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Economic Development of the Southern Sudan:
An Overview and A Strategy

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1 Introduction

This paper mainly discusses the various attempts made to develop the Southern Sudan after the signing of the Addis Ababa Agreement of 1972 although it makes references to earlier periods. The major objective is to expose the various factors that have contributed to lack of development in the Southern Sudan. The hope is that with this kind of exposure those concerned may be able to devise appropriate measures for reducing the oppressive poverty conditions prevailing in that part of Africa.

The structure of the economy in the recent past is outlined in the next section. The third section gives a historical overview of the circumstances under which the quest for development has been pursued. Next we discuss the macroeconomic aspects of the development programmes undertaken since 1972. This macro framework analysis is followed by a relatively detailed analysis of the agricultural sector, which sector must occupy top priority in the development of the Southern Sudan. Finally, we make some observations and concluding remarks on the whole paper as well as indicating a strategy for short, medium and long term development.

2 The Structure of the Economy

The Southern Sudan covers an area of 648,000 km² which is 25.9 percent of the whole Sudan. According to the national population censuses of 1955/56, 1973 and 1983, the respective population of the Southern Sudan was 2.8 million, 3.0 million and 5.3 million.¹

¹ The total land area of Sudan is 2,506,000 Km². The total population of the country according to three censuses of 1955/56, 1973 and 1983 were 10,274,000; 15,345,000 and 20,565,000. For the 1983 census, an

The 1973 census was conducted before the resettlement of returnees from the first civil war had been completed. The low level of social and economic development and the high rate of migration to the relatively more developed parts of Sudan have kept the population of the South relatively low.²

2.1 Gross Domestic Product (GDP)

Sudanese socio - economic development is characterized by marked regional disparities. The west, most of the east, the far north and the entire south are far less developed than the centre. In 1956, the per capita income of the country was LS 28. Income per capita in the Southern Sudan was LS 12 in that year. This was just about half of the national average, one fifth of the average in the sector of irrigated agriculture and one tenth of that in the Three Towns of Khartoum, Khartoum North and Omdurman.³

If we assume that the same trend continued since the 1950's, then the per capita income in the Southern Sudan should have been about \$ 150 in 1983 since the national figure was \$ 300. However, this picture is likely to be highly upwardly biased given the impact of the 1955 - 1972 civil war which was confined to the South; and the lack of development in the South since 1972 as will be seen in the following sections of this paper.

undercoverage error of 5% was assumed. This raises the total population to slightly over 21 million, and that of the Southern Sudan to slightly over 5.5 million.

² The low level of living has contributed to high infant- and child - mortality. There are more Southern migrants to the North than Northern migrants in the South. The Southern migrants to the North are poor peasants providing cheap labour in the Northern agricultural schemes, the building industry and menial jobs in the urban centres not requiring any formal training. The Northern migrants in the South are mainly merchants and military personnel.

³ Rolf Güsten, *Problems of Economic Growth and Planning: The Sudan Example* (Berlin: Springer - Verlag, 1966), p. 46.

Estimates in the late 1970's put the GDP of the Southern Sudan, at market prices, at about 20 percent of the country's GDP.⁴ Primary sector activities (farming, animal husbandry, forestry, fishing and hunting) accounted for 48.8 percent of the Southern GDP. Crop production accounted for 17.7 percent, animal husbandry 15.5 percent, forestry 10.6 percent, fishing 3.5 percent and hunting 1.5 percent.

The Southern industrial activities accounted for about 12.7 percent of the region's GDP.⁵ The most important manufacturing group included such activities as food, beverages and tobacco processing. This group accounted for 7.1 percent of the Southern GDP. Smaller industrial related activities included public utilities (0.4 percent), quarrying and manufacturing of non - metallic products (1.3 percent), and mining and basic metal industries (0.2 percent). The non - metallic products included mostly bricks and tiles. Textiles accounted for 0.7 percent of industrial production.

Tertiary activities accounted for 38.5 percent of GDP in the South. Retail trade contributed 17.7 percent, wholesale 1.9 percent and transportation 6.1 percent. The contribution of financial institutions was 9.4 percent and that of public administration was 2.0 percent. Health contributed 0.2 percent only while education and other social services accounted for 0.7 percent. Recreational activities and international bodies contributed 0.1 percent each.⁶

⁴ Mefit S. p. A. Regional Plan: Vol. 1, Part 1, General Report, Third and vol. 2: Economic Structure, Accounts, Input - Output, Third Phase. (Rome, 1979), pp. 1/1 - 1/17.

⁵ While this source (Mefit) puts the share of industry in national income at 14.8 percent, most other sources put it at less than 10 percent. See, for example, various editions of the Bank of Sudan Annual Report, the Economic Survey of the Ministry of Finance and Economic Planning and the World Development Report of the World Bank.

⁶ Mefit is one of the rare sources with detailed estimates of Southern GDP and its various constituents. Mefit carried out a South - wide data gathering and research campaign in the second half of the 1970's and produced six volumes of reports on various aspects of the Southern economy.

2.2 Capital Formation

Gross capital formation in the South was estimated at LS 57.9 million by the same source quoted above for GDP. This represented 21.8 percent of the country's total.

Compared with the entire Sudan, the South has a higher propensity to produce and use more short - lined goods and services. For example, about 90 percent of the fixed assets are buildings and structures mostly made up of temporary materials and therefor with short average life of about 3 to 5 years. This is an inefficient accumulation process as the rate of depreciation is extremely high and fast.

2.3 Exports and Imports

Exports from the South amounted to LS 2.5 millions, which was a mere LS 1.4 percent of the country's total.⁷ Imports into the South amounted to LS 37.1 millions. Exports were products from agricultural and animal husbandry and food processing industries. Imports consisted almost exclusively of manufactured products from the food, textil, chemical and mechanical sectors.

Recourse to external supply markets was (and still is) essential for the Southern Sudan because of lack of production of the goods required inside the region. Therefore, imports are of a complementary nature with respect to the corresponding internal production and serve to indicate areas which could instead be occupied by local initiatives with the objectives of eventually integrating and gradually replacing the imported goods.

The level of imports from abroad is usually higher than the "imports" from the rest of Sudan. Unlike the latter, the

⁷ Mefit, op. cit., pp. 1/3 - 1/5.

former are productive inputs and goods intended to increase the stock of capital assets in the Southern Sudan. In fact, final consumers while using up 70 percent of the production imported from the rest of Sudan, have used only 46 percent of those from abroad.⁸

The resulting picture indicates an insufficient ability on the part of the Southern economy to activate a production system of generating a progressive accumulation of resources needed for the development process. This would be an essential condition in any successful plan to improve the quality of human and social needs and to increase the proportion of those needs which can be satisfied.

The following sections of the paper attempt to explain the persistence of the above economic structure in the Southern Sudan.

3 A Historical Overview

British interest in Sudan was basically determined by their desire to control the whole Nile valley so as to have an upper hand in bargaining with Egypt over British use of the Suez canal. Britain's major economic interest in Sudan was aroused with the prospects of converting the Gezira plains into a profitable cotton producing area for supplying its Lancashire textile industry. For the Southern Sudan, the British saw nothing of immediate economic interest to themselves. They controlled the region simply because the Nile flows through it. Hence, the colonial administration paid no attention to the socio - economic development of the Southern Sudan until 1938.

In that year, the then Director of Agriculture in Sudan, Tothill, proposed a ten - year plan of development for the South.

