



TOGETHER
for a sustainable future

OCCASION

This publication has been made available to the public on the occasion of the 50th anniversary of the United Nations Industrial Development Organisation.



TOGETHER
for a sustainable future

DISCLAIMER

This document has been produced without formal United Nations editing. The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization (UNIDO) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries, or its economic system or degree of development. Designations such as “developed”, “industrialized” and “developing” are intended for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process. Mention of firm names or commercial products does not constitute an endorsement by UNIDO.

FAIR USE POLICY

Any part of this publication may be quoted and referenced for educational and research purposes without additional permission from UNIDO. However, those who make use of quoting and referencing this publication are requested to follow the Fair Use Policy of giving due credit to UNIDO.

CONTACT

Please contact publications@unido.org for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at www.unido.org

RESTRICTED

DP/ID/SER.A/827
6 April 1987
English

16232

INDUSTRIAL SURVEY OF THE SUDAN

DP/SUD/80/006/11-51

SUDAN

Technical report: Industrial survey of the Sudan*

- Second, revised version -

Prepared for the Government of Sudan
by the United Nations Industrial Development Organization,
acting as executing agency for the United Nations Development Programme

Based on the work of Atif A. Kubursi, consultant
in elaboration of industrial surveys

Backstopping officer: W. H. Eckert, Industrial Planning Branch

United Nations Industrial Development Organization
Vienna

* This document has been reproduced without formal editing.

V.87 83933

Explanatory Notes

Value of local currency = Sudanese Pound

(£ S) at the end of the mission (August 1986)

in United States Dollars (US \$): Official rate: 1 US \$ = £ S 2.45
Commercial rate: 1 US \$ = £ S 4.00

Abbreviations

| | |
|-------|--|
| AIDO | Arab Industrial Development Organization |
| EMP | Employee |
| GDP | Gross Domestic Product |
| GO | Gross Output |
| GVA | Gross Value Added |
| IDCAS | Industrial Development Centre for Arab States |
| IDRC | Industrial Development Research Centre |
| ISIC | International Standard Industrial Classification |
| K | Capital |
| MVA | Manufacturing Value added |
| NO | Number of Establishments |
| W | Wages |

Symbols

- result equal to zero

0 value smaller than half the unit used.

Apparent arithmetical discrepancies, such as details and percentages that do not add precisely to row or column totals, result from the used rounding technique.

INDEXES TO THE INTERNATIONAL STANDARD

Industrial Classification of All Economic Activities

(as far as reflected in the report)

- 31. **Manufacture of Food, Beverages and Tobacco**
- 32. **Textile, Wearing Apparel and Leather Industries**
- 33. **Manufacture of Wood and Wood Products, Including Furniture**
- 34. **Manufacture of Paper and Paper Products; Printing and Publishing**
- 35. **Manufacture of Chemicals and of Chemical, Petroleum, Coal, Rubber and Plastic Products**
- 36. **Manufacture of Non-Metallic Mineral Products, except Products of Petroleum and Coal**
- 37. **Basic Metal Industries**
- 38. **Manufacture of Fabricated Metal Products, Machinery and Equipment**
- 39. **Other Manufacturing Industries**
- 3111. **Slaughtering, preparing and preserving meat**
- 3112. **Manufacture of dairy products**
- 3113. **Canning and preserving of fruits and vegetables**
- 3114. **Canning, preserving and processing of fish, crustacea and similar foods**
- 3115. **Manufacture of vegetable and animal oils and fats**
- 3116. **Grain mill products**
- 3117. **Manufacture of bakery products**
- 3118. **Sugar factories and refineries**
- 3119. **Manufacture of cocoa, chocolate and sugar confectionery**
- 3121. **Manufacture of food products not elsewhere classified**
- 3122. **Manufacture of prepared animal feeds**

- 3131. Distilling, rectifying and blending spirits
- 3132. Wine industries
- 3133. Malt liquors and malt
- 3134. Soft drinks and carbonated waters industries
- 3140. Tobacco manufactures
- 3211. Spinning, weaving and finishing textiles (incl. ginning)
- 3212. Manufacture of made-up textile goods except wearing apparel
- 3213. Knitting mills
- 3214. Manufacture of carpets and rugs
- 3215. Cordage, rope and twine industries
- 3219. Manufacture of textiles not elsewhere classified
- 3220. Manufacture of wearing apparel, except footwear
- 3231. Tanneries and leather finishing
- 3233. Manufacture of products of leather and leather substitutes, except footwear and wearing apparel
- 3240. Manufacture of footwear, except vulcanized or moulded rubber or plastic footwear
- 3311. Sawmills, planing and other wood mills
- 3319. Manufacture of wood and cork products not elsewhere classified
- 3320. Manufacture of furniture and fixtures, except primarily of metal
- 3411. Manufacture of pulp, paper and paperboard
- 3412. Manufacture of containers and boxes of paper and paperboard
- 3420. Printing, publishing and allied industries
- 3511. Manufacture of basic industrial chemicals except fertilizers
- 3512. Manufacture of fertilizers and pesticides
- 3521. Manufacture of paints, varnishes and lacquers
- 3522. Manufacture of drugs and medicines

- 3523. Manufacture of soap and cleaning preparations, perfumes, cosmetics and other toilet preparations
- 3529. Manufacture of chemical products not elsewhere classified
- 3530. Petroleum refineries
- 3540. Manufacture of miscellaneous products of petroleum and coal
- 3551. Tyre and tube industries
- 3559. Manufacture of rubber products not elsewhere classified
- 3560. Manufacture of plastic products not elsewhere classified
- 3610. Manufacture of pottery, china and earthenware
- 3620. Manufacture of glass and glass products
- 3691. Manufacture of structural clay products
- 3692. Manufacture of cement, lime and plaster
- 3699. Manufacture of non-metallic mineral products not elsewhere classified
- 3710. Iron and steel basic industries
- 3720. Non-ferrous metal basic industries
- 3811. Manufacture of cutlery, hand tools and general hardware
- 3812. Manufacture of furniture and fixtures primarily of metal
- 3813. Manufacture of structural metal products
- 3819. Manufacture of fabricated metal products except machinery and equipment not elsewhere classified
- 3821. Manufacture of engines and turbines
- 3822. Manufacture of agricultural machinery and equipment
- 3823. Manufacture of metal and wood working machinery
- 3833. Manufacture of electrical appliances and housewares
- 3839. Manufacture of electrical apparatus and supplies not elsewhere classified
- 3842. Manufacture of railroad equipment
- 3843. Manufacture of motor vehicles
- 3901. Manufacturing of jewellery and related articles.

Abstract

Project DP/SUD/80/006 - Industrial Survey of the Sudan - commenced in September 1983 and will be terminated in April 1987.

The main objective of an Industrial Survey in the Sudan, was to provide the Government Development Agencies and other interested parties in the country, with suitable data and tools of analysis, to serve as a basis to monitor, promote and plan industrial activities and programmes in order to improve the operational nature of Sudan's industry. The Survey was intended to be part of a continuous and ongoing process of collecting, processing and disseminating industrial data. Other specific objectives included the updating and the completion of the existing Directory of Industrial Enterprises, the training of enumerators, organisers, statisticians and other technicians in the process of planning and implementing the Survey and finally, to prepare a comprehensive study of the industrial sector as depicted by the results of the Survey.

Acknowledgements

The Industrial Survey of the Sudan was executed in cooperation between the Ministry of Industry, the National Department of Statistics and UNIDO.

Many individuals and institutions in the Sudan and outside have contributed, each in a special way, to the development and progress of this study. Although it is difficult to mention them all, we would like to express our warmest and deepest thanks to all of them, but more especially to the following:

- His Excellency Mr. Mubarak El Mahdi
Minister of Industry;
- Mr. Osman al-Amin
Acting Undersecretary of Industry and staff;
- Dr. Syed Ali Zaki
Undersecretary of Planning, Ministry of Economics and National
Planning and staff;
- Mr. Omer Eltai
Director General of the National Department of Statistics and
Chairman of the Steering Committee of the Industrial Survey Project;
- Mr. Ali El-Khalifa El Hassan
Deputy Undersecretary of Industry and Director of the project;
- Messrs. Elfatih Obeidallah and Hassan Abdel Salam
of the National Department of Statistics;
- Head and staff of the Industrial Statistics Department,
Ministry of Industry;
- Dr. Abdel Rahman Shuli and Mr. Ismail El Gizouli
of the National Energy Administration.

The cooperation of the following institutions is also noted with appreciation:

- Industrial Bank of Sudan;
- Sudan Development Corporation;
- National Research Council;
- Industrial Research and Consultancy Centre;
- Sudanese Industrial Association;
- Bureau of Investment, Ministry of Finance.

Table of Contents

| | <u>Page</u> |
|---|-------------|
| Explanatory notes | 2 |
| Abbreviations | 2 |
| Indexes to the International Standard Industrial Classification of All Economic Activities | 3 |
| Abstract | 6 |
| Acknowledgements | 7 |
| Table of Contents | 9 |
| Summary and Recommendations | |
| 1. Summary | 17 |
| 2. Recommendations | 20 |

Chapter One

Industrial Structure and Performance
in the Sudan 1981/82

| | |
|---|----|
| 1.0 Introduction | 24 |
| 1.1 The Industrial Survey and Industrialization in the Sudan | 24 |
| 1.2 The Industrial Survey: Some Background Information | 25 |
| 1.3 UNIDO's Effort in Implementing the Survey | 26 |

Chapter Two

The Industrial Survey of the Sudan 1981/82

| | |
|---|----|
| 2.0 Introduction | 28 |
| 2.1 The Structure of the 1981/82 Survey | 29 |
| 2.1.1 Population and Sample Sizes | 29 |
| 2.1.2 The Blow-up Ratios | 30 |
| 2.2 The Implementation of the Survey | 31 |
| 2.3 An Evaluation of the 1981/82 Survey | 32 |
| 2.3.1 Coverage | 33 |
| 2.3.2 Sampling Techniques | 34 |
| 2.3.3 The Quality and Quantity of Results | 34 |
| 2.4 Concluding Remarks | 35 |

Tables

| | |
|---|----|
| 2.1 The Final Size of the Sample of Establishments Employing 25 and More Workers in the Sudan, 1981/82 | 37 |
|---|----|

| | <u>Page</u> |
|--|-------------|
| 2.2 Sample Blow Up Multipliers | 38 |
| <u>Chapter Three</u> | |
| 3.0 Manufacturing Sector Structure and Performance in the Sudan 1981/82: A Sectoral and Regional Analysis | 40 |
| 3.1 The Manufacturing Sector and the Economy: A Macroeconomic Perspective | 40 |
| 3.2 Manufacturing Industries: Structure and Performance | 42 |
| 3.2.1 The Overall Structure of Manufacturing Activity in the Sudan 1981/82 | 43 |
| 3.2.2 The Sectoral Structure of Manufacturing Output | 45 |
| 3.2.3 The Size Pattern of Sectoral Output in the Sudanese Manufacturing Activity | 48 |
| 3.2.4 The Regional Distribution of Manufacturing Activity in the Sudan 1981/82 | 52 |
| 3.2.4.1 The Structure of Manufacturing Output in the Khartoum Region in 1981/82 | 53 |
| 3.2.4.2 The Structure of Manufacturing Output in the Central Region in 1981/82 | 54 |
| 3.2.4.3 The Structure of Manufacturing Output in the Eastern Region in 1981/82 | 55 |
| 3.2.4.4 The Structure of Manufacturing Output in the Northern Region in 1981/82 | 56 |
| 3.2.4.5 The Structure of Manufacturing Output in the Darfur Region in 1981/82 | 57 |
| 3.2.4.6 The Structure of Manufacturing Output in the Kordofan Region, 1981/82 | 58 |
| 3.2.4.7 The Structure of Manufacturing Output in the Equatoria Region, 1981/82 | 59 |
| 3.3 The Manufacturing Sector in the Sudan: Efficiency and Performance | 60 |
| 3.3.1 Sectoral Performance Indices | 60 |
| 3.3.2 Regional Performance Indices | 65 |
| 3.3.2.1 The Regional Aggregative Performance | 65 |
| 3.3.2.2 Manufacturing Performance by Region: Khartoum | 67 |
| 3.3.2.3 Manufacturing Performance by Region: The Central Region | 69 |
| 3.3.2.4 Manufacturing Performance by Region: The Eastern Region | 70 |

| | | |
|---------|--|----|
| 3.3.2.5 | Manufacturing Performance by Region: the Northern Region | 71 |
| 3.3.2.6 | Manufacturing Performance by Region: the Darfur Region | 73 |
| 3.3.2.7 | Manufacturing Performance by Region: the Kordofan Region | 73 |
| 3.3.2.8 | Manufacturing Performance by Region: the Equatoria Region | 74 |
| 3.4 | Concluding Remarks | 74 |

