide, 1,082 metres long	1975	end of 1979	£s16.2m	RBPC	Italian Government	Engineering: Italconsult Stipe (Italian) Construction: Recchi Impresit (Italian)
Wad Medani-Sennar-Kosti Road	Gezira, Blue Nile and White Nile	Construction of a 217km road	1975	1980	£s25.53m	RBPC	British Government £s10m	RBPC Engineering: Roughton and Partners (British)

## SUGAR

PROJECT	PROVINCE	DESCRIPTION	DATE BEGUN	COMPLETION DATE	TOTAL COST	GOVERNING AUTHORITY	FINANCE	EXECUTING AGENCIES
Hajar-Assalaya Sugar Factory	White Nile	Construction of a sugar factory; 500 employees and an output of 110,000 tonnes	Dec 74	July 1978	£s21.48m	Ministry of Industry	10% of the total SDC 17½% Development Budget 72½% Afro-Arab Bank	Fletcher and Stewart (British)
Melut Sugar Factory	Upper Nile	A sugar project in the South which will employ 5,000 with an eventual output of 6,500 metric tonnes per day	1975	1981/82	£s55m	Ministry of Industry	Belgian Bank B Fr.34m	Consultant: HVA International (Dutch) Construction: UCMAS (Belgian)
Sennar Sugar Factory	Blue Nile	Construction of a sugar factory with an annual capacity of 110,000 tonnes	April 1974	Oct 1976	£s27.73m	Ministry of Industry and Sugar Corporation	Kuwaiti Development Fund £s4.5m Lloyds Bank £9.9m (Sterling)	Consultant: HVA International (Dutch) Construction: Fletcher and Stewart (British)
Kenana Sugar Factory	White Nile	Biggest sugar scheme in Sudan expected to turn the country from an importer to a major sugar exporter; expected annual output is 330,000 tonnes	1971	1980	1973 \$125m 1974 \$180m 1975 \$290m 1976 \$475m April 79 \$530.2m	Kenana Sugar Company Ltd	Sudan Government 32%; Kuwait 18.4%; Saudi Arabia 18.1%; Arab Investment Company 13.6%; Sudan Development Corporation 8%; Lonrho 3%; Gulf International 1.5%; Nissho Lwai of Japan 1.5%	Kenana Sugar Company Ltd
Mongala Sugar Project	Eastern Equatoria	Capacity 50,000 tons annually. 5,000 permanent and seasonal workers. 20,000 feddan area split into two parts — factory and fields	75-76	81-82		Unknown Ministry of Industry	Unknown	Export (Czech)

## TELECOMMUNICATIONS

Sudostat Satellite Project	14 Provinces	Installation of satellite stations to provide telephone, television and telex links between Khartoum and 13 provincial capitals	1976	June 1979	\$18m	Department of Telecommunications	Arab Investment Company \$7m	Harris Company (American)
Reiba Broadcast	Blue Nile	Construction of a 1200kw broadcast	1 March 1976	Mid January 78	£s1.2m	Department of Telecommunications	Czechoslovak Government	Kovo (Czechoslovak)



PROJECT	PROVINCE	DESCRIPTION	DATE BEGUN	COMPLETION DATE	TOTAL COST	GOVERNING AUTHORITY	FINANCE	EXECUTING AGENCIES
ing Station		ing station to relay programmes from the Radio Omdurman studios at Sennar				tions	£s1.2m	
<b>TEXTILES</b>								
PROJECT	PROVINCE	DESCRIPTION	DATE BEGUN	COMPLETION DATE	TOTAL COST	GOVERNING AUTHORITY	FINANCE	EXECUTING AGENCIES
Kadugli Weaving Factory	Southern Kordofan	Construction of a weaving factory with an annual production capacity of 10m metres	1975	1978	£s4.9m	Ministry of Industry and Spinning and Weaving Corporation	Lambert Bank Sudan Development Corporation	Soberi (Belgian)
Khartoum North Spinning and Weaving Factory	Khartoum	Construction of a spinning and weaving factory with an annual production capacity of 1800 tons of yarn	1975	1980	£s10.2	Ministry of Industry	Romania £s2,238,762	Romist (Romanian)
Kosti Weaving Factory	White Nile	Construction of a weaving factory with an annual production capacity of 10m metres	1976	1977	£s4.9m	Ministry of Industry and Spinning and Weaving Corporation	Lambert Bank Sudan Development Corporation	Soberi (Belgian)
Mangala Weaving Factory	Eastern Equatoria	Construction of a weaving factory with an annual production capacity of 10m metres	1976	1978	£s4.9m	Ministry of Industry and Spinning and Weaving Corporation	Lambert Bank Sudan Development Corporation	Soberi (Belgian)
Nyala Weaving Factory	Southern Darfur	Construction of a weaving factory with an annual production capacity of 10m metres	1975	1978	£s4.9m	Ministry of Industry and Spinning and Weaving Corporation	Lambert Bank Sudan Development Corporation	Soberi (Belgian)
Port Sudan Spinning and Weaving Factory	Red Sea	Construction of a spinning and weaving factory with an annual production capacity of 500 tons of fine yarn	1975	End of 1979	£s13.8m	Ministry of Industry	West Germany; United States; France; Britain	Continho Caro (West German)
Sennar Spinning Factory	Blue Nile	Construction of a spinning factory with an annual output of 2,000 tons of yarn: 40% coarse and 60% fine	1975	1977	\$18m	Sennar Spinning and Weaving Company	5% down payment; 5% letter of credit; 90% long term loan	General Impianti (Italian)
Shendi Weaving Factory	Nile	Construction of a weaving factory with annual capacity of 10m metres	1975	1977	£s4.9m	Ministry of Industry and Spinning and Weaving Corporation	Lambert Bank Sudan Development Corporation	Soberi (Belgian)
Abu Naama Kenaf Factory	Blue Nile	Setting up a kenaf plantation and sacking factory to produce 10m sacks and 900 tons of sacking roll annually	1973	1976 (April 79 still incomplete)	£s23m	Ministry of Industry	Italy 3.9m lire	Adriano Gardella (Italian)
El Tonj Kenaf Factory	Lakes	Construction of a hessian and sacking factory with an annual capacity of 10m sacks and 900 tons of hessian	1975	end of 1979	£s27m	Ministry of Industry	Italy 4.5m lire	Adriano Gardella Co (Italian)
Ed Dueim Weaving Factory	White Nile	Construction of a weaving factory with an annual production capacity of 10m metres	1975	1978	£s4.9m	Ministry of Industry	Lambert Bank Sudan Development Corporation	Soberi (Belgian)
Gadow Spinning and Weaving Factory	Nile	Integrated textile mill with an annual capacity of 16m metres	1975	1978	£s26.8m	Ministry of Industry and Spinning and Weaving Corporation	Italy	Engineering: El Tahir El Magboul (Sudanese) Construction: General Impianti (Italian)