⁸ Ibid., p. 1/5.

However, the outbreak of the second world war prevented its implementation. In 1943, a limited proposal for the development of the Zande area was made and was finally approved by the government in 1945 as part of a package which also included the setting up of the Equatoria Agricultural Projects Board, and a trading unit under the auspices of the board. Peasant farmers were encouraged to grow cotton for conversion into cloth in a textile mill at Nzara⁹

The Equatoria Agricultural Projects Board planted coffee, cotton and oil palms, while private entrepreneurs developed limited quantities of coffee, tobacco and tea. An Agricultural Research Institute and also a Training Institute at certificate level for agricultural workers were established at Yambio. There was also some development in the fisheries field and dried fish were exported to Uganda and Zaire. A forest plantation programme, mainly hardwood, was started at that time. However, the collective impact of all these projects was small and the South continued to lag behind the favoured parts of the North in every respect. The South remained behind the North in respect not only of economic development but also in educational and political advancement.

Between 1953 and 1956, events moved rapidly.¹⁰ The South became exposed to the extravagant and insincere promises of Khartoum politicians. The Khartoum demagogues wanted to

⁹ The Zande Scheme was incorporated into the first public investment programme for the Southern Sudan for the period 1946 - 1951. This was part of a national programme covering the whole country. Its total cost was 14.6 million Egyptian pounds (£E) and the South was allocated £E 1.3 million. The second public investment programme for 1951 - 1956 allocated £E 1.5 million for the South out of a total of about £E 45.5 million. See B. Yongo - Bure, "Southern Sudan in Sudanese Development Policy" in University of Juba, The Role of the Southern Sudanese People in Building of Modern Sudan: Selected Papers (Khartoum: Arrow Printing Press, 1986), pp. 89 - 102. A valuable contribution of the colonial government made at the end of its period is the report by the Southern Development Investigation Team, Natural Resources and Development Potential in the Southern Provinces of the Sudan, (Khartoum: Ministry of Finance, 1954).

¹⁰ Sudan was granted self - government status in 1953 and became formally independent on January 1, 1956.

replace British influence as well as the predominantly indigenous cultures in the South with Arab and Islamic cultures so as to assimilate the South. They tricked the South into voting for the independence of Sudan for the Sudanese while in fact they intended to replace British colonialism with Arab/Islamic colonialism. They were neither knowledgeable about, nor sensitive to, the needs of the South, and were too arrogant to want to learn.

The results of the Sudanization in 1954 excessively favoured the Arabized Northerners and led to bitterness among the Southerners. Northern officials replaced British officials all over the country. Their refusal to attempt to understand the South and their enthusiasm to implement their policy of Islamizing and Arabizing the South led to open confrontation with the Southerners in two events in 1955.

The first event was the dismissal of 300 workers in the Zande Scheme, and a demonstration by them which was quelled by shooting, both by the police and the army. The second incident was the much more serious mutiny at Torit which soon led to a general revolt.¹¹ The failure of Khartoum to adhere to any of its promises to the mutineers, who were lured to surrender considerably contributed to the continuation of the first war up to 1972.

After the attainment of independence, the Khartoum establishment was too preoccupied with " Northern " economic problems and sectarian party politics to pay any attention to the needs of the South. They were completely opposed to the Southern demand for a federal structure of government which they had promised the South.

¹¹ The mutiny was by the Equatoria corps which was a battalion established in 1917 consisting entirely of Southerners. The survivors of the mutiny (e.g. General Tafeng) provided the initial leadership of the Anyanya movement.

In November 1958 power was handed to the military. Military rule continued until October 1964 when the military were overthrown through a popular uprising.¹²

The military government of General Ibrahim Abboud took various harsh actions in the South which left a deep imprint on Southern events. Among these were forcible Islamization and Arabization, the neglect of secondary education, curbs placed on christian missionary activities and later the expulsion of missionaries from the South in 1964.¹³

While interfering in various ways in the affairs of the South, the military government failed to take any major initiative in the economic field. Some schemes which were originally considered suitable for example, a sugar factory at Mongalla, a paper factory at Malakal and a fishcanning plant also at Malakal, were transferred from the South and located in the North.¹⁴

Northern entrepreneurs began to develop agricultural activities in the South such as coffee and tea plantations and tobacco, and attempts by Southerners to participate in these activities massively were frustrated by official policy. Some alienation of land also followed.

The neglect on the economic front, combined with an over - enthusiastic pursuit of Arabization resulted in a flight of people to neighbouring countries, followed by open revolt by

¹² It is usually referred to as the October Revolution but the word "uprising" seems more appropriate as there was no fundamental change in the structure of Sudanese social, economic and political life. Even the overthrow of the Nimeiri regime in April 1986 is better referred to as uprising instead of a revolution. Sudanese pride in so many Sudanese revolutions without any fundamental changes taking place in Sudanese society.

¹³ Secondary education was neglected so as to provide no avenue for higher education for those at the lower levels who were studying in English and along the old Southern pattern. Meanwhile, education at the primary and intermediate levels was being converted into the Northern pattern as a vehicle for Islamization and Arabization.

¹⁴ The paper factory was relocated at Aroma using cotton stalks as raw material instead of the abundant papyrus in the South. The sugar factories were relocated at Guneid and Khasm el Girba (New Halfa).

students, and culminated in 1963 in the emergence of the Anyanya National Armed Forces (ANAF). The appearance of the Anyanya brought the full weight of the military back into the Southern Sudan and pushed back what little hope there was of creating any basis for cooperation between the North and the South.

The restoration of civilian rule in 1964 led to a strenuous effort by the then transitional government to seek a rapprochement with the Southern groups and resulted in the Round Table conference to which observers from seven African countries were invited to weigh all available evidence and promote a settlement. The conference was not successful in finding a solution.

The traditional sectarian parties, the Arab chauvinists and the Islamic bigots were not happy with the acknowledgement of the leaders of the transitional government of the differences between the North and the South. Consequently they took over power and began adopting repressive measures such as the Juba and Wau massacres of 1965. There was a breakdown of order again in the South in 1965, resulting in further flights by the ordinary people into the Southern bushes or to the neighbouring countries.

The Khartoum army came down with great force and the Anyanya stepped up their activities. The Anyanya were now better trained and equipped and were able to control much of the countryside, the Khartoum army's authority being limited to the more important towns, some roads and airports.

Many roads were mined and bridges destroyed. The flight of the people into the bush or to the neighbouring countries brought the major part of the organized agricultural activity to a standstill. While the South was never highly developed, the period of confrontation destroyed what little there was including the only Agricultural Research Institute at Yambio. Many schools were destroyed and the army occupied many others,

thereby seriously retarding the progress of education in the South and hence of development in all other fields.

The mismanagement of the affairs of the country by the sectarian parties, their pre - occupation with factional interests and the increasing drainage of the fragile economy by the war in the South led to the second intervention of the military in Sudan politics. This occurred on May 25, 1969. The army was led by the then colonel Gaffar Nimeiry.

