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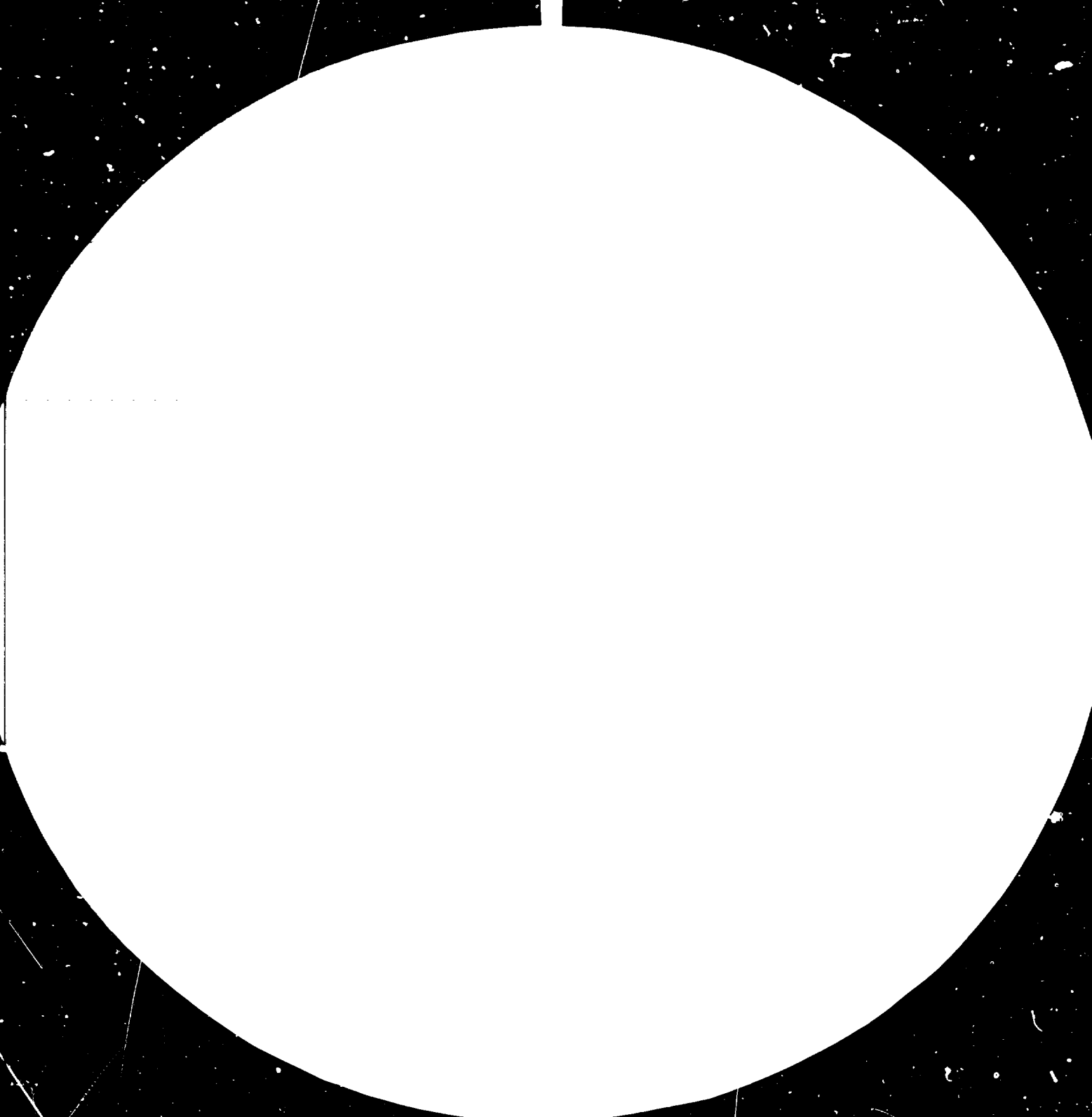
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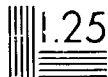
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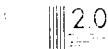
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UNITED NATIONS INDUSTRIAL
DEVELOPMENT ORGANIZATION

COUNTRY INDUSTRIAL DEVELOPMENT BRIEF ,

C H A D *

Prepared by the
Division for Industrial Studies
Regional and Country Studies Branch

002036

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PREFACE

The Division for Industrial Studies, Regional and Country Studies Branch, undertakes under its work programme the preparation of Country Industrial Development Briefs. These briefs are desk studies, providing statistical and economic analyses of the industrial sector; its present status and future prospects.

This brief on Chad is based on documents, reports, and publications available at UNIDO, Vienna, and the Joint ECA/UNIDO Industry Division, Addis Ababa. No field survey has been undertaken and some of the data and information are either incomplete or not up-to-date.

The views and comments contained in this document do not reflect those of the Government of Chad, nor do they officially commit the United Nations Industrial Development Organization to any particular course of action.

