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COUNTRY INDUSTRIAL DEVELOPMENT PROFILE  
OF GHANA\*

Prepared by the

International Centre for Industrial Studies

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## PREFACE

The International Centre for Industrial Studies, Regional and Country Studies Section, has undertaken, under its 1978-1979 work programme, the preparation of a series of Country Industrial Development Profiles. These profiles are desk studies, providing statistical and economic analyses of the industry sector, its growth, present status and future prospects. It is hoped that the profiles will provide analyses of use to programming technical assistance, industrial redeployment and investment co-operation activities.

This profile on Ghana is based on documents, reports and studies available at UNIDO Headquarters. No field survey has been undertaken and some of the data on industry are not up-to-date.

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

CONTENTS

| <u>Chapter</u>  | <u>Page</u> |
|---|-------------|
| Summary and conclusions   | 5           |
| I. General economic background  | 6           |
| II. Industrial structure and trends   | 11          |
| III. Main features of industrial development objectives and strategy; institutions and implementation | 17          |
| IV. Analysis of the main constraints on the development of industry                                   | 27          |
| V. Industrial development prospects   | 29          |

EXPLANATORY NOTE

References to dollars (\$) are to United States dollars, unless otherwise stated.

The monetary unit in Ghana is the cedi (¢). In December 1975 the value of the (¢) in relation to the United States dollar was US \$1 = 1.154 ¢.

Totals in tables may not add precisely because of rounding.

SUMMARY AND CONCLUSIONS

Over the period 1968-1974, the share of manufacturing in Ghana's GDP has, in real terms, remained virtually unchanged at around 12 per cent. The share of agriculture - which is the source of subsistence for roughly 60 per cent of the economically active population - has been changing very slowly over that period, reaching 29.7 per cent in 1974, or 41.5 per cent if forestry and cocoa production are included. Expressed in constant prices, GDP has grown at an average of 0.6 per cent annually during this period. A persistent constraint on faster growth is the foreign exchange shortage, which, although relieved somewhat in years with high cocoa prices and consequently good export earnings, causes severe bottlenecks and other disruptions in all sectors of the economy. Failure to diversify from reliance upon cocoa export earnings, coupled with the continuing need of infant industries to import spare parts, raw materials and component inputs, conspire to reduce capacity utilization over a wide range of industries.

The current five-year plan allocates 4.3 per cent of total resources to manufacturing, and 25.5 per cent to agriculture. The stated objectives of the plan are to lift the foreign exchange constraint through import substitution of raw materials, greater exports of manufactured goods (especially those coming from small-scale enterprises), and less reliance upon imported food. It is hoped that success in achieving these aims will alleviate the high rates of inflation which have recently dislocated industrial planning.

Prospects for industrialization turn initially on success in agrobusiness, that is, the processing of agricultural goods for export and domestic use. Not only would the balance of payments be assisted thereby, but linkages between hitherto disparate parts of the economy would be forged.

## Chapter I

### GENERAL ECONOMIC BACKGROUND

Ghana covers an area of 288,600 square kilometres, of which 59 per cent is agricultural land and 10 per cent forest (excluding woodland pastures). It is primarily an agricultural country, and cocoa, of which it is the world's largest producer, is by far the most important export. Inadequate production, which has caused Ghana's share of world cocoa output to fall to 24 per cent, coupled with fluctuating prices have recently caused great difficulties in economic management.

Mining and timber industries are next in importance after agriculture as export earners. Oil has recently been found offshore by the United States company Agri-Petro, and a thirty-year development agreement has been signed with the Ghanaian Government. Manufacturing is still of slight importance.

There are two deep-water harbours, at Takoradi and Tema, which are the only ports handling imports and exports. The port at Tema is considered to be one of the finest in West Africa. The railway, which links the coast with the mining areas, has a total length of 950 kilometres, but there are no railways in the north or central regions. However, the country has over 32,000 kilometres of motorable roads, of which 3,300 kilometres are paved. Good roads run along the coast and from Accra through Kumasi to Tamale and Bole in the north, connecting the agricultural and mining areas with the ports and urban centres.

The past development of Ghana has been marked by slow growth in government revenues and rapid growth of government expenditure; misallocation of development funds; high dependence on imports and stagnating exports with over-reliance on a few traditional export items (cocoa and, to a lesser extent, timber, gold and diamonds); over-dependence on foreign aid; a low level of productivity - especially in agriculture; the lack of a rational industrialisation policy leading to inefficiency in import substitution, and underutilisation of productive capacity.

The years 1972-1974 were designated "agricultural years" after the declaration, in 1972, of "Operation Feed Yourself". Government policies attempted to increase the output of food and raw materials for industry; increase export earnings; reduce the budget deficit; rehabilitate and expand other vital sectors of the economy; and establish proper social services.

Although agricultural output appears to have increased considerably, industrial production and investment have been badly affected by foreign exchange shortages. Inflation is accelerating but higher prices do not in themselves constrain Ghana's imports.

The mid-1975 population estimate is 9.87 million, up from 8.5 million in 1970. This gives an average growth of 2.7 per cent per year. The urban areas have been growing more quickly than rural areas: the share of the former in total population was 15 per cent in 1965 and 17.4 per cent in 1970. The female labour-force has increased faster than the male labour-force during these years, rising from 38 per cent of the economically active population in 1960 to 41 per cent in 1970.

The breakdown of the labour-force by economic activity is difficult to establish. Occupational specialization is not common in rural areas, and there are considerable seasonal and intra-family variations in work. Data for 1967 suggest 56 per cent of the labour-force was involved in agriculture, forestry and fishing,<sup>1/</sup> and some 9 per cent in manufacturing. Transport, construction and mining involved around 9 per cent among them. Comparing these figures with 1960 estimates shows little clear change.

The gross domestic product (GDP) amounted to ₵ 4,660 million in 1974. In terms of the 1974 estimated population, this gives an income per capita of ₵ 490, or \$ 425. By sector, the share of agriculture and livestock has risen slowly in real terms over the period 1968-1974, from 25.9 per cent in 1968 to 29.7 per cent in 1974. Forestry has remained more or less constant at 3.5 to 4 per cent, while the share of manufacturing has vacillated between 11.4 and 14.3 per cent. There is no clear trend in the share of manufacturing in GDP, although the three best years, 1969-1971, correspond to

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<sup>1/</sup> The 1975 estimate is around 60 per cent; see Five-Year Development Plan, 1975/1976-1979/1980, Ghana, p. 1.



years of rising export earnings from cocoa just before the 1971 slump in cocoa prices. More exact data on the output of agriculture and manufacturing are not available, however, owing to the smuggling of cocoa prevalent in the former sector, and the predominance of small-scale and unreported activity in the latter.

Over the period 1965-1974 GDP at current prices rose by 16.7 per cent annually, or at 11.0 per cent annually in per capita terms. But in terms of constant prices, growth was slight, at around 0.6 per cent per year. There was a slight fall in GDP in 1971-1972 (see Table 1).

Gross fixed investment represented about 11 per cent of GDP in 1968, and this increased to 12.4 per cent in 1971, then fell back to 8.6 per cent in the following year. By 1974 it had declined to 7.9 per cent.

Foreign trade is a vital component of Ghana's national income. Agricultural commodities dominate Ghanaian exports, while capital equipment and raw materials dominate its imports. In current prices exports rose quickly, from £ 396 million in 1968 to £ 956 million in 1974. But in constant 1968 prices export earnings rose to a peak in 1970 and fell thereafter, by 1974 being worth less than half their 1968 value.

Imports have risen over this period, but have fluctuated considerably. Between 1969 and 1974 imports of consumer goods rose by 15.8 per cent per year, fuels by 46.5 per cent, raw materials by 27.4 per cent and capital goods by 18 per cent.