Tables

| | | |
|------|---|----|
| 3.1 | Gross Domestic Product at Factor Cost at Constant 1981/82 Prices | 76 |
| 3.2 | Industrial Production in the Sudan 1978/79 - 1983/84 | 77 |
| 3.3 | Manufacturing Activity in the Sudan by Size, 1981/82 | 78 |
| 3.4 | Percentage Distribution of Categories of Activities According to Size of Units in the Sudan 1981/82 | 79 |
| 3.5 | Regional and Ownership Distribution of Manu- facturing Activity in the Sudan, 1981/82 | 80 |
| 3.6 | The Structure of the Manufacturing Sector in the Sudan, 1981/82 | 81 |
| 3.7 | The Structure of the Manufacturing Sector by Type of Ownership, 1981/82 | 82 |
| 3.8 | No. of Establishments in Manufacturing by Size and Sector in 1981 | 83 |
| 3.9 | Employment in Manufacturing by Size and Sector 1981/82 | 84 |
| 3.10 | Wages in Manufacturing by Size and Sector in 1981/82 | 85 |
| 3.11 | Gross Output in Manufacturing by Size and Sector in 1981/82 | 86 |
| 3.12 | Gross Value Added in Manufacturing by Size and Sector in 1981/82 | 87 |
| 3.13 | Total Capital in Manufacturing by Size and Sector in 1981/82 | 88 |
| 3.14 | The Structure of the Manufacturing Sector in the Khartoum Region, 1981/82 | 89 |
| 3.15 | The Structure of the Manufacturing Output by Type of Ownership in the Khartoum Region, 1981/82 | 90 |

| | <u>Page</u> |
|--|-------------|
| 3.16 The Structure of the Manufacturing Sector in the Central Region, 1981/82 | 91 |
| 3.17 The Structure of the Manufacturing Output by Type of Ownership in the Central Region, 1981/82 | 92 |
| 3.18 The Structure of the Manufacturing Sector in the Eastern Region, 1981/82 | 93 |
| 3.19 The Structure of the Manufacturing Output by Type of Ownership in the Eastern Region, 1981/82 | 94 |
| 3.20 The Structure of the Manufacturing Sector in the Northern Region, 1981/82 | 95 |
| 3.21 The Structure of the Manufacturing Output by Type of Ownership in the Northern Region, 1981/82 | 96 |
| 3.22 The Structure of the Manufacturing Sector in Darfur Region, 1981/82 | 97 |
| 3.23 The Structure of the Manufacturing Output by Type of Ownership in the Darfur Region, 1981/82 | 98 |
| 3.24 The Structure of the Manufacturing Sector in Kordofan Region, 1981/82 | 99 |
| 3.25 The Structure of the Manufacturing Output by Type of Ownership in Kordofan, 1981/82 | 100 |
| 3.26 The Structure of the Manufacturing Sector in Equatoria in 1981/82 | 101 |
| 3.27 The Structure of the Manufacturing Output by Type of Ownership in Equatoria, 1981/82 | 102 |
| 3.28 Performance Indices in the Manufacturing Sector of Sudan by Size, 1981/82 | 103 |
| 3.29 Performance Indices in the Manufacturing of Sudan by Type of Ownership, 1981/82 | 104 |
| 3.30 Manufacturing Performance: A Regional Perspective 1981/82 | 105 |
| 3.31 Performance Indices in the Manufacturing Sector by Size in Khartoum 1981/82 | 106 |
| 3.32 Performance Indices for the Manufacturing Sector by Ownership in Khartoum 1980/81 | 107 |
| 3.33 Performance Indices for the Manufacturing Sector in Central Region, 1981/82 | 108 |
| 3.34 Performance Indices for the Manufacturing Sector by Ownership in Central Region, 1980/81 | 109 |
| 3.35 Performance Indices for the Manufacturing Sector in the Eastern Region, 1981/82 | 110 |
| 3.36 Performance Indices for the Manufacturing Sector by Ownership in the Eastern Region, 1980/81 | 111 |
| 3.37 Performance Indices in the Manufacturing Sector by Size in the Northern Region, 1981/82 | 112 |

| | <u>Page</u> |
|--|-------------|
| 3.38 Performance Indices for the Manufacturing Industry by Ownership in the Northern Region, 1980/81 | 113 |
| 3.39 Performance Indices in the Manufacturing Sector by Size in Darfur Region, 1981/82 | 114 |
| 3.40 Performance Indices for the Manufacturing Sector by Ownership in Darfur, 1980/81 | 115 |
| 3.41 Performance Indices for the Manufacturing Sector in Kordofan, 1981/82 | 116 |
| 3.42 Performance Indices for the Manufacturing Sector by Ownership in Kordofan, 1980/81 | 117 |
| 3.43 Performance Indices in the Manufacturing Sector by Size in Equatoria Region, 1981/82 | 118 |
| 3.44 Performance Indices in the Manufacturing Sector by Ownership in Equatoria, 1981/82 | 119 |

Chapter Four

The Sudanese Manufacturing Sector, Structure and Performance:

A Microeconomic Perspective

| | |
|--|-----|
| 4.0 Introduction | 120 |
| 4.1. The Structure and Performance of the Food, Beverages and Tobacco Sector in 1981/82 | 121 |
| 4.1.1 Structure | 121 |
| 4.1.2 Performance | 123 |
| 4.2 The Structure and Performance of Textiles, Wearing Apparel and Leather Products Sector | 125 |
| 4.2.1 Structure | 125 |
| 4.2.2 Performance | 126 |
| 4.3 The Structure and Performance of the Wood, Wood Products including Furniture Sector, 1981/82 | 128 |
| 4.3.1 Structure | 128 |
| 4.3.2 Performance | 129 |
| 4.4 The Structure and Performance of Paper, Paper Products, Printing and Publishing Sector in 1981/82 | 130 |
| 4.4.1 Structure | 130 |
| 4.4.2 Performance | 131 |
| 4.5 The Structure and Performance of Chemicals, Chemical Products and Products of Coal and Petroleum Sector in 1981/82 | 131 |
| 4.5.1 Structure | 131 |
| 4.5.2 Performance | 132 |

| | <u>Page</u> | |
|-------|--|-----|
| 4.6 | The Structure and Performance of the Other Non-Metallic Mineral Products Sector in 1981/82 | 133 |
| 4.6.1 | Structure | 134 |
| 4.6.2 | Performance | 135 |
| 4.7 | The Structure and Performance of the Basic Metals Sector in 1981/82 | 136 |
| 4.7.1 | Structure | 136 |
| 4.7.2 | Performance | 137 |
| 4.8 | The Structure and Performance of the Metal Fabricating and Machinery Sector, 1981/82 | 137 |
| 4.8.1 | Structure | 138 |
| 4.8.2 | Performance | 139 |
| 4.9 | Concluding Remarks | 140 |

Tables

| | | |
|------|---|-----|
| 4.1 | The Structure of the Food, Beverages and Tobacco Sector by Size, 1981/82 | 143 |
| 4.2 | The Structure of the Food, Beverages and Tobacco Sector by Type of Ownership, 1981/82 (25 Employees) | 145 |
| 4.3 | Performance Indices in the Food, Beverages and Tobacco Sector | 147 |
| 4.4 | Performance Indices in the Food, Beverages and Tobacco Sector by Type of Ownership, 1981/82 | 148 |
| 4.5 | The Structure of the Textile, Wearing Apparel and Leather Products by size, 1981,82 | 149 |
| 4.6 | The Structure of the Textile, Wearing Apparel and Leather Products by Type of Ownership, 1981/82 | 150 |
| 4.7 | Performance Indices in Textile, Wearing Apparel and Leather Products by Size 1981/82 | 151 |
| 4.8 | Performance Indices in the Textile, Wearing Apparel and Leather Products by Type of Ownership, 1981/82 | 152 |
| 4.9 | The Structure of the Wood, Wood Products including Furniture Sector by Size, 1981/82 | 153 |
| 4.10 | The Structure of the Wood, Wood Products including Furniture by Type of Ownership 1981/82 | 154 |
| 4.11 | Performance Indices in Wood, Wood Products including Furniture by Size, 1981/82 | 155 |
| 4.12 | Performance Indices in the Wood, Wood Products including Furniture by Type of Ownership, 1981/82 | 156 |
| 4.13 | The Structure of Paper, Paper Products, Printing and Publishing Sector by Size, 1981/82 | 157 |
| 4.14 | The Structure of the Paper, Paper Products, Printing and Publishing Sector by Type of Ownership 1981/82 | 158 |

| | <u>Page</u> | |
|------|---|-----|
| 4.15 | Performance Indices in the Paper, Paper Products, Printing and Publishing Sector by Size, 1981/82 | 159 |
| 4.16 | Performance Indices in the Paper, Paper Products, Printing and Publishing by Type of Ownership, 1981/82 | 160 |
| 4.17 | The Structure of Chemicals, Chemical Products and Products of Coal and Petroleum Sector by Size, 1981/82 | 161 |
| 4.18 | The Structure of Chemicals, Chemical Products and Products of Coal and Petroleum Sector by Type of Ownership, 1981/82 | 162 |
| 4.19 | Performance Indices in the Chemicals and Chemical Products including Products of Coal and Petroleum by Size, 1981/82 | 163 |
| 4.20 | Performance Indices in the Chemicals and Chemical Products and Products of Coal and Petroleum Sector by Type of Ownership 1981/82 | 164 |
| 4.21 | The Structure of the other Non-Metallic Minerals Products Sector by Size, 1981/82 | 165 |
| 4.22 | The Structure of the other Non-Metallic Mineral Products Sector by Type of Ownership, 1981/82 | 166 |
| 4.23 | Performance Indices in other Non-Metallic Mineral Products Sector by Size, 1981/82 | 167 |
| 4.24 | Performance Indices in the Non-Metallic Mineral Products Sector by Type of Ownership, 1981/82 | 168 |
| 4.25 | The Structure of the Basic Metals Sector by Size, 1981/82 | 169 |
| 4.26 | The Structure of the Basic Metals Sector by Type of Ownership, 1981/82 | 170 |
| 4.27 | Performance Indices in the Basic Metals Sector by Size, 1981/82 | 171 |
| 4.28 | Performance Indices in the Basic Metals Sector by Type of Ownership, 1981/82 | 172 |
| 4.29 | The Structure of the Metal Fabricating and Machinery Sector by Size, 1981/82 | 173 |
| 4.30 | The Structure of the Metal Fabricating and Machinery Sector by Type of Ownership, 1981/82 | 174 |
| 4.31 | Performance Indices in the Metal Fabricating and Machinery Sector by Size, 1981/82 | 175 |
| 4.32 | Performance Indices in the Metal Fabricating and Manufacturing Sector by Type of Ownership 1981/82 | 176 |
| 4.33 | The Structure of other Manufacturing Industries by Size, 1981/82 | 177 |
| 4.34 | The Structure of other Manufacturing Industries by Type of Ownership, 1981/82 | 178 |

| | <u>Page</u> |
|--|-------------|
| 4.35 Performance Indices of other Industries not elsewhere classified by size 1981/82 | 179 |
| 4.36 Performance Indices for other Manufacturing Industries not elsewhere classified by size 1981/82 | 180 |