SELECTED BASIC INFORMATION

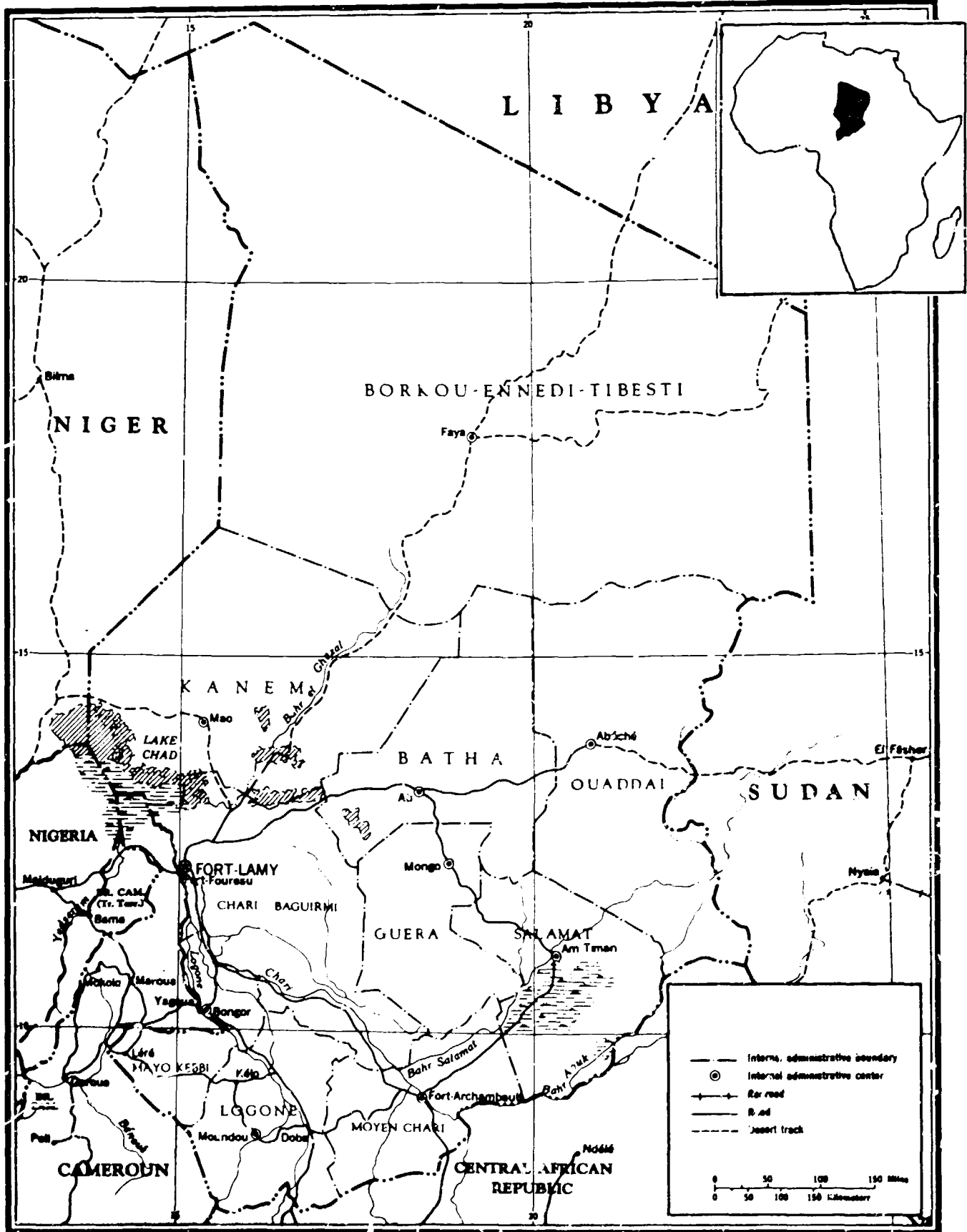
Land Area: 1,284,000 sq. km
Population: 4,420,000 (1979 estimate)
Main Towns: N'Djamena (193,000 population in 1974)
Sahr (44,000)
Moundou (40,000)
Abéché (36,000)

Languages: French, Arabic, several African languages

Currency Unit: CFA franc (CFAF) - 100 cents
US \$1.00 : CFAF 214.32 (1975)
CFAF 245.000 (1976, 1977)
CFAF 220.00 (1978)
CFAF 300.00 (1982)

Weights and measures: metric system
Fiscal year: January 1 - December 31

CHAD



CART-M-67-66

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SUMMARY AND CONCLUSIONS

Chad is a landlocked least developed country, and one of the poorest in Africa. It has inadequate developed natural resources, inadequate social and economic infrastructure, and is burdened by high transport costs to and from the outside world.

The country's dispersed population lives in a harsh environment, part of which is in the drought-stricken Sahelian zone.

Some 90 per cent of the population earn their living from agriculture and of this 40 per cent are nomadic cattle herders. Slightly over 40 per cent of national income is generated by crop cultivation or livestock raising for subsistence.

The country's poverty is rooted in the low productivity of the agricultural and livestock sectors, partly caused by poor soil and the drought prone climate.

Industry is a small sector, contributing some 9.9 per cent of GDP. Prospects for significant industrial development are limited because of the country's inadequate human and physical resource development. The most promising import substitution industries are textiles and beverages. Oil exploration could improve the country's energy situation.

The recent political difficulties and security problems have contributed to the worsening of an already difficult economic situation.

The immediate tasks facing the country include the settlement of the political problem, the rehabilitation of the productive apparatus and the maintenance and expansion of the transport network, which is a major constraint to development in the country.

I. ECONOMIC BACKGROUND

1. Physical Characteristics, Area and Climate

Chad is the largest and most inaccessible of the land-locked countries of Africa, with an area of 1,284,000 square kilometers situated in a very harsh environment. The northern part of the country is largely desert, with isolated areas adapted to livestock raising. In the southern part the soil and climate are conducive to sedentary agriculture in which cotton and subsistence crops are cultivated. In between these two extremes lies an area in which subsistence agriculture is blended with livestock grazing by settled farmers and semi-nomadic grazers. Rainfall is highly seasonal with flooding during a few months and damaging drought in others.

During the normal rainy season, low lying areas (particularly south and east of N'Djamena) become catchments for flood waters which cut off communications by road during several months each year. Average maximum temperatures are as high as 104 to 107 degrees (Fahrenheit). Lake Chad, which is fed by the two main rivers (the Chari and the Logone) is slowly shrinking in size and its average depth of only three or four feet is slowly declining. Evaporation removes as much as ten inches of water per month during the dry season.