The overall volatility of the external sector in Ghana's national income can be judged from Table 2, where exports and imports are shown as a share of GDP. The import co-efficient shows a low of 13.9 per cent in 1972 and a peak of 26 per cent in 1965; while exports represented 13.8 per cent of GDP in 1966 and 1971, and a peak of 19.6 per cent in 1970.

The tendency for the economy to generate rapid import growth when the domestic economy is buoyant has been called the "Achilles heel" of Ghana in the latest development plan,<sup>2/</sup> and indeed most of the measures proposed therein attempt to diminish the dependence of the economy on imports. The structure of the economy is at present such that the planned 5.5 per cent growth rate implies a 6 per cent annual growth in import values<sup>3/</sup> - a disequilibrium that must be quickly rectified.

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2/ Ibid., p. 2.

3/ Ibid., p. 2.

**Table 1. Changes in composition of GDP, by economic activity**  
(Percentage)

| Economic activity                                  | Y e a r s |         |         |         |         |         |         |         |         |         |  |
|--|-----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--|
|  | 1965      | 1966    | 1967    | 1968    | 1969    | 1970    | 1971    | 1972    | 1973    | 1974    |  |
| GDP total (in new cedis)                           | 1,466.4   | 1,518.4 | 1,504.3 | 1,700.2 | 1,998.9 | 2,258.6 | 2,500.5 | 2,815.4 | 3,501.4 | 4,660.1 |  |
| GDP total (in constant 1968 cedis)                 | -         | -       | -       | 1,700.2 | 1,799.9 | 1,921.7 | 2,029.3 | 1,978.4 | 2,088.1 | 2,195.6 |  |
| GDP total  | 100.0     | 100.0   | 100.0   | 100.0   | 100.0   | 100.0   | 100.0   | 100.0   | 100.0   | 100.0   |  |
| Agriculture, hunting, forestry and fishing         | 40.8      | 43.2    | 40.2    | 42.8    | 46.6    | 47.6    | 44.9    | 47.3    | 49.4    | 51.5    |  |
| Mining and quarrying                               | 2.4       | 2.7     | 2.9     | 2.5     | 2.0     | 1.7     | 1.6     | 2.3     | 2.3     | 2.1     |  |
| Manufacturing                                      | 9.7       | 10.2    | 11.9    | 12.6    | 11.9    | 11.0    | 11.0    | 10.9    | 11.7    | 10.8    |  |
| Electricity, gas and water                         | 0.4       | 0.6     | 0.8     | 1.0     | 0.9     | 1.0     | 0.9     | 0.9     | 0.8     | 0.7     |  |
| Construction                                       | 6.0       | 4.8     | 4.9     | 4.3     | 3.8     | 4.2     | 4.7     | 3.7     | 3.7     | 4.6     |  |
| Wholesale and retail trade, restaurants and hotels | 18.6      | 16.1    | 15.1    | 14.0    | 14.5    | 15.2    | 16.6    | 14.2    | 14.5    | 15.1    |  |
| Transport, storage and communications              | 4.5       | 4.1     | 4.0     | 3.7     | 4.0     | 4.3     | 4.5     | 4.5     | 3.7     | 3.5     |  |
| Other <sup>a/</sup>                                | 17.6      | 18.2    | 20.3    | 19.2    | 16.2    | 15.1    | 15.8    | 16.3    | 13.8    | 11.8    |  |

Source: UNIDO, based on United Nations, African Statistical Yearbook, 1974, Part 2 (West Africa); and United Nations, Yearbook of National Accounts Statistics, 1976; Government of Ghana, Five-Year Development Plan, 1975/1976-1979/1980, p. 7.

<sup>a/</sup> Financing, insurance, real estate and business services; community, social and personal services, and public administration and defence.

**Table 2. Foreign trade**  
(Millions of new cedis at current prices)

| Year | Exports<br>(1) | Imports<br>(2) | Trade<br>balance<br>(3) | Export<br>co-efficient <sup>a/</sup><br>(4) | Import<br>co-efficient <sup>b/</sup><br>(5) |
|------|----------------|----------------|-------------------------|---|---|
| 1965 | 249.4          | 381.8          | -132.4                  | 17.0  | 26.0  |
| 1966 | 209.2          | 301.5          | - 92.3                  | 13.8  | 19.8  |
| 1967 | 224.2          | 261.5          | - 37.3                  | 14.9  | 17.4  |
| 1968 | 313.0          | 313.9          | - 0.9                   | 18.4  | 18.5  |
| 1969 | 307.6          | 354.4          | - 46.8                  | 15.4  | 17.7  |
| 1970 | 441.7          | 419.1          | 22.6                    | 19.6  | 18.5  |
| 1971 | 345.4          | 442.5          | - 97.1                  | 13.8  | 17.7  |
| 1972 | 514.0          | 392.8          | 121.2                   | 18.2  | 13.9  |
| 1973 | 660.1          | 523.3          | 136.8                   | 18.9  | 15.0  |
| 1974 | 747.2          | 943.7          | -196.5                  | 16.0  | 20.2  |
| 1975 | 943.5          | 925.8          | 17.7                    | -   | -   |

**Source:** United Nations, African Statistical Yearbook, 1974 and 1975.

$$a/ (4) = \frac{(1)}{GDP} \times 100.$$

$$(5) = \frac{(2)}{GDP} \times 100.$$

In 1974 about 85 per cent of Ghana's exports were sold to Europe and North America, while only 2 per cent were sold to other African countries.

Chapter II

INDUSTRIAL STRUCTURE AND TRENDS

Employment distribution by branch of industry

In 1967 total employment in manufacturing amounted to about 260,000 persons.<sup>4/</sup> Since only 40,219 persons were employed in large establishments, this implies that small-scale enterprises (those with 30 or fewer workers) employed about 85 per cent of the total manpower in manufacturing. The annual growth of small enterprises was barely 1.5 per cent between 1960 and 1967, while employment in large-scale manufacturing enterprises registered growth rates, between 1963-1967, 1963-1970, and 1963-1972 of 6, 8.8 and 6.6 per cent, respectively. The major contributors to the absolute increase in manufacturing employment between 1963 and 1970 were the textiles and clothing sector and, to a lesser degree, food and chemical products.

Value of industrial production and structure of the manufacturing sector

The composition of the output of large-scale enterprises in current prices is given in Table 3. The value of production increased from \$ 93 million in 1963 to \$ 572.4 million in 1972, the average annual rate of growth during these years being 22.4 per cent. The real growth, however, at 8.7 per cent was much more modest. The major contributors to the growth of manufacturing output were, in order of importance, basic metals (mainly due to the alumina smelter at Tema), food, textiles, and non-metallic minerals.

In general, the importance of the manufacturing sector, measured by the percentage contribution of its value added to total GDP, increased annually by 8.4 per cent for the period considered (see Table 4). Value

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<sup>4/</sup> AID, Ghana, Rev. No. 321, September 1975.

