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Development Strategies in the Agricultural Sector of the Sudan: 1970-1990

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Abstract. Agriculture constitutes the mainstay of the Sudanese economy. It contributes an annual average of 37 percent of GDP and almost all of Sudan's foreign exchange earnings. Most importantly, the sector is the main source of food, not only directly through domestic food production but also indirectly through the provision of foreign exchange from non-food exports for the importation of food and agricultural inputs used in domestic food production.

The main purpose of the present paper is to identify the development strategies adopted during the period from 1970 to the present, particularly those related to the agricultural sector. Such a historical account of development planning in the Sudan is useful, not only for documentation purposes, but also for understanding the reasons behind the economic decline experienced since the early 1970s. In a country endowed with considerable natural resources (including large and rich agricultural land and water resources), it is hard to believe that economic hardship and food insecurity has become the lot of a large segment of the population.

The Sudanese economy experienced a steady decline which manifested itself in the deterioration in per capita income, a substantially low and declining level of actual investment, intensive inflationary pressures, severe balance of payments problems, and mounting external debt and debt servicing obligations. This poor performance of the economy may be traced back to a multitude of local and international factors. The sixteen years of Numeiry's military rule (May 1969-April 1985) were years characterized by erratic economic policies.

Inconsistency of economic policies and the poor implementation of development projects resulted in a phenomenal decline in productivity and, eventually, in economic stagnation. Excessive demand thus created inflationary pressures which were fueled by a series of IMP-IBRD sponsored devaluation measures.

The devastating effects of the drought during 1982-1984 and the resumption in 1983 of the civil war further aggravated the situation. Millions of people moved from the south western and southern regions to urban centers seeking food and shelter.

In recognition of the structural and deep rooted problems of the economy, the elected government (May 1986-June 1989) initiated the Four-Year Salvation, Recovery and Development Program (1988/89-1991/92).

The basic broad objectives of the program were:

- a. The provision of basic human needs such as food, water, clothing, shelter, health, education, security, and transport;
- b. Food security for rural urban population; and
- c. Balanced development with priority given to the least developed regions.

Central to the strategy for the agricultural sector was the question of food security. The program envisaged boosting the production of food crops and private stock building, food management, and the promotion of trade and special relief measures. Furthermore, self-sufficiency in wheat received considerable attention.

However, like its predecessors, the elected government accepted and implemented in 1987 the IMF package. The outcome of the policy was an even further deterioration in the Sudanese economy. This manifested itself in the stagnation of export earnings, deterioration in the balance of payments, accumulation of foreign debt, rocketing inflation rates, and food insecurity for the masses. These results and the failure of the elected government to mitigate the crisis paved the way for the military take over in June 1989.

To arrest deterioration in the economy and to lay the foundation for a sound recovery that would take the economy along a path of sustained growth and financial stability, the Three-Year National Economic Salvation Program (1990/91-1992/93) was initiated.

The above historical account of development planning in the Sudan shows these plans have more or less similar strategies and objectives. All of them have recognized the structural deficiencies and the acute need for the development and promotion of the economy's infrastructure. Emphasis was then placed on agriculture as a leading sector because it generates almost all foreign exchange earnings and produces food. The plans also attached high importance to an import-substitution industrialization strategy.

Introduction

Agriculture constitutes the mainstay of the Sudanese economy. It contributes an annual average of 37 percent of GDP and almost all of Sudan's foreign exchange earnings. Most importantly, the sector is the main source of food, not only directly through domestic food production but also indirectly through the provision of foreign exchange from non-food exports for the importation of food and agricultural inputs used in domestic food production. For these reasons and others, this sector has been (and will be for some time) the main focus of the Government's sector-specific and economy-wide policies. This has been reflected in the high priority accorded to the agricultural sector in all development plans launched since the Sudan achieved its political independence in 1956. These plans included the Ten-Year Plan (1960/61-1969/70), the Five-Year Plan (1970/71-1974/75), the Amended Five-Year Plan (1970/71-1976/77), the Six-Year Plan (1977/78-1980/81), the First Three-Year Public Investment Program (1979/80-1981/82), the Third Three-Year Public Investment Program (1982/83-1984/85), the Four-Year Salvation, Recovery and Development Program (1988/89-1991/92), and the Three-Year National Economic Salvation Program (1989/90-1991/92).

The purpose of the present paper is to document and analyze the objectives of these programs with emphasis placed on those related to the agricultural sector. The main purpose is to identify the development strategies adopted during the period from 1970 to the present, particularly those related to the agricultural sector. Such a historical account of development planning in the Sudan is useful, not only for documentation purposes, but also for understanding the reasons behind the economic decline experienced since the early 1970s. In a country endowed with considerable natural resources (including large and rich agricultural land and water resources), it is hard to believe that economic hardship and food insecurity has become the lot of a large segment of the population. Indeed, it was once believed the Sudan would become the 'bread basket' of the Arab world. Thus, in this context and towards a better understanding of what went wrong, it is only legitimate to analyze (i) the objectives of development strategies adopted since the early 1970s, (ii) the plans and programs designed to achieve these objectives, and (iii) the policy mix which accompanied these plans and programs. In Section II we shall take up the first two tasks, while Section III assesses the performance of these plans. Section IV offers some concluding remarks.

I – Objectives of Development Plans, 1970-1992

This section details the objectives of agricultural policies embodied in development plans since 1970. By virtue of the fact that agriculture is the leading sector of the Sudanese economy and that development in this sector requires the development of the other sectors, reference is also made to the objectives of development plans in other sectors.

