

GENERAL AGREEMENT ON TARIFFS AND TRADE

RESTRICTED

COM.TD/W/57
26 April 1967

Limited Distribution

Committee on Trade and Development

Working Party on Economic Problems of Chad

INTERNATIONAL TRADE IN COTTON AND THE ECONOMY OF CHAD

Background Paper Prepared by the Secretariat

1. The Government of Chad requested the GATT, through the Committee on Trade and Development, to consider the effects on the economy of Chad of the present situation in the world market for cotton. During the eighth session of the Committee on Trade and Development at Punta del Este, the representative of Chad introduced document COM.TD/37, a note prepared by the delegation of Chad, describing the impact of the recent developments in the international markets for cotton on the economy of his country. The summary covered the main features of cotton production in Chad, the reasons for its reduced competitiveness on world markets, and the remedial measures taken by the Government to reduce transport and financing costs. The note expressed concern about the effects on the cotton market of the new farm legislation recently adopted by the United States, and called upon the GATT, under the provisions of Part IV, to consider its specific problems.
2. As indicated in the Summary of Conclusions of the Committee on Trade and Development at Punta del Este, COM.TD/39, the Committee, having recognized the problem posed for Chad by the recent developments in the international market for cotton, agreed to establish a Working Party under the following terms of reference:

"Having regard to the provisions of Article XXVIII, to study the problems outlined by the Government of Chad and to make appropriate recommendations to the Committee by its next session."
3. The secretariat was asked to prepare a background paper for the first meeting of the Working Party taking into account the factors raised by the Chad delegation. The background paper, presented in this document, is divided into three parts. Part I discusses recent developments in the international market for cotton, paying special attention to the competition between natural, artificial (cellulosic), and synthetic (non-cellulosic) fibres, and to changes in the cotton policy of the United States. The publications of the International Cotton Advisory Committee have been the main source of material for this part of the paper. Part II describes the position of cotton in the economy of Chad and the reasons for which that economy will continue in the next decade at least to depend on the exports of cotton. The paper concludes, in Part III, with certain observations and suggestions.

PART I: RECENT DEVELOPMENTS IN THE INTERNATIONAL
MARKET FOR COTTON

4. Table 1 shows the development of world raw cotton supplies and their origin up to the crop year ending 1 August 1966. In the statistical appendix estimates are given for the year 1966-67.

5. Changes in world production, consumption and price of cotton can be fully understood only against the background of the cotton policies of the United States. Producing, in 1964, 29.3 per cent of the world output, shipping 32.5 per cent of the world exports, and holding 47.8 per cent of world stocks of raw cotton, the United States has a dominant influence on the international market. This influence is best illustrated by the close linkage of the average international price for medium staple cottons, which represent about 90 per cent of the world's cotton output to the export price of United States cotton. The developments in the United States cotton policy and their effects on the world market are summarized briefly below.

6. Up to mid-1956, United States cotton was exported at the domestic price which the farm price-support legislation kept at a relatively high level. Other producing countries could thus easily dispose of their export availabilities by selling at a price slightly below the United States price. The net effect of this arrangement was to make the United States a residual supplier to the world, keeping the international price for cotton at a stable level by absorbing excess supply into stocks.

7. At the stabilized price, cotton production in other countries expanded and they increased their share of the world market. Consumption of cotton, on the other hand, grew less rapidly than production, partly because of the continued rapid expansion of the use of artificial and synthetic fibres.

8. In mid-1956 the United States instituted special measures under which cotton was exported at a subsidized price below the supported domestic price. This export programme involved direct sales abroad by the Commodity Credit Corporation at prices determined by competitive bids, and a form of export subsidy in kind which private exporters obtained from the stocks of the Commodity Credit Corporation.¹ In an effort to reduce the large stocks of cotton which the United States held at the time, most of the United States exports in the 1956/57 and 1957/58 seasons were made by direct sales through the Commodity Credit Corporation.

¹Exports under special credit and payments terms, notably under the Public Law 480 programme, also served to reduce United States stocks. Sales under these special terms represented 40 per cent of United States cotton exports in the four years beginning 1955/56; but since 1961 such sales have represented only about one quarter of United States exports.

Table 1
COTTON: SUPPLY AND DISTRIBUTION, 1953-1965

('000 metric tons)

| 1 | 2 | 3 | 4 | 5 |
|-----------------------------|---------------------------------|---------------------------------|---------------------------------|-------------------|
| | Average ¹ 1953-55 | Average ¹ 1956-60 | Average ¹ 1961-65 | 1965 ¹ |
| <u>Beginning stocks</u> | | | | |
| United States | 1,846 | 2,215 | 2,296 | 3,098 |
| Other developed countries | 708 | 688 | 733 | 715 |
| Developing countries | 1,397 | 1,201 | 1,360 | 1,494 |
| Centrally-planned economies | 441 | 639 | 622 | 719 |
| Afloat | 98 | 100 | 78 | 65 |
| Total | 4,490 | 4,843 | 5,089 | 6,091 |
| <u>Production</u> | | | | |
| United States | 3,231 | 2,797 | 3,251 | 3,256 |
| Other developed countries | 235 | 130 | 450 | 547 |
| Developing countries | 3,107 | 3,616 | 4,326 | 4,557 |
| Centrally-planned economies | 2,558 | 3,114 | 2,780 | 3,186 |
| Total | 9,131 | 9,657 | 10,806 | 11,546 |
| <u>Consumption</u> | | | | |
| United States | 1,947 | 1,857 | 1,945 | 2,059 |
| Other developed countries | 2,253 | 2,351 | 2,565 | 2,625 |
| Developing countries | 1,820 | 2,321 | 2,698 | 2,807 |
| Centrally-planned economies | 2,666 | 3,335 | 3,180 | 3,573 |
| Total | 8,686 | 9,864 | 10,388 | 11,064 |
| <u>Exports</u> | | | | |
| United States | 717 | 1,351 | 963 | 661 |
| Other developed countries | 86 | 35 | 177 | 252 |
| Developing countries | 1,673 | 1,640 | 2,020 | 2,317 |
| Centrally-planned economies | 342 | 389 | 375 | 450 |
| Total | 2,818 | 3,415 | 3,535 | 3,680 |
| <u>Imports</u> | | | | |
| Western Europe | 1,475 | 1,597 | 1,473 | 1,473 |
| Japan | 471 | 639 | 658 | 670 |
| Other developed countries | 130 | 135 | 148 | 166 |
| Far East excluding Japan | 225 | 328 | 420 | 362 |
| Other developing countries | 69 | 56 | 122 | 208 |
| Centrally-planned economies | 431 | 668 | 735 | 883 |
| Total | 2,801 | 3,405 | 3,556 | 3,762 |

¹ Crop years, beginning in July of the first year indicated.

(In per cent)

| 1 | 2 | 3 | 4 | 5 |
|-----------------------------|-------|-------|-------|-------|
| <u>Beginning stocks</u> | | | | |
| United States | 41.1 | 45.7 | 45.1 | 50.9 |
| Other developed countries | 15.8 | 14.2 | 14.4 | 11.7 |
| Developing countries | 31.1 | 24.8 | 26.7 | 24.5 |
| Centrally-planned economies | 9.8 | 13.2 | 12.2 | 11.8 |
| Afloat | 2.2 | 2.1 | 1.6 | 1.1 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 |
| <u>Production</u> | | | | |
| United States | 35.4 | 29.0 | 30.1 | 28.2 |
| Other developed countries | 2.6 | 1.4 | 4.2 | 4.7 |
| Developing countries | 34.0 | 37.4 | 40.0 | 39.5 |
| Centrally-planned economies | 28.0 | 32.2 | 25.7 | 27.6 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 |
| <u>Consumption</u> | | | | |
| United States | 22.4 | 18.8 | 18.7 | 18.6 |
| Other developed countries | 25.9 | 23.8 | 24.7 | 23.7 |
| Developing countries | 21.0 | 23.5 | 26.0 | 25.4 |
| Centrally-planned economies | 30.7 | 33.8 | 30.6 | 32.3 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 |
| <u>Exports</u> | | | | |
| United States | 25.4 | 39.6 | 27.2 | 18.0 |
| Other developed countries | 3.1 | 1.0 | 5.0 | 6.8 |
| Developing countries | 59.4 | 48.0 | 57.2 | 63.0 |
| Centrally-planned economies | 12.1 | 11.4 | 10.6 | 12.2 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 |
| <u>Imports</u> | | | | |
| Western Europe | 52.7 | 46.9 | 41.4 | 39.1 |
| Japan | 16.8 | 18.3 | 18.5 | 17.8 |
| Other developed countries | 4.6 | 4.0 | 4.2 | 4.4 |
| Far East excluding Japan | 8.0 | 9.6 | 11.8 | 9.6 |
| Other developing countries | 2.5 | 1.6 | 3.4 | 5.5 |
| Centrally-planned economies | 15.4 | 19.6 | 20.7 | 23.6 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 |

Sources: FAO, Commodity Review, 1964-1966,
 ICAC, Cotton - World Statistics, 1963-1966.

9. After the 1957/58 season, the United States changed its arrangement for the export of cotton by setting an export price fixed below the guaranteed domestic price. Simultaneously, the United States acreage under cotton was reduced through the Soil Bank programme and production declined from an average of 3,231,000 tons in 1953-55 to 2,797,000 tons in 1956-60.

10. The lower world market price brought about by the fall in the average unit value of United States exports from 82.1 US cents per kg. in 1953-55 to 60.4 US cents per kg. in 1957-61, seems to have significantly contributed to the subsequent marked increase in world consumption of cotton.¹ This increase exceeded production and thus permitted a reduction of world stocks. The expansion of cotton exports, which it involved, came almost entirely from the United States; exports of cotton from other countries remained virtually stagnant in that period.

Table 2

EXPORT UNIT VALUES

(US cents per kg.)

| | 1953-55 Average | 1957-61 Average | 1962 | 1963 | 1964 | 1965 |
|-------------------------|--------------------|--------------------|------|------|-------|-------|
| United States | 82.1 | 60.4 | 60.5 | 58.2 | 57.4 | 56.5 |
| Turkey | 84.1 | 61.8 | 59.6 | 58.1 | 58.2 | 57.9 |
| Mexico | 69.0 | 53.4 | 51.3 | 52.9 | 53.4 | 53.1 |
| Nicaragua | 70.4 | 55.0 | 56.2 | 54.4 | 55.0 | 53.0 |
| Brazil | 73.3 | 55.1 | 52.0 | 51.5 | 49.9 | 48.9 |
| Peru | 77.3 | 71.8 | 73.8 | 72.1 | 79.9 | 80.4 |
| United Arab Republic | 106.8 | 110.4 | 93.0 | 96.0 | 102.5 | 107.0 |
| Sudan | 93.4 | 85.1 | 78.0 | 82.9 | 81.9 | 79.5 |
| Syria | 74.1 | 60.7 | 62.1 | 61.6 | 60.2 | 55.0 |
| Pakistan | 68.4 | 53.2 | 51.3 | 48.5 | 46.8 | 47.5 |
| Uganda | 81.0 | 72.0 | 70.5 | 67.2 | 68.6 | 67.0 |
| Chad ¹ | .. | .. | 56.7 | 55.7 | 55.7 | 55.5 |

¹ Before 1959 Chad exports were not distinguished from those of other countries in the former French Equatorial Africa.