**Table 3. Estimated total value of manufacturing output  
(of large-scale enterprises)**

(Millions of new oedis at current prices)

| Branch                          | Gross output |             |             |             |             |             |             |             |
|---------------------------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                                 | 1963         | 1966        | 1967        | 1968        | 1969        | 1970        | 1971        | 1972        |
| Food                            | 5.44         | 12.40       | 20.93       | 25.02       | 33.93       | 73.70       | 72.23       | 108.12      |
| Beverages <sup>a/</sup>         | 13.89        | 21.48       | 18.49       | 24.42       | 25.29       | 32.86       | 43.70       | 45.63       |
| Tobacco                         | 14.56        | 20.50       | 20.99       | 25.90       | 25.65       | 26.11       | 27.89       | 34.20       |
| Textiles                        | 2.92         | 8.90        | 19.08       | 32.84       | 33.94       | 65.86       | 76.86       | 83.41       |
| Clothing and footwear           | 2.14         | 5.17        | 8.93        | 14.68       | 19.45       | 9.96        | 7.60        | 9.81        |
| Leather and leather products    | 0.44         | 0.42        | 0.47        | 0.66        | 0.78        | 1.30        | 1.26        | 1.55        |
| Wood manufactures               | 20.17        | 22.71       | 23.66       | 24.11       | 30.45       | 34.05       | 32.20       | 43.94       |
| Furniture and fixtures          | 2.79         | 2.90        | 2.34        | 2.44        | 2.38        | 3.19        | 3.55        | 3.71        |
| Paper and paper products        | 0.85         | 2.81        | 4.98        | 6.17        | 9.05        | 10.69       | 4.43        | 7.90        |
| Printing and publishing         | 4.09         | 5.44        | 5.62        | 6.71        | 6.97        | 7.67        | 7.41        | 11.52       |
| Chemicals and chemical products | 8.95         | 14.90       | 19.76       | 19.76       | 27.98       | 26.27       | 32.95       | 30.01       |
| Petroleum and coal products     | 2.04         | 5.22        | 6.06        | 6.38        | 6.54        | 33.61       | 38.31       | 39.71       |
| Rubber products                 | 0.53         | 1.53        | 0.25        | 0.24        | 0.61        | 8.39        | 10.98       | 13.59       |
| Non-metallic mineral products   | 1.31         | 2.96        | 3.40        | 9.75        | 12.78       | 14.44       | 16.56       | 16.39       |
| Basic metals                    | 0.54         | 0.86        | 1.50        | 1.08        | 1.21        | 57.81       | 57.43       | 77.57       |
| Metal transforming              | 11.40        | 12.47       | 15.28       | 20.40       | 22.04       | 32.01       | 46.17       | 39.97       |
| Miscellaneous                   | <u>0.98</u>  | <u>1.35</u> | <u>1.26</u> | <u>2.34</u> | <u>3.80</u> | <u>3.10</u> | <u>3.55</u> | <u>5.40</u> |
| Total manufacturing             | 93.04        | 142.02      | 170.81      | 222.90      | 262.85      | 441.02      | 486.08      | 572.43      |

Source: United Nations, Growth of World Industry, Vol. I, various issues.

<sup>a/</sup> Excluding manufacture of raw gin.

**Table 4. Composition of manufacturing value added by branch of industry**  
(Millions of new cedis at current prices)

| Branch                          | 1963         | 1966         | 1967         | 1968          | 1969          | 1970          | 1971          | 1972          |
|---------------------------------|--------------|--------------|--------------|---------------|---------------|---------------|---------------|---------------|
| Food                            | 2.19         | 3.32         | 3.97         | 7.40          | 12.94         | 24.44         | 22.46         | 45.52         |
| Beverages <sup>a/</sup>         | 8.33         | 15.34        | 13.69        | 18.07         | 17.90         | 22.97         | 34.25         | 32.00         |
| Tobacco                         | 11.71        | 18.01        | 17.70        | 21.55         | 21.70         | 19.53         | 22.83         | 27.39         |
| Textiles                        | 1.35         | 4.52         | 10.88        | 15.93         | 13.17         | 25.28         | 30.10         | 32.09         |
| Clothing and footwear           | 0.94         | 1.86         | 4.36         | 6.73          | 9.06          | 5.24          | 3.94          | 5.41          |
| Leather and leather products    | 0.18         | 0.17         | 0.19         | 0.28          | 0.38          | 0.51          | 0.40          | 0.81          |
| Wood manufactures               | 12.10        | 14.69        | 13.00        | 8.86          | 16.16         | 18.54         | 16.91         | 25.68         |
| Furniture and fixtures          | 1.62         | 1.72         | 1.26         | 1.28          | 1.34          | 1.64          | 2.00          | 2.05          |
| Paper and paper products        | 0.52         | 1.42         | 2.67         | 3.26          | 4.88          | 4.94          | 1.97          | 4.08          |
| Printing and publishing         | 2.83         | 4.00         | 4.38         | 5.17          | 4.20          | 4.57          | 5.54          | 6.10          |
| Chemicals and chemical products | 3.65         | 7.03         | 8.48         | 7.29          | 11.42         | 8.76          | 11.86         | 10.04         |
| Petroleum and coal products     | 1.88         | 4.35         | 5.42         | 5.27          | 6.01          | 32.73         | 37.06         | 38.71         |
| Rubber products                 | 0.42         | 0.81         | 0.16         | 0.16          | 0.36          | 5.19          | 7.20          | 8.79          |
| Non-metallic mineral products   | 0.61         | 1.46         | 1.70         | 3.79          | 5.54          | 5.43          | 5.34          | 5.24          |
| Basic metals                    | 0.26         | 0.26         | 0.86         | 0.46          | 0.43          | 25.25         | 27.04         | 30.25         |
| Metal transforming              | 2.94         | 5.99         | 7.99         | 8.57          | 9.23          | 15.03         | 20.49         | 17.63         |
| Miscellaneous                   | 0.49         | 0.72         | 0.69         | 0.98          | 2.58          | 2.02          | 1.93          | 2.78          |
| <b>Total manufacturing</b>      | <b>52.02</b> | <b>85.67</b> | <b>97.89</b> | <b>115.05</b> | <b>136.30</b> | <b>222.07</b> | <b>251.32</b> | <b>294.57</b> |

Source: United Nations, Growth of World Industry, op.cit.

<sup>a/</sup> Excluding manufacture of raw gin.

added data for each branch of activity corroborate what has already been indicated regarding the increasing importance of the basic metals, textile and food sectors. The table shows, however, the diminishing significance of other sectors, such as beverages, tobacco and wood manufacture, although their share in the percentage composition of value added is quite high.

Another important question in relation to the composition of manufacturing output is that of its distribution by types of product. While in 1963 the composition of manufacturing value added was 77.9 per cent consumer goods, and 16.4 per cent intermediate products, the respective distribution in 1972 was 49 per cent and 34.5 per cent, the output of capital goods remaining relatively small. These data are clearly indicative of the concentration of Ghanaian industry in the production of consumer goods.

Comparison of the employment data with the figures of value added shows that productivity varies substantially. The highest figures for the value added per person employed (see Table 5) are (not surprisingly) in the manufacture of petroleum and coal products, followed by the tobacco industries and, thereafter, by the basic metals and beverages industries. In contrast, those recorded for the manufacture of textiles, clothing and chemical products are relatively low. These disparities are related to the average size of the establishments and the varying degrees of capital-intensity characterising the activities in question.

Comparing the data in Table 6 with figures for raw material imports shows that less than half of the value of raw material requirements was purchased locally. In 1969, total raw material inputs were £ 125.55 million, while approximately £ 87 million worth of raw materials and intermediate goods were imported. Similarly, in 1970, inputs totalled £ 218.95 million and imported inputs totalled £ 107 million. Because of this excessive reliance upon imported raw materials, industry has been plagued by under-utilisation of installed capacity. This vulnerability is unavoidable while the scope for imports varies yearly.

In 1969 the stock of fixed capital per employee in large-scale industry was reported to be around £ 880 at current prices.<sup>5/</sup> Assuming that in the same year employment was 52,500, it is estimated that the stock of fixed capital of the large-scale manufacturing sector reached £ 42 million.

<sup>5/</sup> IBRD, Towards Efficient Self-Reliance: The Role of Manufacturing in Ghana, 1974.