1. Five-Year Plan 1970/71-1974/75

The Five-Year Plan aimed at an annual growth rate of 7.6% GDP during the plan period, and improvement of people's well-being via an increase of 6.2% per annum in per capita income and therefore improvement in social services such as education, health, and security. Other objectives of the plan included realization of a surplus in the balance of payments via an expansion in exports, and the stimulation of private sector participation in investment. Of Ls 385 million of total investment, the plan envisaged a total of Ls 170 million (i.e., 44%) to be invested by the private sector.

Table 1-1 gives the sectoral allocation of planned public sector investment during the plan period. As compared to the five years which preceded the plan, we observe that top and second priorities during the plan period were given to agriculture and services sectors, with percentage shares in planned public sector investment reaching 37.5% and 19.7%, respectively. However, industrial and transportation sectors interchanged positions in the priority list of the plan; the latter shifted from third to fourth while the former moved from fourth to third position.

Table 1-2 shows the private sector was expected to play a pivotal role in the development of the housing sector, whereby Ls 78.8 million (or 46.4%) of planned private sector investment was devoted for that purpose.

Table 1-3 summarizes the sectoral allocation of planned aggregate investment during the plan period. Clearly, the services sector received the highest allocation (33.8%) followed by agriculture which received 27.9% planned aggregate investment.

During the initial stages of its implementation, some major developments, both economic and political took place. These included a change in the political environment in the aftermath of the attempted *coup* in 1971, changes in the scope of projects, the inclusion in the development budget of new projects out of the interim Action Program and, most importantly, the escalation of project costs and the resultant difficulties incurred in securing finance. As a result, some major amendments were introduced to the plan.

Table 1-4 gives the amended planned public sector investment during the course of the plan. Clearly, planned investment for the public sector was increased from Ls 215 million in the original plan to Ls 666.2 million in the amended plan, or by almost 210%. With regard to the sectoral allocation of public investment in the amended plan, the top priority was clearly accorded to the transport and communications sector, which ranked third in the list of priorities of the original plan. This marked shift was meant primarily to strengthen physical infrastructure with a view to removing bottlenecks in the movement of goods and people and to provide a more solid foundation for accelerated development in the future. The agricultural sector ranked second while the industrial sector came third in the new list of priorities.

During the early 1970s, agricultural policy was geared towards one major objective: the realization of food self-sufficiency. Therefore, the Five-Year Plan envisaged an expansion not only in the production of food crops, but also in food-processing industries, which provide for the substitution of imported food. This latter objective, however, necessitated an expansion in the production of cash crops and other production inputs, the demand for which was expected to rise due to planned expansion in agriculture and food-processing industries. Thus, the plan envisaged an expansion in the irrigated and rain-fed sub-sectors by 721,000 and 2.8 million feddans, respectively.

Thus, expansion in the rain-fed sub-sector would be accompanied by the introduction of machinery, fertilizers, insecticides, etc., to replace traditional means of production.

Regarding planned expansion in cash (export) crops, *Table 1-5* shows emphasis was placed on long-staple cotton, the output of which was envisaged to expand by 114.3% during the plan period. The output of cotton and oil seeds was planned to increase by more than 52%.

With regard to the production of food crops, top priority was given to wheat, the output of which was expected to expand by 489% during the plan period, to reach almost six times its level in the pre-plan period (*Table 1-6*). The total output of the main food crops was envisaged to increase by more than 110% during the plan period.

Along with the strategy to achieve self-sufficiency in food, the Five-Year Plan also envisaged an expansion in the production of animal products, including meat, milk, eggs, and fish, by 92.8% during the plan period. High priority in this respect was accorded to milk production, which was expected to increase by 134.6% during the plan period (*Table 1-7*).

2. Six-Year Plan, 1977/78-1982/83

The Six-Year Plan (1977/78-1982/83) was the first phase of a prospective plan extending over eighteen years (1977/78-1994/95), which was to be implemented in three phases of six years.

With regard to the agricultural sector, the primary objectives of the Six-Year Plan were:

- a. the achievement of an annual real growth rate of 7.5% with agriculture continuing to be the leading sector of the economy in the sense that development in other sectors would be inter-linked with the expansion in agriculture;
- b. the realization of a substantial increase in real per capita income through the development of both the modern and the traditional agricultural sub-sector;

- c. the development and modernization of the traditional agricultural sub-sector with the conservation of natural resources;
- d. developing industry as a complementary sector to agriculture, giving priority to agro-industries and import-substitution;
- e. attaining self-sufficiency in selected food and other agricultural commodities as well as agricultural inputs;
- f. the achievement of a real growth rate of just over 11% per annum in exports, with an expansion in production of oilseeds and grains to reduce Sudan's vulnerable dependence on cotton exports; and
- g. the consolidation and expansion of basic infrastructure particularly in the field of transport and communication, power resources, marketing and storage facilities.

The target real growth rate over the plan period was 7.5% per annum, with GDP expected to increase from Ls 1,822 million in 1976/77 to Ls 2812 million in 1982/83, measured at 1976/77 prices. In *Table 1-8*, we observe the planned structural changes by the last year of the plan reflects the envisaged priorities. Thus, the contribution of agriculture was expected to fall from 39% to 36.9%, while that of manufacturing was expected to rise from 8.9% to 10% during the plan period. The contributions of other sectors were to remain almost unchanged.

Although the plan emphasized the importance of infrastructure, top priority was accorded to manufacturing which was expected to grow at an annual real rate of 9.5%. Since manufacturing is essentially the processing of agricultural raw materials, the plan envisaged a restructuring of output in favor of import substitution, with agriculture continuing to be the leading sector.