Source: FAO Commodity Review, 1965.

¹ World consumption of cotton increased from an average of 8,686,000 tons annually in 1953-55 to 9,864,000 tons in 1956-60. In the United States, however, where the domestic price of cotton was unaffected, cotton consumption continued to decline, from 1,947,000 tons annually in 1953-55 to 1,857,000 tons in 1956-60.

11. This pattern was reversed in the 1960's. From 1958 to 1964 the United States export price again exhibited a remarkable degree of stability and United States exports continued to decline while other producing countries restored and improved their share in the world market. Again, the United States accumulated large stocks until, in 1965, it was holding 51 per cent of the world's total.

12. The main developments of the two sub-periods can be presented more graphically if the considerable fluctuations in the production and consumption of cotton in the centrally-planned economies are disregarded. Table 3, drawn from the same sources as Table 1, compares the three-year averages 1953-55, 1958-60 with 1965; centering the averages on 1954 and 1959, two periods of about the same length can be compared.

Table 3

COTTON: SUPPLY AND DISTRIBUTION, EXCLUDING
CENTRALLY-PLANNED ECONOMIES

(million metric tons)

| | 1953-55 | 1958-60 | 1965 |
|---------------------|-------------|-------------|-------------|
| <u>Production</u> | | | |
| United States | 3.23 | 2.93 | 3.10 |
| Others ¹ | <u>3.34</u> | <u>3.85</u> | <u>5.26</u> |
| Total | 6.57 | 6.78 | 8.36 |
| <u>Consumption</u> | | | |
| United States | 1.95 | 1.88 | 2.06 |
| Others ² | <u>4.07</u> | <u>4.77</u> | <u>5.43</u> |
| Total | 6.02 | 6.65 | 7.49 |
| <u>Exports</u> | | | |
| United States | 0.72 | 1.24 | 0.66 |
| Others ³ | <u>1.76</u> | <u>1.81</u> | <u>2.57</u> |
| Total | 2.48 | 3.05 | 3.23 |
| <u>Stocks</u> | | | |
| United States | 1.85 | 1.82 | 3.10 |
| Others ³ | <u>2.20</u> | <u>2.04</u> | <u>2.27</u> |
| Total | 4.05 | 3.86 | 5.37 |

¹Mainly developing countries.

²About equally divided between developed and developing countries, the latter surpassing the former by 1965.

³Mainly developing countries.

13. In the second sub-period, the growth of production has greatly accelerated while consumption has continued to grow at roughly the same pace as in the preceding period. Consequently, despite the growing imports by the centrally-planned economies, large stocks were accumulated outside the Eastern Trading Area, mainly in the United States whose share of the export market (exclusive of exports from the Eastern Trading Area) declined from 29 per cent of total volume in 1953-55, and 40 per cent in 1958-60, to 20 per cent in 1965.

14. While total consumption maintained its rate of growth during both periods, this was mainly due to the very rapid increase in consumption by the developing countries. In the United States and other developed countries, the growth of cotton consumption was much slower, due to the increasing use of substitute fibres and to the reversal of their trade balance, from a net export surplus to a net import deficit, in cotton textile products. Imports of cotton by the developed countries have actually been declining from their peak in 1959/60 as, in addition to the developments just mentioned, there has also occurred some increase in their own production of cotton, mainly in Australia.

15. The changing relation between natural and man-made fibres in the output of textile industries, particularly those of the developed countries, is presented in Table 4. Cotton's share in total world textile fibre consumption has declined from 67.6 per cent in 1956 to 55.6 per cent in 1965. During the same period man-made fibres increased their share of the market from 27.0 per cent to 40.2 per cent. It is also evident that cotton lost its share mainly to non-cellulosic fibres (synthetic fibres such as nylon, polyester and acrylic) rather than to rayon and acetate. The latter fibres maintained their market share which was 23.1 per cent in 1956 and 22.7 per cent in 1965, while non-cellulosics made a great increase in their share of the market during this period, from only 3.9 per cent in 1956 to 17.5 per cent in 1965. Taking the 1957-61 period as a basis, recent Food and Agriculture Organization data¹ show that, by the end of 1965, the output of natural fibres increased by 15 per cent, that of cellulose by 33 per cent while the output of synthetic fibres nearly trebled in the same period.

16. This spectacular growth of non-cellulosic fibres cannot be wholly explained by the substantial price reductions which their producers could offer since 1960 and which are recorded in Table 5. Even more important than their declining prices are the different and, in many cases, superior end-use qualities of these fibres: higher tensile strength in relation to weight, and better moisture absorption and dyeing properties. Thus, for many end-uses, synthetics are now preferable to cotton. The attractiveness of synthetics is further increased by the fact that they can be woven on the same looms as cotton yarn so that the

¹FAO, Commodity Review 1966.

Table 4

PERCENTAGE SHARE OF INDIVIDUAL FIBRES IN WORLD
TEXTILE FIBRE CONSUMPTION¹

| | Cotton | Wool | Rayon and acetate | Non- cellulosics | Total man-made fibres | Total fibres |
|-------------------|--------|------|-------------------------|---------------------|-----------------------------|-----------------|
| 1956 | 67.6 | 5.4 | 23.1 | 3.9 | 27.0 | 100 |
| 1957 | 66.5 | 5.4 | 23.2 | 4.9 | 28.1 | 100 |
| 1958 | 68.4 | 5.0 | 21.4 | 5.2 | 26.6 | 100 |
| 1959 | 66.6 | 5.2 | 21.8 | 6.4 | 28.2 | 100 |
| 1960 | 65.6 | 5.2 | 21.7 | 7.5 | 29.2 | 100 |
| 1961 | 63.7 | 5.2 | 22.3 | 8.8 | 31.1 | 100 |
| 1962 | 60.7 | 5.1 | 23.1 | 11.1 | 34.2 | 100 |
| 1963 | 58.8 | 4.8 | 23.4 | 13.0 | 36.4 | 100 |
| 1964 | 57.1 | 4.4 | 23.3 | 15.2 | 38.5 | 100 |
| 1965 ² | 55.6 | 4.2 | 22.7 | 17.5 | 40.2 | 100 |

¹Mill consumption in cotton equivalents; exclusive of centrally-planned economies.

²Partly estimated.

Source: International Cotton Advisory Committee: Cotton, Monthly Review of the World Situation, May/June 1966.

shift from the traditional to the new material entails no capital expense. The recent price reductions in synthetics thus appear rather a consequence of the rapid growth in their production, due in turn to their qualities and to vigorous promotion. These price developments, of course, could not fail to have adverse effects on the prices of cotton lint.

17. It must be expected that synthetic fibres will continue to increase their share of the textile fibre market, if perhaps less rapidly than in the past, and that their prices will continue to decline. The industry has, in recent years, heavily invested in capacity expansion and when the new capacities come on stream, they will increase the degree of price competition among individual firms trying to enlarge their markets.¹ This development can be expected, *inter alia*, to stimulate demand for those types of cotton lint, which are particularly suitable for blending with synthetic fibres.²

Table 5

STAPLE FIBRE PRICES IN THE UNITED STATES,
YEARS BEGINNING 1 AUGUST 1954-64

(US cents per pound)

| | Cotton | | Rayon | Nylon | Dacron |
|------|------------------|------------------|------------------|-------|--------|
| | (1) ¹ | (2) ² | (3) ³ | (4) | (5) |
| 1954 | 37.3 | 39.1 | 32.0 | 150.0 | 160.0 |
| 1955 | 37.7 | 36.8 | 31.3 | 141.7 | 148.3 |
| 1956 | 36.0 | 30.2 | 30.2 | 127.0 | 138.3 |
| 1957 | 37.1 | 30.7 | 30.9 | 128.0 | 141.0 |
| 1958 | 37.0 | 28.2 | 31.6 | 128.0 | 141.0 |
| 1959 | 34.3 | 26.4 | 33.0 | 128.0 | 141.0 |
| 1960 | 33.4 | 28.1 | 28.4 | 128.0 | 141.0 |
| 1961 | 36.0 | 28.9 | 27.0 | 124.0 | 114.0 |
| 1962 | 35.9 | 27.9 | 26.8 | 124.0 | 114.0 |
| 1963 | 35.2 | 26.8 | 28.0 | 124.0 | 107.3 |
| 1964 | 27.6 | 27.1 | 28.0 | 118.0 | 89.8 |
| 1965 | 27.1 | 26.1 | 28.0 | 118.0 | 84.0 |
| 1966 | 25.0 | 24.7 | 28.0 | 118.0 | 72.0 |

¹Price to California mills of Middling 1 inch Memphis growths.

²Price of US Middling 1 inch c.i.f. Liverpool.

³Viscose staple.

Source: International Cotton Advisory Committee, Cotton World Statistics (Washington).

¹Synthetic production of about 227,000 tons in 1966 is expected to double by 1968. Cotton, Monthly Review of the World Situation, International Cotton Advisory Committee, Washington.

²See also paragraphs 27, 30 and 31 below

18. The progress of man-made fibres continues to be a major difficulty with which all initiatives towards negotiating an international price stabilization agreement for cotton have, and thus far have failed, to cope. The United States, having had the opportunity to observe a significant increase in the consumption of cotton after lint prices had been reduced to domestic mills, in 1964 attempted to deal with this situation in the Agricultural Act of 1965.

19. The provisions of the Act relating to cotton cover the crop years 1966-70 and continue the one-price system for export and domestic cotton introduced in 1965. It does, however, include new features, intended to reduce the production of cotton in the United States and to make American cotton more competitive both in the world and domestic markets.

20. In the past, each United States cotton grower had the choice of selling his crop on the market or of keeping it for a stated period of time under a loan from the Commodity Credit Corporation. If the grower chose the latter alternative,¹ the Commodity Credit Corporation lent him cash at the prevailing loan "rate".¹ Afterwards, if the market price rose above the loan rate plus carrying charges, the grower could sell his cotton on the market and repay the loan. If, on the other hand, the market price did not reach within the specified time period the required level, the grower surrendered his cotton to the Commodity Credit Corporation. In this way, the loan rate set the minimum domestic price for cotton. It was announced before the start of each season and maintained throughout the season.