**Table 5. Productivity by branch of industry**  
(New cedis at current prices)

| Branch                          | Value added per person employed |        |        |        |        |        |
|---------------------------------|---------------------------------|--------|--------|--------|--------|--------|
|                                 | 1963                            | 1966   | 1967   | 1970   | 1971   | 1972   |
| Food                            | 1,041                           | 1,178  | 1,470  | 4,652  | 3,838  | 7,136  |
| Beverages <sup>g/</sup>         | 5,055                           | 7,411  | 6,195  | 8,174  | 11,855 | 9,521  |
| Tobacco                         | 19,260                          | 12,603 | 10,034 | 20,176 | 27,146 | 34,627 |
| Textiles                        | 966                             | 1,547  | 2,741  | 2,264  | 2,488  | 2,465  |
| Clothing and footwear           | 2,831                           | 1,341  | 2,359  | 1,331  | 1,255  | 1,879  |
| Leather and leather products    | 1,169                           | 1,037  | 1,067  | 876    | 678    | 1,465  |
| Wood manufactures               | 942                             | 1,168  | 1,238  | 1,441  | 1,442  | 2,044  |
| Furniture and fixtures          | 579                             | 561    | 724    | 910    | 1,120  | 1,288  |
| Paper and paper products        | 2,291                           | 2,563  | 3,459  | 6,474  | 2,435  | 5,191  |
| Printing and publishing         | 1,434                           | 1,500  | 1,512  | 1,470  | 1,640  | 1,794  |
| Chemicals and chemical products | 2,019                           | 3,565  | 3,114  | 3,632  | 4,635  | 3,770  |
| Petroleum and coal products     | 8,507                           | 11,417 | 14,728 | 84,793 | 92,419 | 97,753 |
| Rubber products                 | 592                             | 971    | 871    | 4,597  | 5,000  | 5,463  |
| Non-metallic mineral products   | 725                             | 740    | 1,142  | 2,603  | 2,257  | 2,118  |
| Basic metals                    | 977                             | 625    | 2,188  | 9,712  | 9,748  | 12,307 |
| Metal transforming              | 905                             | 1,583  | 1,493  | 3,035  | 3,790  | 3,606  |
| Miscellaneous                   | 1,756                           | 1,542  | 1,204  | 2,371  | 2,226  | 3,048  |

Source: United Nations, Growth of World Industry, op.cit.

<sup>g/</sup> Excluding manufacture of raw gin.



Table 6. Requisition of raw material inputs by  
branch of industry, 1969-1972

(Millions of new cedis at current prices)

| Branch                          | Input of raw materials<br>(Gross output less value added) |               |               |               |
|---------------------------------|---|---------------|---------------|---------------|
|                                 | 1969  | 1970          | 1971          | 1972          |
| Food                            | 20.99   | 49.26         | 52.77         | 62.60         |
| Beverages <sup>a/</sup>         | 7.39  | 9.89          | 9.45          | 13.63         |
| Tobacco                         | 3.95  | 6.58          | 5.06          | 6.81          |
| Textiles                        | 20.77   | 40.58         | 46.76         | 51.32         |
| Clothing and footwear           | 10.39   | 4.72          | 3.66          | 4.40          |
| Leather and leather products    | 0.40  | 0.79          | 0.86          | 0.74          |
| Wood manufactures               | 14.29   | 15.51         | 15.29         | 18.26         |
| Furniture and fixtures          | 1.04  | 1.55          | 1.55          | 1.66          |
| Paper and paper products        | 4.17  | 5.75          | 2.46          | 3.82          |
| Printing and publishing         | 2.77  | 3.10          | 1.87          | 5.42          |
| Chemicals and chemical products | 16.56   | 17.51         | 21.09         | 19.97         |
| Petroleum and coal products     | 0.53  | 0.88          | 1.25          | 1.00          |
| Rubber products                 | 0.25  | 3.20          | 3.78          | 4.80          |
| Non-metallic mineral products   | 7.24  | 9.01          | 11.22         | 11.15         |
| Basic metals                    | 0.78  | 32.56         | 30.39         | 47.32         |
| Metal transforming              | 12.81   | 16.98         | 25.68         | 22.34         |
| Miscellaneous                   | 1.22  | 1.08          | 1.62          | 2.62          |
| <b>Total manufacturing</b>      | <b>125.55</b>   | <b>218.95</b> | <b>234.76</b> | <b>277.86</b> |

<sup>a/</sup> Excluding manufacture of raw gins.

Chapter III

MAIN FEATURES OF INDUSTRIAL DEVELOPMENT OBJECTIVES AND STRATEGY;  
INSTITUTIONS AND IMPLEMENTATION

The development plan

In recognition of the basic structural imbalances and the continued weaknesses of the economy, the most recent development plan (1975-1980) gives top priority to projects which will make the most contribution to foreign exchange earnings, and promote linkages between agriculture and industry.

The plan assumes that:

- Population will grow at the rate of 2.7 per cent and per capita consumption by at least 2 per cent annually;
- The capital output ratio will average 3 over the plan period;
- About 6 per cent of GDP will have to be allocated to depreciation of capital;
- Real exports will grow by 2 per cent annually;
- Government consumption expenditure will grow in real terms at about 4 per cent annually.

The average growth rate of the economy is set at 5.5 per cent per annum while that of manufacturing value added is set at 7.4 per cent (see Table 7).

Overall, the plan commits ₦ 166.6 million (4.3 per cent of total allocations) to manufacturing, as against ₦ 999 million (25.5 per cent of the total) to agriculture, over the five-year period. This money will, it is hoped, achieve the following objectives:

- (a) Improved resource utilization by fixing prices which more accurately reflect opportunity costs and the rate of inflation;
- (b) Competitive stimulus to industry by allowing firms greater freedom in managerial and entrepreneurial decisions;

**Table 7. National accounts projections (valued at 1968 prices)**  
(Millions of new cedis)

|                        | 1972     | 1973     | 1974     | 1975     | 1976     | 1977     | 1978     | 1979     | 1980     |
|------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Private consumption    | 1,486.60 | 1,560.93 | 1,670.34 | 1,720.93 | 1,806.98 | 1,897.32 | 1,992.18 | 2,091.18 | 2,195.74 |
| Government consumption | 226.50   | 277.16   | 288.25   | 299.78   | 311.77   | 324.24   | 337.21   | 350.69   | 364.72   |
| Capital formation      | 117.90   | 173.02   | 222.59   | 276.80   | 335.96   | 400.56   | 471.05   | 548.73   | 632.64   |
| Exports                | 406.29   | 414.42   | 422.70   | 431.16   | 439.78   | 448.58   | 457.55   | 466.70   | 476.03   |
| Less imports           | 291.50   | 330.52   | 362.29   | 396.87   | 434.45   | 475.35   | 519.90   | 567.61   | 621.57   |
| GNP <sup>a/</sup>      | 1,985.79 | 2,095.01 | 2,210.23 | 2,331.80 | 2,460.04 | 2,595.35 | 2,738.09 | 2,888.69 | 3,047.56 |
| Trade gap              | + 107.29 | + 83.90  | + 60.41  | + 34.29  | + 5.33   | - 32.04  | - 62.35  | - 100.91 | - 145.54 |
| Savings ratio          | 0.11     | 0.12     | 0.12     | 0.13     | 0.14     | 0.15     | 0.15     | 0.16     | 0.16     |
| Capital ratio          | 0.06     | 0.08     | 0.10     | 0.12     | 0.14     | 0.15     | 0.17     | 0.19     | 0.21     |
| Import ratio           | 0.15     | 0.15     | 0.17     | 0.17     | 0.18     | 0.18     | 0.19     | 0.20     | 0.20     |
| Consumption per capita | 164.37   | 167.12   | 170.91   | 174.71   | 178.73   | 182.61   | 186.71   | 190.80   | 195.18   |

Source: Republic of Ghana, Guidelines for the Five-Year Development Plan 1975-1980, January 1975, page 10, Table A.4.

a/ Corrected for terms of trade.

- (c) Fuller utilization of the relatively abundant land, natural resources and manpower by programmes which will enhance the quality and efficiency of indigenous substitutes;
- (d) Larger contributions by small-scale units in industry and agriculture;
- (e) Fuller utilization of existing capacity; and
- (f) Adequate supply of spare parts.