One of the most important announcements of the Nimeiry regime was the acknowledgement of the cultural and historical differences between the North and the South.¹⁵ It established the Ministry of State for Southern Affairs to coordinate government activities concerning the South and to advise the government on the best way of executing its plans there.¹⁶ Hence, from May 1969 to early 1972, the preparation of plans for the South, in the form of Annual Special Development Budgets were prepared by the Southern Bureau of the Ministry of State for Southern Affairs, the Regional Planning Council.¹⁷

Both the Regional Coordination Council and the Regional Planning Council were set up in January 1970. The Regional Coordination Council, composed of senior representatives of major government units in the South, was responsible for assisting the Ministry of State for Southern Affairs in general supervision and implementation of government policy in the South and the preparation of the budget, and the disbursement and fiscal control of budgeted funds. The Regional Planning Council was made up of representatives of economic government units in the South, representatives from outside the public sector and two representatives from the

¹⁵ This is the famous June Declaration (June 9, 1969) of the Nimeiri regime.

¹⁶ The Ministry of State for Southern Affairs was based in Khartoum.

¹⁷ B. Yongo - Bure, *The First Decade of Development in the Southern Sudan*, (Khartoum: Institute of African and Asian Studies, University of Khartoum, March 1985), pp. 8 - 10.

ministries of Finance and Planning.¹⁸ The task of the Regional Planning Council was the formulation of an integrated development plan for the South consistent with government policy in the South for inclusion in the national Five - Year Plan (1970/71 - 1974/75) then being prepared.

However, the Regional Planning was formed too late to enable the formulation of a development plan for the South for integration into the national plan. To correct this situation, an attempt was made during the meetings of the council in Juba in March 1970, and in Wau in May 1970, to include the following projects in the Five - Year Plan:¹⁹

- (a) all projects declared as priority projects during the visit of the President to the South in August 1969;
- (b) resettlement schemes prepared by the Ministry of State for Southern Affairs, all of which had priority;
- (c) additional schemes for the Ministry of Animal Resources and the Forests Department proposed by the Ministry of State for Southern Affairs; and
- (d) development schemes originally submitted by ministries and corporations and withdrawn at a later stage.

While some of these recommendations were incorporated in the Five - Year Plan approved in June 1970, it was felt that the projects in the plan were insufficient to meet the needs for development in the South. Hence, the government decided that special allocation of funds should be made available each year to the Ministry of State for Southern Affairs to enable it to prepare special development budgets.

A medium - term plan was formulated by the Ministry of State for Southern Affairs and presented to the Relief and Resettlement conference on the South held during February 1972 in Khartoum. The plan contained projects formulated by ministries and departments, and proposed a total investment of approximately LS 36 million.

¹⁸ The ministries of Finance and Planning were separate then. But they have been changing form very often from being one to two separate ministries and back to one. Now, it is one again but there have been discussions about dividing it into two again.

¹⁹ B. Yongo - Bure (March 1985), op. cit., pp. 9 - 10.

With the signing and ratification of the Addis Ababa Agreement ending the 17-year old war, the Ministry of State for Southern Affairs ceased to exist. A Regional Government was established in Juba in the Southern Sudan.

4 Development Efforts During The Period Of The Addis Ababa Agreement

The Addis Ababa Agreement was signed in March 1972 and abrogated by a Presidential decree in June 1983. Its duration marked the only period where serious efforts to develop the Southern Sudan have ever been made.

The immediate task of the Southern Regional Government was the repatriation, resettlement and rehabilitation of returnees from the Southern bushes/ forests and from neighbouring countries. However, concurrently with the work of resettlement, steps were taken to revitalize, renovate and reconstruct projects destroyed during the war.

Over and above the objectives of the imperative programme of relief and rehabilitation, the development objectives of the Regional Government aimed at:²⁰

- (I) increasing food production in the South with a view to achieving self - sufficiency
- (II) encouraging cultivation of cash crops with the aim of commercializing the traditional agricultural sector;
- (III) developing on a priority basis a minimum network of transport and communication links to connect developing areas as well as those with development potential;
- (IV) bringing to the maximum number of people opportunities for general and functional education with emphasis on the development of economically productive skills;
- (V) encouraging productive skills and initiative, particularly in the industrial sector; and

²⁰ Ministry of Finance and Economic Planning, The Six-Year Plan of Economic and Social development, 1977/78 - 1982/83 (Juba, 1977), p. 228.

(VI) recognizing the importance of rural development as the foundation of sustained economic development through self - help.

Beginning with the fiscal year 1972/73, five Special Development Budgets were approved for implementation. The aggregate amount of funds approved in these Special Development Budgets was LS 38,362,633. However the actual expenditure was much below expectations as Table 1 indicates:

Table 1: Special Development Budgets

| Year | Budget Estimates (LS'000) | Actual Expenditure (LS'000) | Actual as Percentage of Estimates |
|---------|---------------------------------|-----------------------------------|---|
| 1972/73 | 1,400 | 0,560 | 40.0 |
| 1973/74 | 7,300 | 0,730 | 10.0 |
| 1974/75 | 7,100 | 1,150 | 16.2 |
| 1975/76 | 7,200 | 1,630 | 22.7 |
| 1976/77 | 15,300 | 3,610 | 23.6 |
| Total | 38,300 | 7,680 | 20.1 |

Source: B. Yongo - Bure, The First Decade of Development in the Southern Sudan, (Institute of African and Asian Studies, University of Khartoum, March 1985), p. 12.

The most important reasons for the poor execution of development projects financed by the Special Development Budgets included.²¹

- (I) divergence between budgeted revenue and actual receipts;
- (II) shortage of technical personnel, more especially in the middle cadre;
- (III) scarcity of building materials, machinery, equipment, vehicles and spare parts;
- (IV) short supply of fuel;

²¹ B. Yongo - Bure (March 1985); op. cit., pp. 12 - 13.

- (V) difficulties in intra-regional and international transportation and communications due to shortages of basic infrastructural facilities in these fields and through operating difficulties.

However, the main single constraint on plan implementation during these five years was lack of financial resources (both local and foreign currencies). There were three sources of finance available to finance the development budget:²²

- (a) direct transfers from the central Government;
- (b) regional resources - mainly any surplus from the recurrent budget and regional development taxes; and
- (c) external assistance.

Among these three sources, expected direct transfers from the central Government constituted the largest component. However, the Regional Government experienced serious difficulties in receiving its allocations from the Central Government. Secondly, with the need for establishing a viable government in the South, the recurrent budget for the South had to provide for an ever increasing expenditure in building up the public service. Hence, some of the development funds were used to support these basic infrastructural services. For example, the personnel budget (services) increased from £S 4.1 million in 1972/73 to £S 10.0 million in 1976/77; it being £S 5.2 million in 1973/74, £S 6.8 million in 1974/75 and £S 8.0 million in 1975/76. The estimated total financial assistance received by the Regional Government between 1972/73 and 1975/76 was £S 24.7 million.²³ While these funds did support development substantially, they were specifically marked for predetermined projects. Therefore, they could not be used to support the special Development Budgets which incorporated the bulk of the development projects in terms of numbers and geographical distribution. Moreover, the shortage of finances to implement the special Development Budget often inhibited implementation of projects financed through external resources

²² Ministry of Finance and Economic Planning (Juba), op. cit., p.227.

²³ Ibid.

because of the importance of the local counterpart component needed for the implementation of these projects.

In July 1977, the Regional Government embarked on the implementation of the Six-Year Plan for Economic and Social Development of the South. This plan formed an integral part of the national Six-Year Plan for the same period, 1977/78 - 1982/83.