21. Under the provisions of the 1965 Act participation in the price support programme is optional. Growers who elect not to participate receive no price support and are required to export their whole crop. They are subject only to the general² acreage restrictions for all cotton production enacted under previous legislation² and the national export market acreage reserves may not exceed 250,000 acres.

¹Refers to the ratio of the basic parity price for cotton which the Commodity Credit Corporation's lending policy was to maintain.

²The total acreage on which a farmer may plant cotton is restricted to the so-called "farm acreage allotment". The national total, which will continue at the maximum of 16 million acres, is pro-rated among farms permitted to grow cotton.

22. For participation in the price support established by the new Act a grower is required to divert from cotton production a minimum percentage of the land on which he could normally plant cotton. This minimum percentage is 12.5 per cent for 1966/67 and not more than this for subsequent years; but a grower may divert up to 35 per cent of suitable acreage from cotton for additional diversion payments.

23. Participating growers receive two kinds of price support. As under previous programmes, growers will have the possibility of keeping their crop under a Commodity Credit Corporation loan, although at a significantly lower loan rate. Besides, however, growers will receive direct income-supplement payments either in cash or in kind (in cotton).

24. During the 1965/66 crop season the loan rate was 29 US cents per pound while the world price (c.i.f. Liverpool) was 26.1 cents per pound. The 1965 Act set the loan rate at 21 cents per pound 1966/67 and for subsequent seasons, it is to be set by the Secretary of Agriculture for each season at a level which may not exceed 90 per cent of his estimate of the average world market price. For 1967/68 the loan rate has thus been set at 20.25 cents per pound.

25. Other provisions of the Law require the Commodity Credit Corporation to sell upland cotton for domestic use at the same price as for export, but at not less than 110 per cent of the loan rate. The Secretary of Agriculture can regulate the proportion of the diversion payments and direct support payments to be made in cash and in kind.

26. The new programme is designed to reduce cotton production in the United States, to lower the price support costs to the Government and to keep United States cotton competitive with man-made fibre and foreign production. The actual market developments so far have been consistent with this aim. The price (c.i.f. Liverpool) of United States middling (one-inch) cotton declined, in 1966, to 24.7 US cents per pound from 26.1 cents in 1965. Judging from incomplete data, the volume of United States cotton exports could be, in 1966, as much as 50 per cent above the previous year's level. Finally, on the production side, heavy participation of United States growers in the crop diversion option has led, in 1966, to a 27 per cent reduction in acreage from the previous season. In addition, as a result of adverse weather conditions, United States yields were only 482 pounds per acre in 1966, as opposed to 526 pounds the previous year. Therefore, the United States total crop is now estimated to amount to only 2,096 thousand tons in 1966, about 36 per cent less than in 1965. World production, too, is expected to be lower in 1966, 10,284 thousand tons as against 11,340 thousand tons in the 1965 season. Several other producing countries have also experienced bad weather; in addition, the reduced profitability of growing cotton and the increased returns from growing other agricultural crops, notably foodstuffs, in some countries may have contributed to the decline in world cotton output. World consumption is expected to increase 2 per cent in 1966 to 11,298 thousand tons, so that world stocks may be reduced by as much as 1 million tons.

27. No reliable long-term forecast of cotton prices is possible at present. The small harvest in the current season, and the consequent reduction of stocks in both exporting and importing countries, have already at the close of 1966 produced a noticeable strengthening of prices, particularly those demanded for higher quality and longer-than-medium staples. This firmness is at present expected to be maintained in 1967 and possibly in 1968 as well. Nonetheless, the possibility of further declines occurring before the expiry of the current United States cotton legislation must be taken into account.¹

28. Developing countries as a group currently produce 40 per cent of the world's cotton and ship 63 per cent of global cotton exports. According to their dependence on earnings from cotton export, the major developing cotton producers are ranked as follows:

Table 6

SHARE OF RAW COTTON IN TOTAL EXPORT RECEIPTS 1960-64

| | Average annual value of raw cotton exports, 1960-64 (million US dollars) | Raw cotton in total export receipts, 1960-64 (per cent) |
|--------------------------|--|---|
| Chad | 15.1 | 75.5 |
| United Arab Republic | 283.8 | 57.5 |
| Sudan | 106.6 | 52.7 |
| Syrian Arab Republic | 71.0 | 47.0 |
| Nicaragua | 31.1 | 37.3 |
| Central African Republic | 5.7 | 31.0 |
| Uganda | 29.2 | 28.4 |
| El Salvador | 28.8 | 20.5 |
| Mexico | 130.5 | 19.8 |
| Turkey | 65.0 | 17.6 |
| Peru | 86.8 | 16.2 |
| Tanzania | 24.4 | 15.0 |
| Greece ¹ | 23.5 | 11.8 |
| Pakistan ¹ | 45.5 | 10.3 |
| Brazil | 93.0 | 7.5 |
| Cameroon (Eastern) | 6.9 | 6.4 |
| Nigeria | 21.8 | 4.2 |

¹1960-63.

Sources: International Monetary Fund, International Financial Statistics;
Food and Agriculture Organization, Trade Yearbook, 1965.

¹One detailed analysis anticipates a 10 to 14 per cent decline in cotton prices between 1966 and 1970. See Michael Kulczynski; "The United States Agricultural Act of 1965 and its Effects on Cotton Prices and Receipts from Cotton Exports", International Monetary Fund Staff Papers, Vol. XIII, No. 1, pages 52-81.

29. A further decline in cotton prices could, hypothetically, cause significant losses of export revenue to countries in the upper portion of Table 6. It must be emphasized, however, that declining export prices need not, of themselves, imply either a loss in total revenue or reduced profit rates for the industry in question. Indeed, many cotton producers among developing countries have been able to achieve large increases in their cotton export revenues during the last six or seven years, despite falling prices.

Table 7

COTTON EXPORTS BY SELECTED DEVELOPING COUNTRIES

(thousand metric tons)

| Country | Average 1958-60 | 1965 | Index, 1958-60 = 100 |
|---|-------------------|---------|----------------------|
| El Salvador | 36.1 | 56.4 | 156.2 |
| Guatemala | 13.8 | 79.1 | 573.2 |
| Honduras | 1.8 | 10.4 | 577.8 |
| Nicaragua | 42.3 | 108.4 | 256.3 |
| Mexico | 339.7 | 459.2 | 135.2 |
| Brazil | 100.4 | 204.0 | 203.2 |
| Peru | 106.0 | 117.5 | 110.8 |
| Pakistan | 69.0 | 107.5 | 155.8 |
| India | 53.6 | 30.6 | 57.9 |
| Syria | 86.5 | 154.2 | 178.3 |
| Turkey | 72.7 | 199.5 | 274.4 |
| Iran | 44.9 | 103.0 | 229.4 |
| Afghanistan | 6.9 | 21.7 | 314.5 |
| Cameroon | 7.8 | 19.5 | 250.0 |
| Chad | 21.2 ¹ | 41.2 | 194.3 |
| Mali | 2.0 | 7.0 | 380.0 |
| Malawi | 1.8 | 6.5 | 361.1 |
| Morocco | 1.6 | 8.7 | 543.8 |
| Mozambique | 37.9 | 29.3 | 77.3 |
| Nigeria | 38.1 | 23.9 | 62.7 |
| Sudan | 123.1 | 124.0 | 100.7 |
| Tanzania | 33.3 | 67.9 | 203.9 |
| Uganda | 65.6 | 60.3 | 91.9 |
| United Arab Republic | 338.1 | 343.0 | 101.4 |
| Total above | 1,644.2 | 2,382.8 | 144.9 |
| World excluding centrally-planned economies | 3,054.1 | 3,180.7 | 104.1 |
| World including centrally-planned economies | 3,487.4 | 3,660.5 | 105.5 |

¹Average of two years only.

Source: International Cotton Advisory Committee, Cotton-World Statistics, 1963 and 1966.

30. Largest export increases were achieved by Guatemala, Honduras and Nicaragua in Central America, Turkey and Afghanistan in the Middle East, and Morocco, Mali, Cameroon, Tanzania and Chad in Africa. With a few exceptions, the most successful exporters could also be shown to have achieved the most rapid growth in average yields.¹ Also, and perhaps equally important, many of these successful exporters have achieved a marked qualitative improvement of their cotton, particularly as regards the average staple length.

31. It could even be said that certain cotton exporters among developing countries were helped by the change which man-made fibres had introduced into the textile industry; in any case, the experience of Turkey and the Central American cotton exporters can be taken to indicate the direction in which the world market for cotton lint will evolve. In the developed countries, and to a lesser extent also in the centrally-planned economies and some developing countries, the proportion of total cotton utilization going into pure cotton fabrics is declining, a rapidly increasing part being used for blending with artificial fibres. The longer varieties of medium staple, 1 1/16" and 1 1/32", are preferred for this purpose due to their greater tensile strength. This technical consideration is said to be the main factor explaining the striking success of the Central American countries and Turkey, all of them exporters of the longer varieties of medium staple cotton, in the main Western European import markets. Table 8 shows that, while total imports of cotton into Western Europe were, in 1965, some 20 per cent below the peak levels of 1959-1960², imports from Latin America (mainly from Central America and Brazil) were larger by one half and those from Turkey by 83 per cent.

¹For a partial listing of average yields by countries exporting medium staple cotton, see Table IV in the statistical appendix.

²But note the 160 per cent increase of imports by Portugal, perhaps the lowest wage European country, whose cotton textile industry is rapidly expanding, largely through exports into the more developed EFTA countries.

| Origin Importer | United States | Latin America | Turkey | All other | Total |
|--------------------|----------------------------|---------------|--------|-----------|-------|
| | Index: $\frac{1965}{1960}$ | | | | |
| F.R. Germany | 42 | 129 | 96 | 89 | 80 |
| France | 20 | 163 | 358 | 93 | 76 |
| Italy | 36 | 224 | 77 | 72 | 68 |
| Belg./Lux. | 38 | 163 | 219 | 64 | 75 |
| Netherlands | 29 | 235 | 102 | 96 | 80 |
| EEC | 36 | 160 | 118 | 86 | 75 |
| United Kingdom | 42 | 131 | 300 | 71 | 75 |
| Switzerland | 59 | 117 | .. | 92 | 91 |
| Sweden | 61 | 53 | .. | 77 | 70 |
| Austria | 41 | 222 | .. | 76 | 87 |
| Portugal | 99 | 513 | inf. | 162 | 260 |
| TOTAL above | 40 | 151 | 183 | 85 | 80 |

Source: United Nations Commodity Trade Statistics, 1960 and 1965.

PART II: THE ECONOMY OF CHAD

A. General characteristics

32. Officially estimated, the value of Chad's gross domestic products attained CFAF¹ 56.4 billion in 1963. For a population of approximately 3.2 million, this is equivalent of US\$72 per head, ranking Chad among the lowest income countries in Africa and in the world.