Chapter Five

Non-Operating Establishments: Anatomy of Failure

| | |
|--|-----|
| 5.0 Introduction | 181 |
| 5.1 Failure: A Macro-Perspective | 182 |
| 5.2 Failure: A Micro-Perspective | 183 |
| 5.2.1 The Food, Beverages and Tobacco Sector | 184 |
| 5.2.2 The Textile, Wearing Apparel and Leather Products | 185 |
| 5.2.3 Wood and Wood Products including Furniture | 185 |
| 5.2.4 Paper, Paper Products, Printing and Publishing | 186 |
| 5.2.5 Chemicals and Chemical Products Industry including Petroleum and Coal | 186 |
| 5.2.6 Other Non-Metallic Minerals excluding Petroleum and Coal | 187 |
| 5.2.7 Basic Metal Industries | 187 |
| 5.2.8 Fabricated Metal Products and Machinery | 187 |
| 5.3 Anatomy of Failure: The Analytical Perspective | 188 |
| 5.3.1 Causes of Failure and their Frequency | 189 |
| 5.3.2 Performance Indices | 190 |
| 5.4 Concluding Remarks | 193 |

Tables

| | |
|---|-----|
| 5.1 The Failure Rate of Manufacturing Establishments by Sector and Region, 1981/82 | 196 |
| 5.2 Activity and Regional Analysis | 197 |
| 5.3 Basic Data on Existing non-operating Establishments | 198 |
| 5.4 Industrial Survey of the Sudan 1981/82, Basic Data on existing non-operating Establishments Regional Analysis | 199 |
| 5.5 Frequency Analysis of Causes on Non-Operation | 202 |
| 5.6 Anatomy of Failure: Causes by Branch | 203 |
| 5.7 Performance Indices: Branches in Khartoum Region 1981/82 | 204 |

Summary and Recommendations

The macroeconomic perspective of the Sudanese manufacturing sector highlights a picture of sluggish growth, capacity underutilization, low labour productivity, low rates of return on fixed capital, high import dependence, and a limited contribution to the economy's output and employment profiles.

This picture is too general and too abstract to be useful as a guide for policy and planning. There is no substitute to a carefully designed industrial survey.

1. Summary

The results of the Industrial Survey undertaken in the Sudan in 1981/82 draw a detailed and thorough picture of the structural and performance difficulties. Below is a brief summary of the most important findings classified by size, type of ownership, region, sector and branch.

First, although the small scale establishments account for about 95 percent of the total number of establishments in the manufacturing sector, they do not account for more than 27.2 percent of total employment, 34.2 percent of gross output, and 49.4 percent of total value added in manufacturing. If anything, manufacturing in the Sudan is bi-modally distributed. Small establishments and very large establishments account for most of the employment, output and value added in manufacturing. Medium scale enterprises (those employing 25-100 workers) contribute only limited proportions to employment, income and output in manufacturing.

Second, in 1981/82 most of the manufacturing activity was in the private sector. The latter controlled over 83.6 percent of the manufacturing establishments and accounted for 41.9 percent of manufacturing employment and 69.7 percent of MVA.

Third, there is a clear and decisive dominance of food, beverages and tobacco; textiles and leather products; fabricated metals and machinery; and chemical products in the private sector. In the public sector, there is a slightly different group of dominant activities. This group includes paper and paper products; and other non-metallilc minerals in addition to food, beverages and tobacco; and textiles and leather products.

Fourth, there is a strong tendency to locate industry in the Khartoum, Central and Eastern regions. These regions boast of MVA shares that are multiples of their population shares. The opposite is true of the outlying regions.

Fifth, the average degree of processing of the manufacturing sector is generally low (0.36), and small establishments appear to invariably produce larger ratios of MVA to gross output than the larger establishments.

Sixth, labour productivity is generally low in the Sudanese manufacturing sector, but it is markedly differential. The average labour productivity for the sector as a whole is about LS 10.6 thousands. The range of this statistic varies, however, between a low of LS 3.7 thousands in the textiles sector to a high of LS 26.1 thousands in the chemicals sector.

Seventh, average labour productivity is positively and highly correlated with size and capital per worker. This relationship is

weaker in the small scale sector but tends to be exceptionally strong in the larger enterprises.

Eighth, profitability of activities varies markedly among sectors, regions, different sizes and by type of ownership. Textiles are unprofitable, whereas basic metal industries, particularly those that are large enterprises, are highly profitable. Outlying regions show some very high profitability rates because of lack of competition and the existence of natural monopolies.

The pattern of profitability in the private and public sectors is complicated. It is difficult to generalize about which group is more profitable. The public sector is decisively more profitable in the chemical sector, in non-metallic minerals, and in the metal fabricating and machinery sector. On the other hand, the private sector is more profitable in the food, beverages and tobacco operations and basic metals. Both groups were unprofitable in the textiles sector.

Ninth, regions with more capital per worker were also more productive and these were the regions that were able to pay higher wages. The highest degrees of processing were in the Northern, Eastern and Central regions, whereas the Khartoum and Eastern regions show the highest levels of labour productivity.

Tenth, performance indices of activities at the branch level highlighted potentials and problems. The most efficient branches were those of adequate establishment size, with high capital intensities and therefore high labour productivity and managed properly without over-staffing and excessive reliance on imports. Within each sector, it was possible to delineate the most promising activities and to distinguish between performance record and type of ownership.

Eleventh, failure of enterprises was studied in a way that allowed us to separate the causes of shut-downs into those that are inherent to the enterprise and those that are external to the environment.

The major conclusion of the study is that Sudanese manufacturing, despite some very fundamental problems of structure and performance, holds a real promise for development and growth. Invariably traditional economic and technical factors and causes can explain the behaviour and structure of the manufacturing sector and therefore its problems are ascertainable and not insurmountable. With larger and more adequate size, more capital per worker, more efficient management, proper pricing of outputs and inputs, greater linkage and coordination of activities and proper protection and nurturing, manufacturing activity in the Sudan could prosper.

2. Recommendations

On the basis of this study and a short field mission in the Sudan, the following recommendations are tendered.

First, the undertaking of industrial surveys to develop and organize a system of industrial statistics with the aim to improve coverage, accuracy and timeliness of the data available should be an on-going and continuous process.

Second, a proper machinery should be entrusted with this task at the Ministry of Industry. The existing set-up need to be improved and strengthened with professionals and machinery, particularly hardware, software and training facilities to undertake its tasks.

Third, the industrial surveys should not be undertaken in isolation of the needs and requirements of data. It is preferred to

set up an Industrial Data Bank that interfaces with other ministries and with AIDO and UNIDO.

Fourth, all efforts should be directed to avail Sudan of all the technical assistance programmes available in this field particularly those extended by AIDO, UNIDO, CIDA and IDRC of Canada.

Fifth, the accumulation of statistics for their own sake is not a useful exercise. The Ministry of Industry, in cooperation with other ministries but particularly the Ministry of Economics and National Planning, should envisage to utilize the results of the Survey as inputs into the formulation of plans and strategies.

Sixth, the design, formulation and methodologies of the Survey should be reviewed in order to improve their reliability, accuracy, quality and utility.

Seventh, a concerted effort should be made to diversify the manufacturing sector over regions. Thorough and detailed studies should be carried out at the branch level in each region to assess the feasibility of undertaking manufacturing activity in the outlying regions. The spread of manufacturing activity in the region's would contribute positively to employment generation, to a decrease in outward migration to large cities, to the use of local materials and to a check on the prevailing tendency of manufacturing enterprises in the remote regions to exploit their monopoly presence.

Most promising activities in this regard relate to agro-allied industries, those exploiting the forest and animal wealth of the country and cottage industries that could promote, protect and preserve handicrafts and local talents.

Eighth, the limited presence of small scale establishments in

the textiles sector points to the possibility of promoting this line of activity in the Sudan. Given the scarcity of capital, limited employment opportunities in the manufacturing sector, the need for regional diversification of manufacturing and the availability of local raw materials (cotton) the promotion and encouragement of small scale operations in textiles should be looked into more seriously. Perhaps a small scale administration within the Ministry of Industry could be established from within the existing staff that could be entrusted with the task of studying, planning and implementing small scale projects but particularly in the textile sector.

Ninth, the Sudanese forest resources are being depleted at very high rates. The total growing stock, the net increment and allowable cut per annum will decrease further in the years to come. Current uses of wood for energy purposes exceeds 80-95 percent of the annual fellings and there is not much room to expand the alternative industrial uses of wood. There is an urgent need to rationalize the use of wood in the country and to divert a larger portion into the production of wood and paper.

Public enterprises in the sawmill branch appear to be efficient, productive and even profitable. There is still much room for expansion to meet domestic and export demand. Moreover, there is not yet a single establishment to produce paper from pulp in the Sudan despite the significant potential for expanding pulp trees and pulp production.

Tenth, Sudanese manufacturing is still in its early stages and is typically concentrated into traditional activities. A more balanced structure would require an early effort towards the

production of sophisticated products on a small-scale basis. A likely candidate would be the production of agricultural tools and implements.

Industry does not spring spontaneously and does not operate in a vacuum. There is no alternative or a short cut to a long process of learning and exposing the population to the industrial experience and particularly in what relates to the advanced use of technology.

Eleventh, the development of a Strategic Unit at the Ministry of Industry with strong ties to the Ministry of Economics and National Planning to identify manufacturing projects and design industrial strategies and programmes is strongly urged. The development of such a unit represent a needed and logical down-stream operation to utilize and oversee the utiulization of the results of the Industrial Survey.

Chapter One

Industrial Structure and Performance In the Sudan 1981/82

1.0 Introduction

There has hardly been a case of sustained economic development in any country without a substantial contribution from the industrial sector. Industry transforms habits and attitudes; it instils the work discipline and organization needed for massive mobilization of resources and channelling of the collective effort that are critical for structural change and growth. Besides, industry increases the total value added in the economy thereby increasing income and consumption and creates forward and backward linkages among sectors filling in white spots and empty boxes in the economy's production structure.

Industry in the Sudan is still in its infancy and the potential for developing viable industries is still not yet fully or appropriately exploited. An industrial survey, as part of an organized effort, to develop and systematize the collection and dissemination of industrial data is a vital requirement for tackling the task of industrial development in any developing country but particularly in the Sudan, where few data exists and where a documentation of the problems is essential.

1.1 The Industrial Survey and Industrialization in the Sudan

The undertaking of an industrial survey to develop and organize a system of industrial statistics with the aim to improve coverage, accuracy and timeliness of the data available could

contribute to the development effort in the Sudan in a number of ways:

First, it provides the basis for continuous evaluation of the achievements and failures of the industrialization effort;

Second, it provides necessary information for the management of industry, commerce and other sectors of the economy;

Third, it can provide an invaluable input into the formulation of realistic and sound strategies for further expansion of the industrial sector;

Fourth, it could provide the necessary base for the drawing of well-based industrial plans in the short, medium and long term;

Fifth, it could be used as a basis for comparing Sudan's industrialization effort with those of other Arab countries being structured along similar grounds and methods used in other Arab countries.

1.2 The Industrial Survey: Some Background Information

The main objective of an industrial survey in the Sudan was to provide the Government development agencies and other interested parties in the country with suitable data and tools of analysis to serve as a basis to monitor, promote, and plan industrial activities and programmes in order to improve the operational nature of Sudan's industry.

The framework chosen was that developed by the Arab Industrial Development Organization (AIDO) to facilitate the comparison of Sudan's industrial experience with that of other Arab countries. The survey was also intended to be part of a continuous and on-going process of collecting, and processing and disseminating industrial data. Other specific objectives included the up-dating and

the completion of the existing Directory of Industrial Enterprises, the training of enumerators, organizers, statisticians and other technicians in the process of planning and implementing the survey and finally to prepare a comprehensive study of the industrial sector as depicted by the results of the survey.

1.3 UNIDO's Effort in Implementing the Survey

In the area of industrial planning and project development in the Sudan a number of technical assistance projects were carried out by UNIDO during the 1970's, however they were generally of an ad hoc and short term nature. For this reason the Government of Sudan expressed a desire to initiate a major exercise to assess and review the industrial situation and prospects in the form of an overall survey which could be used as a basis for developing long range industrial strategies and planning.