Based on the national objectives, the Six-Year Plan aimed at the creation of balanced development through spatial distribution of economic activities, promotion of increased national output or incomes, equitable distribution of resources and services between regions with special treatment being accorded to depressed regions or regions possessing unique economic characteristics or social conditions.²⁴

To achieve these objectives, the planned investment was estimated at about £S 286.7 million. Of this sum, regional resources were to constitute £S 35.9 million. External assistance was to amount to £S 21.1 million.²⁵

Both the national and regional plans were discontinued from 1978/79 and the governments operated on the basis of rolling three-year public investment programmes until 1984/85 when the transnational military/ civilian government, which succeeded Nimeiry's government, suspended the three-year rolling plans. Instead, the new government launched its one-year development expenditure budget for 1985/86 which was essentially centrally based with regional allocations made.²⁶ Development activities for 1986/87 were also carried out through a central Government Development Budget.²⁷

The level of realized investment, during the Six-Year Plan, fell short of the planned one. Table 2 illustrates the

²⁴ Ibid., p. 228.

²⁵ Ibid., pp. 52 - 63.

²⁶ Bank of Sudan, Annual Report 1986, p. 77.

²⁷ Ibid.

performance of investment relative to both the original and amended plans.

Table 2: Planned and Realized Investment

| Year | Annual Allocation (£S million) | | | Realized as Percentage of: | |
|---------|-----------------------------------|---------|----------|-------------------------------|---------|
| | Original | Revised | Realized | Original | Revised |
| 1977/78 | 32.49 | 32.49 | 6.13 | 18.9 | 18.9 |
| 1978/79 | 39.45 | 22.50 | 7.82 | 19.8 | 34.8 |
| 1979/80 | 41.59 | 20.50 | 10.31 | 24.8 | 50.0 |
| 1980/81 | 38.14 | 20.50 | 12.80 | 33.6 | 62.0 |
| 1981/82 | 36.60 | 16.00 | 13.40 | 36.6 | 83.7 |
| 1982/83 | 43.04 | 16.00 | 8.13 | 18.9 | 50.6 |
| Total | 231.31 | 127.99 | 58.57 | 25.3 | 45.8 |

Source: B. Yongo - Bure. The First Decade of Development in the Southern Sudan, (Institute of African and Asian Studies, University of Khartoum, March, 1985), p.15.

The shortfall in realizing the Six - Year Plan investment targets resulted from the same constraints that had limited the implementation of the special Development Budgets. Lack of financial resources was particularly important. During the plan period, the expected surplus of £S 51.3 million was not realized. Instead, development funds were often diverted to expand government services.

The overall growth rate target of between 4.5 and 7.0 percent was not achieved. Most of the Regional Government projects did not materialize, particularly the large ones. The Central Government projects located in the South included the White Nile Brewery at Wau, Tonj, Kenaf, Mongalla and Melut Sugar Projects, etc. Some of these projects had been indentified as early as before independence. All of them started to be

implemented before the Six-Year Plan. But none of them has taken-off-until now. The central Government was more enthusiastic on the implementation of the Jonglei Canal and the exploitation of the Bentiu petroleum. However, the second civil war has halted the implementation of these projects.

5 Agricultural Potential And Development

The Southern Sudan is a large basin gently sloping down northwards, through which flows the Nile from Uganda (in the South), the Bahr el Ghazal and the Sobat from the east. All these water systems merge in the large swamp area (the Sudd) from which the white Nile flows northwards.²⁸

Whereas the Northern Sudan varies from arid to savanna conditions with rainfall varying from 0 to 800mm, the Southern Sudan can be divided into three main ecological zones with rainfall ranging from 700 to 1, 600mm.

The central rainlands cover both Northern and Southern Sudan. In the South this zone covers the northern part of Upper Nile. Annual rainfall varies between 700 - 800mm for over 4 - 5 months.

Crop production is limited to short grains and oilseeds. Livestock rearing is carried on by nomadic pastoralists.

The flood plains extend over half of the Southern Sudan. Annual rainfall varies from 800 to 1,000mm, spread over six month. Most of it is either permanently or seasonally flooded. The land varies between highland which is flood free and supports homesteads and the cultivation of sorghum, millet, sesame and groundnuts; intermediate land (toiches) which is subjected to heavy flooding or water - logging in the rains but almost waterless in the dry seasons; and the Sudd which is a permanent swamp where papyrus is the dominant vegetation.

²⁸ The Southern Development Investigation Team, op. cit., pp. 35 -38 and 59 - 72.

Fishing and transhuman pastoralism are the main activities in this zone.

The equatorial zone has an annual rainfall of 900 to 1,600mm over 6 to 9 months. A wide variety of crops can be cultivated and is grown in this belt. Livestock development is limited to small areas because of tse tse fly infestation.

There are variations within the equatorial zone also. The Green belt is the most fertile area and has the heaviest rainfall. It lies in the southern parts of the districts of Maridi, Yambio and Yei.

The Green belt is separated from the flood plains by the lateritic Ironstone Plateau in the west merging into the more undulating Central Hills around Juba, and the South Eastern Hills and the mountains in the east. In the extreme south-east (in the Kapoeta district) there is a drier plain.

5.1 Crop Potential and Development

Over 30 percent of the total area of the Southern Sudan (about 200 million hectares) is suitable for agricultural production and more land could still be made available by land reclamation and forest clearing.²⁹

The ecological conditions allow for the production of a variety of crops. In the northern parts and the central plains, quick maturing crops, grains, oilseeds and rice are produced in large quantities. In parts of Bahr el Ghazal and most of Equatoria, a number of other crops are grown in addition to the grains. These other crops include coffee, tea, tobacco, cotton, Irish potatoes and horticultural crops.³⁰

²⁹ Ibid. and Ministry of Agriculture and Natural Resources, Report on the opportunities for Commercial Agricultural Development in Southern Sudan (Juba, November, 1982), not paginated.

³⁰ Ibid., and Regional Ministry of Finance and Economic Affairs (ed.), Proceedings of the Conference on Development in the Southern Region of the Sudan, (Juba, 1984), pp. 120 - 129.

Coffee

This is produced in the Green belt. The crop was introduced during the colonial period. Efforts were made to develop the crop both before and after the first civil war. By the early 1980's, about 10,000 feddans were under the small holder farmers.³¹ There is a considerable potential for expansion. The limiting factors have been capital, marketing and the supply of tools.

Tea

The potential areas for tea production in the South are Iwatoka in Yei district (with an estimated area of 5,000 feddans) and Upper Talanga on the foothills of the Imatong mountains (estimated at 5,200 feddans). At Iwatoka about 350 feddans had been brought under tea plantation by the Government and Haggar (a private company). At Upper Talanga, a total of 1,200 feddans were planned to be under tea by 1985. The management was to plant 1,000 feddans while small holders were to plant 200 feddans. The potential for expansion is still great.

The Upper Talanga Tea Project

This project has been financed by the European Economic community.³² The finance covered two phases:

The first phase was from 1978 to 1981. It amounted to fS 4.8 million.

The second phase covered the period 1982 to 1985. It amounted to fS 12 million.

The objective was to produce tea for local consumption thus saving foreign currency on imported tea. The project was also to introduce tea growing to the local population as a cash

³¹ one feddan is approximately equal to 1.04 acres.

³² Ministry of Agriculture and Natural Resources, op. cit. (no page), and AGRAR - und HYDROTECHNIK GmbH, Cash Crop Production in the Equatoria Province - Tea- Feasibility Study (Consulting Engineering, Essen, Germany, July 1977).

to introduce tea growing to the local population as a cash crop. With its high labour requirement the project would also have a positive effect on employment in the area.