Table 9

GROSS DOMESTIC PRODUCT 1961-63

| | Million CFAF current prices | | | Per cent | | |
|-------------------------------|--------------------------------|--------|--------|----------|-------|-------|
| | 1961 | 1962 | 1963 | 1961 | 1962 | 1963 |
| Food production | 32,827 | 33,964 | 35,854 | 63.9 | 66.5 | 63.4 |
| Export crops | 6,996 | 4,004 | 5,632 | 13.6 | 7.8 | 11.8 |
| Other primary materials | 387 | 428 | 315 | 0.8 | 0.8 | 0.6 |
| Energy | 681 | 719 | 781 | 1.3 | 1.4 | 1.4 |
| Industrial products | 869 | 1,198 | 1,440 | 1.7 | 2.4 | 2.6 |
| Construction and public works | 4,282 | 4,993 | 5,201 | 8.3 | 9.8 | 9.2 |
| Services | 5,348 | 5,743 | 6,207 | 10.4 | 11.3 | 11.0 |
| Total | 51,390 | 51,049 | 56,430 | 100.0 | 100.0 | 100.0 |

Source: Republique du Tchad, Comptes Economiques, Septembre 1965.

33. An explanation of this low achievement in economic development must be sought primarily in the geographic and geophysical conditions of the country. Among these conditions, distance and the attendant difficulties of trade appear to be the most important ones. Of all the fourteen land-locked African countries, Chad is the farthest removed from the sea, with 1,700 kms. between the capital and the nearest port. Chad's external trade is actually carried along four different routes which can be ranked according to importance as follows:

¹One CFA franc equals 0.02 new French franc; CFAF 247 exchange for one United States dollar.

- (a) The transequatorial route: Moundou or Fort Archambault-Bangui, 630 kms. by road; Bangui-Brazzaville, 1,260 kms. by river; Brazzaville-Pointe-Noire, 520 kms. by railroad. Perhaps 40 per cent of the volume of Chad's exports and imports moves along this route with a total distance of close to 5,000 kms. between Chad's capital Fort Lamy and the seaport Pointe Noire.
- (b) The Nigerian land routes: Fort Lamy-Maiduguri, 250 kms. by a laterite road; Maiduguri-Jos-Port Harcourt, 1,450 kms. by railroad; Maiduguri-Jos-Lagos, 1,775 kms. by railroad; alternatively, Maiduguri-Kano, 610 kms. by a partly bitumenized road and Kano-Lagos, 1,120 kms. by railroad. Although these routes offer the shortest connexion (Fort Lamy-Port Harcourt, 1,700 kms.), the necessity of re-loading, and frequent stoppages, make it also the costliest one.
- (c) The Benue route: Fort Lamy-Garoua, 500 kms. by road; Garoua-Burutu, 1,590 kms. by the Nigerian rivers Benue and Niger. This would be the cheapest connexion but the short period of navigability of Benue (two to three months) severely limits its transport capacity.
- (d) The Cameroon route: Fort Lamy-Yaoundé, 1,750 kms. by laterite road; Yaoundé-Douala, 310 kms. by railroad.

34. There are comparable difficulties in internal transportation. The country has no railroads and only an inadequate internal road network. For a total area of 128,400 kms², there is roughly 30,000 kms. of roads (or 0.23 km. of road per each km² of area); of these, however, only 2,134 kms. are classified as national roads (only 26 kms. bitumenized) and 2,050 kms. as roads of the first category. The rest are soft-surface roads, impassable from July to October. Due mainly to this lack of transportation facilities, almost 90 per cent of the population is employed in agriculture and almost a half of national output is produced and consumed in the subsistence sector.

35. Limited diversification of its resources has forced the economy into a relatively high degree of dependence on exports which now correspond to 13-15 per cent of gross domestic product. As each of Chad's exports represents only a small fraction of total supply in the importing market, the country is in the typical "price-taker" position. The selling price (c.i.f. or f.o.b. port) of its products is determined by the relation of demand to total supply, the bulk of which originates in geographically more favourable locations. Chad's net export price is then obtained by subtracting from the international price the transportation cost which can amount to 20, 30, and even more, per cent of the gross export revenue. (Since most of the transportation cost is incurred in transit, it does not generate income for the exporting country.) The real cost

of Chad's imports, which represent 16-18 per cent of gross domestic product, is similarly increased by transportation charges. In this way, then, its geographical location is an income-reducing factor for the economy.

36. Chad's only known mineral resource of commercial significance is natron, the growing export of which attained a quarter million US dollars in 1965.

37. Agricultural development is hampered by the aridity of the country. More than a half of Chad's total area lies above the fifteenth parallel, receiving, on the average, less than 25 cms. of rainfall annually. The most important marketable agricultural products of this country are cotton, livestock, and fish. Groundnuts are an important subsistence crop; their commercial production is still small but growing. There is, in addition, some market gardening around Fort Lamy and Fort Archambault, quite efficiently organized but quantitatively still insignificant in relation to the total output of Chad's agriculture.

38. The lack of cheap transport and financing difficulties represent the main obstacle to industrialization. In terms of employment, cotton ginning appears to be the most important secondary activity. It is performed exclusively by the Société cotonnière franco-tchadienne which maintains twenty-five ginneries with a permanent labour force of 2,000; during the campaign, employment increases to 3,500. There is also an oil mill, processing, cottonseed, the output of which should be approaching 500,000 litres of refined oil annually. Another oil mill, processing groundnuts, produces around 800,000 litres of oil annually. There are two large abattoirs with refrigeration capacity, modern and well organized, a substantial part of whose output is exported. A flour mill and three rice mills, a brewery, a soft drink factory, three furniture factories, a textile plant, a cement factory and an electrical appliance factory round up the industrial structure of the country. There are less than 50,000 wage earners and salaried employees, a large proportion of them public employees, in the whole economy.

39. The First Five-Year Development Plan 1966-1970 can be characterized as a co-ordinated programme of governmental action towards three broad objectives: (a) increase and diversification of production, mainly in agriculture; (b) an improvement of infra-structure, mainly in transport; (c) last but not least, human and social improvement, mainly in the fields of education and health. It is not, in other words, a comprehensive plan, setting target rates of growth for individual sectors of the economy and itself predicated on certain minimum rate of growth of the aggregate product.

40. The plan provides for a total of CFAF 47 billion in gross investment, the bulk of it to be effected by public authorities. Despite the urgent need for the improvement of the educational, health and other social welfare facilities, it should be noted that 76 per cent of total planned investment will be in the directly productive sector and the supporting infra-structure.

Table 10

SECTORIAL DISTRIBUTION OF INVESTMENTS

| Sectors | CFAF millions | Per cent |
|---|---------------|--------------|
| <u>Production</u> | | |
| Agriculture, animal husbandry, fishing, forestry | 13,329 | 28.4 |
| Industry, power, mines, artisans products | <u>6,640</u> | <u>14.1</u> |
| Total | 19,969 | 42.5 |
| <u>Infra-structure</u> | | |
| Railway | 405 | 1.0 |
| Roads | 12,552 | 26.7 |
| Navigable waterways | 538 | 1.1 |
| Aeronautics | 379 | 1.9 |
| Posts and telecommunications | 775 | 1.6 |
| Tourism | <u>531</u> | <u>1.1</u> |
| Total | 15,760 | 33.5 |
| <u>Social equipment</u> | | |
| Education and training | 5,091 | 10.8 |
| Health and social action | 1,663 | 3.5 |
| Broadcasting | 589 | 1.2 |
| Town planning | 3,720 | 7.9 |
| Cultural equipment | <u>220</u> | <u>0.5</u> |
| Total | 11,283 | 24.0 |
| Grand total | <u>47,012</u> | <u>100.0</u> |

Source: Chad delegation.

41. In agriculture, the aim is to increase the degree of self-sufficiency in food supply and to obtain additional exports. In regard to products already established, productivity improvement programmes involving extension work as well as investment are already in hand, special efforts being devoted to cotton¹ and meat production. Greater diversification of agricultural output is to be achieved mainly through regional development programmes introducing new cash crops into the least developed areas of the country. Some of these programmes will in fact integrate into the national economy areas where agriculture has so far been practised entirely on subsistence basis. Provision of adequate transportation facilities is, of course, the core of programmes of this type.

42. The largest of the regional development programmes is that prepared for the Lake Chad basin where over CFAF 1.2 billion are to be invested in the next five years. After completion of the necessary land reclamation and drainage works, the Chad polders are expected to provide some 60,000 hectares of excellent agricultural land suited for intensive cultivation of a large variety of crops. It is hoped that production on these lands will make Chad self-sufficient in wheat at the end of the plan period; in addition, a range of new exports - such as fruit and vegetables - should be obtained from this area. From 1970 to 1975, production of wheat should increase threefold in the Lake Prefecture, while maize production should double.

43. In industry, the Government's intention is to induce investments by private firms; industrial investments by public bodies, mostly participation investments, are, as can be seen from Table 10, budgeted at a very low level. Industrial development is expected to be concentrated initially in three fields: food production (including two new oil mills to process groundnuts and cottonseed), cotton ginning and textiles, and construction materials. In addition, studies are being carried out concerning the feasibility of manufacturing agricultural implements, insecticides, tobacco products, soap and glass.

44. The bulk of investment for infra-structural improvements will be made in roads. Road-building is scheduled to obtain almost as much funds as the whole of agriculture in order to provide a year-round connexion between at least the main productive areas of the country.

¹Described in Section C below.

45. The total financing programme for the five years amounts to, roughly, US\$190 million and its financing is as yet only partly assured. Originally, the Chad Government had expected to be able to finance 35 per cent of the projected total from internally generated funds, the other 65 per cent to be supplied by foreign aid. If this latter part of the financing could be finally completed, all the problems would not be solved thereby, because recent budgetary trends make it appear doubtful whether the Chad Government can achieve a sufficient excess of domestic revenue over current expenditures in order to fulfil its own investment financing targets. While total domestic revenue has been increasing quite rapidly, from roughly CFAF 6,500 million in 1963 to over CFAF 11,000 million in the current budgetary year, current surplus grows at a much slower rate and reached only 605 million in 1965. Given the pressing need for the expansion of agricultural and other services, and the possibility, discussed in Section C below, that the current budget might be burdened further by cotton price stabilization payments, it appears extremely unlikely that current surpluses could grow rapidly enough to amount over the next four years to the total originally foreseen.

B. Cotton in the Chad economy

46. Cotton is the most important commercial product of Chad's economy, and by far its most important export. The gross annual revenue from cotton approaches CFAF 6 billion (US\$24 million) which amounts to, roughly, 10 per cent of gross domestic product. Close to a half of this amount accrues directly to producers, the remainder represents ginning, transport and marketing costs and about CFAF 620 million of export taxes¹ which thus contribute slightly over 10 per cent of total tax revenue.