To achieve the aforementioned objectives, the Six-Year Plan envisaged a gross investment of Ls 2,670 million in the form of capital formation, of which the public sector share amounted to Ls 1,570 million, while that of the private sector amounted to Ls 1,100 million, or 58.8% and 41.2%, respectively. The relatively higher share of public sector investment was considered essential for the creation of basic and adequate infrastructure which paves the way for future development. At the same time, the proposed volume of private sector investment was meant to reflect the important role that the sector was expected to play in the development process.

Table 1-9 shows the sectoral allocation of planned gross investment suggests that top priority was accorded to agriculture (26.8%), followed by services (26.0%), industry (20.1%) and transportation (18.7%).

In allocating planned public sector investment between different economic activities, the plan took account of past experience, existing commitments, resource constraints, and future investment proposals. The resultant allocations of planned public sector investment are given in *Table 1-9*. From the outset, of Ls 1,570 million of planned public sector investment, Ls 225 for 14.3% was kept as a general reserve by the government, to be allocated to any sector as need arose, thus imparting some degree of flexibility in planned investment. Top priority was accorded to agriculture with a percentage share of 27.1%, followed by industry (21.3%), transport (20.4%), and services (16.9%).

The allocation of planned public investment, as given in *Table 1-10*, between on-going and new projects suggests that the former received nearly 24% while more than 76% of public investment was devoted to the latter. Of the total planned investment in ongoing projects, the industrial sector was accorded the highest share (43.3%), while agriculture ranked highest in planned investment on new projects.

Table 1-9 shows top priority was attached to services (mainly housing), the share of which amounted to more than 39% of planned private sector investment.

3. First Public Investment Program, 1978/79-1980/81

The financial and infra-structural problems (to be discussed later) which the Six-Year Plan encountered during its first two years (1976/77 and 1977/78) necessitated changes in the priorities and objectives of

the plan as well as a reassessment of Sudan's development strategy. A short-term strategy was then designed along the lines of the Economic Recovery and Stabilization Program agreed upon with the World Bank and the IMF in June 1978.

The First Three-Year Investment Program (1978/79-1980/81) effected a reduction by 16% in public investment from what was implied by the Six-Year Plan, Ls 613 million, in real terms (*Table 1-11*). The main short-term objectives of the revised strategy were:

- a. completion of projects already under implementation;
- b. rehabilitation of already completed projects, the productivity of which was declining, with emphasis on export-oriented projects;
- c. expansion of the national infrastructure, especially power and transport; and
- d. an annual real growth rate of 6.4% in GDP.

The target annual growth rate of 7.5% in GDP assumed by the Six-Year Plan was based on the plan's proposed investment levels. However, the revised program provided for a reduction by 16% in the level of investment proposed by the Six-Year Plan. This necessitated a new rate of growth in GDP which was set at 6.4% per annum over the period 1976/77-1981/82. This lower growth rate was not primarily due to the lower level of investment; it was also due to the poor performance of the agricultural sector during 1976/77 and 1978/79 (the first Three-Year Program). During the former year, agricultural growth rate dropped to 2.2% compared to an average annual rate of 5% during 1973/74-1977/78, while the abnormally heavy rains in July 1978 held agricultural production at a static level.

The consistency of the revised investment allocations with the declared strategy (or objectives) of the program can be seen from *Table 1-12*. According to these allocations, a high proportion of planned investment during the time span of the program was made for projects awaiting completion (on-going) and for existing ones requiring rehabilitation. Indeed, the allocations for the completion of on-going projects represented more than 50% of planned investment during the program period.

The sectoral allocation of planned investment during the program, as given in *Table 1-13*, suggests that agriculture received the highest share (30.8%), followed by industry, within which a major portion of planned investment was earmarked for electric power generation. The lower percentage share of transport was mainly due to the fact that the sector required a smaller proportion of local counterpart expenditure. Allocations for social services (11.9%), regional development (9.8%), and reserves (5.3%) were somewhat relatively lower compared to the Six-Year Plan. This did not imply any shift in government policy regarding the importance of the services sectoral or regional balance, but was simply a recognition of the fact that, for the immediate future, investment must be concentrated on on-going productive activities and essential infrastructure (Three-Year Program, 1978/79-1980/81). Even so, a considerable portion, (27%), of planned investment was earmarked for services, regional development, and reserves.

4. Third Three-Year Program, 1982/83-1984/85

The Government continued its efforts to consolidate the process of economic stabilization and recovery. Thus, major investment allocations during the three years of the Third Public Investment Program (1982/1983-1984/85) were directed to correct the imbalances in the economy and to reinforce economic measures for the full realization of the program objectives. These were:

- a. an average growth rate in GDP of 4% per annum over the program's period;
- b. completion of the economically viable on-going projects;
- c. rehabilitation of the productive capacity of the economy, especially in the agricultural and industrial sectors;
- d. promoting capacity utilization and increasing productivity in all productive sectors;

- e. maximizing exports and speeding up efficient import substitution with a view to achieving a balance in Sudan's foreign trade;
- f. provision of necessary infrastructure for successful and efficient operation of the productive sectors;
- g. encouraging greater participation by the private sector in investment and economic development, and
- h. speeding up the exploitation of natural resources, especially oil and minerals.

These objectives were not listed in any order or priorities as each one was equally important in its own right. However, the period of the program was marked by acute financial and urgent need for maximizing foreign exchange earnings. Thus, at the project level, priority was given to those promising objectives having quick and favorable impact on the balance of payment. Since agriculture generates almost all of the country's foreign exchange earnings, the relative sectoral priorities and the resultant allocation of planned investment to different sectors suggest that agriculture received the highest priority.