2. Population

Chad's total population was estimated to be approximately 4.4 million in 1979; its average annual growth rate was slightly over 2.0 per cent during 1970-1977.^{1/} While overall population density is 3 per square kilometer, it averages 34 per square kilometer of agricultural land. The

^{1/} Industrial Data System, Regional and Country Studies Branch, Division for Industrial Studies, UNIDO, Appendix I.

country is sparsely populated, with over 80 per cent of the population residing in rural areas. The recorded urban population amounted to 14.6 per cent of the total in 1973, and according to a partial administrative census carried out annually, the growth rate of the urban population has been 7.2 per cent per annum during 1968-1973. Since 1973, a sizeable proportion of the population has continued to migrate from rural to urban areas.^{1/} About half of the rural population is in the southwest or "cotton zone", which represents only 10 per cent of the country's area and where small holders cultivate cereals, legumes and cotton under adequate and reliable rainfall conditions. Over 2 million live in a zone north of the Chari River (Sahara and Sahelian regions). However, the drought must have caused population movements, particularly in the northern region, which are difficult to quantify at this time.^{2/}

3. Labour Force and Employment

The size of the labour force in Chad is difficult to estimate accurately, particularly in the present situation of civil war. However, the labour force is estimated to represent about 39 per cent of the total population. From 1.56 million persons in 1975, it grew at an average annual rate of 2.05 per cent, reaching around 1.66 million persons in 1978.^{3/}

The overwhelming proportion of the labour force (approximately 84 per cent), is employed in the rural areas and the number of wage earners in 1977 was 180,000 or less than 12 per cent of the labour force. Unemployment is estimated at 5.2 per cent by the Ministry of Planning and is confined to the urban economy, the main problem in the rural areas being underemployment. Data on employment are seriously incomplete since they concern predominantly the modern sector and do not include the informal or the rural sectors. In recent years, urban unemployment appears to have

^{1/} IBRD, Republic of Chad, Economic Memorandum, Report No. 1340 CD, June 30, 1977, pp. 7-8.

^{2/} Ibid.

^{3/} See Appendix I.

increased mainly as a result of the drought which led farmers and nomads to migrate to cities in search of relief and job opportunities. Moreover, unemployment is expected to become more severe as new entrants into the labour force are expected to exceed by a wide margin the newly created jobs.^{1/}

An analysis of Chad's population by age group in 1975, showed that about 41 per cent were under the age of 15. From the point of view of the capacity of the country to create more employment opportunities, Chad's population age structure was unfavourable. It is likely that this situation has worsened since then by increased rural-urban migration.^{2/}

4. Wages and Prices

No recent information on wage employment and salary levels is available. However, in 1970, a general increase in the minimum salaries took place. The "Salaire Minimum Agricole Granti" (SMAG) or the minimum salary for agricultural workers was raised from CFAF 18.5 an hour to CFAF 25 an hour while the "Salaire Minimum Interprofessionel Granti" (SMIG) or the minimum salary for non-agricultural workers went up from 22 CFAF per hour to 30 CFAF per hour.

From 1970 to 1976, no official change was made in minimum wage rates though private enterprises periodically readjusted the salaries of their employees. The minimum wage remained at CFAF 5,200 per month until June 1977, when it was raised to CFAF 8,318 (an increase of 60 per cent). This just compensates for the inflation rate since 1970, which has been 60 per cent up to March 1977, according to available price indices.

No representative price index exists for average incomes earned in urban centres. Inflation had its biggest impact in Chad in 1974, after the steep increase in oil prices, the increase of import prices from

1/ IERD, op.cit., p.9.

2/ Ibid.

industrialized countries, and the drop in supply of food products caused by the drought. Between 1973 and 1974, prices rose on average by 11.3 per cent and there was a further rise of 15.7 per cent in 1975. Afterwards, the rate of inflation declined to 3.4 per cent in 1976, but it rose again to 8.4 per cent in 1977. In May 1978 the index was 3.7 per cent higher than in December 1977 and was still rising.

5. Income Distribution

No information exists on the present income distribution in Chad. There is also a total lack of data on the effects that drought has had on the real income of rural population. But clearly the impact on living standards has been profound, particularly in the northern region of the country, and more severe than is reflected in the national accounts. For example, the cash income of the farming population in the cotton sector (net income CFAF 5.5 billion in 1975), has apparently suffered relatively little, but the incomes of farmers producing only food crops - already at a substantially lower income level have been more affected. It may be concluded that the drought probably widened the income gaps between the lowest income non-cotton producing farmers and those producing cotton, especially when aided by the productivity programme. It has probably widened the income gap between rural and urban areas, the latter's incomes being more sheltered by the regularity of flows of markedly higher modern sector revenues. However, it appears that in real terms both the urban and rural sectors have suffered a setback from their pre-drought income levels.

6. Transportation System

Chad is not only a landlocked country, it is also one of the most remote from the sea, and it is the largest of the African least developed countries. The major urban and economic centers are located at a distance of between 1,700 and 3,000 kilometers from the nearest ocean port. Thus, transportation plays a critical role in the economy, and the lack of adequate transport infrastructure constitutes a major obstacle to development.

Chad's own transport system is very limited. Thus, for its external trade, the country relies on four main international routes to the sea, the major sections of which are located outside Chad in its neighbouring countries. These routes are: the trans-Equatorial route^{1/}, the trans-Cameroon route, the Nigerian route, and the Benoué route.

Other less important routes are the Sudanese route, the road from Zalingei to Abéché, and the Libyan route.

Chad's domestic transport infrastructure is relatively limited. The road network consists of 7,340 kilometers of classified roads of varying standards, many of which are closed to traffic during the rainy seasons; only 250 kilometers were paved in 1977. In addition there are about 25,000 kilometers of earth tracks which provide connexions to agricultural areas. The distribution network is concentrated in the southwest where most of the cotton is produced and economic activity is located. The average density of the network was about 2 kilometers per thousand inhabitants.^{2/}

Chad is relatively well served by air transport services. Air Afrique and Union des Transports Aériens provide international services and Air Chad serves internal routes. N'Djamena receives the large jets and Moundou and ex Fort Archambault can handle small jets.

There is some river traffic on the Chari within Chad. But it is limited to about seven months during the year. The bulk of the movement is to N'Djamena during the rainy season when roads are impassable.

^{1/} This route is Chad's most important access to the sea. It consists of the Congo-Ocean railway (515 kilometers) from the port of Pointe Noire to Brazzaville, 1,300 kilometers of waterways from Brazzaville to Bangui (CAR) and of two alternative roads within Chad.