By the early 1980's, an area of 200 feddans was already under tea cultivation. Out of this area 25 feddans had been planted by small outgrowers. One hundred feddans had been planted with fuel wood. Tea clones planted in the nursery had reached 1.5 million and about 75 percent of these were ready for planting. An air strip had been constructed to facilitate the direct transportation of tea cuttings to the project site.

A pre-feasibility study for the extension of the project was drawn up by 1982. The proposals involved the participation of an additional external financier to the project. Such an involvement was designed to speed up the pace of both estate and smallholder production.

The cost of this component of the wider Upper Talanga Tea Project was put at fS 13.266 million over six years; and the investment had been appraised as giving a financial internal rate of return of 16.4 percent. Some flexibility existed over the possible size of investment required and this was open for negotiation. Additional investments within the Upper Talanga Tea Project framework were being identified covering both forestry and coffee growing.

Tobacco

Tobacco production was undertaken by the smallholder farmers mainly in Torit and Yei districts. Estimates put the area suitable for this crop at 30,000 feddans. By the early 1980's only 1,700 feddans were being cultivated. The smallholder producers sold their tobacco to Haggard and the National Tobacco company.

Cotton

This crop has been grown by smallholders and had been grown on large scale, since the 1950's mainly in Maridi, Torit, Yambio and Yei districts. The largest concentration of cotton

cultivation was in the Zande scheme, founded in the 1940's to feed the Nzara textile mill. By the early 1980's, about 4,000 feddans were under the crop. There is considerable scope for expansion.

Irish Potatoes

A scheme for smallholder production of this crop was established at Gilo in the foothills of the Imatong mountains in 1975. After experiments, the right variety was distributed to the farmers and production increased despite storage and transportation difficulties. The yield was between 5 to 7 tons per feddan. The area of cultivation was extended to Nagishot, Iwatoka and Upper Talanga. However, marketing facilities should be considerably improved or developed.

Mechanized Dura Schemes

Until the early 1970's, large scale modern agriculture was limited to the northern parts of the Southern Sudan, especially in the Renk district. Large scale dura production has been carried on in the Renk district since the 1950's but the activity grew considerably in the 1970's. However, few Southerners could afford large scale capital investment and their accessibility to both public and private sector credit is very restricted. Hence, most of the large schemes in Renk are owned by Arabized Northerners.

In the 1970's, the Southern Regional Government undertook studies to establish large scale mechanized farms to demonstrate the viability of such schemes in other parts of the South. These schemes were also to make up for the shortage in food production by peasants.

Two schemes were identified suitable for mechanized dura production: one at Jebel Lado, just north of Juba, and the other at Aliab in Yirol district. Each scheme is about 30,000 feddans.

Managerial and capital constraints, compounded by the difficulty of procuring the needed inputs led to disappointing

Farming Corporation to start the development of these schemes but nothing had been done until the present war conditions which cannot allow any economic activity in the region.

Rice Schemes

Two areas of irrigated mechanized rice production were identified at Aweil and Malakal. These schemes were to produce rice to satisfy the local demand and hence replace imported rice.

Rice trials were started in Aweil in 1951. Production commenced in the 1955/56 season with 540 feddans producing 160 tons of paddy rice with the average yield of 375 kg/feddan. Peak production was achieved in the 1970/71 season when 10,635 feddans were put under rice, producing 1,335 tons of paddy rice at the poor yield of 150 kg/feddan. The highest yield, ranging from 780 to 800 kg/feddan was reached between 1958 and 1962. Thereafter the first war intensified and the performance of the scheme deteriorated until the low yield of 150 kg/feddan was reached in 1971/72.

In December 1972, a joint Regional Ministry of Agriculture and World Bank mission visited the scheme and the recommendation of the mission negotiations were started with the UNDP/FAO to take over the scheme for a period of four years. During this period, the scheme was revitalized and reorganized. FAO which was executing the project on behalf of the UNDP took over the scheme in January 1974.

A complete contouring and levelling of the scheme and re-aligning and reconstruction of the irrigation layout was carried out in 1974 but the floods of that year caused a lot of damage to the irrigation work. Hence, much of the effort that had been expended in the 1974/75 season was lost. In the 1975/76 season 600 feddans were planted with rice.³³

³³ Regional Minister of Agriculture and Natural Resources. A Statement to the Peoples Regional Assembly, (Juba, June, 1976). pp. 11 - 14.

From 1980, the expansion of the scheme was funded by the European Economic Community with staff being supplied by the Dutch firm Euroconsult. In the 1981/82 season, 2,047 tons of paddy rice were harvested with a value of £S 700,000 compared to £S 552,000 earned in the previous season. For the 1982/83 season 1,050 hectares (2,625 feddans) were cultivated under full water control.

A further agreement to continue support for the scheme for a four-year period, 1982 to 1986, was concluded with the European Economic community. The project was eventually to be turned into a corporate body to improve its commercial outlook and managerial flexibility. When this stage is reached, additional equity interest would be invited to provide for the commercial expansion of the scheme.

The Malakal rice scheme was originally aimed at promoting organized small-scale rice production using water control along similar lines of the Aweil scheme. The project was implemented by the Regional Government.

A considerable investment was made in land clearing and levelling, pumping equipment and farm machinery. Assistance from a Chinese research team was obtained for a two - year period. A total of 15,000 feddans are available for the scheme. A total area of 4,000 feddans was surveyed while the maximum annual area of operation had reached 800 feddans.

However, the scheme became increasingly faced by severe shortage of inputs; staff salaries became to be paid very late; and the working capital lacking. Consequently, the project ceased to operate.

Sugar Schemes

The rainfall and soils of the South are very suitable for growing sugar cane in a less costly way than in the North. Sugar cane can be grown in the Green belt without any irrigation at all.

An experimental station was established at Mongalla in the 1950's to determine the suitability of the crop to local conditions. Similarly, the Melut area was indentified at an early stage as an area for cane production close to the Northern market. However, after independence the Northern-dominated government transferred the planned sugar projects to Guneid and Khasm el Girba in the North where the cane is grown under expensive and import - intensive irrigation works.

After the signing of the Addis Ababa Agreement the Central Government in Khartoum, planned for four sugar agro - industries, in addition to the joint venture Kenana sugar industry. The four projects were: Assalaya, Melut, Mongalla and Sennar. The Northern projects at Sennar and Assalaya began production in 1976/77 and 1978/80 respectively.³⁴ Progress at Mongalla did not proceed beyond the original experimental stage. At Melut machinery and equipment had been partially assembled on the site but implementation has come to standstill and there have been discussions about moving it to the North because of the current security situation in the South.

Fruits and Vegetables

Tropical fruits like mangoes, pineapples, lemons, oranges, grape fruits and others are widely grown in the Southern Sudan especially in the Green belt and along the Nile.

Despite the vast potential, production has not been stepped up to satisfy local demand and for export to other parts of the country.

For vegetables like okra, onions, tomatoes, egg plants, cabbages, etc, production is also successful in many parts and especially near water sources for year round production. The production is not yet organized to satisfy local demand. There were plans to expand vegetable production at Gilo, Iwatoka and Upper Talanga, along with the cultivation of Irish potatoes.

³⁴ Bank of Sudan, Annual Report 1983, p. 37.

5.2 Forestry Potential and Development

The forestry resources of the Southern Sudan comprise by far the larger part of the total prest resources of Sudan. They are concentrated in Bahr el Ghazal and Equatoria.