To achieve its objectives, the program provided for total investment allocation of Ls 1,873 million at current prices (or Ls 1,583 million at 1981/82 prices). The sectoral allocation of planned investment are given in *Table 1-14*. In marking these allocations, the utmost importance was given to the need for balanced sectoral development. Implicit in this is the recognition of the complementarity between sectors. Thus, the transportation sector received the highest allocation (29.2%) in recognition of its role as a key sector that provides the most important and basic infra-structural support to development. The percentage share of agriculture in planned investment was 28%. In view of its objective relating to the balance of payments, the program also attached high importance to industries related to export promotion or import substitution.

Table 1-15 gives the allocation of planned investment within the agricultural sector by type of project. It is clear that emphasis was put on rehabilitation of existing projects within the sector, followed by on-going projects and agriculture infrastructure.

As its name suggests, the public investment program was concerned primarily with investments undertaken by the government and public corporations. Nonetheless, the role the private sector could play in this respect was not ignored. Two reasons were given in this regard. First, since the objective of the program was to improve the performance of the national economy half of which is operated either entirely by private firms or in the form of joint ventures between the public and private sectors, the importance of the contribution of the private sector could not be over emphasized. Secondly, in recognition of this role, the government introduced the Investment Act (1981) according to which the role of the private sector in the national economy was to be expanded while that of the public sector was reduced (Three-Year Public Investment Program, 1982).

5. Four-Year Salvation, Recovery and Development Program, 1988/89-1991/92

Since the mid-70s, the Sudanese economy has experienced a steady deterioration as manifested in the declining real per capita income and welfare, substantially low and decreasing level of investment, intense inflationary pressures, severe balance of payments difficulties, and mounting external debt and debt-servicing obligations.

The poor performance of the economy may be traced back to a multitude of both local and international factors. Internally, the sixteen years of military rule (May 1969-April 1985) were characterized by erratic economic policies, ill-conceived plans, poorly executed and managed projects, and irrational resource allocation. Neglect of maintenance of capital stock led to the depletion and deterioration of the existing infrastructure. This state of affairs, together with the inconsistency of economic policies and the poor implementation of development projects, resulted in a phenomenal decline in productivity and, eventually, in economic stagnation. Excessive demand thus created inflationary pressures which were fueled by the inevitable sharp decline in national savings (which recorded negative growth rates) such that investment had to be financed entirely by foreign and domestic bank borrowing. This situation was further aggravated by the devastating effects of the drought during 1982-1984, and the conflict in the south. In the external sector, disequilibrium in the balance of payments, which the government until April 1985

tried to mitigate through a series of devaluations, only resulted in mounting arrears of foreign debt and more dependence on commodity aid to finance the import bill. In a nutshell, the economy is said to have faced serious problems that were best described as being structural and deep-rooted in nature. In recognition of this, the Four-Year Salvation, Recovery and Development Program (1988/89-1991/92) was initiated with a view to effectively address the aforementioned problems in a comprehensive and systematic framework. Its basic objectives were:

- a. inspiration and stimulation of the patriotic spirit and the sanctity of work;
- b. a GDP average real growth rate of at least 5% per annum;
- c. provision of basic human needs such as food, water, clothing, shelter, health, education, security and transport;
- d. food security for rural and urban populations;
- e. social justice through reduction of disparities in income and wealth, as well as balanced regional development with emphasis on the least developed regions (e.g., the South).

To attain its objectives, the program emphasized the following aspects:

- a. vertical development by fully utilizing the existing capacities;
- b. maintenance and rehabilitation of existing projects;
- c. development of the traditional agricultural sector and preventing of further environmental degradation;
- d. development and maintenance of infrastructure, particularly energy, transport, and communications;
- e. the encouragement of savings, investment, and production in the private sector such that it plays an affective role in the development process;
- f. mobilization of domestic resources with a view to mitigating the budget deficit and realizing investible surpluses;
- g. bridging the deficit in the balance of payments through:
 - (i) stimulation of production of exportables;
 - (ii) pursuing a rational import policy which attaches priority to imports of basic consumer goods, production inputs, and capital goods; and
 - (iii) the allocation of both foreign capital and remittances of Sudanese Nationals working abroad, directing them in accordance with development priorities; and
- h. administrative and institutional reforms with a view to achieving optimum utilization of the labor force and providing vocational training and technical education.

The thrust of the strategy for the agricultural sector was to foster growth in both the irrigated and rain-fed sectors, through a number of proposed measures. These include:

- a. the creation of adequate incentives to produce;
- b. assuring adequate access to production inputs;
- c. provision of adequate infrastructure for easy access to markets;
- d. encouragement of small holders and private sector in agricultural production; and
- e. the introduction of improved technology.

Within this framework, the strategy for irrigated agriculture emphasized the following measures:

- a. rehabilitation and modernization of existing viable schemes;
- b. identification of improved technology packages and alternative high yield varieties;
- c. determination of cotton prices in such a way that ensures adequate returns to efficient producers, taking into account the export parity price;
- d. making available foreign exchange to assure timely and adequate supply of imported inputs and spare parts;
- e. maintenance of irrigation works with a view to improving efficiency of operations;
- f. improvement of financial performance of parastatal corporations through more efficient management and better collection of land and water charges; and
- g. divestment of non-viable parastatals and the transfer of production responsibilities to the tenants, with the elimination of government subsidies.