^{2/} IBRD, op.cit. p.7.

7. Gross Domestic Product (GDP)

Two major events have in recent years unfavourably influenced Chad's GDP as well as its economic and financial development: internal security problems and the drought. With budgetary revenues relatively fixed, increased spending on internal security entailed reduced expenditures on other government activities.

As shown in Table 1, GDP at constant 1975 prices, which was about 596 million US dollars in 1960, grew by the very low average annual rate of 0.40 per cent to 1978, reaching 682 million US dollars. No information is available for more recent years. However, GDP is likely to have substantially declined due to the impact of the civil war on the whole economy. The two most striking features of the pre-war pattern of growth were the relatively high inflows of foreign aid and the effects of the Sahelian drought. The country's low level of income and limited capacity to mobilize savings have always made the economy heavily dependent on external assistance. So, for example in 1967-72, the GDP equivalent of total aid flows, both in the form of grants and loans, averaged 12 per cent and reached 17 per cent during 1973-1975.

Table 1. Chad - Gross domestic product (at constant 1975 prices), 1960-78

<u>Year</u>	<u>GDP (in million)</u>	<u>Growth rates (in percentage)</u>
1960	596	
1961	605	1.58
1962	641	6.01
1963	626	-2.43
1964	606	-3.17
1965	616	1.66
1966	624	1.27
1967	615	-1.52
1968	519	-15.62
1969	637	22.77
1970	575	-9.70
1971	586	1.86
1972	543	-7.30
1973	515	-5.16
1974	588	14.24
1975	693	17.89
1976	685	-1.18
1977	707	3.18
1978	682	-3.53
Average growth rate		
1975-78	-0.16	
1960-1978	0.40	

Source: Industrial Data System, Regional and Country Studies
Branch, Division for Industrial Studies, UNIDO.

Drought has had a profound impact on the Chadian economy, particularly during 1972-1974. In real terms GDP declined during the period, while its agricultural component recorded an even further drop. Moreover, loss of a third of the livestock herd resulted in net overall disinvestment in that peak drought year. Since then, the economy is not likely to have recovered from these losses. On the contrary, indications are that a marked fall in production has occurred in the war-devastated country.

8. Main Sectors and their Share in GDP

Tables 2, 3, 4 and 5 report value added by economic sector, their shares in GDP, their growth rates, and their trend growth rates, respectively.

a) Agriculture

Agriculture in the broad sense of crop, livestock, and fish production represents roughly 40 per cent of GDP, provides a livelihood for about 84 per cent of the population, and accounts for nearly the total value of exports. However, agricultural value added at constant 1975 prices decreased from 315.8 million US dollars in 1960, to 278.1 million US dollars in 1977, or by an average annual rate of 7 per cent. Its share in GDP also fell from 53.0 per cent to 40.77 per cent during 1960-1978. Among the factors responsible for the decline are the generally unfavourable natural conditions of the country. Nearly 75 per cent of the area of Chad receives "average" rainfall of less than 600 mm/year. Moreover, farming remains at a primitive level. Although farm holdings are small, cultivation is not intensive and traditional techniques are used. However, prior to drought, domestic production of food grains was about 640,000 tonnes a year, of which rainfed millet and sorghum represented about 576,000 tonnes. In years with "normal" rainfall, Chad was almost self-sufficient except for imports of wheat of about 12,000 tonnes per annum.

Table 2 Chad - Value added by economic sector (in million US dollars, at constant 1975 prices), 1960-1978

Year	Agri- culture	Mining and Quarrying	Manu- facturing	Utilities	Construction	Services	GDP
1960	315.8	0.0	31.3	2.2	33.6	212.7	595.7
1961	311.7	0.0	34.5	2.1	34.6	222.8	605.1
1962	330.1	0.0	32.8	3.1	32.9	242.6	641.5
1963	322.7	0.0	34.2	3.0	35.3	230.8	625.9
1964	302.2	0.0	35.7	2.7	34.4	231.0	606.1
1965	300.6	0.0	43.2	3.5	31.1	237.8	616.2
1966	301.5	0.0	48.3	3.3	31.1	239.9	624.0
1967	293.2	0.0	50.2	4.1	33.2	233.9	614.5
1968	250.7	0.6	46.7	3.2	27.7	189.5	518.5
1969	290.2	0.7	64.3	4.6	32.7	244.2	636.6
1970	290.9	0.6	51.6	3.1	7.0	221.7	574.9
1971	277.5	0.7	61.7	3.6	7.8	234.2	585.5
1972	255.3	0.7	53.9	3.5	7.6	212.7	542.8
1973	241.0	0.8	57.9	4.1	4.1	206.9	514.8
1974	269.2	2.5	63.2	4.3	3.9	244.9	582.1
1975	298.7	5.9	73.4	4.7	20.2	290.3	693.3
1976	293.5	6.6	68.8	4.5	19.4	292.3	685.1
1977	297.5	7.0	69.7	4.9	20.8	307.4	706.8
1978	278.1	6.2	66.2	5.0	20.3	306.3	682.1

Source: Industrial Data System, op.cit.

Table 3 Chad - Shares of economic sector's value added in GDP (in percentage), 1960-1978

Year	Agri- culture	Mining and Quarrying	Manu- facturing	Utilities	Construction	Services
1960	53.02	0.00	5.26	0.37	5.64	35.71
1961	51.52	0.00	5.70	0.34	5.63	36.81
1962	51.46	0.00	5.11	0.48	5.13	37.82
1963	51.55	0.00	5.46	0.47	5.64	36.87
1964	49.87	0.00	5.88	0.45	5.68	38.11
1965	48.78	0.00	7.01	0.56	5.05	38.60
1966	48.31	0.00	7.73	0.53	4.98	38.45
1967	47.71	0.00	8.17	0.66	5.41	38.06
1968	48.36	0.11	9.01	0.62	5.35	36.55
1969	45.58	0.11	10.10	0.72	5.14	38.36
1970	50.60	0.10	8.98	0.54	1.22	38.56
1971	47.41	0.13	10.53	0.61	1.32	40.00
1972	47.04	0.12	9.93	0.65	1.41	40.85
1973	46.81	0.16	11.24	0.80	0.80	40.19
1974	45.79	0.42	10.74	0.74	0.56	41.65
1975	43.09	0.80	10.59	0.68	2.91	41.88
1976	42.84	0.96	10.04	0.65	2.83	42.67
1977	42.09	0.99	9.87	0.70	2.67	43.48
1978	40.77	0.91	9.70	0.73	2.98	44.91

Source: Industrial Data System, op.cit.