The project envisaged was to incorporate and make use of the results of UNIDO project S1/SUD/77/d802 - Industrial Survey of Southern Sudan and was to be followed by a project on an industrial strategy for Sudan.

The initial project proposal was approved in principle by the Ministry of Industry in 1979 and UNDP/UNIDO assistance in funding and execution was requested. Furthermore, the Industrial Development Centre for Arab States (IDCAS, and AIDO) expressed a deep interest in participating and this resulted in the formulation of a project proposal with a tentative budget of \$256,000 (\$56,000 UNDP/IPF including one month of Preparatory Assistance; \$50,000 AIDO; and \$50,000 UNIDO/SIS). The finer details of implementation were to be finalized in the Preparatory Assistance activities.

A Preparatory Assistance mission was undertaken from 7 October to 6 November 1980 which made recommendations concerning the implementation and timing of the survey including a draft project document, proposing February 1981 as the desired date of commencement. The proposed project was to be executed by UNIDO in cooperation with AIDO.

The proposed project subsequently underwent both substantive and financial revision, retaining a UNDP \$10,000 component for a preparatory mission in 1982 with an additional \$50,000 earmarked for execution of the project in 1983. Delays were due to the complicated economic situation in the Sudan in 1981.

In its final form the UNDP project budget totalled \$90,000, \$60,000 direct UNDP/IPF resources plus \$30,000 of financial support from project DP/SUD/80/016 - Planning Assistance and Training Project (Phase II), the latter amount being destined to cover the costs of field surveys), while the Sudanese Government contribution was fixed at LS 292,000 (in kind). AIDO funding was not forthcoming, however it was decided to make use of the AIDO questionnaires and methodology. The document was signed in June 1983.

The project activities commenced in September 1983 with a brief mission by the senior industrial economist on the project followed by his return in December when a detailed work plan for the project was presented, followed by a note on the preparation of sub-sectoral reports, before the unforeseen departure of the expert in early February 1984. A replacement was briefed in Khartoum in May and then returned in July for a split assignment, completed in December.

Chapter Two

The Industrial Survey of the Sudan 1981/82

2.0 Introduction

The survey in 1981/82 is perhaps the most comprehensive industrial survey undertaken in the Sudan but by no means the first such survey of industry in the country. In 1968/69, IDCAS in cooperation with the Sudanese Ministry of Industry started the first industrial survey and generated results for 1970/71 covering fully establishments employing 25 and more workers and by sample those employing less than 25 workers. This was followed by another survey in 1978/79 carried out by the Department of Statistics in the Ministry of Finance and Planning using the same definitions. The Southern region was not included, however, in this survey for obvious security reasons at the time.

In 1983, the Ministry of Industry in Cooperation with UNIDO and UNDP undertook to survey again the Sudanese industrial sector. The year 1981/82 was chosen to ensure the full availability of data at the establishment level. Besides 1981 represented a ten year difference with the results of the first survey so that a decennial comparison could be made.

The adopted questionnaire was that of Arab Industrial Development Organization (AIDO) which replaced IDCAS in 1979/80. The choice of this questionnaire was made on the basis of its comparability with earlier surveys and with other Arab data.

2.1 The Structure of the 1981/82 Survey

The survey attempts to cover all licenced establishments in Sudan. As such it covers the organized sector of the economy, but does not venture into the informal sector. The organized sector within the industrial sector is believed, however, to represent the major if not the total activity in this sector.

2.1.1 Population and Sample Sizes

Again the survey attempted to cover fully industrial establishments employing 25 people and more, but had to resort to sampling in the case of establishments employing less than 25 workers.

The planned coverage included the following population numbers.

| <u>Establishment</u> | <u>Population size</u> |
|---|----------------------------|
| Establishments employing 25 workers and more | 621 |
| Establishments employing 10-24 workers | 700 |
| Establishments employing less than 10 workers | 1266 |
| Bakeries and Flour Mills employing less than 10 workers | <u>4760</u> |
| Total | 7347 |

The sizes of the samples were chosen as follows:

| <u>Establishments</u> | <u>Sample Size</u> |
|---|------------------------|
| Establishments employing 25 workers and more | 100 % |
| Establishments employing between 10-24 workers | 20 % |
| Establishments employing less than 10 workers | 5 % |
| Traditional Bakeries and Flour Mills employing less than 10 workers | 1 % |

A stratified sampling procedure was adopted to ensure a proportional representation of each sector in a given region. The sectors and branches were defined according to the International Standard Industrial Classification codes (ISIC).

Upon implementing the survey a number of revisions had to be made on the initial list of establishments employing 25 workers and more.

First, 60 establishments were found to have either no industrial activity or to have been included under a different name elsewhere;

Second, 77 establishments were included but did not exist at the time of the survey;

Third, 57 establishments were added that were unjustifiably excluded in the original list;

Fourth, one establishment was not covered for security reasons.

This reduced the total to 540 establishments of which only 347 establishments responded. The details of the omissions and non-respondents are presented in Table 2.1.

2.1.2 The Blow-up Ratios

Surveying the population of small establishments is not only difficult and costly, it is not necessary. The design of representative samples and the use of sampling theory allows the researcher to use sample statistics to represent population parameters. The move from sample figures to population aggregates necessitates the identification of blow-up ratios. These are usually determined as the multiples that population numbers are of sample numbers. The details of these multipliers by region and sector are represented in Table 2.2.

The multipliers as represented in Table 2.2 were calculated as follows:

$$r_{ij} = u_{ij} / s_{ij}$$

where u_{ij} is the population size for sector i in region j

s_{ij} is the sample size for sector i in region j

2.2 The Implementation of the Survey

Field teams were organized and dispatched to the various regions with two types of questionnaires -- an extensive one designed for large establishments and a brief questionnaire for small establishments. Each team included two senior members generally university graduates one in economics or statistics and another with technical training, a person who is responsible for reviewing the data obtained and checking its completeness and accuracy, and a supervisor who heads the team.

The work teams were first put through rigorous training in each region and then sent to the fields. The following time-table emerged.

Time Schedule of Survey Implementation

| Region | Start-up Date | Completion Date |
|-----------|---------------|-----------------|
| Khartoum | 7/1/84 | 15/3/84 |
| Central | 20/3/84 | 5/5/84 |
| Northern | 10/4/84 | 5/5/84 |
| Eastern | 27/3/84 | 15/5/84 |
| Kordofan | 22/3/84 | 11/4/84 |
| Darfur | 5/5/84 | 6/6/84 |
| Equatoria | 21/5/84 | 5/6/84 |

Several factors accounted for the differences in the time required to complete the survey in the different regions. There were delays in responses due to refusals of owners and managers to comply, the sudden disappearance of the expert, shortages of fuel, security complications in the south, and several other minor difficulties pertaining to travel arrangements and absenteeism of personnel.

The collected data was then reviewed by special committees at the Ministry of Industry. The review concentrated on an examination of the data collected against income statements and balance sheets submitted by the surveyed establishments.

The degree of response among the establishments that were finally surveyed was high indeed. About 93 percent of the returns were accepted. A total of 3.5 percent did not fully cooperate and their questionnaires were found incomplete and therefore rejected. Another 3.5 percent simply refused to fill in the questionnaires.

By July 1984, all questionnaires were coded and entered at the National Department of Statistics' computer. By October 15, 1984 the first results were printed. Since then, several attempts have been made to extract and analyze the data in the survey. This attempt is perhaps the most comprehensive yet; but surely not the last. There are enormous batches of data that could engage the efforts of the Ministry of Industry for many months and years.

2.3 An Evaluation of the 1981/82 Survey

A number of criteria can be employed to evaluate the survey. These pertain to coverage, to sampling techniques, to accuracy of results and to the quality and quantity of results.

2.3.1 Coverage

The survey concentrated on the organized industrial sector and that perhaps is the only feasible alternative. But nowhere in the survey, or in the results derived from it, is there any mention of the importance and magnitude of the informal sector. Given Sudan's stage of development, the unorganized sector may have a significant contribution to output and more importantly to employment. This significance should be identified.

The division of the establishments between small and large and the use of different sampling approaches in the two cases is not fully explained and justified. There is hardly a precise criteria for classifying small scale establishments as those employing less than 25 workers. It can easily be argued that extending the definition to establishments employing less than 50 workers would be just as meaningful.

The choice of surveying every large establishment is in my view appropriate and not expensive given the limited size of the Sudanese manufacturing sector. The adjustment of the survey to fit the facts on the ground demonstrates the flexibility of the teams and the organizers of the project. It must be admitted, however, that upon reviewing some of the questionnaires, the extent of response appears to be poor. Respondents should have been pressed for more information. This may also be the outcome of the nature of the questionnaire. By and large, the questionnaire used for large establishments is too long and complex. Few owners and/or managers of establishments could understand what is requested from them.

The questionnaire for small establishments is, however, brief and concise. This perhaps explains the greater degree of response in this sector.

In future surveys, it is hoped, that shorter and more up to the point questionnaires would be designed. Furthermore, given that these questionnaires are those adopted and standardized by AIDO, they could as such facilitate inter-Arab comparisons. But they abstract from the peculiarities and special conditions of the Sudan that require special attention. A balance between these two conflicting principles should be attempted.

2.3.2 Sampling Techniques

It is here where most of the trouble lies. There is hardly any indication of how representative the sample is. It is presumed to be a stratified random sample. All indications are that its randomness is suspect and its stratification is ad hoc. Besides the sizes of the samples are arbitrarily determined. There are no indication that the size of the sample was chosen on the basis of a deliberate attempt to define tolerable errors and confidence levels.

Crude estimates show that the sample sizes were all below those needed for a 95 percent level of confidence and in some cases below the 67 percent level.

Hopefully, in future surveys, a more careful sampling procedure would be adopted and adhered to.

2.3.3 The Quality and Quantity of Results

Statistics in developing countries are generally either unavailable or if available they are often unreliable. Some of these conditions are also pertinent to few developed economies. In the context of Sudan and her stage of development, the results of the survey are a major advance. There is now available, a large set of quantitative measures on a broad spectrum of industrial activity in the country. Actually, there is now available a large number of

computer printouts on a detailed set of variables which include regions, size, type of ownership and level of industrial aggregation. The major aspects measured are gross output, value added, wages and salaries, employment, fixed assets, capital invested, machinery, buildings, inventories, operating surplus, etc.

The real problem is in assigning a measure of accuracy and reliability to these results. Errors could result from faulty sampling procedures, particularly when blow-up multipliers are used, or from faulty responses, faulty coding, and faulty reproduction of the results. The major sources of error are those pertaining to faulty responses and faulty sampling procedures. Only in very few cases were computer errors found and when found it was only a simple matter to correct them as the Ministry personnel were always able to produce the original questionnaires on short notice.

2.4 Concluding Remarks

The design and the implementation of the Industrial Survey for Sudan was a major task. It involved substantial expense in time, resources and effort. The outcome has been a large set of data and a pool of trained resources that could easily be tapped for future assignments.

The resources and efforts devoted to this exercise would be more justified if the surveying activity were to become a consistent, cumulative and regular effort. It is only then that the full worth of the survey could be exploited and used.

TABLES

Table 2.1 The Final Size of the Sample of Establishments Employing 25 and More Workers in the Sudan, 1981/82

| Region | Original Nos. | Duplicated or a Non-manufacturing Activity (--) | Not existing (--) | New Additions (+) | Updated Group | Est. Surveyed = (+) | Uncooperative Est. (+) | Transferred to Sample (+) | Uncompleted (+) | Non-operating (+) |
|--------------|---------------|---|-------------------|-------------------|---------------|---------------------|------------------------|---------------------------|-----------------|-------------------|
| Khartoum | 355 | 34 | 24 | 18 | 315 | 213 | 4 | 46 | 3 | 49 |
| Central | 105 | 10 | 14 | 8 | 89 | 56 | 6 | 13 | 4 | 10 |
| Eastern | 50 | 4 | 7 | 3 | 42 | 29 | 0 | 6 | 3 | 4 |
| Darfur | 56 | 2 | 21 | 6 | 39 | 10 | 0 | 26 | 1 | 2 |
| Kordufan | 30 | 2 | 8 | 13 | 33 | 23 | 2 | 2 | 1 | 5 |
| Northern | 20 | 4 | 2 | 0 | 14 | 10 | 0 | 0 | 0 | 4 |
| Equatoria | 4 | 4 | 1 | 9 | 8 | 6 | 1 | 0 | 1 | 0 |
| TOTAL | 620* | 60 | 77 | 57 | 540 | 347 | 13 | 93 | 13 | 74 |

*One establishment was not covered for security reasons.