Policy measures to encourage the use of local raw materials include establishing industries to process wood, bauxite, oil palm, ground nuts, etc. The manufacture of rope and fibre products is to use by-products of coconut and sisal while shoe and travel bag production will depend upon leather from livestock.

Policies have been introduced to exploit complementarities between the industrial and the agriculture sectors, and to encourage public and private firms to establish agro-based industries. Food processing firms are to produce cocoa products from the cocoa beans which were previously exported, as well as cereals, edible oils, dairy products and sugar. Fertilizers, simple tools and equipment for agriculture are also to be produced locally.

Socio-economic problems arising from the concentration of industrial activities in the Accra-Tema metropolitan area have called for policy measures to disperse new industry. The Ministry of Industry is therefore restricting the granting of licences for the expansion of old plants and the establishment of new ones in the Accra-Tema region, where around half of the country's manufacturing plants are currently located.

Emphasis has been placed on establishing basic industries such as steel, aluminium and chemicals. Tema Steel Works will utilize the iron ore deposits of Shieme Hills. The present policy aims at expanding existing metal industries for the production of spare parts and tools. Moreover, measures have been taken to assist the establishment of chemical and petrochemical industries based on local resources of salt and the by-products of the petroleum refinery. Priority is given to the production of fertilisers and caustic soda.

Financial incentives include (i) tax holidays of up to five years; (ii) accelerated depreciation rates for building plants and equipment; (iii) exemption from import and customs duties on machinery, raw materials, spare parts and fuel; (iv) deferment of company registration fees; (v) guaranteed remittance of capital profits; and (vi) an employment tax credit for a period of up to ten years. Other financial incentives include the Credit Guarantee Scheme of the Bank of Ghana which guarantees the loans of commercial banks, encouraging bank lending to marginal producers. Additional monetary incentives are provided by the Bank of Ghana in the form of lower rates of interest on bank loans, although the present high rate of inflation calls for higher interest rates.

Non-financial incentives take the form of sites for plants, and water and power for operations. The Ghana Export Company, Limited, helps firms in marketing their products abroad. Plans are afoot to streamline procedures for industrial and import licence approval.

Other measures proposed include (i) the provision of information about sources of raw materials, machinery and skilled manpower; (ii) the dissemination of research findings on production processes, and the use of local raw materials; and (iii) the provision of managerial advice to investors and entrepreneurs.

#### Institutional infrastructure for industry

Within the Government, the National Economic Planning Council (NEPC) has responsibility for advising on economic development policy. NEPC is particularly concerned with development priorities; resource mobilization; and the preparation, monitoring and implementation of national development plans. It is the ultimate decision-maker in all matters affecting Ghana's industrialisation.

The Ministry of Economic Planning (MEP) was established as an independent body in 1974. It is responsible for formulating economic policies, preparing and reviewing economic plans as well as controlling and implementing them, and advising the Government on the day-to-day management of the economy.

In addition to these and the Ministries of Finance and Industry, a number of other institutions guide and assist industrial development. Chief among them is the Bank of Ghana which until 1969 concerned itself almost entirely with the traditional functions of a central bank, leaving development finance to other institutions such as the National Investment Bank (NIB) and the Agricultural Development Bank (ADB). The Bank of Ghana - through its Development Finance Department (DFD) - has since become involved in the development of the industrial and agricultural sectors of the economy in order to supplement the available medium- and long-term credit.

DFD has three activities: (i) institutional financing; (ii) a technical advisory unit; and (iii) a credit guarantee scheme. Institutional financing involves making direct loans to ADB and NIB to increase their resources for lending to agriculture and industry. The technical advisory unit is engaged in identifying new areas of investment and preliminary feasibility studies. Projects initiated by DFD are then promoted through negotiations with credit institutions, which may be granted credit for the purpose of financing a project. This unit also monitors projects. The primary purpose of this technical unit is to fill a void in the operations of the three commercial banks in Ghana, which handle 95 per cent of credit to small borrowers, but do not have the machinery for undertaking project appraisal or for following them up. Limitations of manpower, however, have restricted the actual operations of this unit.

Another important function of DFD is the operation of the credit guarantee scheme for small borrowers. The objective of this programme is to encourage the commercial banks to be more liberal in granting loans to small Ghanaian entrepreneurs. This scheme basically provides insurance cover to credit institutions against possible losses which may occur as a result of default by small borrowers. All three commercial banks in the country, as well as ADB and NIB, are able to obtain guarantees under this programme.

Another credit institution is the Development Finance Unit (DFU) of the Ghana Commercial Bank (GCB), of which the Government is the sole shareholder. In addition to processing applications for medium-term loans, DFU carries out detailed studies of customers' management practices. Post-

financing activities involving business management services are also available to assist customers to run their enterprises on sound business principles.

In October 1972, GCB began to participate directly in industrial undertakings by way of equity subscription: the GCB decree of 1972 permits it to grant medium- and long-term credit of up to 20 per cent of the savings deposits it holds. Further changes in the structure and operation of DFU are envisaged to allow it to perform adequately this new task. The proposed expanded financial activities of GCB are potentially significant as it controlled about 55 per cent of total assets of the commercial banking system in 1972, and hence is the major commercial banking institution in the country.

NIB, which was established in 1963 as an autonomous joint State-private bank, is the main development finance institution in Ghana. Its objectives are: (a) to assist in the establishment of new enterprises and to facilitate the participation of external and internal capital; (b) to encourage Ghanaian business concerns; and (c) to identify emerging investment opportunities and bring together capital, capable management and technical expertise.

NIB operates in all sectors of the Ghanaian economy, whether public or private, industry or agriculture. It is empowered to grant medium- and long-term loans, to purchase securities or interests in enterprises, to engage in guarantee activities and underwrite bonds and equity securities, and to conduct technical feasibility studies.

The lending activities of NIB are restricted to medium- and long-term loans for between 3 and 25 years. The minimum size of a loan to be considered by NIB is £ 10,000 and the maximum is £ 1 million. The general policy guidelines prohibit the re-financing of existing loans in an enterprise, or the undertaking of the foreign exchange risks of its lending activities. Moreover, the Bank is not permitted to acquire management control over any enterprise and cannot finance more than 90 per cent of total investment in a project. The interest of NIB in taking equity participation in enterprises is ultimately to underwrite the sale of these shares to Ghanaian investors. The loan terms and conditions are not rigid and depend upon the project risk and the cost to the Bank.

NIB operations after about 1966 reflected a change in lending policies to favour private and joint ventures, in accordance with general economic guidelines. This policy entailed intensive project preparation and promotional work by the Bank staff, particularly within the Development Service Institute. At the same time there was a general improvement in the quality of loan proposals by Ghanaian entrepreneurs compared with the earlier period. NIB was also active in collaborating with foreign institutions with regard to external loans, joint ventures and staff training.

The Capital Investment Board (CIB) was established in 1963, but its functions were reformulated in 1973. These are now:

- (a) The development of the productive capacity of the economy through the efficient utilization of Ghana's resources;
- (b) The full and efficient utilization and expansion of the productive capacity of existing enterprises;
- (c) Cutting imports, increasing exports and improving services to strengthen the balance of payments;
- (d) The encouragement of country-wide dispersal of investment; and
- (e) A high level of employment and the adaptation of technical skills to Ghana.

CIB offers prospective investors a variety of safeguards and incentive schemes to improve the return on their projects. The underlying rationale for providing concessions is to make possible low-yielding investments which are socially desirable. A variety of incentives are available under CIB regulations, including:

- (a) An employment tax credit for a maximum of ten years in order to stimulate investment in labour-intensive industries;
- (b) An income tax holiday for a maximum of five years;
- (c) Capital allowances in respect of buildings, machinery, etc., at rates additional to those provided under the Income Tax Decree;
- (d) Deductions to chargeable income for capital expenditures on scientific research equal to 25 per cent of such expenditures for a maximum of four years;



- (e) Exemptions of up to 100 per cent from import and customs duties and purchase tax for imported goods that are essential to the implementation of approved projects;
- (f) Exemptions of up to 100 per cent from export, excise duties and sales tax on goods produced by an approved project for a maximum of ten years;
- (g) Deferment of payment of registration fees and stamp duty on capital; and
- (h) Exemptions from property tax on buildings.