Table 4 Chad - Annual growth-rates of economic sectors and TFP
(in percentage), 1960-1978

Year	Agri- culture	Mining and Quarrying	Manu- facturing	Utilities	Construction	Services	GDP
1960-61	-1.3	n.a.	10.0	-5.2	1.3	4.7	1.6
1961-62	5.9	n.a.	-4.9	49.8	-3.4	8.9	6.0
1962-63	-2.3	n.a.	4.2	-4.9	7.4	-1.9	-2.4
1963-64	-6.3	n.a.	4.3	-7.8	-2.5	0.1	-5.2
1964-65	-0.8	n.a.	21.2	27.5	-9.7	3.0	1.7
1965-66	0.3	n.a.	11.7	-5.6	-0.1	0.9	1.3
1966-67	-2.8	n.a.	4.0	23.8	6.9	-2.5	-1.5
1967-68	-14.5	n.a.	-7.0	-20.5	-16.5	-19.0	-15.6
1968-69	15.7	17.8	37.7	41.4	13.0	28.8	22.8
1969-70	0.2	-18.4	-19.7	-31.8	-78.8	-9.2	-9.7
1970-71	-4.8	30.5	19.5	14.8	10.6	5.6	1.9
1971-72	-8.0	-9.5	-12.6	-1.0	-1.5	-5.3	-7.3
1972-73	-5.6	22.7	7.3	16.9	-46.2	-5.7	-5.2
1973-74	11.7	199.4	9.1	4.7	-5.0	18.4	14.2
1974-75	10.9	141.3	16.2	8.4	416.9	18.5	17.3
1975-76	-1.7	11.2	-6.3	-5.1	-4.0	0.7	-1.2
1976-77	1.4	6.3	1.4	11.1	4.7	5.1	3.2
1977-78	-4.4	-13.6	-7.7	-1.8	-2.6	-1.6	-3.5

Source: Industrial Data System, op.cit.

Table 5 Chad - Trend growth rates of economic sectors and
GDP, 1960-1978

Year	Agri- culture	Mining and Quarrying	Manu- facturing	Utilities	Construction	Services	GDP
1960-78	-0.7	35.9	4.9	4.1	-5.7	1.2	0.4
1960-65	-0.8	n.a.	5.3	9.4	-0.6	1.3	0.4
1965-70	-1.2	-1.6	5.0	0.7	-19.2	-1.5	-1.3
1970-75	-0.5	55.5	5.3	7.9	22.4	4.2	2.6
1975-78	-1.3	1.7	-3.3	2.5	0.3	1.5	-0.2

Source: Industrial Data System, op.cit.

Chad produces cotton fiber of average length which brings a relatively high price on the world market. In 1968/69, a season of above average rainfall, seed cotton production peaked at about 150,000 tonnes, declining thereafter to a level hovering around 110,000 tonnes through 1973/74. Production increased to 150,000 tonnes in 1974/75 and to nearly 175,000 tonnes in 1975/76. The Government is implementing a productivity programme, which basically consists in providing extension services and subsidized inputs to cotton growers. The total area planted under this programme increased from 35,000 hectares in 1968/69 to 125,000 hectares in 1975/76.

Livestock has traditionally been an important source of income, employment and exports in Chad. Prior to the drought, the national cattle herd was about 4.5 million head with an offtake of about 11 per cent and an annual growth rate of about 1 per cent. Cattle accounted for about 75 per cent of total production of meat and offals of over 100,000 tonnes a year, and of total production of milk of about 180 million liters a year for human consumption. The drought adversely affected livestock, reducing the cattle herd by one-fifth to about 3.6 million head.

Fishing in 1973, was made relatively easy as the waters of Lake Chad fell to levels that have not been observed since 1900; the catch was estimated at 140,000 tonnes in contrast to the pre-drought level of about 100,000 tonnes for all Lake Chad Basin countries. By the same token, the stocking of fish breeding grounds upstream from the Lake was relatively difficult and caused a reduction in the 1975 catch.^{1/}

b) Mining

The only mineral exploited is natron (soda), a hydrated sodium carbonate, which is used as salt for human and animal consumption and in the production of soap. However, uranium has been discovered at Lere and there have been indications of deposits of limestone, gypsum, kaolin, tin and wolfram.^{2/} The on-going petroleum exploration which started in 1968,

1/ IBRD, op.cit., pp. 4-6.

2/ Surveys conducted by UNDP. See: The Economist Intelligence Unit, Ltd., Quarterly Economic Review of Chad, Annual Supplement 1981, p.37.

and since then has continued at a brisk pace, is the only activity in this subsector. Because of the geological complexity of the structure, several wells were drilled in order to evaluate the commercial potential of Chad's oil resources. Exploration conducted by the Continental Oil Company, in association with Shell, led to proven reserves^{1/} and oil production was under way. However, oil production was stalled because of the civil war. Under peacetime conditions, the Government expects to supply approximately 80 per cent of the country's oil needs with domestically produced oil and, moreover, to become a crude oil exporter by 1985.^{2/}

c) Energy

Energy consumption is very low and was estimated in 1976, at only 23 kgs of coal equivalent. The average for Africa is 397 kgs of coal equivalent. A sizeable part of the energy supply comes from wood, which is used for cooking mainly in the rural areas. In the modern sector, energy needs are covered by oil imports for the production of electricity. As shown in Table 6, in 1977, consumption of all oil products reached 77,105 cubic meters, a rise of 13.3 per cent over 1976. Electric power is generated by thermal plants using imported petroleum products. Production climbed from 41.9 million kwh to 58.4 million kwh over the 1970-1977 period, but it had nearly reached the ceiling of generating capacity in 1977.