Table 2.2 Sample Blow Up Multipliers

| | | 31 | | | 32 | | | 33 | | | 34 | | | 35 | | | 36 | | | 37 | | | 38 | | | |
|----------------|---|----|-----|-----|----|----|----|----|----|----|----|----|----|----|---|----|----|----|----|----|---|---|----|----|-----|---|
| | | s | r | u | s | r | u | s | r | u | s | r | u | s | r | u | s | r | u | s | r | u | | | | |
| Khartoum | 2 | 9 | 3 | 23 | 4 | 1 | 5 | 3 | 4 | 11 | 9 | 2 | 17 | 2 | 3 | 6 | 4 | 4 | 15 | - | - | - | 5 | 4 | 18 | |
| | 3 | 2 | 5 | 10 | 1 | 2 | 2 | 2 | 15 | 30 | 1 | 20 | 20 | 2 | 1 | 3 | - | - | 24 | - | - | - | 4 | 18 | 70 | |
| | 4 | 3 | 122 | 366 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Khartoum North | 2 | 6 | 4 | 26 | - | - | 3 | - | - | 1 | 2 | 2 | 4 | 6 | 3 | 17 | 4 | 2 | 9 | 1 | 1 | 1 | 2 | 9 | 18 | |
| | 3 | 3 | 1 | 3 | - | - | 2 | 1 | 5 | 5 | - | - | 5 | 4 | 2 | 9 | 2 | 1 | 2 | - | - | - | 6 | 4 | 25 | |
| | 4 | 6 | 66 | 396 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Omdurman | 2 | 10 | 8 | 81 | 10 | 3 | 32 | 1 | 11 | 11 | - | - | 2 | 8 | 2 | 14 | 4 | 3 | 10 | - | - | - | 7 | 2 | 34 | |
| | 3 | 1 | 12 | 12 | 1 | 31 | 31 | 2 | 33 | 66 | 2 | 10 | 20 | 3 | 2 | 6 | - | - | 9 | - | - | - | 10 | 19 | 190 | |
| | 4 | 3 | 94 | 283 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Elgazera | 2 | 5 | 9 | 43 | 3 | 2 | 5 | - | 10 | 1 | 2 | 2 | - | - | 4 | 2 | 6 | 12 | - | - | - | - | - | - | 15 | |
| | 3 | 3 | 3 | 7 | - | - | - | - | 4 | - | - | - | - | - | - | - | - | 3 | - | - | - | - | - | 2 | 4 | 7 |
| | 4 | 6 | 95 | 540 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Blue Nile | 2 | 4 | 3 | 12 | - | - | 1 | 1 | 3 | 3 | - | - | - | - | - | 1 | 1 | 1 | - | - | - | - | - | - | - | |
| | 3 | 1 | 6 | 6 | - | - | - | 1 | 19 | 19 | - | - | - | - | - | 1 | 4 | 4 | - | - | - | - | - | 5 | 14 | |
| | 4 | 3 | 107 | 322 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| White Nile | 2 | 7 | 3 | 23 | - | - | 1 | - | - | - | - | - | 1 | 2 | 2 | - | 2 | 2 | 1 | 2 | - | - | - | - | 9 | |
| | 3 | 6 | 28 | 165 | 1 | 1 | 1 | 1 | 14 | 14 | 1 | 2 | 2 | - | - | 1 | 2 | 2 | - | - | - | - | 2 | 38 | 75 | |
| | 4 | 4 | 95 | 379 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Kassala | 2 | 5 | 3 | 14 | - | - | - | 1 | 1 | 1 | - | - | 1 | 1 | 1 | 1 | 1 | 1 | - | - | - | - | 1 | 11 | 11 | |
| | 3 | 1 | 7 | 7 | - | - | - | 1 | 14 | 14 | - | - | 5 | - | - | - | - | - | - | - | - | - | 4 | 28 | 95 | |
| | 4 | 4 | 97 | 389 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| North Kordufan | 2 | 4 | 8 | 30 | - | - | - | - | - | 1 | 1 | 1 | 1 | 4 | 4 | 1 | 4 | 4 | - | - | 1 | 2 | 5 | 9 | - | |
| | 3 | 3 | 4 | 11 | - | - | - | - | - | 1 | 2 | 2 | - | - | 1 | 1 | 1 | 1 | - | - | - | 2 | 28 | 55 | - | |
| | 4 | 5 | 93 | 461 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| South Kordufan | 2 | 1 | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 1 | 1 | |
| | 3 | - | - | 5 | 1 | - | - | - | 7 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 12 | |
| | 4 | 3 | 101 | 302 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| North Darfur | 2 | 4 | 2 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 1 | 2 | |
| | 3 | 1 | 3 | 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 3 | 5 | 16 | |
| | 4 | 1 | 116 | 116 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| South Darfur | 2 | 19 | 2 | 29 | - | - | - | - | - | - | - | 2 | 2 | 4 | - | - | - | - | - | - | - | 1 | 16 | 16 | - | |
| | 3 | 1 | 2 | 2 | - | - | - | - | 2 | 2 | 1 | 2 | - | - | - | - | - | - | - | - | - | 3 | 1 | 3 | - | |
| | 4 | 2 | 96 | 191 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Nile | 2 | 4 | 3 | 13 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 1 | 1 | - | |
| | 3 | 1 | 11 | 11 | 1 | 1 | 2 | 6 | 12 | - | - | 2 | - | - | 1 | 2 | 2 | - | - | - | - | 2 | 18 | 35 | - | |
| | 4 | 6 | 92 | 554 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

| | | | | | | | | | | | | | | | | |
|-----------------|---|---|-----|-----|---|---|---|---|---|---|---|---|---|---|----|----|
| Northern | 2 | - | - | 2 | - | - | - | - | - | - | - | - | - | - | - | - |
| | 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | 4 | 2 | 133 | 265 | - | - | - | - | - | - | - | - | - | 1 | 31 | 31 |
| East Equatorial | 2 | 3 | 1 | 3 | 3 | 1 | 3 | - | - | - | - | - | - | 3 | 1 | 3 |
| | 3 | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 1 | 4 |
| | 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

- 2 - Sample for establishments employing 10-24
- 3 - Sample for establishments employing less than 10
- 4 - Traditional bakeries and grain mills
- s) - Sample
- r) - Raising factor
- u) - Population

Chapter Three

3.0 Manufacturing Sector Structure and Performance In the Sudan 1981/82: A Sectoral and Regional Analysis

3.1 The Manufacturing Sector and the Economy: A Macroeconomic Perspective

The industrial sector (manufacturing and mining) does not operate in a vacuum and in isolation of the rest of the economy. On the contrary, industrial activity determines and is determined by the complex interactions it has with the economy at large. The magnitude and nature of this interdependence are governed by the degree of maturity and development of the economy. As a general principle, the more developed and mature an economy is, the more intricate and extensive are the linkages among its respective sectors.

Given Sudan's limited and recent industrial experience, it is expected that the linkages between the macroeconomy at large and the industrial sector are limited. It is small wonder, therefore, to find that the industrial sector's contributions to real GDP was about 8.7 percent, whereas it employed less than 5 percent of the total labour force and contributed less than one percent of total exports (and here only in terms of semi-processed goods) in 1984.

It is worth noting that although the industrial sector's output did not increase substantially in the 1980s, it continued to show positive rates of growth at the time when the growth of real GDP was negative. This is particularly the case in 1982/83 and 1983/84 as is clear from Table 3.1.

Industry in the Sudan is primarily based on processing of agricultural products such as sugar, cotton, wheat, groundnuts, Arabic gum and vegetables. Processing of leather, yarn, and the manufacture of shoes

and batteries are also important manufacturing activities. Groundnuts are shelled for export, but minerals (chromium ore and gypsum) are generally exported in their unprocessed state.

Serious manufacturing production in the Sudan dates back to the early sixties. Most products are simple consumer goods; a list of the most important subset with their outputs are presented in Table 3.2

Private concerns dominated the sector in its infancy, however, 1962 marks the beginning of public sector involvement. The Industrial Development Corporation was established in 1962 and since then it has managed to dominate a number of industries but particularly those engaged in the production of sugar, leather, and textiles. The private sector, however, still dominates the production of vegetable oil, soap, tyres, soft drinks, flour mills, and knitwear products.

A state of generalized excess demand for products characterizes the Sudan. There is hardly a sector which produces more than is locally demanded. Supply shortages are more characteristic even when rated production capacities theoretically exceed apparent consumption. A few examples may help clarify these claims.

Sugar consumption in the Sudan is estimated to exceed 460,000 MT per year. Local production has almost reached this level in 1983/84, but due to the difficult situation in 1985/86, the current output has decreased sharply. The most recent data still indicates a very high underutilized production capacity, particularly in the public sector mills.

There are two cement factories in operation recently and one in the consideration stage. The 1983/84 output of about 198,000 MT was insufficient to meet the local demand of about 350,000 MT per year. With the modernization of the Maspio cement complex the hope was for a total production capacity of 500,000 tpa. Severe financial and other operational

difficulties have, however, cut production drastically in 1985.

In the shoe industry rated capacity is for 27 million pairs. Actual production flows have stabilized around the 10 million pairs level. There has been a consistent complaint about local hides and skins being exported in raw form denying local tanneries of their products.

3.2 Manufacturing Industries: Structure and Performance

The macroeconomic perspective of the Sudanese manufacturing sector highlights a picture of sluggish growth, capacity underutilization, low productivity, low rates of return, high import dependence, and a limited contribution to the economy at large. The aggregate perspective, however, is not sufficient or very useful in explaining this phenomenon of low performance efficiency. To gain a better perspective of the manufacturing activity, a disaggregative view is needed. This view is provided by the Industrial Survey of 1981/82.

The Industrial Survey of manufacturing activity in the Sudan in 1981/82 provides a detailed and thorough review of this activity at the sectoral and branch level as well as at the regional level. The Survey distinguishes between small and large enterprises as well as between private and public ones.

In what follows we shall present a summary of the major findings of the Survey. In this chapter we shall concentrate on the regional and sectoral distribution of manufacturing activity. In chapter four, our focus will be on the sub-sectoral activities for the Sudan as a whole.

Two types of analysis of the data of the Survey will be conducted here. At one level, only descriptive statistics will be presented. These statistics will include the value and distribution of gross output, value

added, wages and salaries, and gross fixed capital. This type of information is useful in delineating the boundaries and structure of the manufacturing activity. On the other hand, these statistics fail to provide any substantive information on the performance and efficiency of the operations of the sector. To analyze these aspects a new set of performance indices were calculated. The most important indices pertain to capital intensity, capital-output ratios, productivity, rates of return on invested capital, average wages and the average cost of production.

3.2.1 The Overall Structure of Manufacturing Activity in the Sudan 1981/82

In 1981/82 there were counted 6759 manufacturing establishments in the Sudan. Most of them were small in size employing less than 25 workers each. In fact, 6412 establishments or 95 percent of the total were small. The larger establishments accounted for another 347 concerns. These were divided into 131 establishments employing 25-50 workers, 79 establishments employing 51-100 workers and 137 establishments employing more than 100 workers.

The distribution of establishments by size provides an incorrect picture of the distribution of economic activity in the manufacturing sector as is clear from Table 3.3.

Although the small scale establishments account for about 95 percent of the total number of establishments in the manufacturing sector, they do not account for more than 27.2 percent of total employment, 34.2 percent of total gross output, and 49.4 percent of total value added in manufacturing. If anything, manufacturing activity in the Sudan is bi-modally distributed. Small establishments and very large establishments account for most of employment, output and value added in manufacturing. Medium scale enterprises (those employing 25-100 workers) contribute only

limited proportions to employment, output and value added in manufacturing.