PROJECT	PROVINCE	DESCRIPTION	DATE BEGUN	COMPLETION DATE	TOTAL COST	GOVERNING AUTHORITY	FINANCE	EXECUTING AGENCIES
Haj Abd- alla Spin- ning and Weaving Factory	Gezira	Construction of a factory with an annual capacity of 10,350 tons of coarse and fine yarn	1977	end of 1979	£s17.2m	Ministry of In- dustry	Abu Dhabi Fund	Union Matex (W. German)
Hassa Heisa 'Friendship' Textile Factory	Gezira	Construction of a fully integrated spin- ning, weaving and finishing factory with 25,000 spindles and 854 looms	1973	1976	£s4m	Ministry of In- dustry	China 100m yuan	China

## OTHER INFRASTRUCTURE

PROJECT	PROVINCE	DESCRIPTION	DATE BEGUN	COMPLETION DATE	TOTAL COST	GOVERNING AUTHORITY	FINANCE	EXECUTING AGENCIES
Southern Region	The six Southern pro- vinces	A 3-stage, 15-year study for the eco- nomic and social development of the Southern Re- gion	July 75	Continuous	\$4m	Ministries of Plan- ning and Finance	Italy: 20% total cost	Mefit SPA (Italian)
Mogran Family Park	Khartoum	Construction of a pleasure ground as part of the capital beautification project consisting of a fair- ground, park and Italian Restaurant	Sept 1976	Jan 1977	-£s2m-	Peoples Armed Forces	\$1.5m hard currency; \$0.5m local including Martyrs Fund	S.D.C Italian; Construction and Public Works Cor- poration
People's Assembly	Khartoum	Construction of a new People's Assembly on the Nile at Omdur- man with 21,000 sq m of floor space, a sun- ken assembly seating 500 and a balcony seating 250 observers, plus offices and com- mittee rooms	1974	1978	£s7.5m	Ministry of Con- struction and Pub- lic Works	Romanian Go- vernment £s3.2m	Engineering: ARCOM (Romania) Con- struction: Public Corporation for Building and Construction
Youth Palace	Khartoum	Construction of six- floor main building with sports complex and two-storey science block in Omdurman over- looking the Blue and White Niles	1974	1977	£s2.7m	Ministry of Youth and Sports	People's Re- public of Korea £s1.5m	Supply of equip- ment: JIL Equipment Ex- porting Corpora- tion (Korea)
Amadi Pub- lic Training Centre	Western Equa- toria	Construction of a training centre for the staff of the Re- gional Ministry of Cooperatives and Rural Development	1976	July 1979	£s349,000	Regional Ministry of Cooperatives and Rural Deve- lopment	(ACORD) £s295,000; Regional Mi- nistry of Co- operatives and Rural Deve- lopment	ACORD
Khartoum Internatio- nal Fair	Khartoum	Construction of a permanent exhibi- tion site and recre- ation area	Oct 1977	July 1978	£s7.5m	Sudanese Exhi- bitions and Fair Cor- poration	Sudan Go- vernment	Engineering: SCP (British) Construction: Ministry of Construction and Public Works; Public Corporation for Building and Construction
Khartoum Sports City	Khartoum	Construction of a 1.2m sq metre In- ternational Olym- piad-style sports city south of Khartoum	Design July 76	Design com- pleted April 1977	\$76m	Ministry of Edu- cation and Guidance and Department of Sports	Not yet known	Design: Mefit (Italian)