Moreover, safeguards are provided for foreign investors regarding expropriation, compensation for nationalization, arbitration and the repatriation of profits. CIB can grant the above benefits to varying degrees and over varying periods unless they appear to be fostering a monopoly.

#### Regional co-operation

The inter-country co-operation schemes in which Ghana is involved are the following:

1. Economic Co-operation of West African States (ECOWAS), the objectives of which are to harmonize economic policies, promote common projects and abolish trade barriers among the 16 West African countries;<sup>6/</sup>
2. African Caribbean Pacific-European Economic Committee (ACP-EEC), the aim of which is to establish commercial and economic co-operation between African, Caribbean and Pacific states and the EEC;
3. Ghana-Upper Volta Hydroelectric Scheme, the objective of which is the promotion and the establishment of a joint hydroelectric project on the Volta River;
4. Association of African Development Finance Institutions (AADFI), an association of 45 national financial institutions of the

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<sup>6/</sup> Benin, Cape Verde, Gambia, Ghana, Guinea, Guinea-Bissau, Ivory Coast, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, Togo, Upper Volta.

African region to promote co-operation in the field of development financing;

5. Ghana-Togo-Ivory Coast Cement Project (CIMAOC): The aim of this project is to establish a joint cement plant in Togo that would serve the combined markets of all three countries.

#### Tariffs and taxes

The tariff structure has had four important consequences. First, industries for the final assembly of semi-finished components have been encouraged, but these yield low value added, particularly if measured at international prices (e.g., motor vehicle and radio assembly). Secondly, low or zero duties on raw materials combined with an over-valued currency have discouraged backward linkages with Ghanaian agriculture. Relationships with overseas suppliers, established on the basis of quality and service as well as price, have been found difficult to break once the initial period of duty exemption expires. Thus, industry has remained import-oriented. Thirdly, the highly differentiated tariff structure provides an incentive for importers to evade duty by wrongly describing imports as articles attracting lower taxes. Fourthly, a duty of only 5 per cent on machinery has biased investment towards capital-intensive technology, hampering the development of techniques using more labour and holding back the emergence of machine-building in Ghana.

Further, the manufacturing sector is subject to a heavy burden of indirect taxes. This burden is not equally shared between firms, not only because of wide variations in rates of tax from product to product but also because of the extensive use of tax exemptions as investment incentives. The result is that the profitability of some firms is severely squeezed whereas others pay little tax. The expansion and improvement of manufacturing capacity has not, therefore, been closely related to the efficiency with which previous resources have been utilized.

Yet it is difficult to see how the tax burden on industry could be reduced without a reduction in the public and social services which are being financed from that revenue. The relative burden on the cocoa

farmer is greater still. More could be done, however, to spread the load more equitably, and to encourage greater efficiency, by a further simplification and unification of tax rates and by substituting labour subsidies for both tax rebates and capital incentives as the main instrument of investment promotion.

Chapter IV

ANALYSIS OF THE MAIN CONSTRAINTS ON THE DEVELOPMENT OF INDUSTRY

The two chief constraints which will continue to condition Ghana's industrial development in the foreseeable future are the balance of payments and the rate of domestic inflation. Although these two issues are clearly related, each will be examined in turn.

The balance of payments

The two important aspects of Ghana's balance of payments constraint are common to many developing countries. The first is the failure to diversify from reliance upon primary product exports - in Ghana's case, cocoa. Throughout the 1960-1972 period, this one commodity provided 60 per cent of the country's export earnings; timber and minerals were much less significant. Again, like many other commodities, cocoa suffers from slow supply response to changing market conditions, and from high price-elasticity in the main export markets. This lack of diversification has inevitably made the availability of foreign exchange with which to purchase industrial products difficult to predict and very changeable. In consequence, that import substitution which has already been undertaken suffers from lack of planning and delays stemming from import licence restrictions.

Secondly, the high marginal propensity to import - estimated by the National Economic Planning Council to be around 28 per cent - means that there is a considerable leakage of income from the country whenever growth is initiated. Indeed, the Council has estimated that the 5.5 per cent annual GDP growth attempted by the current national plan implies a 6 per cent annual growth of import value. Yet so long as imports of spare parts and some types of semi-processed materials and raw materials are delayed by import restrictions, so will excess capacity in domestic manufacturing remain a problem and in turn contribute to poor domestic supply response.

### Inflation

Supply shortages brought about by the balance of payments constraints just outlined above are frequent in Ghana. The very recent food shortages, occasioned by the bad harvests in 1975 and 1976, and which brought about a rise in the domestic foods price index of 88.5 per cent in 1976, are illustrative of this. But this supply-induced inflation has been exacerbated by the excessive increases in the growth of the money supply which in turn were occasioned by the Government's need to finance large budget deficits. The causes of these deficits are not directly relevant here; but their effects, by diminishing the export-competitiveness of Ghana's embryonic manufacturing industries and by reducing the real value of commodity export earnings, have an immediate and deleterious impact on the industrial and agro-processing sectors.

### Other

Other factors, such as inexperienced entrepreneurship or inadequate credit facilities for small businesses in outlying regions, can be considered constraints. Ultimately, however, they are all characteristics of a development problem, and as such are dealt with under the chapter headings of greatest relevance.

Chapter V

INDUSTRIAL DEVELOPMENT PROSPECTS

Food industries

The main food manufacturing activities are cocoa processing, flour milling, sugar production and meat processing. Other activities include the production of ice cream, milk products and baby food, bakery products, fruit, fish and vegetable processing, and rice milling.

Although food manufacturing industries have made the greatest single contribution to industrial output in recent years, their contribution to domestic value added has been smaller because of their high dependence on imported raw materials. The annual ratio of value added to gross output during the 1964-1972 period averaged 53 per cent for all large manufacturing industries, but only 33 per cent for the food industries.

Food manufacturing industries have the greatest potential for expansion during the plan period because of the high priority given to agriculture, especially the production and processing of all types of local food. Enough excess capacity exists in most industries to cope with the expected increases in food production.

Greater product diversity and value added will be achieved through additional investments in some areas of food manufacturing. Priority attention will be given to such activities as: rice milling and processing of maize; sugar production; extraction of edible oils from ground nuts, oil palm, coconut and soya beans; processing and canning of fruits and vegetables; fish preparations and canning; production of milk and other dairy products and meat processing.

Beverages

Beer brewing is the predominant beverage activity, accounting for 75 per cent of value added in the beverage industries, with the manufacture of spirits and soft drinks contributing the remaining 25 per cent.

Sugar and raw alcohol are the main local raw materials used by the industry. Containers and packaging materials, such as bottles, crown corks, labels and cartons are also produced locally. Emphasis during the plan period will be placed on increased production of local raw materials, bottles and packing materials to ensure more regular supplies than in the past.

#### Tobacco manufacturing

The existing plants have adequate capacities to cope with domestic demand. No new plants are, therefore, to be established during the plan period. Attention, however, will be directed towards increased cultivation of local tobacco to feed the existing plants.

#### Textiles

There are 25 registered plants engaged in both knitting and garment manufacture. Most of the knitting firms produce knitted fabrics only for their own garment plants. The greater portion of the knitwear, especially for outer garments, is produced from man-made fabrics which are mainly imported.

In terms of the annual ratio of value added to gross output, textile manufacture ranks among the lowest category with an annual average of 43 per cent as compared with sector average of 53 per cent between 1964 and 1972.

Extensive import substitution has been achieved by the textile manufacturing industries. Their products, particularly printed cotton piece goods, are in high demand locally and also in neighbouring countries.