For the rain-fed sector, the program proposed the following measures:

- a. making available credit through expanded operations of the Agricultural Bank of Sudan and the encouragement of commercial banks to operate in rural areas;
- b. improvement of infrastructure, especially road and rail access, through the development of a priority plan for road construction and a rehabilitation program for the Sudan Railways Corporation supported by the World Bank and other donors; and
- c. provision of improved technology through the Agricultural Research Corporation, as well as extension services.

Central to the strategy for the agricultural sector was the question of food security. The Program envisaged boosting the production of food crops as well as private stock building, food management, and the promotion of trade and special relief measures. Further, within the context of a food security program, self-sufficiency in wheat received considerable attention. The government intended to substantially reduce its dependence on imported wheat by attaining self-sufficiency to a target level of around 90% by the end of the program period. To achieve this objective, a number of measures were proposed, which included demand management and increased domestic production. On the demand side, important policy measures included the utilization of research results pertaining to wheat/sorghum composite flour and the adoption of viable techniques with a view to reducing waste. On the supply side, expansion in irrigated areas under wheat, and improving yield (per unit area) were to be considered without adversely affecting other crops such as cotton, which competes with wheat for irrigation water. Thus, if targeted increase in domestic production were to materialize, the following were to be observed:

- a. minimize competition for irrigation water between wheat and other crops by strictly adhering to sowing dates of the crops;
- b. maintain a high degree of water management and effective control of irrigation water;
- c. improve cultivation practices by the timely provision of inputs and extension services; and
- d. efficiently utilize underground water in the Northern Region for wheat irrigation.

The program envisaged a total public investment of Ls 15,444 million during its four years. Sectoral allocation of public investment, given in *Table 1-16*, reflects the declared objectives. Emphasis was put on rehabilitation of basic social and economic infrastructure and on encouragement of activities oriented to food security, as well as integrated rural development. Thus, social services received the highest share in investment allocations because of their importance in reducing regional disparities, followed by agriculture, which received almost 27% of planned public investment.

6. Three-Year National Economic Salvation Program, 1990/91-1992/93

The three-year span chosen as a medium-term framework for the Three-Year National Economic Salvation Program (1990/91-1992/93) is sufficient to arrest the deterioration in the economy and to lay the foundation for a sound recovery that would take the economy back onto a path of sustained growth and financial stability. The general objectives of the program are:

- a. revitalization of the Sudanese economy through reallocation of resources towards production;
- b. enhancement of the role of the private sector, whether national or foreign, to play a more active role in achieving the objectives of the program and to reorient financial, economic, and institutional structures with a view to creating an environment more conducive to private sector participation; and
- c. maintenance of social balance by protecting the poor during the adjustment period.

The means to achieving these objectives include:

- a. putting emphasis on the development of agriculture as a leading sector;
- b. encouraging exports through liberalization of export prices and scrapping the export license system, and by providing subsidies, if needed;
- c. mobilize domestic and external resources for production uses by creating an environment conducive to domestic and foreign private sector investment. Efforts will also be made to secure more external financial assistance.

- d. implementing institutional reforms to remove administrative, economic, or legal impediments to pave the way for private investors. Measures proposed include:
- (i) removal of government monopoly in the areas of agriculture, industrial production, domestic marketing, foreign trade, and economic services;
 - (ii) opening the door for the private sector in all areas of economic activity with the exception of mining and oil production;
 - (iii) fundamental reform of the parastatal sector through liquidation, privatization, or turning public enterprises into joint ventures with domestic and foreign private sector participation;
 - (iv) institutional and legal reforms including laws governing taxation, custom duties, prices and industrial relations, with a view to facilitating and enhancing efficiency in resource allocation;
 - (v) degradation of price and profit controls starting with an immediate complete liberalization of export prices, to be followed by gradual deregulation of most prices of goods and limiting price controls to a short list of basic items;
 - (vi) a comprehensive review of the credit system and the considerations governing the provision of bank credit to public and private sectors with the aim of linking bank credit to production in the context of national priorities; and
 - (vii) introduction of a wide and comprehensive social solidarity system to cater for the low-income segments of the society by mitigating the higher costs, for those vulnerable groups, which normally accompany adjustment periods.

Sectoral strategies and objectives are not explicitly spelt out in the program. However, with regard to the agricultural sector, the following objectives have been touched upon:

- a. within the context of the Investment Encouragement Act (1990), the program aims at:
- (i) rehabilitation of existing and new agricultural projects;
 - (ii) giving investors the right to use agricultural land on the basis of long-term leases, as well as reviewing laws to allow freehold ownership of the land subject to provisions to ensure seriousness and success of the investment;
- b. encouraging agricultural credit, with ceilings on bank credits to agriculture and animal production;
- c. expanding wheat production with the objective of attaining self-sufficiency in food crops by the fiscal year 1990/91;
- d. introducing corn as a new cash crop beginning in the 1990/91 season;
- e. abolishing marketing monopolies for all agricultural commodities, starting with oil seeds at the beginning of the new season;
- f. introducing a retention system whereby exporters (other than cotton and gum arabic) will be allowed to retain a percentage of their export proceeds (up to 40% for traditional exports and 100% for new or marginal commodities) to finance:
- (i) imported production inputs for priority industries including textile, edible oil, food, chemicals and packing industries;
 - (ii) all imported inputs and equipment for the agricultural and transport sectors; and
 - (iii) building materials; and
- g. sale, liquidation, or privatization of the White Nile, the Blue Nile, Tokar, Nuba, Nuba Mountains, and the Northern Agricultural Corporations.