The natural forest contains a number of economically valuable species. But these are widely dispersed over considerably large tracts of land. Limited surveys indicate that the average standing volume is over approximately 292,500 km² of forest vegetation. The mountain forests account for about 30 percent of the estimated total of standing timber.

The natural forest has been the main source for the entire sawmill production in the South (railway sleepers and constructional timber).

Afforestation

Successful work has been accomplished in this field in all provinces. According to available figures, a total of 40,548.3 feddans were planted as by January 1983 in all provinces of the Southern Sudan. The total area gazetted was 2,743,804 feddans. Teak is the predominant species in the 89 prest reserves in the South.

Sawmills

The operation of sawmills is one of the highest potential which has not been realized as a result of budget constraints and other resource shortages. It is possible to raise production to above 23,000m³ per year in all the sixteen saw mills in the whole South.

A little over 200,000 m³ of sawn timber was produced between 1977/78 and 1980/81 fiscal years. With the rehabilitation of the sawmills, in the 1982/83 fiscal year, the saw milling projects were expected to generate £S 2,262,999. This takes into account receipts from the Imatong Mountains Forestry Project.

The Imatong Mountains Forestry Project

This project started in the 1940's. Aerial surveys and interpretations envisaged an area of some 2.8 million hectares available for forestry development in the area. The 1978 British Government funding of the project provided an additional 203 hectares of cypresses and pine plantation, a new sawmill and a hydroelectric power plant.

The project caters for 25 percent of the South's timber requirements and had reached its full capacity production of 500 ft³ per day before the present civil war.

Expansion of the project was programmed. This was to involve a rapid rate of expansion with a saw mill being constructed in 1988 to boost production to 15,000m³ per day by 1993. The area planted was expected to rise to 7,470 hectares by 2,005.

Canadian Aid

The Canadian International Development Agency (CIDA) assisted in forestry development in Bahr el Ghazal. CIDA's contribution included the provision of technical experts, new semi - portable sawmills and logging equipment, spare parts and fuel.

Apart from making management plans, the project was to provide institutional support to overcome the immediate managerial and operational constraints in forestry. It was also to provide a forestry inventory to assist the government in the development and management of Sudan's forestry potential in Bahr el Ghazal.

The Canadian financial contribution was \$ 8,300,000 (Canadian dollars) in grants in support of the Forestry Sector Coordinator, wood utilization units, institutional support of forestry training and evaluation projects. An additional fund, not exceeding \$ 6,100,000 (Canadian dollars), would be provided in grant funds for the Forestry Inventory Project when the feasibility has been demonstrated to both Canada and Sudan.

Sudan/ German Forestry Programme

This project started in 1974 and concentrated on the rehabilitation of forest reserves on the west bank of the Nile in Equatoria with Kagelu, south of Yei, as its headquarters.

The existing teak plantations at Kegulu and other forest reserves (the oldest planted in 1919) were mapped and rehabilitated. A considerable mechanized planting programme was developed. Mechanization was combined with agricultural production so that significant values of crops are produced in the year prior to planting and in the year of planting. The project run the Loka group of sawmills at Kegulu, Kawale, Lijo, Loka West, Nuni and Tore.

During 1981, the project produced a total of 28,243 pieces in the form of logs, poles and posts of various species. In the same year, 811 ft³ of firewood was produced and 715 bundles of bamboos were produced. The total revenue for the 1981 activities was approximately £S 395,296.

A survey revealed that a total of 18,416 railway sleepers lay in Kawale, Lijo, Loka West and Nuni stations unutilized due to lack of transport, thus locking up a lot of revenues which could have been injected for further development of the project.

Constraints in Forestry Development

These include:

- (i) Lack of high quality, well trained managerial and technical expertise in the sector;
- (ii) Obsolete sawmilling equipment that still remains in the sawmills;
- (iii) Poorly observed maintenance schedules; and
- (iv) Lack of precise information on the forest potential, preventing the rational and cohesive development; spare parts and fuel necessary to achieve high levels of production.

The general low level of socio - economic and infrastructural development in the Southern Sudan has acted as a general brake on the development of this sector. However, the limited

government and foreign efforts in the 1970's have demonstrated that given the appropriate policies and resources, this sector can prove to be one of the most viable revenue earners in the South.

5.3 Livestock Potential and Development

Livestock Resources

Over two thirds of the population of the Southern Sudan depends largely for their livelihood on livestock. According to the Resource and Research Management survey of 1976, the Southern Sudan had 5.5 million cattle, 3 million sheep and 2 million goats. Most of these cattle are concentrated in Bahr el Ghazal and Upper Nile which are less infested by tsetse fly (see Table 3).

Table 3: Livestock Population, 1979/80 (000's)

| PROVINCE | CATTLE | SHEEP | GOATS |
|-------------------|--------|-------|-------|
| Upper Nile | 1,700 | 1,130 | 0,376 |
| Jonglei | 1,670 | 0,089 | 0,579 |
| Bahr el Ghazal | 1,460 | 0,730 | 0,081 |
| Lakes | 0,856 | 0,061 | 0,042 |
| Eastern Equatoria | 0,952 | 0,993 | 0,071 |
| Western Equatoria | 0,274 | 0,138 | 0,002 |
| Total | 6,912 | 3,141 | 2,211 |

Source: Regional Ministry of Finance and Economic Affairs, Proceedings of the Conference on Development in the Southern Region of the Sudan, 5th - 8th April 1983, (Juba, 1983), p.125.

Ecology and Natural Pastures

Most of the livestock is concentrated in the flood plains of the South and some of the south eastern hills and areas. Cattle rearing is governed by the seasonal variation of pasture conditions and by the relative proportion between available types of range land, that is, high grazing land, intermediate grazing land, and the toiches grazing land.

The cattle population has a large measure of mixed breed characteristic of the three respective ecological zones. These breeds are:

- (i) the Nilotic cattle which can endure bleeding and insect worry;
- (ii) the Murle - Toposa type which flourishes under semi - arid conditions; and
- (iii) the South Eastern Zebu type which survives on the sparse hillside vegetation and can resist trypanosomiasis to some extent.

The pasture resources are utilized both by the domestic livestock and wild game with great variation within the South. The advantage the South has over the other parts of the country is that the range resources and livestock numbers are in ecological balance and overstocking and pasture degradation is not yet a problem. The Khartoum government is greatly depleting the animal resources of the parts of the South bordering the North through the sponsorship of the Arab tribal militia raids on the unarmed civilian population on the pretext of fighting the guerrillas of the Sudan Peoples Liberation Army (SPLA).

Livestock Husbandry and Productivity

The cattle owners are mainly transhumant pastoralists who migrate with their cattle seasonally. Herd management is along traditional lines except for the introduction of drugs and vaccines. To these pastoralists, livestock is much more than just a commercial commodity. Cattle plays an exceptionally important part in the social and ritual life of the people. From the point of view of the social attitudes and the ecology

of the South ranching, as a commercial activity, has not yet been established.

The predominant cattle breed is the Nilotic type. Field estimates indicated a birth weight of 20 kg and liveweight at maturity (4 to 5 years) of 200 to 220 kg for cows and 300 to 400 kg for castrated bulls.

Investigations on milk yield and milk potential suggested a daily milk yield of approximately one kilogram per day over a lactation of 160 to 200 days for cows raising a calf at the same time. Under improved management this yield could double.