47. Some 570,000 peasants, who with their dependents represent more than a half of the total agricultural population of Chad, are engaged in cotton cultivation. They are, it may be added, the poorer part of agricultural population; while the average annual income derived from fishing is estimated at CFAF 25,000 (US\$100) and that from livestock raising at least CFAF 8,000 (US\$32), the average individual income from cotton cultivation does not exceed CFAF 5,000 (US\$20). In income terms, the secondary and tertiary economic activities based on cotton are of about equal importance as the primary ones.

¹ Levied at CFAF 17.20 per kg. of lint.

48. Table 11 below shows that cotton increasingly dominates Chad's exports, having furnished 72 per cent of total export revenue on the average in 1960-62 and 78 per cent in the triennium 1963-65.¹ Due mainly to the expansion of cotton exports and to a prudent import policy, Chad's balance of trade has improved markedly in the 1960's. In the first three years of the decade, exports could pay for only 64 per cent

Table 11

CHAD'S PRINCIPAL EXPORTS

(Value US\$ '000; volume metric tons)

| | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 |
|------------------------------|--------|--------|--------|--------|--------|--------|
| <u>Volume</u> | | | | | | |
| Livestock | 16,500 | 17,083 | 18,555 | 31,081 | 21,863 | 25,027 |
| Meat | 2,722 | 3,492 | 2,594 | 1,815 | 1,511 | 2,073 |
| Fish (simply preserved) | 952 | 347 | 389 | 334 | 262 | 239 |
| Hides and skins | 955 | 895 | 720 | 634 | 584 | 611 |
| Cotton | 14,402 | 30,409 | 20,122 | 31,361 | 37,651 | 38,016 |
| Natron | 4,050 | 2,457 | 4,051 | 6,412 | 5,355 | 6,271 |
| <u>Value</u> | | | | | | |
| Livestock | 1,586 | 1,122 | 1,490 | 2,141 | 1,700 | 2,053 |
| Meat | 811 | 1,316 | 758 | 742 | 573 | 851 |
| Fish (simply preserved) | 215 | 117 | 160 | 146 | 123 | 102 |
| Hides and skins | 859 | 921 | 807 | 577 | 569 | 493 |
| Cotton | 8,258 | 17,132 | 11,409 | 17,741 | 20,956 | 21,093 |
| Natron | 145 | 90 | 145 | 231 | 189 | 256 |
| <u>Total exports (value)</u> | 13,250 | 21,440 | 16,545 | 22,707 | 26,510 | 27,233 |
| of which cotton % | 62.3 | 79.9 | 68.9 | 78.1 | 79.0 | 77.4 |
| of which meats and livestock | 18.1 | 11.4 | 13.6 | 12.7 | 8.6 | 10.7 |
| <u>Total imports (value)</u> | 25,257 | 25,329 | 29,112 | 29,034 | 34,585 | 31,193 |

Source: Office Statistique des Communautés Européennes, Commerce Extérieur, A.O.M. 1966, No. 7.

¹ These are percentages computed from recorded exports. Adding the unrecorded exports (exports to other UDEAC countries and clandestine exports), estimated at one third to one half of the recorded one, would change the percentages but hardly their trend.

of annual imports, on the average; in 1963-65, the export coverage rose to 80 per cent; in 1965, the last year for which we have data, it was 87 per cent. It is impossible to compute how much greater this improvement might have been if cotton prices had remained stable. The calculation would have to take account of the quality improvement of Chad's cotton exports which must have been considerable, judging from the fact that the unit value of cotton exported from Chad declined only 2 per cent between 1962 and 1965, compared to a 7 per cent decline in the unit value of the United States cotton exports.¹

49. Cotton thus appears to be the pivot of the whole economy, fluctuations in cotton harvests and prices having important repercussions in all other sectors of economic activity. The foregoing description also indicates that agricultural diversification -- a shift away from cotton to alternative crops and products -- does not represent an immediately practicable solution to the problem posed for the economy by the international decline of cotton prices. This tentative conclusion is supported by the recent developments in the composition of Chad's exports. It appears somewhat paradoxical that the share in total exports of cattle and meat, which in the world context face distinctly better export prospects than cotton, should have declined² while the share of cotton has continued to grow. Prima facie, this would seem to indicate that, despite stagnant producer prices and rising cost of living, the cultivation of cotton is still a (relatively) attractive proposition for peasants living in areas suitable for the crop.

50. The high cost of transport is most important among the factors inhibiting greater diversification of agricultural exports. It is, under present conditions, extremely difficult to find alternative agricultural commodities combining those qualities which recommend cotton cultivation in Chad, namely, relatively high cash yield per unit of land (in other words, high labour intensity of output), relatively high value of the product per unit of weight and volume and, last but not least, non-perishability (storability) of the product.

¹See Table 2 on page 5.

²From 14 per cent on the average in 1960-62 to 10.5 per cent of total recorded exports in 1963-65. As regards cattle, it is possible though not probable that unrecorded exports have increased over this period and that recorded statistics understate, perhaps increasingly, true exports. Exporters of meat, however, cannot avoid official controls and meat exports show an absolute decline, due mainly to the interruption of exports to Libya and Sudan, and to increased competition from producers having easier access to Chad's export markets. Even statistics with full coverage, therefore, would probably indicate a decline in the share of livestock and meat in total exports.

51. Livestock and meat, the second most important export, is not yet a practicable alternative to cotton. Livestock raising is an extensive activity in Chad, remunerative only because it utilizes the extremely rough grazing of the Sudanese savannah lands on which little else could profitably be grown. Intensive livestock raising based on fodder cultivation on arable land, could be remunerative only after extensive genetic amelioration of the existing cattle stocks, a development of local markets for milk, and a general improvement of animal husbandry practices. All these conditions can materialize only gradually.¹

52. Groundnuts, cultivated in similar - though ideally not identical - climatic and soil conditions as cotton, give, at the level of average yields realized in Chad, a roughly comparable cash yield per hectare.² It has been noted already that commercial groundnut production in Chad is also making noticeable progress but not at the cost of cotton acreage. In view of the uncertain commercial future of this crop, the Chad Government appears to be justified in its reluctance to sponsor any programmes for expanding groundnut cultivation on the areas presently devoted to cotton.³

53. There are two reasons for caution, if not scepticism, in judging the long-term commercial prospects of groundnuts. The commodity is already in direct competition with soybeans, a cheaper oleaginous material which can be harvested mechanically and has the additional advantage of being immune to aspergillus flavius, a toxic mould which sometimes affects groundnut cake or meal. In the long run, however, even more serious threat to African groundnuts may be posed by the oil palm which, under favourable conditions, produces 3-4 tons of oil per hectare, with much smaller expense of labour than that required for groundnuts whose oil yield rarely exceeds 1 ton/ha. A number of African countries are planning considerably to expand their production of palm oil.

¹Since 1948, a systematic cattle improvement programme has been defined. As a first stage, it provided for action in the following fields:

- cattle disease prevention;
- improved watering facilities in the dry season (a fundamental problem in the Sahara area);
- better yield from part of the beef cattle herd by means of the ranching system;
- rationalization of marketing channels, equipment in the processing sector.

Some of these improvements require substantial investments if they are to be carried out effectively to the desired extent.

²According to FAO Production Yearbook 1965, approximately 800 kgs. per ha. (which may in fact be an over-estimate) at the average producer price of CFAF 11 per kg. gives CFAF 8,800 (US\$35) per hectare as against CFAF 9,100 (US\$37) for seed cotton (average yield 350 kgs./ha., producer price CFAF 26/kgs.).

³See the note submitted by the delegation of Chad, COM.TD/37, paragraph 3(b).

54. The advantages of storability and high value per unit of weight and bulk are important in view of the long distance which Chad's overseas exports have to cover to the nearest port. The transport difficulty is compounded by the fact that most of this distance has to be covered in transit through territories of other States whose transportation systems are periodically overloaded by their own produce being evacuated coastwards. Total (external and internal) transport charges on cotton lint exported amount to CFAF 23,000 per metric ton, or 15-17 per cent of export price f.o.b. nearest port. The transport charges per metric ton of exported (shelled) groundnuts amount to, roughly, CFAF 16,300, corresponding to 39 per cent of f.o.b. price. Taking account of price fluctuations, which are both sharper and more frequent in the case of groundnuts than in the case of cotton, the export of the former obviously entails greater risks.

55. While therefore, the search for suitable additional products, through which Chad's agriculture might become more diversified, should continue, efforts to improve the efficiency of cotton cultivation appear, for the next decade at least, to be a more promising avenue towards improving the income levels of that part of Chad's agricultural population which already depends on cotton. Comparing the actual production and productivity levels with what could be achieved in the climatic and soil conditions of those parts of the country, the Chad Government itself avers in the Five-Year Development Plan that cotton faces better development prospects than any other known primary product of the country, with the possible exception of livestock and meat.¹

C. Cotton cultivation and marketing problems

56. Cotton is cultivated in Chad in two more or less clearly delineated production zones, the more important of which is in the south of the country, the tropical savannah region between the Chari and Logone rivers. This region - mainly two of its prefectures, Mayo Kebbi and the Moyen Chari - accounts for some 55 per cent of annual production of cotton. The cotton grown in this area is of the Allen 151 and 150 variety. The northern productive zone, accounting for almost 45 per cent of total output, produces a slightly longer staple, Allen 333.57 variety. More recently, two new varieties have been developed, HG 9 and P 14, both superior to the Allen varieties now in use in staple length as well as in tensile strength.²

¹ First Five-Year Plan of Economic and Social Development 1966-70, Vol.1, Rural Economy, page 44: "In the present conditions ... there is no other industrial crop in Chad offering comparable advantages." Page 45: "The perspectives of cotton cultivation in Chad are immense and ... all the available means will be utilized to carry out an integrated plan for the modernization of this culture in Chad."

² Technical characteristics:

| | <u>Allen 150</u> | <u>Allen 151</u> | <u>Allen 333.57</u> | <u>HG 9 and P 14</u> |
|---------------|-----------------------|--------------------|---------------------------------------|---------------------------------------|
| Staple length | 1"-1 $\frac{1}{32}$ " | 1 $\frac{1}{32}$ " | 1 $\frac{1}{32}$ "-1 $\frac{1}{16}$ " | 1 $\frac{1}{16}$ "-1 $\frac{3}{32}$ " |
| Micronaire | 3.20-3.70 | 3.80-4.20 | 4.00-4.50 | 4.00-4.50 |
| Pressley | 78-82 | 82-85 | 80-84 | 80-84 |

57. The composition of present production as between types and varieties, as well as according to quality grades, is shown in the table below.