Table 6 Chad - Petroleum products and electricity production, selected years, 1970-1977

	Unit	1970	1975	1976	1977
Consumption of petroleum products	(thousand m ³)	...	58.69	68.07	77.11
Electricity production	(mn kwh)	41.88	56.37	54.85	58.41

Source: Chad, Central Bank Reports.

^{1/} Reserves of one billion barrels are considered as a minimum to provide return sufficient to justify the development and operation of expensive export infrastructure (including a pipeline to the sea) required for commercial exploitation on a full scale. However, even if such exploitation is not yet feasible, Chad already possesses more than enough proven hydrocarbon reserves to cover the country's needs for petroleum products.

d) External trade

At this time, Chad's actual exports and imports are unknown since, as a result of the prevailing situation, no regular and reliable customs records are kept. A substantial part of border trade escapes all Government control, and a large portion of the goods imported or exported by-passes customs, entailing substantial losses of revenues. However, as shown in Table 7, during 1960-1979, the total value of the country's recorded exports at current prices rose from 13 million US dollars to 58 million US dollars. Chad's economy is overwhelmingly dependent on two main export products, cotton and livestock. Cotton accounted for 71.9 per cent of the total value of exports in 1970, and for 80.1 per cent in 1975. Livestock contributed 3.6 per cent of the export earnings in 1970, and 3.0 per cent in 1975.

During the same period, 1960-1979, Chad's imports climbed from 25 million US dollars to 140 million US dollars. About one fourth of the country's recorded 1970 import bill comprised of food, particularly sugar (9 per cent). These percentages rose to 27.1 in 1975 (for food), and 9.7 (for sugar). During the years 1970-1979, food imports were the largest group followed by transport and agro-industries, equipment goods, intermediate goods and petroleum products, respectively. The value of total imports increased substantially, while import volumes, excluding food aid, remained virtually unchanged. The fact is that transport costs represent an unusually high proportion of the total cost of imports.

Table 7 Chad - External trade, 1960 and 1970-1977 (in million US dollars at current prices)

	1960	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
<u>Exports:</u>	13	30	28	36	38	37	48	59	70	50	58
<u>Imports:</u>	25	61	62	61	82	92	133	118	140	140	140
<u>Balance:</u>	-12	-29	-34	-25	-44	-55	-85	-59	-70	-90	-82

Source: UNCTAD, Handbook of International Trade and Development Statistics, Supplement 1980.

II. THE INDUSTRIAL SECTOR

Chad is one of the least industrialized countries. Industrial growth remains constrained by several factors, including the remoteness of export markets, the small size and dispersion of domestic markets, high transport costs, and scarcity of raw materials and industrial finance. Moreover, electricity generation in the country is presently close to capacity. Industrial activity fell even further since 1979, as a result of military conflicts.

The industrial sector contributed a low percentage of GDP. Total manufacturing value added, as Table 8 shows, amounted to 31.9 million US dollars in 1960, and it grew at an average annual rate of 3.2 per cent during 1970-1978, to reach 66.2 million US dollars in 1978. The annual growth rate of MVA per capita during the period was 1.0 per cent. The manufacturing share of GDP rose from nearly 5.3 per cent in 1960, to about 9.0 per cent in 1970, and to 9.7 per cent in 1978. The average growth rates for developing Africa's MVA, MVA per capita and MVA's share in GDP were 6.2, 3.3 and 1.8 per cent, respectively. Column 7 of Table 8 indicates the percentage of Chad's MVA to developing Africa's MVA.

Table 8. Manufacturing value added, Chad and Developing Africa, 1960 and 1970-1978

Year	Chad			Developing Africa			Chad	Developing Africa
	MVA Mill. US\$	MVA/Cap 1975 US\$	MVA/GDP per cent	MVA Mill. US\$	MVA/Cap 1975 US\$	MVA/GDP per cent	MVA per cent	MVA
	1	2	3	4	5	6		7
1960	31.9	11	5.35	5,109.5	20	7.22		0.62
1961	35.0	11	5.78	5,657.9	22	7.80		0.62
1962	33.4	11	5.21	6,029.7	22	7.92		0.55
1963	34.6	11	5.56	6,423.3	23	7.78		0.54
1964	36.4	11	6.01	6,924.1	25	7.98		0.52
1965	44.4	13	7.21	7,543.6	26	8.06		0.59
1966	48.9	15	7.64	8,011.9	27	8.39		0.61
1967	51.0	15	8.31	8,022.1	26	8.34		0.64
1968	47.7	14	9.20	8,877.6	28	8.35		0.54
1969	65.6	13	10.30	9,720.7	30	8.39		0.67
1970	53.1	15	9.23	10,736.2	32	8.46		0.50
1971	61.4	17	10.83	11,181.1	33	8.51		0.57
1972	56.9	15	10.47	11,574.1	34	8.81		0.48
1973	59.3	15	11.52	12,955.1	36	9.13		0.46
1974	64.8	16	11.02	13,426.3	36	9.22		0.48
1975	74.6	19	10.76	13,311.4	36	9.34		0.54
1976	70.0	17	10.21	15,081.6	39	9.36		0.46
1977	71.7	17	10.14	16,292.4	41	9.51		0.44
1978	66.2	15	9.70	17,503.3	42	9.88		0.38

Source: Industrial Data System, op.cit.

No major change has occurred in manufacturing since 1970, as most of the industries date from the 1960's and few major new investments have been made. The most important industries are those related to cotton ginning, the production of cotton oil and cotton cloth, beer production, sugar production, cigarette production, animal slaughtering and the production of electricity.^{1/} For the first type of industry, the trend in the production of the raw materials has been the major determining factor, cotton ginning has benefited from the rise in seed cotton production, which in turn has necessitated investment to increase cotton ginning capacity. Meat production, on the other hand, has suffered from rising costs in Chad, depressed prices in international markets, and large scale smuggling of live animals to Nigeria. Consumer goods' factories have been affected by the unfavourable economic conditions prevailing in Chad during much of the period 1970-1978. Demand has been low and, at the same time, competition of smuggled products from Nigeria has been important. One exception is beer production which has increased considerably, growing by 11.8 per cent per year over the years 1970-1978.