The distribution of establishments by size differs by sectors. Table 3.4 displays the percentage shares of different sizes by sector. It is clear that most of the small establishments are concentrated in the food, beverages and tobacco sector and in metal fabricating. The latter group includes a large number of garages and service stations. There are some very revealing distribution specifics by size among sectors. These specifics are particularly noticeable in the large establishments where 25 percent of them are in the textile and leather products sector and in the fact that the food, beverages and tobacco sector accounts for almost the same share of establishments in the medium and large size enterprises.

The Survey also reveals a strong concentration of manufacturing activity in the Khartoum and Central regions. The two regions together account for 54.8 percent of total establishments in manufacturing, 79 percent of total manufacturing employment, 80.9 percent of total manufacturing wages and salaries, 75.5 percent of total manufacturing gross output, 70.7 percent of total manufacturing value added, and 79.0 percent of total gross fixed capital in the manufacturing sector in 1981/82.

On the other hand, the Equatoria region is almost deprived of any significant manufacturing activity with a percentage share of less than one percent of every manufacturing indicator. (see Table 3.5). Equatoria and Darfur together account for less than 6.4 percent of the total number of manufacturing establishments and even less than 3.0 percent of total manufacturing employment, 2.2 percent of manufacturing gross output, 1.5 percent of manufacturing value added and 1.4 percent of fixed capital in manufacturing.

The Northern and Kordofan regions exhibit very similar shares in manufacturing activity in Table 3.5. They have almost the same share of manufacturing establishments and of wages and salaries. The Kordofan region shows, however, a higher percentage share of manufacturing employment but a lower percentage share of value added than the Northern region.

In 1981/82 most of the manufacturing activity was in the private sector. It controlled over 83.6 percent of the manufacturing establishments and accounted for 41.9 percent of manufacturing employment, 58.4 percent of wages and salaries paid by the sector, 78.6 percent of gross output, and 69.7 percent of value added. These distribution shares, however, pertain only to establishments employing 25 workers and more. If the whole manufacturing sector was considered the shares of the private sector would most certainly rise.

3.2.2 The Sectoral Structure of Manufacturing Output

The structure of manufacturing output in Sudan in 1981/82 was typical of most developing countries in the early stages of industrialization. Light consumer goods dominate other activities. This tendency appears to have been more pronounced and more visible in the Sudan than in other developing countries.

Food, beverages and tobacco production accounts for almost 77 percent of manufacturing value added, 78 percent of the total number of manufacturing establishments and about 62 percent of total fixed capital in the Sudanese manufacturing sector. This dominance is exhibited in the case of both small and large enterprises, although it is more evident in the small enterprises case than in the large ones. As is clear in Table 3.6, food, beverages and tobacco establishments employing less than 25

workers account for 80 percent of all manufacturing establishments, 67 percent of manufacturing employment and 87 percent of MVA. On the other hand, larger establishments in the same activity account for only 44 percent of large manufacturing establishments, 58 percent of manufacturing employment and 67 percent of MVA of this group.

The fabricated metal and machinery sector shows an unexpected large number of establishments and significant shares in manufacturing employment and MVA. A total of 854 establishments were engaged in this sector in 1981/82 with about 820 of them employing less than 25 workers. These small establishments are primarily service stations and repair shops, nonetheless they account for about 16.4 percent of manufacturing employment in the small scale sector. Their share in MVA, however, is only 6.6 percent. (see Table 3.6) The share of metal fabricating and machinery activity in the large establishments group manufacturing output is, however, not as significant. It accounts for 9.8 percent of the total number of establishments, but its share in manufacturing employment is a modest 4.2 percent and contributes only a 6.6 percent of the MVA of the group.

Invariably, the textile, wearing apparel and leather products have accounted for the second largest manufacturing activity in the Sudan in 1981/82. Although this activity shows a low share in the total number of establishments (2.0 percent), it explains 19.7 percent of total manufacturing employment and 4.6 percent of MVA. This discrepancy between its shares in the number of establishments and in manufacturing employment is related to the fact that most of the establishments in this activity employ more than 25 workers. Thus, only 1.2 percent of the small scale manufacturing establishments were engaged in the production of textile,

wearing and apparel and leather products, whereas 17.6 percent of the larger manufacturing establishments were in this sector. (see Table 3.6).

The results of the Survey also indicate the existence of relatively large set of establishments in the wood and wood products sector. They are mainly small furniture shops with limited impact on the economy.

Most of the remaining manufacturing sectors are comprised of small establishments with limited consequences, but some exceptions remain. In the small scale activity, other non-metallic minerals excluding coal and petroleum explain over 5.2 percent of the employment. Alternatively, in the larger establishments, there appears to be a non-trivial contribution by the chemicals and chemical products sector.

The ownership pattern of industrial enterprises mirrors closely the overall structure of the manufacturing sector. The data in Table 3.7 indicate clearly that the dominance of food, beverages and tobacco and textile, wearing apparel and leather goods sectors is preserved across the different types of ownership patterns, albeit with some slight variations. In the public sector, the two activities above account for 66 percent of all public manufacturing enterprises, whereas they account for only 60 percent of the privately owned enterprises. This share rises, however, to over 71 percent in the mixed sector. It should be noted here that the pattern of ownership is defined over enterprises employing 25 workers and more and does not, therefore, depict the overall picture in the manufacturing sector.

There are indeed several other distinctive features that are specific to each ownership type. First, the private sector is the largest sector with about 44 thousand employees. This contrasts with about 28

thousand in the public sector and 33 thousand in the mixed sector. When the respective shares of fixed capital and of MVA are considered, a more glaring difference emerges. The private sector explains over LS 477 million of the fixed capital invested in large manufacturing enterprises against a share of the public sector of only LS 130 million and a LS 298 million share for the mixed sector. More interesting perhaps is the substantive difference in the contribution of these groups to MVA. The public sector accounts for a limited LS 28.6 million, whereas the contribution of the private sector is LS 196.2 million. The latter figure is larger than the combined contributions of the mixed and the public sectors. The mixed sector's contribution to MVA did not exceed LS 57 million in 1981/82. (see Table 3.7).

Second, there is a clear and decisive dominance of food, beverages and tobacco, textile and leather products, metal fabricating and machinery and chemical and chemical products activities in the private sector. In the public sector, there is a slightly different group of dominant activities. Although food, beverages and tobacco and textile and leather products top the group of important activities in the public sector too, it is also clear that paper and paper products and other non-metallic mineral products make relatively significant contributions to manufacturing output and employment in the public sector that is not true of the private or the mixed sectors. In the mixed sector, food, beverages and tobacco activity dominates almost exclusively all other activities.

3.2.3 The Size Pattern of Sectoral Output in the Sudanese Manufacturing Activity

Tables 3.8 - 3.13 are presented to depict the pattern and nature of manufacturing activity in the Sudan in 1981/82 by sector and size. Six

major attributes are considered -- number of establishments, manufacturing employment, wages and salaries in manufacturing, gross output, MVA, and fixed capital in manufacturing.

It is clear from the data displayed in Table 3.8, that in the food, beverages and tobacco sector small enterprises account for 97.1 percent of the total number of establishments in the sector. This dominance of small enterprises is evident in all other sectors but with some slight differences. In the textiles, wearing apparel and leather goods, the small scale enterprises comprise 55.8 percent, but enterprises employing more than 100 workers account for a substantial 24 percent of the total number of establishments in this sector. The distribution of enterprises in the textile and leather production exhibits a bi-modal distribution -- a large number in the small scale category and another large number in the very large enterprises. Enterprises employing more than 25 workers but less than 101 workers tally together less than 20 percent of the total number of establishments.

In the wood, wood products including furniture, small enterprises make up over 95 percent of the total. There are very few large enterprises and only a small subset of medium scale (employing 25-50 workers) establishments.

The dominance of small scale establishments is also clear in the paper, paper products, printing and publishing. However, there appears to be a significant number (10) of large establishments employing more than 100 workers.

The chemical, chemical products including petroleum and coal sector deviates from the general pattern above. Here, there are fewer small scale enterprises than the other sectors but also a larger proportion of medium-sized establishments.

Small scale enterprises dominate the size pattern in other non-metallic mineral excluding petroleum and coal with an 84 percent share. There are very few enterprises in the basic metals sector and they are generally almost evenly distributed over the four categories of size.

Surprisingly, small scale enterprises dominate the fabricated metals and machinery sector, but this is largely due to the inclusion of service stations and garages in this sector. There is still, however, another fourteen relatively large establishments.

The distribution of establishments by size is generally not a good and unbiased indicator of the significance of the contributions of the respective establishments to manufacturing activity. This is all the more true as we consider the results in Tables 3.9-3.13.

Thus, whereas small enterprises accounted for 97.1 percent of the total number of enterprises in the food and beverages sector (31), they account for only 30 percent of total manufacturing employment, 39 percent of gross output, and 17 percent of fixed capital in this sector. Nonetheless, they explained almost 56 percent of total MVA in food, beverages and tobacco. Large enterprises (employing 100 and more workers) in sector (31), however, account for 65 percent of total manufacturing employment, 54 percent of gross manufacturing output, 42 percent of MVA, and 76 percent of total fixed capital in this sector.

In the textile sector (32), the picture is more striking. Small scale enterprises account for less than 3.5 percent of total manufacturing employment, 11.2 percent of gross manufacturing output, 20.1 percent of MVA, and about 4 percent of fixed capital in this sector. Most of the output (82%), MVA (71%), employment (92%) and capital (93%) in this sector are produced or explained by the large establishments.

A major contribution to manufacturing employment is, however, made by small scale enterprises in the wood and wood products including furniture sector (33). More than 70 percent of the employment in this sector is generated by small enterprises. The same is true of the contribution of these small enterprises in this sector to output (82%), MVA (86%) and capital invested (91%). Medium and large scale enterprises make only modest contributions in this sector.

In the paper and paper products sector (34) the typical contributions are made by the very large enterprises. It is here where establishments employing more than 100 workers contribute about 72 percent of the total employment in the sector, over 72 percent of gross output, 71 percent of MVA and 47 percent of fixed capital. Small scale enterprises make only modest contributions indeed in this sector.

The proportions and the contribution of small scale enterprises in the chemical and chemical products sector (35) are modest. They accounted for 23 percent of employment in the sector, 22 percent of gross output, and as low as 10 percent of MVA. On the other hand, the contributions of medium or large scale enterprises were higher than those of the small scale. But the large scale enterprises tended to dominate the generation of output, value added and employment. Enterprises employing 100 and more workers accounted for 41 percent of employment, 55 percent of gross output and about 69 percent of MVA in this sector.

The distribution of contributions to employment output and value added by size in sector (36) is vividly bi-modal. That is, almost all the contributions to manufacturing output, employment and value added in this sector are made by either small or very large enterprises and in almost equal shares. The medium-sized enterprises account for small shares in this sector.

In basic metals (37), small scale enterprises make very little contributions as one might expect. Most of the contributions are made by medium and large enterprises; but the medium-sized enterprises dominate in most respects. They accounted for 92 percent of value added and 61 percent of gross output in this sector.

Although it is somewhat unusual to find the metal fabricating and machinery sector (38) dominated by small scale enterprises, the inclusion in the Sudan of service stations and garages in this sector explains to a large extent this phenomenon. Therefore, it is not any longer surprising to find that small scale enterprises accounting for almost 60 percent of employment, 38 percent of gross output and about 50 percent of MVA in this sector. The large enterprises are also dominant creating again a bi-modal distribution of the contributions of enterprises by size in this sector. The large enterprises are responsible for 51 percent of gross output, 31 percent of employment, and about 40 percent of MVA.

3.2.4 The Regional Distribution of Manufacturing Activity in the Sudan 1981/82

The prevailing tendency for manufacturing activities to concentrate in the Central and Khartoum regions has already been noted in section 3.2.1. Here we shall concentrate on the structure of production of each region to highlight the special characteristics of manufacturing output in these regions. The analysis is conducted at the aggregative level of sectors. Special consideration will be given to size and type of ownership.