Table 12

COTTON LINT PRODUCTION IN CHAD, 1965/66,
ACCORDING TO TYPE AND QUALITY

| Type | Quality grades | | | | Total |
|-----------|----------------|-------------------|-------|-------|------------|
| | STD 0-1 | STD $\frac{1}{2}$ | STD 2 | Other | |
| | | (in metric tons) | | | |
| Allen 333 | 11,086 | 1,602 | 295 | 808 | 13,791 |
| Allen 151 | 3,654 | 6,208 | 2,372 | 846 | 13,080 |
| Allen 150 | 823 | 1,537 | 671 | 312 | 3,343 |
| HG 9 | 665 | 64 | 8 | 25 | 762 |
| P 14 | 130 | 124 | 27 | 4 | 285 |
| Total | 16,358 | 9,535 | 3,373 | 1,914 | 31,261 |
| | | (in per cent) | | | |
| Allen 333 | 80.4 | 11.6 | 2.1 | 5.9 | 100 (44.1) |
| Allen 151 | 27.9 | 47.5 | 18.1 | 6.5 | 100 (41.8) |
| Allen 150 | 24.6 | 46.0 | 20.1 | 9.3 | 100 (10.7) |
| HG 9 | 87.3 | 8.4 | 1.04 | 3.3 | 100 (2.4) |
| P 14 | 45.6 | 43.5 | 9.5 | 1.4 | 100 (0.9) |
| Total | 52.3 | 30.5 | 10.8 | 6.1 | 100 (100) |

Source: Chad delegation (Caisse de stabilisation des prix du coton).

58. The area under cotton expanded by 90 per cent between 1949/50 and 1962/63 but suffered considerable reduction since then. From the early 1950's to the last documented campaign there has been only a marginal improvement in productivity. In terms of four-year averages, per hectare yield of seed cotton has actually declined between 1954-57 and 1962-65 but, more important, there has been a 9 per cent increase in the per hectare yield of lint. The improvement in the ginning ratio has been entirely due to genetic ameliorations, specifically to the replacement of the common Allen variety by Allens 150, 151 and 333, developed by the agricultural research stations in Bebedja and Tikem. The drastic fall of average yields in the central quadriennium of the period documented in Table 13 illustrates the vulnerability of Chad's cotton production to the vagaries of weather. Finally, it must be pointed out that even the presentation in longer-period averages can often be misleading. After the weak campaign of 1965/66, when yields were affected by drought, production in the current season is expected to attain 115,000-120,000 tons of seed cotton. The average yield in the various prefectures is between 310 and 540 kgs. per hectare; the average yield for the area as a whole is evaluated at 363 kgs. per hectare.

59. The average yields indicated in Table 13 correspond to a mode of cultivation which is still primitive. Ploughs with animal traction are only rarely used in the preparation of soil. Probably even more important than soil preparation in its influence on yields is the irregular and often late commencement of sowing. Roughly speaking, average yield is proportionate to the number of days which remain between the blossoming of cotton and the end of the rainy season. The rains begin in May and end in the first half of October. The first blossoms appear fifty days after May-June sowing (in earth that is still warm), but only after sixty days for July and August sowing (in earth cooled by the rains). The agricultural experimental station in Tikem has demonstrated that early sowing, leaving an interval of sixty days between first blossom and the end of the rains, can lead to yields as high as 800 kgs. seed cotton per hectare. Sowing in late July and August on the other hand, produces feeble yields and may not lead to fruition at all. The average peasant in Chad is said to have acquired the habit of commencing sowing cotton after the food crops have been planted, around 1 July, which is past the optimal date: furthermore, anything that interferes with the planting of food crops delays correspondingly the sowing of cotton.¹ Cotton is generally cultivated in Chad without artificial irrigation and only a small fraction of total acreage is treated with mineral or organic fertilizer (16,000 ha. in 1966 out of, approximately, 290,000 or 5.5 per cent).² The cost of fertilizer, increased by long transport, is the main obstacle to its more widespread use.

¹See Prof. René Dumont, False Start in Africa (London 1966), pages 153-156, and 308-312.

²But these 5.5 per cent of acreage produce roughly 13 per cent of all cotton harvested, i.e. have more than double the average yield.

Table 13

COTTON PRODUCTION IN CHAD

| Season | Area Cultivated (hectares) | Seed Cotton Output (tons) | Seed Cotton Yield Per Hectare (kgs.) | Cotton Fibre Production (tons) | Gin Yield (per cent) | Cotton Lint Exports (tons) |
|-----------------|----------------------------|---------------------------|--------------------------------------|--------------------------------|----------------------|----------------------------|
| 1949-50 | 178,650 | 59,964 | 319 | 16,551 | 29.05 | |
| 1954-55 | 222,980 | 75,315 | 338 | 21,932 | 29.91 | |
| 1955-56 | 231,508 | 71,345 | 301 | 21,992 | 30.82 | |
| 1956-57 | 231,419 | 64,988 | 272 | 22,015 | 33.88 | |
| 1957-58 | 229,940 | 82,064 | 357 | 29,963 | 36.66 | 36,900 ¹ |
| 1958-59 | 238,274 | 67,691 | 284 | 24,989 | 36.91 | 36,400 ¹ |
| 1959-60 | 259,611 | 39,727 | 153 | 14,674 | 36.93 | 18,400 |
| 1960-61 | 288,126 | 98,021 | 340 | 35,042 | 35.75 | 23,900 |
| 1961-62 | 300,363 | 46,700 | 155 | 16,467 | 35.46 | 26,500 |
| 1962-63 | 338,895 | 94,439 | 279 | 33,495 | 35.46 | 26,500 |
| 1963-64 | 288,640 | 104,901 | 363 | 37,484 | 35.73 | 36,400 |
| 1964-65 | 287,094 | 99,105 | 345 | 35,742 | 36.06 | 32,300 |
| 1965-66 | 290,000 ² | 86,827 | 334 | 30,880 | 35.78 | 37,700 |
| <u>Averages</u> | | | | | | |
| 1954-57 | 228,970 | 73,428 | 320.7 | 23,975 | 32.6 | |
| 1958-61 | 271,590 | 63,035 | 232.1 | 22,786 | 36.1 | |
| 1962-65 | 301,150 | 96,318 | 319.8 | 34,400 | 35.7 | |

¹Before 1959, Chad exports were presented together with those of the Central African Republic.

²Estimate.

Sources: Programme interimaire 1964-65, Chapitre 1, "l'Economie rurale"; Camerocn, Banque Centrale, Etudes et Statistiques, 1964, 1965 and 1966.

A ton of sulphate of ammonia, which costs in Europe about \$70, can only be delivered in Chad for, roughly, \$130.¹ Satisfactory progress, on the other hand, is reported in respect of intensified use of pesticides. It is hoped that by the end of the Plan period at least, three insecticide treatments will become a regular practice on more than a half of total acreage.

60. The organization of production, including the execution of measures for increased productivity, is the responsibility of the Ministry of Agriculture which, in this area, acts mainly through the National Office of Rural Development. These efforts are supported by substantial technical assistance given by the French organization CFDEFT (Compagnie française pour le développement des fibres textiles). There remain, however, serious problems arising from a shortage of supervisory and managerial personnel at the various levels; these problems can only be solved through an intensification of technical assistance, on the one hand, and the training of indigenous managerial and supervisory personnel and the development of training schools and training centres, on the other hand.

61. The First Five-Year Development Plan anticipated seed cotton production growing at an average annual rate of some 8 per cent, from 112,000 tons in 1965/66² to 155,000 tons in 1969/70. The bulk of the additional production is to be obtained by raising average yields which are expected to increase by 25 per cent, or by 5.7 per cent annually; cotton acreage is expected to grow, at the most, in step with the increase of agricultural population.

62. The productivity improvement efforts of the Chad Government run on three parallel lines of action: genetic amelioration; establishment, through concentrated action, of modern production techniques in limited areas; and more dispersed extension work aimed at a gradual improvement of cultivation techniques used by the mass of small-scale cotton producers in the country.

63. Work on seed hybridization, multiplication and control is well organized and effective, as evidenced by the rapid increase of gin yields resulting from the application of improved Allen varieties in the late 1950's. In the current crop year, the new varieties are being multiplied - HG 9 on roughly 16,000 ha, P 14 on 8,000 ha - and both are expected to be in general use in two years. This will have an immediate effect on export receipts, since HG 9 and P 14 lint fetches prices up to 10 per cent above those obtainable from Allens 150-151. An additional research programme aims at an improvement of cottonseed through elimination of glands containing gossypol. Cottonseed free of this element would have a much greater value as a source of protein for both human and animal consumption.

¹ See FAO/UN, African Agricultural Development (New York 1966), page 138, footnote 2.

² Actually, only 86,827 tons were produced in that season but production in the current crop year does not seem to be much below the planned level of 122,500 tons.

64. The annual budget of IRCT (Institut des Recherches pour le Coton et les Textiles Exotiques), the organization which administers the work of the experimental stations, is CFAF 90 million, of which one half is contributed by the FAC and the other by the Chad Government. Seen in terms of the achieved improvement of gin yields and the value improvement resulting from the new varieties¹, and even more in terms of the possible improvements in per hectare yields, the activity of IRCT is of an enormous profit to the Chad economy and it is to be regretted that financial availabilities do not permit any increase in its budget to enable it to expand more rapidly.

65. Programmes to introduce better cultivation techniques are estimated to cost about CFAF 300 million annually, of which CFAF 60 million are contributed by the FAC, the rest from the budget of the Ministry of Agriculture. Technical transformation of traditional agriculture is a notoriously difficult undertaking, mainly because of the high requirements it makes on the technical and organizational capabilities of the executing and supervising agencies. The First Five-Year Development Plan foresees an average yield of 470 kgs. of seed cotton per hectare in 1969/70; this, however, will be achieved by an extension of intensive cultivation, yielding 1,100 kgs. of seed cotton per hectare to 35,000 hectares whereas the average yield of the bulk of peasant cultivations is expected to rise to only 400 kgs./ha. In this respect, then, the plan is commendably modest and the goal entirely possible of achievement. So far, the growth of areas under intensive cultivation has lagged behind plan expectations but not by a great deal. Yields on the intensively cultivated farms, on the other hand, have been rising rapidly. In a recent analysis of the situation, the Cotton Stabilization Fund also expressed regret at the Government's inability to strengthen these programmes of the Ministry of Agriculture by additional funds and manpower.

66. Marketing of cotton is entrusted to the Société Cotonnière Franco-Tchadienne (henceforth COTONFRAN) which, founded in 1926, is one of the oldest companies established in Chad. Under a convention agreed between the Chad Government and COTONFRAN in 1960, the company has a monopoly in the purchase of seed cotton from growers, ginning, spinning, processing of cottonseed, and the transportation and sale of the resulting products, until 1969/70.