Intensive efforts have begun in recent years to increase the domestic cultivation of cotton as a raw material for the local textile mills. Cotton cultivation programmes will continue to be given high priority during the plan period. The investment programmes for the textiles industries will emphasise the modernisation of existing plants, rather than the establishment of new ones, in order to raise the level of capacity utilization.

Extension plans will provide for the full integration of the spinning and weaving processes. Prospects for increased exports are good.

Other textile products are dominated by the manufacture of jute bags. The jute bag factory imports most of its raw materials, but serious efforts are now being made to replace the imports with locally produced kenaf. The demand for jute bags will continue to increase with the anticipated increase in the production of cocoa, rice, maize, ground nuts, cotton and the other products which are packed in bags.

#### Leather and footwear

The main activities within the leather industries comprise the manufacture of natural leather, artificial leather and related articles. There is only one small tannery in operation at Kumasi. All the leather produced is used as raw material by the local footwear industries. Two firms produce artificial leather, which is used in the manufacture of travel goods, such as handbags and related products. In 1972, value added for the group was £ 0.56 million (accounting for less than one per cent of large-scale manufacturing value added) and the average ratio of value added to gross output was 40 per cent.

Most of the raw materials for footwear production are imported. The potential for increased production of domestic raw materials is thus good. Additional investment will be required only for the modernisation of the existing plant.

#### Rubber products

Rubber manufacturing is dominated by one firm, which produces lorry tyres and tubes. Other activities in the sub-sector include tyre re-treading, the manufacture of rubber soles for footwear and canvas shoes, and production of latex foam.

In 1972, the value added of £ 8.8 million accounted for three per cent share of manufacturing. With the exception of tyres for fork-lift trucks and earth-moving equipment, for which demand is small, most of the



domestic requirements for the common sizes of tyres for vehicles are met from local production. Further expansion of the tyre plant is in progress to meet expected increases in demand.

#### Garments

Import substitution within this group of industries is far advanced and the quality of the products is high. There are 110 registered garment manufacturing companies, producing items such as shirts, blouses, children's wear, socks and underwear.

The main raw materials, woven and knitted fabric and thread, are largely supplied by local manufacturers, whereas most of the small accessories and incidentals, such as hooks and eyes, buckles, and trimmings are imported. Items such as zip fasteners and buttons are, however, produced locally. Considerable excess capacity exists to cope with the expected increase in local demand and exports, and for this reason the Government has imposed restrictions on new investments in this area of manufacturing activity. Imports of garments have since been banned.

#### Wood products

This category includes sawmilling and the production of plywood, veneers, mosaic parquet, wooden toys and knock-down furniture.

Production is based entirely on local forest resources. Nearly one-third of the output is consumed by the local construction and furniture industries. Capacity utilization of plywood mills is quite high but that of sawmills remains low. Considerable potential demand exists locally for wood products, especially in the construction and furniture industries. Appreciable increases in output can be realized, provided the treatment of wood can be improved and efficiency raised by eliminating waste and reducing production costs and prices.

A number of new plants are envisaged during the plan period to undertake the production of veneer, chipboard and particle board. Production of knock-down furniture for export will be increased.

### Paper and paper products

At present the main activities are stationery and corrugated cardboard box production. Studies are being conducted into the feasibility of manufacturing pulp and paper from local raw materials, and it is expected that a pilot project will be established during the plan period to produce pulp and paper from mixed tropical hardwoods. Modest increases in the production of paper and paper products can be expected through better utilization of capacity of existing plants and new schemes for the manufacture of cement bags and carbon papers.

### Petroleum products

The Tema Refinery (GHAIP) is the sole manufacturer of petroleum products, supplying all domestic needs except aviation spirit, for which demand does not yet justify local production. The refinery relies completely on imported crude oil.

The annual ratio of value added to gross output for the period between 1964 and 1973 ranged between 80 and 97 per cent, with an average of 90 per cent compared to the large-scale manufacturing sector's average of 53 per cent. This ratio is the highest among large-scale manufacturing. Capacity utilization in the refinery is around 80 per cent, and no addition to existing capacity is expected during the plan period.

Studies are being undertaken into the feasibility of setting up a local bitumen plant. It is expected that the study will be completed soon and if the results are favourable, the plant can be established before the end of the plan period.

### Soap

Capacity utilization in the soap industry, which is centred on Tema, is high. Even at full capacity production, the existing soap plants cannot satisfy the local market. The National Investment Bank has plans to establish an additional plant at Tema during the plan period. It will

produce 20,000 tons of soaps and detergents per year. Total investment requirements will be about £ 7,571,480. Initially, the factory will employ 420 people and this will increase to 520 when it reaches maximum production.

#### Pharmaceuticals

The Pharmaceutical Division of GIHOC will expand to increase production on the existing lines from 50 million to 2,000 million tablets; from one million to 100 million capsules and from 10 million to 25 million ampoules. New production lines will be introduced for the manufacture of five million units of antiseptic powders; five million tubes of creams and ointments; three million bottles aerosols; three million vials; 100,000 litres of syrup; and 100,000 litres of suspensions.

#### Fertilisers

Preparations are far advanced for the establishment of a fertilizer granulating plant to supply the fast expanding domestic needs and to support the country's agricultural programme. It is expected that the proposed granulating plant will produce 46,000 tons of fertilizers annually. The project is estimated to cost about £ 15.5 million and arrangements for financing are in progress.

#### Salt production

Panbree Salt Industry, near Aora, is the largest works in operation, producing about 20,000 tons of edible salt annually for domestic consumption and export. Total earnings from the export of local salt amounted to nearly half a million oedie in 1974.

Five new projects recently approved are expected to be established by the end of the plan period. Total investments envisaged will be about £ 4.0 million, of which about £ 2.7 million will be in foreign exchange.

When completed, the projects will provide employment for nearly 1,000 people. They will produce mainly coarse and industrial salt as well as refined edible salt for domestic consumption and export. The projected expansion of salt production is expected to provide a firm basis for the development of a caustic soda plant to feed local chemical-based industries.

#### Caustic soda, calcium carbide, PVC

The anticipated processing of local bauxite into alumina will create considerable demand for caustic soda. Studies are being undertaken into the feasibility of establishing a caustic soda plant based on the local solar salt industry which will be considerably expanded. Similar studies will be carried out on the establishment of a calcium carbide plant and a polyvinyl chloride (PVC) plant.

#### Cement

Cement making in the country, consisting mainly of the grinding of clinker, is the most important activity within this group of industries (i.e. over 70 per cent in terms of the value of production). Its value added is, however, small because clinker is entirely imported. Investigations are being undertaken to determine the feasibility of exploiting and processing local limestone deposits. Current expansions to the two existing cement mills will help close the gap between consumption and local production.

#### Glass

The only glass factory at Abaco (near Tarkwa) produces bottles for beer, soft drinks and spirits. It is estimated that at least 70 per cent of the country's bottle requirements are produced locally. Glass tableware, pharmaceutical and domestic glass containers (i.e. jars and bottles) are mainly imported. The expansion of the factory, which will involve modernization of machinery and equipment, will increase capacity fourfold to about 20,000 tons per annum.

The expansion will involve the replacement of existing obsolete sheet glass machinery with hollow glass equipment (of a total of 90 ton/day furnaces and associated equipment). The project will also involve a change of melting technique from oil to electricity and the improvement of auxiliary equipment and services. The scheme will include training of all levels of specialized personnel and the improvement of managerial practices.

#### Metal industries

The value added of metal industries increased steadily until it reached £ 52.0 million in 1972 which was the highest of any group of industries in the manufacturing sector. The annual rate of growth of value added was 37.6 per cent between 1964 and 1972. The average annual ratio of value added to gross output was 40 per cent. The main metal industries are concerned with the manufacture of aluminium roofing sheets, household utensils and metal products, such as iron rods, nails and tanks.