II – Performance of Development Plans, 1970-1988

This section discusses the performance of development plans during the last two decades. In doing so, emphasis will be placed on the problems which faced implementation of the plans and, thus, the realization of their objectives, particularly in the food and agricultural sector.

1. Five-Year Plan, 1970/71-1974/75

In view of the planned public sector investment allocations of the Five-Year Plan, it may be argued that one of the implicit objectives of the plan was to induce structural changes in the economy. However, *Table 2-1* shows nothing in this respect was achieved during the plan period. The rank of the sectors with regard to their contribution to GDP remained almost the same as in 1969/70. Thus, for example, while the share of agriculture in GDP improved slightly from 37.6% in 1969/70 to 38.7% in 1974/75, that of the manufacturing sector remained at its 1969/70 level. The share of the construction sector increased from 3.5% in 1969/70 to 4.3% in 1974/75, due mainly to the expansion of residential areas in urban centers. In spite of this, however, the share of electricity and water declined considerably from 2.3% in 1969/70 to 1.4% in 1974/75, thereby leading to frequent power cuts and shortages in drinking water supply.

Table 2-2 gives the sectoral utilization of planned investment during the Five-Year Plan. Thus, while planned investment allocations totalled Ls 215 million, actual investment expenditure amounted to Ls 250 million, suggesting a rate of utilization of 116.3%. The sectoral utilization rates suggest that industry and mining absorbed almost one and a half times its original allocations while the transport and power sectors absorbed almost twice their planned investment allocations. It is to be noted at this juncture that these high rates of utilization of planned investment allocations in these sectors are by no means an indication of better performance in the sectors; industry, mining, transport, communications, and power are all capital intensive sectors with high import content and cost escalations, which, particularly during the later years of the plan, necessitated higher investment allocations to achieve the same objectives (e.g., import substitution and the alleviation of transport bottlenecks).

In agriculture, the rate of utilization of planned investment was 82.2% and it was even lower during the Extended Five-Year Plan (1970/71-1976/77) which stood at 70%. *Table 3-3* shows the rate of utilization of planned investment in different activities within the agricultural sector has been below expectations, with livestock and crop production activities registering the lowest rates. This marked the first signs of food insecurity problems currently facing the Sudan.

While planned expansion in cotton production was 98.1% (*Table 1-5*), it can be seen in *Table 3-4* that the actual expansion achieved was only 0.5%. This minimal achievement was attributed wholly to the increase by 9.3% in long-staple cotton (compared to planned expansion of 114.3%). Output of other varieties of cotton actually decreased by 27.5%. The performance of the plan with regard to oil seed production was better, as shown by the 40% increase in its output during the plan period. It was this increase in the output of oil seeds which explains the expansion by 29.4% in the output of cash crops during the plan period.

Regarding the expansion in food crops, the performance of the plan was even worse. This is particularly the case with sorghum (the main food crop) and wheat, the output of which increased at average rates of only 12.9 and 29.3% compared to projected rates of 489 and 100%, respectively (*Tables 1-6* and *2-5*). This poor performance in food production has jeopardized the achievement of the plan's central objective, namely the realization of self-sufficiency in food crops.

In general, the poor performance of the agricultural sector during the Five-Year Plan may be attributed to a number of factors. Important among these are shortages of imported agricultural inputs, credit problems, transportation bottlenecks, institutional and organizational problems, as well as some government policies. The most serious of these problems related to credit availability. The original plan envisaged public savings to finance 51.2% of public sector investment with 48.8% to be financed from external sources. There was to be no resort to deficit financing, and most of the domestic resources required for the plan were expected to be generated from the agricultural sector. In this sense, the sector was expected to play the role of the 'engine of growth.' It was expected to generate domestic resources directly

through the government's share in profits from parastatals, agricultural income tax, export duties, and other product taxes; and indirectly through duties on imported agricultural inputs and excise duties.

However, in reality, financing of public sector investment during the plan period reflected an entirely different picture. *Table 2-6* shows the plan envisaged a massive increase, in public sector savings from Ls 16.8 million during 1964/65-1969/70 to Ls 105 million during 1970/71-1974/75 (or by a phenomenal rate of 525%). In reality, however, public saving contributed nothing to financing investment. Furthermore, the share of external sources in financing planned investment decreased from an expected 51% to an actual 32% of planned public investment. Finally, while the plan envisaged no resort to deficit financing, this source contributed 68% to actual investment, suggesting heavy reliance on deficit financing of development expenditure.

Another important factor which led to the poor performance of the economy in general, and the agricultural sector in particular, was institutional and organizational inefficiency. Thus, for example, Abdel Salam (1986) noted that the completion of the Roseires and Khashm el Girba dams and El Suki pump and canalization system well ahead of the irrigation network are just few examples that may be cited for the lack of coordination between the departments of irrigation and agriculture. Ironically, such lack of coordination which adversely affected the performance of the agricultural sector was observed despite the presence in the early 1970s of a Ministerial Council for the agricultural sector (composed of the ministries of Agriculture, Food, and Natural Resources; Animal Health; and Cooperation and Rural Development) and a technical committee for the agricultural sector (made up of the four permanent under-secretaries of these ministries) entrusted specially with the task of coordination. The responsibilities of these government bodies were not clearly defined and the different units charged with the implementation of the agricultural policies tended to be completely detached from one another.

This lack of coordination was also observed between departments assigned to resource allocation and the provision of necessary foreign exchange components. Ample examples could be cited of agencies assigned to the execution of projects that could secure neither foreign exchange nor local funds for its purposes. Procedural delays in obtaining firm commitments for the release of funds, particularly foreign exchange, hindered the sector considerably.