Development Objective and Policy

Although the socio - cultural attitudes of the pastoralists are often viewed as the main constraint on the development of livestock in the South, it must be realized that any development of traditional pastoralists must be based on the development of the livestock. Livestock must be accepted as another normal mode of living except that it needs to be developed but not substituted with another, supposedly superior, mode of living.

Livestock diseases are prevalent. The South is an endemic area for a number of major cattle diseases which have contributed to raising herd mortality to 13 percent.

Most of the saleable off - take is marketed by private traders in towns and villages, and some have been trucked to the North. Very little of the South's livestock has been exported due to diseases and lack of good infrastructure.

The South could export animal and animal products to the neighbouring parts of Zaire and the Central African Republic which are infested by tse tse fly.

There is no formally organized marketing system; and due to long distance and poor facilities along trek routes, there are often wide margins between purchase and resale prices; and local and seasonal price fluctuations. There is, however, an established trade in hides and skins for animals being

slaughtered in urban and organized centres. It has been estimated that the annual output of hides and skins is over 40,000. With increased offtake, this would greatly increase.

Meat and milk are in great demand especially in towns. Slaughtering is meeting a large part of the demand for meat. But the supply of milk and milk products is negligible indeed.

To overcome the constraints on livestock development and encourage increased production of livestock and livestock products by the smallholder farmers and the private sector, the Regional Government policy on livestock development was to:

- (i) control and eradicate animal diseases;
- (ii) introduce methods intended to increase production of livestock products mainly through research and establishment of demonstration projects for ranching and dairying and poultry farming;
- (iii) establish infrastructure for an efficient livestock marketing organization;
- (iv) provide experimental and demonstration units as well as extension service for improving the quality of hides and skins; and
- (v) undertake range land surveys and range management projects to encourage rational utilization of range resources.

Government placed top priority on livestock disease control through vaccination campaigns, and curative measures. Since 1972, some progress was made with assistance from international organizations and foreign countries, notably West Germany.

In support of livestock development, the government established dairy projects in all the major urban centres for supply. However, due to lack of proper management and finance, most of these projects did not take off and milk demand remained largely unsatisfied.

Two livestock improvement centres were set up at Bilinyang near Juba and at Marial Bai near Wau. The MAFAO farm at Bilinyang is assisted by FAO while the Manial Bai farm is assisted by the Project Development Unit (PDU) of the World

Bank. These projects are meant to give modern management methods to the small holder farmers in dairy and fattening. They achieved some degree of success. Some experiments with cross breeding have been conducted in these centres.

A marketing setup was studied by the PDU. It was meant to encourage commercialization of livestock among the pastoralists with consequent development in livestock and livestock products. The results of the study are not known but under the prevailing conditions the project cannot be carried out.

Overall, given the low productivity and the good potential of range land, there is great scope for involvement in the livestock sector for increased production and productivity. A pilot ranch was established at Rumbek for demonstration and training purpose, at Kapoeta, for the improvement of the Toposa sheep.

The Rumbek Cattle Ranch

This was established in the mid - 1970's. The scheme was initiated without a great concern for the detailed forward planning of its development, and although some 12,000 feddans were set aside for its operations, financial and managerial constraints halted work at the scheme.

The original aim of the ranch was to produce beef cattle from crossed, local and exotic stocks. Pasture improvements and grazing control were also included in the programme. Later there were discussions about the dairy potential of the ranch for direct milk production and the breeding and sale of improved dairy stock. Consequently, with no clear definition of the commercial objectives of the project, most of the energy of the staff was exerted on fencing the area only. Hence the scheme is still at an early stage of implementation.

The Kapoeta Sheep Ranch

A 4,000 feddan sheep ranch was established in Kapoeta district. The ranch was run as a cross breeding centre using imported Dorper ewes and rams with the local stock. The

project was funded by the Regional Government with some assistance with management from an international voluntary agency. The funds allocated for the project were inadequate to develop the ranch and maintain the day to day operations, and hence the project foundered.

There is considerable potential for large scale sheep ranching in the area linked to the up - grading of the traditional flocks, and supported by an improved stock marketing system. There were proposals for a joint - venture undertaking on commercial basis. The up - grading of Kenya/ Sudan road will improve the profitability of the project.

5.4 Fisheries Resources

The inland water surface of the Southern Sudan is estimated at approximately 2,000,000 hectares with a potential of 90 percent of all inland fish output of the country. Subsistence fishing make up a significant contribution to the Southern economy.

Estimates put the total population of the South dependent on fishing for their livelihood at 200,000. This does not take into consideration activities indirectly related to fishing like boat - building and net - making. Overall, about 5 percent of the population of the Southern Sudan depend directly and indirectly on fishing for their survival.

The present methods of fishing have hardly progressed from the basic traditional tools. The fishermen use implements like hooks, spears (for spearing through the water), baskets made of reeds for laying traps for the fish, etc. Only few fishermen have adopted the use of fishing nets and boats.

The total catch for the small fishermen and the commercial entrepreneurs has been estimated at 18,000 tons per annum. With improvement of services this is bound to increase at the rate of 2,500 tons per annum.

The major constraints hindering expansion have been:

- (i) Lack of transport from remote fishing areas to the markets;
- (ii) Lack of proper processing and storage facilities for fresh fish;
- (iii) Lack of any marketing network to help the small fishermen to dispose of their products; and
- (iv) Absence of credit facilities makes it almost impossible to acquire modern equipment for improving performance.

The Regional Government, assisted by the UNDP and FAO, established the Malakal Fisheries Training Institute in 1975. This institute was to improve fish production by the provision of adequate training facilities, better fishing boats, improved methods of fish processing, better supplies of fishing gear and creation of fishing extension units. After successfully completing their training the fishermen are formed into co-operatives. Because of lack of adequate funds for procurement of boats and fishing gear, it was only possible to open eleven fishing training camps by mid - 1977. The project was continued during the Six - Year Plan.

The fisheries development programme, started in 1974, aimed at developing fisheries by establishing Fisheries Extension Services to help the fishermen to improve their fishing practice and increase production. It was also to produce sun dried salted fish and other processed fishery products for the market and to organize fish marketing.

A third project was the development of fish farming. This project was aimed at reconstructing and reactivating the old fish farms in Equatoria which were abandoned during the first civil war and to establish new farms where necessary. The plan provided for the establishment of 50 fish farms per year with a total of 300 farms to be attained by 1982. It was estimated that about 1,200 tons of fish per year would be produced through this method.

6 Co-operatives and Agricultural Development

The development of cooperatives was emphasized as a major strategy in overcoming the problems of the agricultural sector, especially in the subsectors of crop production and fishing. Emphasis in the Six - Year Plan was placed on production cooperatives.³⁵ Cooperative societies were to supply production inputs to farmers, construct storage facilities, provide transport for marketing products, and supply credit to members.

A regional cooperative Bank was established to minimize the difficulty of financing and raising capital for larger undertakings where the contributions of members was unable to meet requirements. However, although the bank was legally registered in February 1979, it was not able to raise enough capital. The share capital was put at fS 200,000. Another difficulty was in the recruitment of skilled personnel.

The International Labour Organization (ILO) and the United Nations Development Programme (UNDP) extended assistance for the development of a strategy for improving the planning systems and procedures. They mainly aimed at the development of personnel and established pilot projects for the cooperative movement. The pilot project included:

- (i) Boat - building and fisheries in Upper Nile;
- (ii) Coffee growing and marketing in Yei;
- (iii) Woodcrafts and metal crafts development in Wau; and
- (iv) Consumer stores in Juba.