Aluminium products are made from imported aluminium sheets while local deposits of bauxite are exported in the raw form. The Valoo plant at Tema also imports alumina which is processed into ingots and exported. The main missing links are a bauxite processing plant and an aluminium rolling mill. Investigations and studies have been going on to establish the feasibility of establishing an integrated aluminium industry in Ghana based on local bauxite deposits. Negotiations with interested foreign investors are far advanced and the execution of the Kibi Project should be possible by the end of the plan period.

The principal steel products include iron rods, nails, wires, screws, hinges, bolts and nuts, crown corks, metal gates and furniture. Domestic consumption of iron rods and sections is estimated at over 35,000 tons for 1975 and expected to grow steadily to about 60,000 tons in 1980 and 75,000 tons by 1982. Production of the two local plants (Tema Steelworks, Division of GIHOC, and Ferro Fabrick Limited) which was about 15,000 tons in 1973 is expected to reach 22,000 tons in 1975. After the completion of current rehabilitation and expansion of the plants, local production is expected to rise to about 45,000 tons per annum. In view of the shortfall

in production, plans are being drawn up to establish a third steel mill at Kumasi based on rolling billets to supplement domestic production of iron rods and sections. The plant, which is estimated to cost ₵ 6 million, will have an annual capacity of 30,000 tons.

Preliminary investigations have shown that local iron ore deposits at Opon Manso are suitable for processing into steel to form the basis of an iron and steel industry in Ghana. Detailed feasibility studies are expected to be carried out early in the plan period at an estimated cost of nearly ₵ 3.0 million.

Expansion of GIHOC's Steelworks at Tema is aimed at raising production capacity from 8,000 tons to about 25,000-30,000 tons per annum. The investment programme involves the modernization of existing machinery as well as the installation of a new rolling mill and the expansion of electrical, water, oxygen and other services. The Steelworks Division also plans to establish a foundry at Tema at the estimated cost of ₵ 7 million to produce about 6,000 tons annually of grey cast iron and brass castings, such as ingot moulds, casting plates and pipes, pipe connections and joints, manhole covers and frames, coal pots and water taps. A second foundry sponsored by the National Investment Bank is already under construction at Takoradi. It is expected to produce about 2,000 tons annually of iron and steel castings based on local scrap. Further, investment opportunities have been identified for products such as wire drawing and ropes, galvanized steel pipes and lattice poles, steel cutlery, industrial and agricultural handtools, door locks and hinges, car radiators and heat exchangers. Basic metal industries will be expanded during the plan period in order to lay the foundation for the future development of heavy producer goods industries in the country.

#### Manufacture of transport equipment

The assembly of motor cars and trucks accounts for most of the activities within this group. Other important activities are the construction of wooden fishing and pleasure boats as well as the assembly of knock-down ferries. There is also a factory at Kumasi for the assembly of motorcycles and bicycles.

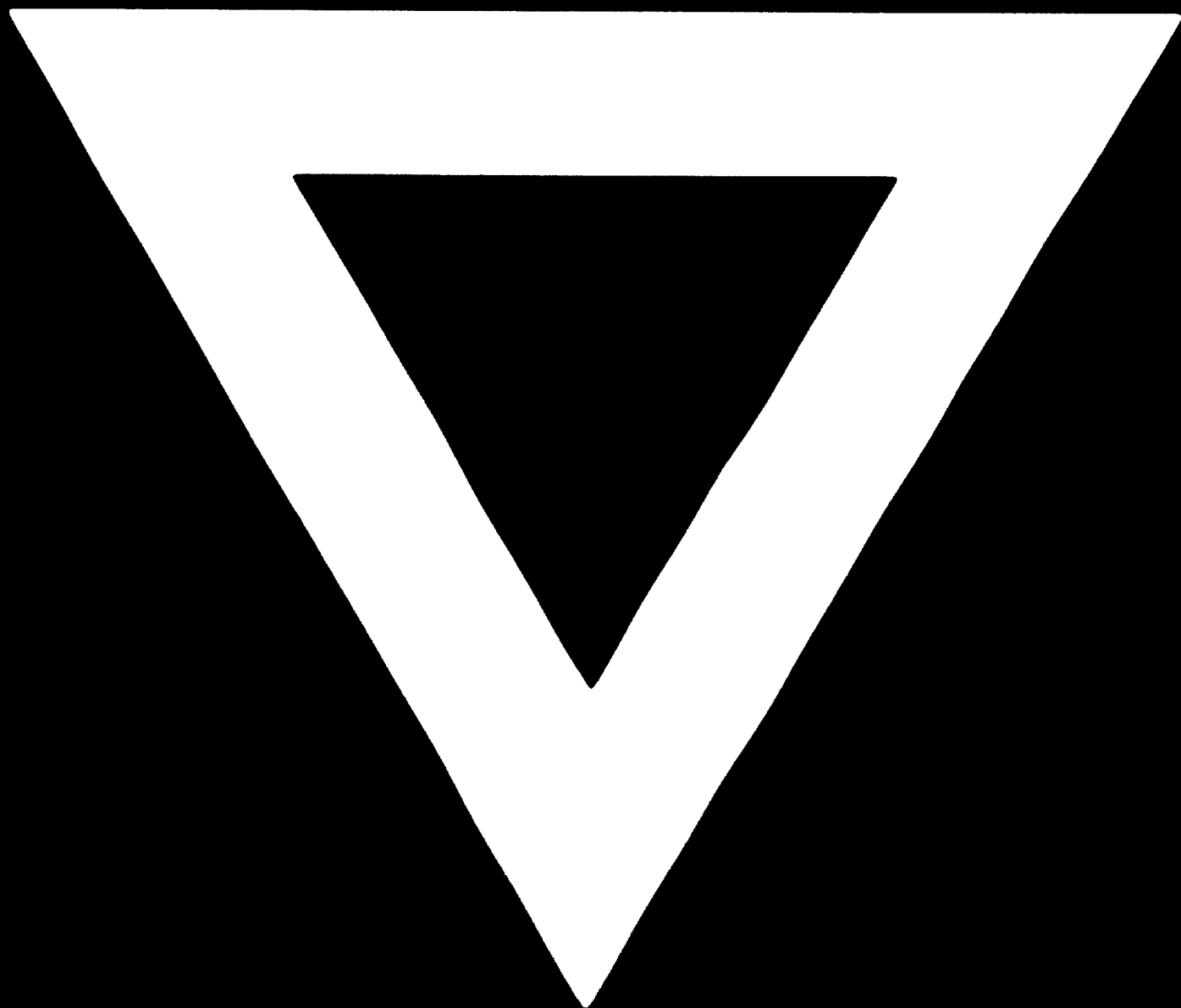
Existing capacity can reasonably cope with demand during the plan period. Emphasis will be placed on increased capacity utilization with priority attention being given to the increased production of commercial vehicles and buses to facilitate the transportation of agricultural produce to urban markets as well as to improve mass urban transportation.

#### Manufacture of electrical products

This group of industries covers a wide variety of products such as air conditioners, refrigerators, cookers, radios, television sets, record players, tape recorders, electric fans, pressing irons, water heaters, auto batteries, dry cell batteries, electric motors, incandescent bulbs, fluorescent tubes, plugs, switches, wires and cables. In most cases, only the assembly of imported components is being undertaken locally, but this accounts for at least 50 per cent of the country's consumption. Possibilities for manufacturing some components, especially for refrigerators, air conditioners, cookers, radios, television sets and auto-electrical parts have been investigated, and the results are generally encouraging. In this connexion, mention should be made of the expansion programme of Ghana Sanyo Manufacturing Company involving the manufacture of refrigerator and air conditioner cases and parts. A similar project has also been approved for Talva Industries Limited, a joint Ghanaian and foreign private company.



**C-665**



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