2. Six-Year Plan, 1977/78-1982/83

The Six-Year Plan envisaged changes in the structure of demand with a view to reflecting emphasis on investment and growth. Thus, although government and private consumption were expected to grow at reasonably high rates, their projected growth rates were lower than that of the GDP (*Table 3-7*). Government consumption was expected to increase at 6.5% per annum while its projected share in GDP was expected to fall from 14% in the base year to 13% in the terminal year. On the other hand, private consumption was expected to increase at 6.7% per annum during the plan period while its share in GDP was expected to fall from 77.5% in 1976/77 to 74.0% in 1982/83. The postulated reduction in private consumption was hoped to be realized largely by curbs on imported luxury and non-essential goods. These restraints on public and private consumption were expected to release domestic resources for investment purposes. Accordingly, the saving ratio was projected to increase from 8.5% to 13.0% over the plan period, while the implied marginal propensity to save during the plan period was estimated at 21% (Six-Year Plan). The plan also envisaged government revenue and current expenditure to grow at annual real growth rates of 7.5 and 6.5%, respectively.

Table 2-8 shows the investment envisaged by the plan was to be financed 48% from domestic resources and 52% from external sources. Domestic and foreign resources were expected to finance 53.2% and 46.8% of planned public sector investment, respectively. Domestic resources for public sector investment were expected to be generated from public saving (28.7%) and bank credit (18.1%). Thus, contrary to the Five-Year Plan, the Six-Year plan envisaged resorting to deficit financing.

However, during its first year (1977/78) the Six-Year Plan encountered financial stringency caused by a combination of internal and external factors. These included the failure to maintain the planned ceiling on current expenditure below that of current revenue, the fundamental structural deficiencies caused by demand for infra-structural services outstripping supply, and shortages in foreign exchange. In the agricultural sector the structural deficiencies resulted in the co-existence of bumper crops in production areas with shortages in consumption areas and loss of exports. In the industrial sector, factories opera-

ted below full capacity, both because of shortages of raw materials caused by transportation bottlenecks and the reduction in operation time due to power cuts, as well as shortages in spare parts caused by lack of foreign exchange. These problems were further aggravated by shortages in professional and managerial expertise caused primarily by migration to petro-dollar Arab countries in response to exorbitantly higher earnings. Thus, in June 1978, measures were adopted to achieve financial reform and economic consolidation along the lines of the Economic Recovery and Stabilization (Adjustment) Program agreed upon with the IMF and the World Bank. These measures necessitated not only changes in the priorities and objectives of the Six-Year Plan, but a reassessment of Sudan's development strategy.

3. Three-Year Investment Programs

No budgetary surplus has been achieved to finance development programs since fiscal year 1977/78. Much of the local currency requirements were met from counterpart funds (generated by sale of commodities received under commodity aid as part of the balance of payment support) and by domestic borrowing. On the other hand, foreign currency requirements were met from project aid and direct financial assistance.

Table 2-9 shows nearly 60% of the funds to finance the First Three-Year Program were to be secured from local sources, with the remainder to be financed from foreign sources. The program recognized that financing the foreign component of investment allocations does not constitute a problem as long as the country's project implementation capacity is high and local funds are secured to provide counterpart funding. Thus, the main concern of the program was with domestic resources, particularly public sector saving. This appeared to be an even more formidable task than was envisaged in the Six-Year Plan which projected domestic resources to finance 47% of public investment with deficit financing not exceeding 18% of public sector investment.

Table 2-10 shows actual development expenditure. The data in *Tables 2-10* and *1-13* was used to calculate the utilization rate of planned investment allocations in *Table 2-11*. Thus, the overall utilization rate of planned investment allocations was 54.3%. The sectoral utilization rates show that the services sector ranked highest, with an overall utilization rate of 81.4%, followed by the transport sector. The lowest utilization rates were recorded for industry and agriculture. During 1978/79 the industrial sector utilized more than its investment allocation, possibly because of attempts to alleviate infra-structural deficiencies and bottlenecks.

For instance, the planned investment for the agricultural sector in 1978/79 was 58 million Ls. Only 71.9%, or 41.7 million Ls, of this planned allocation was actually utilized. In 1979/78, 94.3 million was allocated and 39.6 actually used (37.34 million Ls); in 1980/81 the figure was 103.6 million Ls with only 33.6 utilization. Of the 225.9 Ls originally planned for agricultural sector allocation, only 113.84 million Ls was actually used, or 44.5%, as seen in *Table 2-11*.

Regarding the Third Three-Year Investment Program, nearly 40% of planned investment allocations were expected to be financed from domestic sources while the remainder (just over 60%) was to be financed from foreign sources (*Table 2-12*). A closer examination of the sources of financing the program as given in *Table 2-13* suggests that no recourse to the banking system to cover recurrent deficits was expected. Public saving was expected to finance 5% of the program. This constitutes 12.7% of total domestic resources. The bulk of domestic resources (56.5%) was expected to be generated from counterpart funds which, in turn, were expected to contribute 22.5% of the program's fund requirements. Since the economy was in need of balance of payments support to tide over economic difficulties, it was expected that more counterpart funds would become available for financing local costs of development projects.

Financial aid was expected to play a dual role as a requirement to bridge the financial gap in local funds left after accounting for public sector savings and counterpart funds, and as a means of improving the disbursement of project aid; it was expected to contribute 12.2% of the investment Program and 30.8% of domestic resources (229 million Ls).