In the early 1970s, slightly more than thirty enterprises constituted the bulk of Chad's industry. Of these, only ten firms had fixed investments of more than 250 million CFAF and employed over 100 people each, but only three of them had total sales above 500 million CFAF annually. COTTONCHAD remains the most important industrial enterprise, which operated over 25 cotton gins in 1968, with a total capacity of 120,000 tonnes of raw cotton. COTTONCHAD also operated an oil mill. However, only small quantities of seeds were pressed for oil; the balance was used as fuel to power the gins. The company employed about 1,400 permanent workers and another 2,100 during the six months of major activity. Connected to the cotton industry is a

^{1/} Domestic public investment is concentrated in large enterprises, such as: 75 per cent in COTONCHAD (agro-industries); 80 per cent in SONASUT (sugar production); 15 per cent in MCT (cigarette production); 15 per cent in STT (textiles production); and 60 per cent in STEE (water-electricity production/distribution), (See: L'industrie Africaine en 1979, numéro spécial du bulletin de l'Afrique noire, 7^e édition, Tome 2.

thriving agricultural tools and equipment industry -- as part of the Government's priority to mechanize the cotton production.^{1/}

Industrial activity in Chad is concentrated almost entirely in N'Djamena (about two-thirds of the industries), Moundou and Sarh. In N'Djamena, there are also factories for the production of soft drinks, mopeds and bicycles, consumer electronics and perfumes.^{2/}

^{1/} E.I.U., op.cit., p. 38

^{2/} Ibid.

III. DEVELOPMENT PLANNING

Development planning in the country has been affected by weaknesses in both the process and the implementation of institutional machinery. In spite of the establishment of a Planning Ministry, which was placed in the Presidency in 1972, a lack of co-ordination persists among Government ministries and agencies in formulating as well as carrying out development policies. Many ministries operate in their sectors almost independently of the national plan. The annual allocation of resources through the budgetary process is not based on a careful weighting of priorities. As a consequence, important economic sectors such as livestock are deprived of adequate funds, and the recurrent costs of new projects are not provided for.

As virtually all development projects are financed with foreign aid, different ministries often make direct requests to aid agencies and sources of shorter-term finance, even for purposes which can hardly be reconciled with approved plan priorities.

There is also a lack of sufficiently trained Chadians who would properly undertake the tasks of preparing, revising, implementing, monitoring, and evaluating the Plan.

Two Development Plans have been published so far, which cover the periods 1966-70 and 1971-80.

The First Development Plan, 1966-70

The major objectives of Chad's First Development Plan were (a) to increase and diversify production by the introduction of modern techniques and implements in agriculture, an extensive animal health campaign, the provision of permanent watering and grazing facilities in livestock, and the establishment of processing industries; (b) to improve and expand

Chad's transport and other infrastructure; and (c) to improve and adapt the general and specialized education systems to the present and future manpower needs of the economy. The First Development Plan (1966-70) called for total investment of 47.0 billion CFAF. In July 1968, it was revised downwards to 26.2 billion CFAF in the light of foreign aid disbursements and private investments which proved to be lower than expected.

A characteristic of the First Development Plan is the high proportion of non-capital equipment expenditure. It is estimated that fixed capital outlays amounted to only 18.3 billion CFAF. Related studies and research amounted to some 3 billion CFAF. The remainder, about 19 per cent of the total, represented personnel, transport and maintenance expenditures. Public and private investment resources amounted to 19 per cent and 18 per cent of the total, respectively. Almost two-thirds of total investments were financed by external resources.

Execution of the Plan suffered from slow and sometimes inadequate project preparation, long delays in negotiating and obtaining foreign aid, and the deterioration of the security situation in important areas of the country. As a result, actual outlays totalled only 56 per cent of originally planned provisions.

The Ten-Year Development Plan, 1971-80

No accurate and recent information on this plan is available. However, the Draft Ten-Year Development Plan was published in 1971, and subsequently revised following the rise in livestock prices. The Plan laid more stress on policy options and considered this activity as more important than the formulation of a catalogue of projects the choice and financing of which depends mainly on the availability of external resources. In early 1973, the National Assembly rejected the Plan and additional revisions were undertaken.

The principal aim of the Plan was to more than double national monetary income in the decade, pursuing a broad six-point strategy. These are:
(a) increasing foreign exchange earnings from greater exports of cotton,

meat and gum arabic; (b) replacing imports by creating new productive industries such as those for consumer manufactures, sugar processing, and building materials; (c) carrying out an intensive general and professional training programme which would reduce the need for foreign experts and allow more aid to be used for capital investment; (d) reducing transport costs, by encouraging competition among transporters using various external routes to the sea; (e) exploring the nation's socio-economic energy, and building material resource potential; and (f) generating some national savings during the plan period by restraining the growth of public service costs and by stimulating private savings for financing housing and agricultural equipment.

The Plan envisaged investment expenditures of about 121 billion CFAF from 1971 to 1980. It was predicted that an additional 100 billion CFAF of investments, for transport links with neighbouring countries, would be financed outside the plan. Within the Plan, 109 billion CFAF of the total investments would be "nonspontaneous investments" in the public sector, and roughly 12 billion "spontaneous investment" in the private sector. Two priority programmes were to be implemented in order to execute the Plan. In the first-priority programme, 34 billion CFAF was to be fixed capital investment, 16 billion CFAF non-fixed capital investment, mainly for inputs for the cotton productivity programme (10 billion CFAF) livestock research and health (2.9 billion CFAF), teacher retraining (0.9 billion CFAF), and mining research (0.5 billion CFAF). The second priority programme of public investments, totalling 59 billion CFAF was to increase the proportion spent on surface transport to 47 per cent. Another 9 per cent was to be allocated to wheat and some cotton production and a rice project. The remainder was to be spent on livestock mells, stockroads and markets, interior airports, rural and urban utilities and other urbanization investments.