¹Over ten years, a 2 per cent improvement in gin yields together with the improved quality of staple represents, on assumed average production of 100,000 tons of seed cotton annually, a gain of CFAF 345 million in export taxes and CFAF 5.2 billion in total export receipts, given a stable export price of CFAF 140/kg. lint.

Table 14

FIVE-YEAR DEVELOPMENT PLAN OF CHAD: COTTON PRODUCTION PROGRAMME

| Season | Area cultivated (hectares) | Yield kg./ha. | Seed cotton production (metric tons) |
|---------------------|-------------------------------|---------------|---|
| 1965-1966 | | | |
| Modern culture | 15,000 | 900 | 13,500 |
| Traditional culture | 282,500 | 350 | 98,500 |
| Total | 297,500 | 376 | 112,000 |
| 1966-1967 | | | |
| Modern culture | 20,000 | 1,000 | 20,000 |
| Traditional culture | 284,700 | 360 | 102,500 |
| Total | 304,700 | 402 | 122,500 |
| 1967-1968 | | | |
| Modern culture | 25,000 | 1,000 | 25,000 |
| Traditional culture | 287,300 | 375 | 108,000 |
| Total | 312,300 | 425 | 133,000 |
| 1968-1969 | | | |
| Modern culture | 30,000 | 1,100 | 33,000 |
| Traditional culture | 290,000 | 390 | 113,000 |
| Total | 320,000 | 456 | 146,000 |
| 1969-1970 | | | |
| Modern culture | 35,000 | 1,100 | 38,000 |
| Traditional culture | 293,000 | 400 | 117,000 |
| Total | 328,000 | 472 | 155,000 |

Source: Premier Plan Quinquennal 1966-70, Titre 1, L'Economie Rurale, P46.

67. The key institution in the financing of cotton production and sales is the Caisse de stabilization des prix du Coton; its funds are drawn from the Chad budget, from the French aid programme, FAC (Fonds d'Aide et de Cooperation) and from the FED (Fonds européen de développement), the development fund of the European Economic Community.

68. Until 1964, cotton cultivation in Chad was supported by the deficiency payment scheme of the French Government. A price of CFAF 151 per kg. of lint was guaranteed to COTONFRAN, the difference between the guaranteed and the realized market price being paid by the Caisse de Cooperation in Paris. In addition, the French aid included an annual sowing subsidy, paid to cultivators through COTONFRAN, amounting to CFAF 210 million (or CFAF 2.10 per kg. of seed cotton on an average harvest of 100,000 tons).

69. All bilateral arrangements of this type had to be abandoned, however, with the entry into force of the Yaoundé Convention. In the case of Chad cotton, they were replaced by a transitional arrangement under which the EEC development fund would continue to support growers' prices, and at the same time finance measures designed to improve productivity and reduce production costs, for the four years of the Convention's duration. When the agreement was concluded, it was expected that at the end of this period, Chad cotton would be competitive, i.e. would not require further subsidy, at prices prevailing in international markets.

70. The FED has agreed to devote, in total, CFAF 1,566,575,000 (US\$6,342,000)¹ to the Chad cotton programme, including CFAF 1,047,575,000 (US\$4,241,000) for price support CFAF 345 million of aid for diversification efforts, and CFAF 174 million (US\$704,000) for the financing of the programme to increase productivity in cotton cultivation. The amount earmarked for price support is being made available to the Caisse de stabilisation des prix du Coton in four tranches under a degressive schedule.

Table 15
LINT PRODUCTION AND PRICE SUPPORT SCHEDULE

| Season | Production | | Price support (CFAF million) | Price support per kg. lint (CFAF) |
|---------|----------------------|--------|---------------------------------|---|
| | Seed cotton | Lint | | |
| | (tons) | | | |
| 1964/65 | 99,105 | 35,742 | 457 | 12.78 |
| 1965/66 | 86,827 | 30,880 | 264 | 8.55 |
| 1966/67 | 115,000 ^a | 41,400 | 185 | 4.47 |
| 1967/68 | 120,000 ^b | 43,200 | 115 | 2.60 |

^a Official forecast.

^b Estimated.

¹ All financial data in this paragraph are taken from the submission by the Government of Chad.

71. The decline of cotton prices in recent years, and the rapidly declining level of price support receipts from external funds, has placed the COTONFRAN and the Caisse de stabilisation into a difficult financial position. Since 1958, the two institutions have guaranteed to cotton growers a price of CFAF 26 per kg. of seed cotton which, for export purposes, and presumably after some deduction for ginning costs, the COTONFRAN accounts translate into CFAF 71.36 per kg. of lint¹. This price, it should be stressed, was calculated on the assumption of a guaranteed sales price of CFAF 151 per kg. lint and on the additional assumption that, over and above the CFAF 26 per kg. seed cotton, the growers would continue to receive the sowing subsidy payments totalling CFAF 210 million annually. In the period 1960-63, the sales subsidy, covering the difference between the guaranteed and the market price, averaged CFAF 12 per kg. lint²; in the same period, the sowing subsidy averaged CFAF 2.40 per kg. of seed cotton actually produced, or CFAF 6.80 per kg. lint.³ The total subsidy of almost CFAF 19 per kg. of lint has been reduced by now to CFAF 4.50 and, on a modest estimate of production, will decline further to about CFAF 2.60 per kg. of lint in the next crop year. In addition, the average f.o.b. price of Chad cotton declined, between the 1962/63 and 1965/66 sales seasons, from CFAF 139 to 130/kg.

72. The processing and marketing costs of COTONFRAN, supplied by the government of Chad, are summarized in the table below.

Table 16
PROCESSING AND MARKETING COST BREAKDOWN
(CFAF per kg. lint)

| | |
|--|----------------|
| Direct sales cost ¹ | 8.910 |
| Direct labour cost at purchasing points and in ginneries | 2.176 |
| Total transport charges | 21.801 |
| General administration | 10.807 |
| Field service | 6.118 |
| Insurance of plant and equipment | 0.361 |
| Amortization | 2.880 |
| Taxes other than export tax | 0.498 |
| Export tax | 17.200 |
| Inventory deterioration | 7.316 |
| Total processing and marketing costs | 78.067 |
| Acquisition cost of lint | 71.358 |
| Total cost price | 149.425 |

¹Packaging material, financing and insurance charges, and commissions.

¹However, the figure of CFAF 71.36 could also be obtained by relating CFAF 26 to a gin yield of 36.4 per cent.

²Computed as the difference between average annual market quotations and the guaranteed price, on volumes actually exported from Chad.

³The sowing subsidy has been discontinued since 1964.

73. Given these costs, the guaranteed sales price of CFAF 151 per kg. lint allowed the Company a profit of CFAF 1.57 per kg., or 1.04 per cent of gross sale revenue. A decline in the actual f.o.b. sales price from CFAF 139 to 130 per kg., and a simultaneous reduction of the price-support subsidy from CFAF 12 to 2.60 per kg. (as foreseen in Table 15 for 1967/68) would leave the Company, and ultimately the Caisse de stabilisation, with a loss of CFAF 17.03 per kg. lint¹, or a total loss of CFAF 735.7 million (close to US\$3 million) on the expected harvest of 1967/68.

74. It should be noted² that the Chad Government has already taken a series of measures to reduce the processing and marketing costs through:

- (a) a reduction in transport rates;
- (b) an increase of ginning yields;
- (c) a reduction in financing costs.

Steps are being taken to achieve a further reduction in transportation and financing costs. It is recognized, however, that these measures will not be sufficient fully to compensate for the simultaneous decline in both the international market price of cotton and in the external price support payments.

75. Significant reductions in transportation costs presuppose additional infra-structural investment and in this respect, only limited possibilities are open to the Chad Government. It has been estimated in a recent thorough survey of the transport arrangements that with all the feasible improvement and economies, about CFAF 100 million could be saved in transport cost on an average harvest of 100,000 tons of seed cotton or 37,000 tons of lint; this averages to CFAF 2.70 per kg. lint. Assuming that all the additional economies in financing and general administration bring the total reduction to CFAF 6.00 per kg., the uncovered loss would be CFAF 11/kg. lint or, transposed to growers' price, CFAF 4 per kg. of seed cotton.

76. This would appear to be the situation behind the statement of the Chad Government that "it is faced with the alternative of either reducing by 25 per cent the price paid for seed cotton to producers, or financing from its own budget the deficit of the cotton price stabilization fund".³ The amount required for this purpose can be estimated at US\$1.9 million, approximately, for the next crop year.⁴ It would be likely to rise thereafter, particularly if international cotton prices continue to decline further in the future.

¹A decline of CFAF 9.0 in the actual selling price plus a decline of CFAF 9.60 in the amount of subsidy minus the profit of CFAF 1.57. Alternatively, the loss can be obtained as the difference between the budgeted cost price of CFAF 149.425 and the sales price of CFAF 130, diminished by the residual subsidy of CFAF 2.60.

²See COM.TD/37, page 2, paragraph 5.

³COM.TD/37, page 3.

⁴Estimate based on the assumptions of paragraph 75 and expected production of 43,200 tons of lint.

77. The producer price paid in Chad is already among the lowest in Africa. It can be observed in Table 17 that grower's prices tend to decline with the country's distance to the coast or, more precisely, are inversely related to the cost of transport between the producing areas and the seaport.

Table 17

COTTON PRODUCER PRICES IN SELECTED AFRICAN
COUNTRIES, 1965/66 AND 1966/67

(CFAF per kg. of seed cotton)

| | | |
|---------------------------|------------------|-------------------|
| Central African Republic: | white | 27.00 |
| | yellow | 22.00 |
| Cameroon: | white and yellow | 28.00 |
| Togo: | single price | 27.00 |
| Dahomey: | white and yellow | 27.00 |
| | unsorted bulk | 26.00 |
| Senegal: | average price | 32.50 |
| Ivory Coast: | variety "Mono" | 29.70-30.20 |
| | variety Allen | 33.50 |
| Nigeria: | qualities 3-2-1 | 25.50-28.80-32.40 |
| Uganda: | unspecified | 30.40 |

Sources: Marchés Tropicaux; Financial Times; UDEAC, Etudes et Statistiques.

78. The main argument against reducing the guaranteed producer price at this time is that such an action could have disastrous effects on the productivity improvement programme which in recent years has begun to show promising results. The success of the programme depends not only on the peasant's willingness to work harder but also on his willingness to make cash outlays on inputs such as pesticides, fertilizers and suitable implements; as in all such programmes, success depends above all on the continued trust on the part of the peasants in the Government extension workers, and in the Government as such. It must be feared that a reduction of the guaranteed price at the present low level of average yields would destroy that trust.