Two ILO/ UNDP experts were engaged in the establishment of a Regional Cooperative Training Centre with financial assistance of \$ 745,730 from the Danish International Development Agency (DTDA). the United Nations Cooperative Development Fund (UNCDF) also approved \$ 1.8 million for the same purpose but

³⁵ C.Z. Ndogo, An Appraisal of the Six - Year Plan of Economic and Social Development 1977/78 - 1982/83 in the Cooperative Sector, in Regional Ministry of Finance and Economic Affairs, op. cit., pp. 140 - 147

this amount was transferred by the Sudan Government for the development of the sugar industry.

A sum of £S 151,200 was allocated as outlay for cooperative education and training during the Six - Year Plan. The objective was to provide education and training for secretaries and management in business administration, legislation, book - keeping and other practical skills. The programme was to be undertaken locally at the site of cooperative societies. Hence, there was requirement for mobile training vans needed for this purpose.

Although it was not possible to acquire the cinema vans, some training was carried out for managers. But the actual number of persons trained fell far below that for the planned period. A total of 6,948 Committee members were to be trained over the Six-Year Plan. By March 1983, none had been trained. Of the 386 managers proposed for training, only 30 were trained. In - service training was carried out for 120 staff of the cooperative department as compared with the planned figure of 420. Organized cooperative membership enlightenment was carried out for 7,000 members all over the South. Two leaflets for cooperative education programmes were produced in addition to 16 wall - posters. Various short - term courses were organized for cooperative officers and auditors. However, auditing was hardly carried out due to transport problems.

The Cooperative Fisheries and Boat-building project was aimed at mobilizing the rural population in Upper Nile so as to tap the immense fisheries potential in the area. the ILO/ UNDP assistance was extended to this project. Vehicles, machinery, equipment and technical assistance were provided and workshops were constructed. By March 1983, seventy (70) boats had been built and sold. Surplus sun - dried and salted fish were marketed for about £S 40,000. No data are available on fresh fish catch.

The cooperative movement was to be extended to non - agricultural activities as well. According to the Six - Year Plan, a

total of 9 handicrafts cooperatives were to be established by the end of the plan period, that is, June 1983. Consequently, a leather works cooperative was set up in Juba; and a metal crafts and wood crafts in Wau. The ILO/ UNDP provided technical assistance for the handicrafts cooperatives project.

7 Observations, Conclusion and Strategy

The Southern Sudanese economy is basically subsistent with the modern sector being very limited indeed. Living standards in the Southern Sudan are among the lowest in the world. This is largely because there has been no endogenously initiated development policy for the South since its incorporation into the present Sudanese establishment as well as into the international economy. Whatever development efforts have been made, have been incoherent, based on political calculations, first in London and then in Khartoum. Political leadership in the South is determined in Khartoum with the Southern population having no say in the political fortunes of their rulers. Hence, these rulers are not bound to pursue policies that can improve the living conditions of the bulk of the people. Incompetent leadership can continue to rule in the South as long as it carries out, or does not interfere with Khartoum's consistent goals of Islamization and Arabization of the South. In this way, the economic backwardness of the South is sustained, perhaps, until the success of Khartoum's goals in the South.

The economy produces very little capital goods, hardly exports anything to the outside world. Its imports are limited and contain proportionally more consumption goods than capital goods. Hence, there is an insufficient capacity on the part of the Southern economy to activate a production structure capable of generating a progressive accumulation of resources needed for the initiation of a self-sustaining economy that

can provide a continuous improvement in the living conditions of the population.

Primary activities predominate with crop production and animal husbandry being by far the most important. In the predictable future these will continue to be the main subsectors of the Southern economy. A modernization of the production techniques is a prerequisite for increasing the productivities of these activities.

A manufacturing sector for supplying the needs of the agricultural sector and processing its products is a next step in the development strategy of the directly productive activities in the South. Pursuing such a goal of economic development policy requires taking important steps towards removing the infrastructural and manpower constraints.

Given the size of the South and its territorial pattern of scattered population and also the wide range of productive potentials in the various areas, its development is heavily dependent on the establishment of an efficient and well - organized transportation and distribution systems. The inadequacy of the current infrastructure and the inefficiency of the operational organization are some of the main obstacles making it more difficult to develop the South. The envisaged transportation system should not only be internal to the South but it should also link it with the rest of Sudan and the countries neighbouring the South. Other prerequisite infrastructural investments should be undertaken in communications, energy, health, education and research, financial institutions and other economic and administrative institutions.

Exploitation of the known mineral resources would help greatly in the realization of such heavy investment requirements. The marginality of the South in the Sudanese political establishment has led to the frustration of the exploitation of its proven petroleum reserves.

As regards the exploitation of other minerals, non - metals like sand, pozzuolena, gravel and broken stones can be

processed by simple grinding and crushing into various building materials like bricks, tiles, etc. Surveys to discover the richest deposits of metallic minerals and to evaluate their potential should be started as soon as possible so that metal extraction and processing can start. The existing skilled craftsmen in ironworking should be given assistance so as to raise their scale of operations as well as to improve the quality of, and to diversify, their products.

A proper utilization of the mineral resources in the South could stimulate the development of more sophisticated ore processing activities, thus making the South less dependent on outside for the supply of its simpler forms of machinery and equipment such as farming tools. The exploitation and exportation of minerals could enable the South to substantially increase its imports of durable capital goods. This would considerably raise the longevity of capital goods in the South and considerably lower the high rate of depreciation especially in the building sector. The present high rate of depreciation has led to continuous channelling of considerable savings into reinvestment instead of expanding capital formation.

Most of the above proposals are medium- and long-term measures. The thrust of a short-term (1-5 years after peace is attained) strategy should be on the development of the peasant farmers and probably medium - sized farmers so as to produce surpluses for both the urban and export markets. Each region should have a publically - owned bank and an Agricultural Supplies and Marketing Corporation. The Corporation should own lorries and have stores all over the region. This corporation should supply seeds and farm implements and other inputs to the farmers. It should also buy the produce from the farmers. This will give incentives to the farmers to increase their production. The bulk selling or export by the corporation can raise substantial finances, both in local and foreign currencies, which can be channelled to further productive undertakings.

Instead of embarking on large mechanized farms, these corporations should provide services to the peasant farmers and other small farmers in the form of maintaining tractors in various suitable areas to plough land for individual farmers on rent. It can make trials with small tractors which small farmers can afford to own.

Initially, industrial development should be concentrated on the production of farm implements and the processing of crops and dairy products as well as the rehabilitation or modernization of the existing sawmills. The infrastructural sectors to be immediately attended to include transport and communications, energy, and education and manpower development.

Meanwhile as the war continues, resources should be channelled to educating and training as many Southerners as possible. Southern students who have attained a reasonable pass in school certificate examinations should be trained into various categories and levels of manpower so that when peace returns there will be a reasonable supply of trained indigeneous people to carry out the immediate programmes.

Furthermore, efforts should be exerted on the identification of the development opportunities in each area and district. What is each area or district suitable for? What then are the appropriate projects for each area and district? From the area and district levels, regional strategies, programmes and projects can be identified so that as soon as peace returns these programmes and projects can be quickly reviewed and immediate implementation can be embarked upon. The identification of the programmes and projects for the areas and districts can be through the existing knowledge of the main activities in the areas/ districts as well as through researching into the many documents and researches undertaken on various aspects of the Southern Sudan since 1972 or even earlier.

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