IV. CONSTRAINTS TO DEVELOPMENT

Chad's economic and social advance is handicapped by a wide range of constraints which, taken together, make the country a particularly difficult development case.

The country's land-locked position is a major constraint. The principal economic centers are located at an average distance of 2,400 kilometers from the nearest ocean port in neighbouring countries. Exports and imports must be handled over long routes outside the country, and external transport infrastructure is a significant obstacle to developing foreign trade.

A related and critical constraint is the particularly high cost of transportation both to and from the outside world and within the vast stretches of the country itself. The transport and communications network is inadequate and the absence of good roads often makes otherwise viable projects unfeasible. Chad's own allocation of resources to transport investments is relatively limited compared to the needs and priorities in this sector. Transport costs are increasing substantially as road transport is the predominant mode of transportation and the upsurge in the oil prices inflates all related costs in petroleum user sectors.

Chad's climate is far from favourable. Rainfall is inadequate for agriculture, temperatures are very high, the drought strikes at times, and part of the country is in the Sahelian zone. Agricultural and livestock production are often adversely affected by weather conditions in numerous areas. The country's developed resource base is very limited. Cotton is the main cash crop, followed by livestock products. The range of exports is narrow in spite of the ongoing petroleum exploration activities and there are no exploitable minerals except for natron. In the absence of an adequate resource development, the country finds it very difficult to promote and sustain agricultural and industrial development as most of the required inputs are to be imported at high cost and using poor transport infrastructure.

Chad's population is small relative to the country's area and sparse. This makes the development of an adequate transport network highly costly. Moreover, an overwhelming proportion of this population is illiterate and untrained. Farmers are superstitious and habituated to primitive techniques. Nomadic habitants are even less willing to accept changes. As a result, improvement in the actual low agricultural productivity is a very slow process. The lack of a sufficient number of Chadians equipped with technical and managerial skills is also a critical problem. Chad's economy is still dominated by expatriates occupying the key positions and many of the lower ones in industry, banking commerce and transport, as well as a substantial proportion of the technical positions in the government sector.

Inadequate development finance is also a major obstacle. Chad cannot finance the required domestic contribution to investment cost (which is generally financed by external sources), and the precarious financial position of the Government is such that even the current expenditures for operation and maintenance mainly of infrastructure and capital often suffer from a lack of funds.

A different order of equally critical problems is the internal political situation and the related security difficulties.

V. PROSPECTS

The short-term outlook and even the medium-term prospects of Chad's economy depend first on the ability of the Government to resolve the political and security problems now facing the country and to launch a rehabilitation and recovery programme.

The primary sector will remain the most important, contributing over 43 per cent of GDP in 1978. The main problem is to improve productivity in food crop production, particularly in the settled Sahelian zone which is affected by frequent droughts. Irrigated farming should be expanded and intensified mainly for the production of rice and wheat as import substitutes. As for export crops, a rise in yields and an expansion of the area under the cotton productivity programme should be main objectives in this sub-sector.

The potential for raising the quality of livestock herds is good. Available pasture can support larger herds if adequate provision is made for water, and losses through disease are substantially cut down.

The major growth determinants, however, will be rapid expansion of value added by industry, transport, communications and commerce. Growth of value added by industry is closely related to cotton seed production since the production of cotton lint is directly dependent on cotton seed output. But, because of the limited size of the domestic market, textile production is likely to increase only moderately. Import substitution is expected to continue, particularly for food processing industries (sugar, beverages) and other mass consumption products (tobacco products, plastic, shoes and textiles).

The Government should have the capacity to undertake an accelerated programme of transport infrastructure reconstruction and maintenance. The major constraints here are finance, trained manpower, organization and equipment. With assistance from aid donors, the Government should develop as rapidly as possible its capacity to undertake a programme of roadworks.

VI. APPENDICES

APPENDIX I

Chad - Population and labour force, 1975-1978

<u>Year</u>	<u>Population (million)</u>	<u>Labour force (million)</u>	<u>Percentage of labour force to total population</u>
1975	4.03	1.56	36.71
1976	4.12	1.59	38.58
1977	4.22	1.62	38.39
1978	4.31	1.66	38.52
<u>Average growth rate 1975-1978 (in per cent)</u>	2.25	2.05	

Source: Industrial Data System, op.cit.

APPENDIX II

INTERNATIONAL AND REGIONAL RELATIONS

Subregional

Chad participates with the Central African Republic, Cameroon, Congo and Gabon, in the Banque Central des Etats de l'Afrique Centrale (BCEAC) which in turn has a monetary arrangement with France. Together with Congo and the Central African Republic Chad founded the Equatorial Customs Union (UDE) which after inclusion of Cameroon in 1966, became the Central African Customs and Economic Union (UDEAC). In April 1968, Chad and the Central African Republic announced their intention to withdraw from UDEAC, effective January 1, 1969, to form the Union of Central African States (UEAC) with Zaire. However, before the end of 1968, the Central African Republic decided to withdraw from UEAC and remain a member of UDEAC. Chad and Zaire have continued their alliance despite the fact that the withdrawal of the Central African Republic left them without linking union territory. Furthermore, the co-ordinated economic policies provided for by the UEAC treaty were never fully implemented. Actually UEAC seems to exist at present only on paper.

Chad is a member of the Chad Basin Commission which includes also Niger, Nigeria and Cameroon.

Regional

Chad is among the signatories of the Lagos Plan of Action which provides for the establishment of an African Common Market by the year 2000, and urges the creation of subregional and economic communities as a preliminary step towards the setting up of the proposed African Common Market.

International

Chad is an associate member of the EEC, which provides assistance through the European Development Fund (FED). Together with 55 other African Caribbean and Pacific Countries (ACP), Chad is a member of the Lomé Convention, which is a co-operation agreement between the ACP countries and the European Economic Community (EEC).

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