79. Over and above the problem of price, the question of outlets may also come to the fore with the expected increases in production. In the present decade, the COTONFRAN, with the assistance of the Chad Government, has undertaken strenuous efforts to find new export markets for lint. It is shown in Table 18 below that a considerable degree of geographical diversification has already been achieved.

Table 18

GEOGRAPHIC DISTRIBUTION OF CHAD'S EXPORTS OF LINT

(metric tons)

| Country | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 |
|--------------------|--------|--------|--------|--------|--------|------|
| France | 26,763 | 12,715 | 20,859 | 24,000 | 21,000 | |
| Belgium | 1,780 | 2,215 | 3,788 | 3,123 | 3,000 | |
| Germany, Fed. Rep. | 130 | 520 | 776 | 1,424 | 522 | |
| Italy | | 58 | 515 | | | |
| Netherlands | 99 | | | 419 | 236 | |
| Total EEC | 28,772 | 15,508 | 25,938 | 28,966 | 24,758 | |
| United Kingdom | 1,032 | 1,730 | 2,807 | 5,154 | 4,030 | |
| Portugal | 100 | 1,566 | | | | |
| Morocco | | 437 | 527 | 1,369 | 1,322 | |
| Algeria | | 70 | 20 | | 506 | |
| Senegal | 401 | 705 | | | | |
| Angola | | 100 | | | | |
| Sweden | | | 350 | 48 | 678 | |
| Denmark | | | 17 | 723 | | |
| Yugoslavia | | | 1,671 | 1,335 | 5,859 | |
| Switzerland | | | | 22 | 40 | |
| Japan | | | | | 532 | |
| Hong Kong | | | | | 228 | |
| Total | 30,305 | 20,116 | 31,330 | 37,617 | 38,015 | |

Source: Chad delegation (Caisse de stabilization).

80. While in 1961 France alone took 88 per cent of Chad's exports of lint, and the EEC 95 per cent, by 1965 the share of France declined to 55 per cent and that of the EEC to 63 per cent. Substantial new markets have been developed in Yugoslavia, the United Kingdom and a promising one is being developed in Morocco. Within the Common Market, Chad's second largest customer is Belgium-Luxemburg; only small amounts (around 500 tons) could be placed in Germany and Holland.

81. The low level of annual inventory carry-over, apparent from official statistics, indicates that until the last season, Chad did not encounter insuperable obstacles in disposing of its annual export availability. In the last season, however, considerable difficulties developed which pressed Chad to seek outlets through tied sales. There is a possibility that these pressures will grow; and with a larger volume of tied sales, there is also danger of a further deterioration of Chad's terms of trade.

PART III: GENERAL OBSERVATIONS

82. Supplying about 1 per cent of the annual volume of lint traded internationally, Chad is in the position of a typical "price-taker": no action by Chad alone can influence the level of international prices for lint. In view of the continued progress of artificial and synthetic fibres, however, the conclusion of an international cotton price stabilization agreement appears unlikely in the immediate future. Chad's production and export planning should therefore be based on the present trend of cotton prices in the free markets.

83. Between 1955 and 1965, international cotton prices declined by nearly 30 per cent; there was a 10 per cent decline between the period of relative price stability in 1958-62 and 1965. At present, however, cotton acreage reductions in the United States and unexpectedly small harvests in several other major producing countries have led to an expectation of some strengthening in cotton prices. Nonetheless, the possibility of a further decline of perhaps 10 per cent below the present level before the expiry in 1970 of the cotton provisions of the United States Agricultural Act of 1965 should be taken into account.

84. The long-term trend in international prices for cotton is basically a result of two causes: intensifying competition from artificial and synthetic fibres, and the significant productivity increases in cotton cultivation achieved by the major cotton exporting countries; whereas the year-to-year changes are mainly a function of the price and inventory policies of the United States. Given the discrepancy between the actual and potential average yields of cotton in virtually all countries supplying cotton into the international market, the

position of cotton vis-à-vis artificial and synthetic fibres is by no means hopeless. Chad's particular difficulty in marketing its cotton appears to be attributable mainly to the fact that in other exporting countries, the price declines were compensated for by sufficient productivity increases while the productivity improvements achieved in Chad in the past ten years, though by no means inconsiderable, could not be comparable with those marked by the major cotton exporting countries. In the Western European market at least, competition in medium staple lint seems to be concentrated on the length of staple.

85. Until 1964 Chad's cotton lint was subsidized, under a bilateral price maintenance scheme, to the extent of CFAF 19 per kg. on the average (or about 13 per cent of the export price f.o.b. seaport). Although the productivity improvement programme was stepped up in the 1960's, it was not realistic to expect in 1964, when the transitional price support arrangement was negotiated with the EEC, that within four years productivity could be increased to such an extent that the degressive tranches would suffice for the proper functioning of the price support system which would become unnecessary thereafter.

86. Unless Chad obtains additional financial assistance its Government faces two alternatives: either to instruct the Caisse de stabilisation to reduce the price guaranteed to cotton growers, which is already among the lowest in Africa, or to assume an additional heavy financial liability. To reduce the guaranteed price at the present juncture, before further and more substantial productivity gains have materialized, could, however, put into jeopardy the whole productivity improvement programme into which large amounts of effort had already been invested and which in the most recent years has given hopes for accelerating progress in the future. A judgment on the ability of the Chad Government to support the cotton price must take into account the following facts: (a) in the current fiscal year, the Government budget, including foreign aid, balances at roughly US\$45 million; (b) the Government recognizes that a greater staff and more funds could be profitably devoted to the cotton productivity improvement campaign but the budgetary situation does not permit it to do so; (c) the enormous public investment needs of a country with an average income of US\$72 and a population growth approaching 2 per cent per annum.

87. The cotton targets of the First Five-Year Development Programme appear realistic and may be achieved. To ensure their attainment, however, additional financial and/or technical aid to the cotton productivity programme would be advisable. At the end of the present plan period, a sufficient increase in average productivity might be achieved to make it possible to reduce growers' prices (or prices paid to certain categories of growers) while maintaining the average living standard of the cotton-growing peasantry at an acceptable level.¹

¹To leave the growers with unchanged gross receipts it would be sufficient if average yield increased by a percentage amount equal to that of the price decline. Increasing average yields, however, entails increased costs in terms of labour as well as cash outlays for fertilizer, pesticides, etc. To leave the growers with an unchanged income, therefore, the increase in average yields would have to exceed, percentagewise, the decline in producer prices.

88. The net subsidy required to support the growers' prices at the present level would be smaller if it were possible to reduce the processing and marketing costs of cotton lint. To this effect, Chad might also need assistance of the developed countries. In particular, it would seem that the possibilities of a more intensive commercial utilization of cottonseed would warrant a closer study.

89. The cost of lint depends to an important degree on the possibilities of commercial utilization of, and on the prices obtained for, cottonseed. Little direct information is available on the utilization of cottonseed in Chad. The detailed cotton revenue and expenditure accounts submitted by the Chad delegation fail to specify any revenues for cottonseed. Yet a crop of 100,000 tons of seed cotton should leave, after deducting sowing requirement and some use of cottonseed as fuel and waste, roughly 30-40,000 tons of cottonseed for export or processing into oil and cake. At present, there is only one cottonseed oil mill in operation in Chad, atoundou, with an annual output of about 450,000 litres of oil from an input of some 4,000 tons of seed. This leaves an amount in the neighbourhood of 30,000 unaccounted for, presumably wasted. It is thus probable that the unaccounted disappearance of cottonseed makes itself felt in the high cost of lint.

90. Brought to European ports, cottonseed is at present quoted around US\$100 per ton. Groundnuts exported from Chad bear a charge of CFAF 12,500 per ton for land transport (in Chad as well as transit) and loading, and CFAF 3,800-4,600 per ton for sea transport to Europe. Assuming cottonseed to be subject to the same transport cost of US\$64-69 per ton, this would leave a marketable value of US\$36 to US\$31 per ton of cottonseed, or, roughly US\$1.2 million for the unaccounted disappearance from the average season's harvest. Rational utilization of the remainder (approximately 30,000 tons) should make it possible to reduce the cost price of lint. In particular, the new oil mill proposed should be installed as rapidly as possible.

91. Another area in which further significant cost savings might be achieved is that of transport. The vitally important improvement of Chad's external transport links is, of course, a matter of long-term transport development programme for West and Central Africa as a whole. Since the execution of this programme will largely depend on outside aid, it may not be inappropriate to mention here those projects included in a priority list adopted by the Economic Commission for Africa, Sub-Regional Meeting on Economic Co-operation in Central Africa, 18-23 April 1966, which directly concern Chad. The following projects were urgently recommended for assistance and execution:

- (a) extension of the Cameroon railroad Douala-Ngaoundere to Fort Archambault;
- (b) construction of a hard surface road between Fort Lamy and Ngaoundere;
- (c) improvement of the link Maiduguri-Fort Lamy (250 kms.), either by road, with the construction of a road bridge over the river Logone at Fort Foureau, or by extension of the Jos-Maiduguri railroad to Fort Lamy, including construction of a railroad bridge over the river Chari;
- (d) completion of a hard-surfaced road linking Fort Lamy, via Fort Archambault, with Bangui.

The execution of these projects is not only necessary for improving transport conditions for existing productions, in particular cotton; on it ultimately depends the country's economic development as a whole.

92. More immediately, the average total cost of exported lint could be reduced through further development of the internal transportation system and seed cotton warehousing facilities of Chad. This would not only reduce the direct transportation charges but would also have favourable effects on other cost elements. By making possible a better utilization of ginning facilities, better transportation facilities would reduce the average ginning charge per ton. Similarly, commercial utilization of cottonseed would be greatly advanced by an improvement of internal transport possibilities.

93. In regard to commercial outlets for the expected increases in the production of lint, it is possible that the difficulties felt at present will gradually diminish as the 1 1/16 inches and 1 3/32 inches staple varieties of lint assume a more important place in Chad's total production. Nonetheless, it might be worthwhile to explore additional sales possibilities in Africa. For example, in neighbouring Nigeria, who is a traditional exporter of cotton, the export availabilities of lint have been declining for several years in consequence of a rapid growth of domestic consumption. Similar situations may be found, or may soon emerge, in other West and Central African countries whose cotton textile industries are in process of rapid expansion. It might be possible, in bilateral consultation, to agree on a plan according to which spinning mills in the neighbouring countries close to Chad border might be supplied by lint from Chad while cotton produced in areas more favourably located vis-à-vis the seaports would be exported. In this way, genuine savings of transport cost could be achieved through closer co-operation of the neighbouring countries.

94. In conclusion, the economic promotion of Chad can be achieved only by means of complete attainment, within the time-limits set, of the objectives set forth in the 1966-1970 Five-Year Plan. Considerable problems of financing still remain to be solved before this target can be attained.