3.2.4.1 The Structure of Manufacturing Output in the Khartoum Region in 1981/82

The supremacy of the Khartoum region over other regions is reflected in the fact that whereas its population share is only 8.8 percent, its share in total MVA was over 28 percent and its share in total manufacturing employment exceeded 34 percent in 1981/82.

There is hardly a sector within manufacturing that is not represented in the Khartoum region. However, three sectors prevail. These are food, beverages and tobacco which comprises 56.5 percent of all manufacturing establishments in the region, 30.9 percent of its manufacturing employment, and 50.9 percent of its MVA. Second in importance is the textile sector which accounts for only 5.3 of the region's manufacturing establishments but explains over 28.4 percent of its employment and about 11 percent of MVA. Metal fabricating and machinery sector vies with textiles for importance given that it comprises over 20 percent of the manufacturing establishments in the region and explains over 14.6 percent of manufacturing employment and 16.7 percent of the region's MVA. (see Table 3.14).

The size distribution of manufacturing activity in the Khartoum region in 1981/82 displayed in Table 3.14 reveals a consistent pattern with that of the country as a whole. The food, beverages and tobacco sector is dominated by small establishments, the textile sector by large ones, the wood and wood products by small enterprises, the paper and paper products by large enterprises, the chemical and chemical products by medium and large scale enterprises, the other non-metallic minerals sector by a continuum of sizes, the basic metal sector by medium and large enterprises, the metal fabricating and machinery sector is dominated by small garages and service stations.

Table 3.15 is devoted to the presentation of the structure of manufacturing by type of ownership in the Khartoum region in 1981/82. Again, the data on ownership type is restricted to establishments employing 25 workers and more, and as such they do not provide a complete picture of the regional manufacturing sector. Nonetheless, a number of interesting features may be gathered from the data in Table 3.15.

First, the private sector has a physical presence in every activity. The public sector appears to have stayed away from wood products and other non-metallic minerals.

Second, the mixed sector has a concentrated presence in food, beverages and tobacco, textiles and leather products and metal fabricating and machinery.

Third, the public sector structure of output in Khartoum is decidedly dominated by six large paper and paper products enterprises which accounted for 42.4 percent of manufacturing employment in the public sector, 46.9 percent of gross output, and 64.4 percent of MVA.

Fourth, the private sector manufacturing activity in the Khartoum region is heavily concentrated in the food, beverages and tobacco which accounted for over 57.3 percent of the private MVA in the region. Private establishments in the textile sector, however, provided more jobs than the food, beverages and tobacco sector. The former private concerns account for 38.1 percent of total private employment in the manufacturing sector of the Khartoum region.

3.2.4.2 The Structure of Manufacturing Output in the Central Region in 1981/82

The central region shares with the Khartoum region the distinction of attracting a disproportionate share of manufacturing activity that far

exceeds its population share. Thus, whereas its population share stood at 19.5 percent, its share in total MVA exceeded 42 percent.

The regional structure of production in the Central region is, however, less diversified than that of the Khartoum region. There is an inordinate concentration of manufacturing activity in the food, beverages and tobacco sector. As is clear from the data in Table 3.16, this sector accounts for 86.1 percent of all manufacturing establishments in the region, 80.3 percent of regional manufacturing employment and as high as 95 percent of regional MVA.

The food, beverages and tobacco sector dominates both small and large enterprises. It is, nonetheless, true that the share of the textile sector in large enterprises is more significant than its share in small enterprises.

In Table 3.17, we present data on the ownership profile of manufacturing enterprises in the Central region. The picture that emerges from this table reflects a differentiated pattern of sectoral production. In the public sector, most of the activities are in the traditional sectors of food, textiles and wood. There is a limited degree of variety in the private sector, but the dominance of food and textiles is preserved. The mixed sector is restricted to three enterprises -- the largest two are in the food, beverages and tobacco sector and one relatively large enterprise in the non-metallic mineral products sector.

3.2.4.3 The Structure of Manufacturing Output in the Eastern Region in 1981/82

The Eastern region is another region in the Sudan fortunate enough to show a share in MVA that is higher than its population share. Thus, whereas its population share was only 10.7 percent, its share of MVA

exceeded 21 percent. On the other hand, its share in total manufacturing employment fell short of its population share by about 2 percentage points.

Tables 3.18 and 3.19 depict the structure of manufacturing output in the Eastern region by size and by type of ownership respectively. The results indicate a heavy preponderance of small enterprises in the traditional sectors of food and textiles. These two sectors combined account for about 80 percent of all establishments in the region, over 80 percent of employment in manufacturing, and slightly less than 80 percent of regional MVA.

Two sectors account for most of the activity in small scale manufacturing in the Eastern region, namely, food, beverages and tobacco and metal fabricating and machinery. For establishments employing 25 workers and more, some major activities appear to be undertaken in the chemical sector and in basic metals too.

The information in Table 3.19 show a strong differentiation of manufacturing activity by type of ownership. First, there is no mixed operations. Second, the public sector is primarily in the food, beverages and tobacco sector with two large establishments in textile and metal fabricating respectively. Third, the private sector is primarily in food, beverages and tobacco and in the chemical sector.

3.2.4.4 The Structure of Manufacturing Output in the Northern Region in 1981/82

The Northern region has not shared equally or on a proportionate basis in overall manufacturing activity. Although its population share is about 5.3 percent of the total Sudan population, its share in total MVA is only 3.7 percent and its manufacturing employment share is even lower at 3.4 percent.

The results in Table 3.20 indicate clearly some major gaps in the structure of manufacturing output of the region. There is no activity in paper and paper products sector as well as in the basic metals. When small establishments are considered separately, few new empty economic boxes emerge in textiles and chemicals.

There seems to be a tendency to specialize among enterprises. Thus, large enterprises tend to operate exclusively in the textile and chemical sectors. In the small scale enterprises, food, beverages and tobacco dominate the contribution of other sectors to MVA, employment and gross output.

One large establishment in non-metallic minerals explains much of the manufacturing activity in this region. It employs 868 persons and contributes over 85.4 percent of the MVA of large enterprises in the Northern region. This operation is publically owned and run. The public sector also operates another 4 large enterprises, 3 of them in the food, beverages and tobacco sector. The remaining one is a fairly large textile mill. (see Table 3.21).

The private sector shows also a clear tendency to specialize. It has entered only three sectors with establishments employing 25 or more workers -- food, textiles and chemicals. There are no establishments in the mixed sector.

3.2.4.5 The Structure of Manufacturing Output in the Darfur Region in 1981/82

Darfur's population share was about 8.8 percent in 1981/82, its share in manufacturing value added was considerably lower at 1.3 percent. The region's share in manufacturing employment was higher at 2.3 percent, but this is way below its share in the total population.

The low share of Darfur in manufacturing activity is clearly displayed in tables 3.22 and 3.23. The tables show limited employment and output in manufacturing in the region. Most activities are of the small scale variety and are generally concentrated in the production of food, beverages and tobacco or in service stations. There is little else except in the chemical and textile sectors where seven establishments produce LS 862 million of income and about 363 person-years of employment. Large establishments are only 10 in number, 7 of them in food, 1 in textiles and 2 in chemicals. Together they account for only 17 percent of total manufacturing employment in Darfur.

There was only one public enterprise in the Darfur region producing in the textiles sector and employed 194 persons, but produced very little output and almost no value added. The private sector, on the other hand, comprises 9 enterprises employing 375 persons, but with a substantial contribution to MVA of LS 690 thousands. There were no operations in the mixed sector.

3.2.4.6 The Structure of Manufacturing Output in the Kordofan Region, 1981/82

Population in Kordofan region accounted for 15 percent of the total population of Sudan. This is approximately equal to the share of the Central region. But whereas the Central region accounted for 44.7 percent of manufacturing employment and about 42 percent of MVA, the Kordofan region share in MVA was as little as 3 percent and her share in manufacturing employment about 6 percent.

Discrepancies of this magnitude between population shares and income and employment shares are indicative of both problems and potentials. The problems pertain to inequities in the distribution of

resources and activities. On the other hand, low levels of activities suggest that the region in question has not developed to its full potential yet. Given the size of the population, which generally acts as an indicator of sufficient markets for manufactured products, this region has the promise of sustaining a larger volume of manufacturing activity.

The main part of manufacturing output in Kordofan is in the food, beverages and tobacco sector. The results in Table 3.24 show a heavy concentration of activity in the traditional sector with over 87 percent of MVA in the region is produced by sector (31).

Small scale enterprises dominate production activities in the manufacturing sector. However, there are some fairly large establishments in the textile sector.

Most of the large manufacturing concerns in Kordofan are run by the private sector, but the public sector accounts for the major part of manufacturing employment in establishments employing 25 workers and more. Again, value added and gross output are substantially higher in the private sector than in the public sector. This, however, may be a quirk of the statistical system and/or pricing practices of public enterprises.

3.2.4.7 The Structure of Manufacturing Output in Equatoria Region, 1981/82

A distinctive feature of this region is the coupling of a high share in the total population of the Sudan with a very insignificant manufacturing share. Whereas Equatoria has over 18.8 percent of the total population, it did not show more than 0.7 percent of manufacturing employment, and even lower shares in MVA and gross output. (There exists a lack of reliability of data on Equatoria pertaining to the fact that the survey did not cover fully this region).

It is small wonder, therefore, to find that tables 3.26 and 3.27 are full of empty cells signifying the absence of credible activities in most sectors. There are, of course, some activities, but these are restricted to large enterprises run by the government. The private sector appears to be almost totally absent from the scene.

3.3 The Manufacturing Sector in the Sudan: Efficiency and Performance

There are two aspects to the analysis of manufacturing activity in any economy. First, there are questions about the structure of production; its pattern, distribution among sectors and regions; the linkages across the various components, etc. Most of these aspects are, however, primarily descriptive. To gain a better perspective of the dynamics of the sector and its problems and potentialities a more analytical perspective is needed. This is the second aspect which pertains to a thorough evaluation of performance indices.

In the preceding sections an attempt was made to describe and map the structure of the Sudanese manufacturing structure by sector and region. In what follows we shall attempt to explain why this pattern has emerged and what explains performance or lack of it in the various sectors and regions. The analysis will remain aggregative in nature. Chapter 4 is devoted to a microeconomic analysis of the structure and performance of the branches.

3.3.1 Sectoral Performance Indices

Six indicators were chosen to depict performance. Each highlights a different aspect of efficiency or productivity. First, we calculate the degree of processing ratio. This is the share of manufacturing value added in gross output. The higher this ratio is, the more processing must have been undertaken within the activity. Low ratios are indicative of limited

activity within the sector. For example, if raw materials are shipped in their raw form, this ratio would be low. If they were processed and treated locally, this ratio would rise in value.

Second, we calculate labour productivity which is the ratio of gross output to employment. This is indicative of average labour productivity. Surely, not the whole output can be assigned to labour, but this measure becomes useful on a cross-sectional basis of analysis.

Third, we also measure the capital intensity in the sector. This reflects the tools and equipment that each worker has at his disposal. The general presumption is that the higher this intensity is the more productive are the workers.

Fourth, the size of the establishment is presumed to play an important role in determining the efficiency of operations. It is generally presumed that larger enterprises have a greater chance to exploit economies of scale and other external economies.

Fifth, the average wage is calculated in order to relate it to average productivity. This relationship is indicative of the profitability of the enterprise and the nature of its surplus.

Sixth, an indirect measure of the rate of return on equity is attempted here. Wages and depreciation are subtracted from value added to derive a rough estimate of operating surplus which is, in turn, divided by fixed capital to get at a measure of the profitability of the enterprise. Surely, it would have been much better to get at a direct valuation of the operating surplus and to divide the latter by equity in the enterprise. Such valuations proved very difficult in the Sudan. Thus, we had to resort to the proxy explained above.

We distinguish between small and large enterprises as well as between private, public and mixed establishments. The data in Table 3.28 reveal some very important features about the efficiency of production in the various manufacturing sectors. Some of these observations are summarized below:

First, the average degree of processing of the manufacturing sector is generally low (0.36). For some sectors, this ratio is as low as 5 percent. The highest ratio is associated with wood and wood products. The chemical and textile sectors shows relatively low coefficients of about (0.25).