Project aid has been the main source of long term capital transfers into the country. With the adoption of an economic reform package, various conditions for effectiveness and withdrawal of credit have been

met. This, together with improved flow of commodity and financial aid, was expected to accelerate the disbursement of project aid already committed.

The period of the Third Three-Year Investment Program coincided with the 1982-1985 severe drought conditions. This, coupled with acute shortages in foreign exchange, resulted in negative growth rates of the sector during the three years of the program, of 7.6, 2.5, and 23.6% in 1982/83, 1983/84, and 1984/85, respectively. However, better rainfall in the next two seasons of 1985/86 and 1986/87, coupled with the efforts made to provide necessary agricultural inputs, led to positive growth rates of 28 and 3.5%, respectively.

The industrial sector growth rate declined from 10.3% in 1982/83 to a negative rate of 1.3% in 1983/84. But in 1984/85 the sector recovered to 0.7% and to 9.6 and 4.7% in 1985/86 and 1986/87, respectively.

During the period in question, the sector suffered low rates of capacity utilization attributed largely to scarcity in foreign exchange required for importation of industrial inputs and spare parts, and to unsound pricing policies which have effectively applied pervasive price controls at the factory level, thereby reducing incentives to produce.

Growth in major services sub-sectors such as transport and communications closely followed that in the agricultural sector. The sector growth rate exhibited a downward trend during the drought years despite the positive impact of the inflow of food relief. Real GDP declined during the program period, recording growth rates of 0.4, 2.9, and 12.8% during 1982/83, 1983/84, and 1984/85, respectively. Agriculture continued to play its pivotal role, directly influencing the level of economic activity.

III – Conclusion

Despite all these programs, the Sudanese economy experienced a steady decline which manifested itself in the deterioration in per capita income, a substantially low and declining level of actual investment, intensive inflationary pressures, severe balance of payments problems, and mounting external debt and debt servicing obligations. This poor performance of the economy may be traced back to a multitude of local and international factors. The sixteen years of Numeiry's military rule (May 1969-April 1985) were years characterized by erratic economic policies, ill-conceived plans, poorly executed and managed projects, irrational resource allocation, corruption, and other malpractice. Neglect of maintenance of the capital stock led to the deterioration and depletion of the existing infrastructure. Inconsistency of economic policies and the poor implementation of development projects resulted in a phenomenal decline in productivity and, eventually, in economic stagnation. Excessive demand thus created inflationary pressures which were fueled by a series of IMP-IBRD sponsored devaluation measures. Disequilibrium in the balance of payments, which the government until April 1985 tried to mitigate through successive and frequent devaluations, only resulted in mounting areas of foreign debt and dependence on commodity aid to finance import bills. The devastating effects of the drought during 1982-1984 and the resumption in 1983 of the civil war further aggravated the situation. Millions of people moved from the south western and southern regions to urban centers seeking food and shelter. These forces led to the collapse of the military regime which was eventually brought down by the uprising in April 1985. A transitional government was then formed which prepared for the elections of 1986.

In recognition of the structural and deep rooted problems of the economy, the elected government (May 1986-June 1989) initiated the Four-Year Salvation, Recovery and Development Program (1988/89-1991/92) with a view to effectively addressing the aforementioned problems inherited from the Numeiry regime. The basic broad objectives of the program were:

- a. The provision of basic human needs such as food, water, clothing, shelter, health, education, security, and transport;
- b. Food security for rural urban population; and
- c. Balanced development with priority given to the least developed regions.

Central to the strategy for the agricultural sector was the question of food security. The program envisaged boosting the production of food crops and private stock building, food management, and the promo-

tion of trade and special relief measures. Furthermore, self-sufficiency in wheat received considerable attention. The government's intention was to substantially reduce its dependence on imported wheat by attaining self-sufficiency to a target level of around 90% by the end of the program period. Towards this objective, a number of demand and supply measures were proposed. On the demand side, important policy measures included the utilization of research results pertaining to wheat/sorghum composite flour and the adoption of viable techniques with a view to reducing waste in bakeries. On the supply side, expansion in irrigated areas under wheat and improving yield per unit area were to be considered without adversely affecting crops like cotton which competes with wheat for irrigation water.

However, like its predecessors, the elected government accepted and implemented in 1987 the IMF package. The outcome of the policy was an even further deterioration in the Sudanese economy. This manifested itself in the stagnation of export earnings, deterioration in the balance of payments, accumulation of foreign debt, rocketing inflation rates, and food insecurity for the masses. These results and the failure of the elected government to mitigate the crisis paved the way for the military take over in June 1989.

To arrest deterioration in the economy and to lay the foundation for a sound recovery that would take the economy along a path of sustained growth and financial stability, the Three-Year National Economic Salvation Program (1990/91-1992/93) was initiated. This program puts more emphasis on agriculture as a leading sector in the economy. Thus, exports are to be enhanced through an immediate and complete liberalization of export prices. This is to be supported by the removal of ceilings on banks credit to agriculture and animal production, abolition of marketing monopolies of all agricultural commodities, and the introduction of a retention system whereby exporters will be allowed to retain a percentage of their export proceeds to finance importation of inputs for agricultural and industrial production. In addition to export promotion, another central objective of the agricultural policy of the present government is to achieve self-sufficiency in food, particularly wheat.

The above historical account of development planning in the Sudan shows these plans have more or less similar strategies and objectives. All of them have recognized the structural deficiencies and the acute need for the development and promotion of the economy's infrastructure. Emphasis was then placed on agriculture as a leading sector because it generates almost all foreign exchange earnings and produces food. The plans also attached high importance to an import-substitution industrialization strategy.

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