Second, small establishments appear to invariably produce larger ratios of MVA to gross output. As such, they appear to depend more on local raw materials and local resources than larger establishments within the same sector. There are only two exceptions to this -- these are in the paper and paper products sector and in the chemical sector. Both of these sectors are not particularly suited for small scale operations.

Third, labour productivity is generally low in the manufacturing sector and at the same time it is markedly differential. The average labour productivity for the sector as a whole is about LS 10.6 thousands. The range of this measure varies, however, between a low of LS 3.7 thousands in textiles to a high of LS 26.1 thousands in chemicals.

Again small enterprises were, on average, generally more productive. The average productivity of establishments employing less than 25 workers is higher than that of establishments employing 25 or more workers. This is particularly the case in the food, textiles, and wood sectors. In the other sectors, larger enterprises were more productive. This was particularly the case in the metal fabricating, basic metals,

paper and non-metallic minerals sectors. But the latter group comprised a limited subset of establishments to alter the average results above.

Fourth, different sectors show different average sizes. The largest averages were associated with food, beverages and tobacco and basic metals. To evaluate the impact of size on productivity we correlated average size with labour productivity for both small and large establishments. For small establishments, labour productivity is positively associated with size. The correlation coefficient is (0.47). For large establishments, the association is also positive and slightly more significant at (0.50). In the context of Sudan, the larger the size of the establishment, the higher the prospects of raising the general productivity of labour.

Fifth, capital intensity has a positive but limited impact on labour productivity in small enterprises. But this relationship becomes large and more significant in establishments employing 25 or more workers. The correlation coefficient between labour productivity and average establishment size in the small scale enterprises is positive but low at (0.24), whereas the same coefficient in larger enterprises was positive and over (0.60).

Sixth, as might be expected size and capital intensity are positively related in large enterprises but negatively correlated (or uncorrelated) in small enterprises. The correlation coefficient relating average size to capital-labour ratios in small enterprises was negative but insignificant (-0.012). In larger enterprises this correlation coefficient was positive but still low (0.224). This is indicative that size in Sudan is not fully related to capital. In other words, there is some strong tendency to economize on capital and to expand size by increasing employment faster than capital.

Seventh, profitability of enterprises varies markedly among sectors and sizes. Textiles are unprofitable with negative rates of return on fixed capital. This unprofitability is the result of unprofitable large enterprises operating with imported and very expensive raw materials. (see Chapter 5). The most profitable operations are those in basic metals and particularly in large enterprises. These establishments are reaping the rent on natural resources and this profitability is much more the result of this rent than the outcome from efficiencies in operations.

With the exception of only two sectors, smaller enterprises are more profitable. They appear to be better managed. The two exceptions are the basic metals sector and paper and paper products. Both of these sectors are typically dominated by large enterprises given the nature of their products.

The pattern of profitability in the private and public sectors is complicated. It is difficult to generalize about which group is more profitable. The results in Table 3.29 tend to indicate a differential performance by sector. The public sector is decisively more profitable in the chemical sector, in non-metallic minerals, and in the metal fabricating and machinery sector. On the other hand, the private sector is more profitable in food, beverages and tobacco operations and basic metals. Both groups are unprofitable in the textile business.

The mixed sector operations tend to show average profitability rates in all operations except those in the metal fabricating sector.

Eighth, typically the private sector large enterprises are larger than those in the public sector in the same activity. There are exceptions to this in wood products, paper products and non-metallic minerals. Wages per worker are on average higher in the private sector and so are capital

per worker and labour productivity. The latter two indices are inextricably related in a causal chain. On average private sector operations are six times more productive than public sector operations. This is perhaps the result of over-staffing in the public enterprises. The mixed sector gives mixed results.

3.3.2 Regional Performance Indices

In what way or ways do spatial factors influence and modify purely economic or technical factors? This takes us into a thorough consideration of the regional performance indices. We begin first with an aggregative consideration and then consider the regional and sectoral details in each region separately.

3.3.2.1 The Regional Aggregative Performance

The results in Table 3.30 indicate clearly that the regional aspects are less important than the economic and technical factors inherent to manufacturing activity. To establish this presumption consider the following relationships:

First, regions with more capital per worker are also those with higher labour productivity in manufacturing. The correlation coefficient between these two variables across regions is high and significant (0.844).

Second, higher labour productivity in manufacturing across regions correlates very highly with average establishment size (0.754). Thus, regions with larger establishments are those with higher gross output per worker.

Third, the degree of processing is positively related with labour productivity (0.583) and with capital intensity (0.448). However, these coefficients are not highly significant. Their implications are, however, clear. More value added (income) is derived per unit of output, the more productive labour is and the more capital is used per worker.

Fourth, there is a strong association across regions between wages per worker and productivity per worker (0.762). Higher wages per worker are produced in regions whose labour is more productive.

Fifth, the strongest relationship among economic variables across regions is that between capital intensity and average establishment size. The correlation coefficient is a high (0.948). It is then the case that regions with larger establishment sizes are more able to provide more capital to their workers. The increase in the latter leads to higher labour productivity, to higher degrees of processing, and to higher wages.

The highest degrees of processing are in the Northern, Eastern and Central regions. The lowest, as is expected, is in the Equatoria region.

Sixth, the Eastern and Khartoum regions show the highest levels of labour productivity. All other regions show below average labour productivity.

Seventh, the Eastern and Central regions show high ratios of capital to labour. All other regions show below average capital-labour ratios.

Eighth, again the Central, Khartoum and Eastern regions display average and above average establishment sizes. The rest of the regions have below average sizes, but Kordofan and Darfur regions stick out with very small average establishment sizes.

Ninth, labour costs vary significantly between regions with average manufacturing yearly wages of LS 464 in Darfur and LS 1485 in Khartoum. Surely, the differences in the cost of living would explain a good part of this difference but not all of it. The other factors mentioned above, particularly capital intensity and average establishment size tend to explain this difference.

Tenth, manufacturing activity is a profitable activity across regions. The most lucrative establishments are located in the outlying regions where competition is weak.

3.3.2.2 Manufacturing Performance by Region: Khartoum

Two tables are devoted to the presentation of performance indices of the manufacturing sector in the Khartoum region. Table 3.31 differentiates performance of the various sectors by size, whereas Table 3.32 differentiates the large sector by type of ownership.

Several interesting features are revealed by the results in these two tables. Below is a brief summary of the most prominent findings:

First, the average degree of processing in the Khartoum region is relatively low. Small enterprises in the region tend to show a higher ratio of value added to gross output. This is perhaps a reflection of the extent of dependence of large enterprises on imported raw materials. The wood product's sector is credited with the highest degree of processing in the region and much of this is the result of a large ratio of value added per unit of gross output in small establishments in this sector in the Khartoum region.

Second, food, beverages and tobacco, chemical products, and basic metals exhibit high labour productivity coefficients in Khartoum. This, one might believe is a reflection of the size, capitalization and scale of operations of these sectors, particularly the chemical and the basic metal's sectors. But the data in Table 3.31 shows that in the chemical sector the highest productivity coefficients are in the small enterprises. The same is true in the basic metals sector.

Third, capital per worker in the manufacturing sub-sectors in the Khartoum region are relatively low. More surprising is the fact that this

ratio is higher in the small enterprises than what it is in the larger enterprises. The highest intensity of capital per worker in Khartoum is associated with the wood and wood products sector and particularly in establishments employing less than 25 workers.

Fourth, the profitability of manufacturing in the region is adequate and it divides equally between small and large enterprises. The variation of profitability rates between the sectors and their respective sizes is rather high. In food, beverages and tobacco sector the profitability rate is high particularly in the large enterprises. Textiles are profitable in small scale enterprises but unprofitable in the larger ones. The production of wood results in relatively low rates of return on fixed capital in both small and large establishments but more so in the large ones than in the smaller concerns. Paper production is unprofitable at the small scale level but adequately profitable in large establishments. Chemical production is profitable at both levels, but more so in large establishments. Non-metallic minerals are produced at a loss in large establishments but are highly profitable in small concerns. Basic metal production is unprofitable in both types of establishments, whereas metal fabrication is alternatively profitable in both of them.

Fifth, there are several distinctive features that separate private and public production in manufacturing in the Khartoum region. The degree of processing is generally higher in public enterprises than in the private ones, whereas productivity is significantly higher in the private establishments as the private sector generally tends to utilize more capital per worker than in the public sector. There are little differences between the two types of ownership with respect to the size of establishments. The establishments in the mixed sector are, however,

larger than in either the private or the public sector. Surprisingly profitability of public enterprises is, on average, higher than that of private enterprises, but there exists some significant variations in these rates across sectors. (see Table 3.32).

3.3.2.3 Manufacturing Performance By Region: The Central Region

The Central region boasts of a relatively well diversified and adequate manufacturing sector. The performance indices explain this advantage of the Central region over other regions.

First, the degree of processing coefficients of the region are generally high with an average of 0.42. Most of the sectors within the region contribute to this high average. Smaller enterprises, however, as in the Khartoum region, tend to produce larger value added magnitudes per unit of gross output.

Second, labour productivity is solidly high in this region, but particularly in small scale enterprises in the food, beverages and tobacco sector.

Third, capital per worker in the manufacturing establishments in this region are adequate; they tend to be higher in the larger establishments, especially in the metal fabricating and machinery sector.

Fourth, most enterprises in the region tend to have relatively adequate sizes. Even the small enterprises tend to produce a significant magnitude of value added per establishment.

Fifth, wages and salaries per worker are relatively low in the region; a fact which perhaps has acted as an incentive to locate establishments in the region especially that labour productivity is also high.

Sixth, the food, beverages and tobacco sector is highly profitable particularly in the small scale sector. There are, however, a number of sectors that appear to be unprofitable in the small scale operations. Among them could be included the chemical sector, textiles and wood products.

Seventh, the public sector in the region is generally unprofitable with negative rates of return on capital in food, beverages and tobacco and textiles. On the other hand, public concerns in wood and wood products are highly profitable. Profitability of public enterprises is not a valid indicator given the nature of pricing policies of public outputs. Other indicators, however, reveal a complicated picture. Labour productivity in public enterprises in this region is relatively low, and so are the capital intensity coefficients and the degree of processing.

On the other hand, private establishments are highly efficient, well capitalized and of adequate size. It is small wonder that they are highly profitable.

3.3.2.4 Manufacturing Performance By Region: The Eastern Region

The manufacturing structure of the Eastern region was found to be relatively diversified and has entitled her to a greater share in MVA than its population share. This augurs for an adequate performance.

The results in tables 3.35 and 3.36 indicate that the expectations above are generally valid. Small enterprises in the Eastern region generate substantial value added per unit of gross output. Besides, they appear to be productive despite low capital-labour ratios. With the exception of enterprises in the wood and wood products and paper and paper products, small enterprises are generally profitable.

The large establishments in the Eastern region generate substantial value added into the regional economy and are generally very efficient with high labour productivity ratios which exceed LS 50,000 per employee in at least two sectors -- basic metals and metal fabricating. Capital per employee is relatively high particularly in the chemical and textile sectors and most establishments appear to have an adequate size.

Public enterprises are particularly proficient in the generation of value added, but tend to be over staffed and inadequately tooled. As a result they tend to exhibit relatively low labour productivity and low capital intensities. The very profitable public concerns in the metal fabricating sector push the average profitability rate in this group to very high levels.

On the other hand, the private companies in most sectors are very efficient with high labour productivity coefficients and even higher capital intensities. With the exception of the poor performance in the textile sector, private companies proved to be very profitable in this region.

3.3.2.5 Manufacturing Performance By Region: The Northern Region

The Northern region exhibits a specialized pattern of manufacturing production. As is clear from tables 3.37 and 3.38, small scale operations dominate in wood and wood products and in metal fabricating, whereas larger enterprises dominate the production of chemicals and textiles.

Small scale enterprises show a high degree of processing in every sector in which they participate in production. For every 1 LS of gross output, these establishments generate LS 0.67 in value added. This figure drops to LS 0.28 for larger enterprises. Small enterprises in the Northern

region are local and specific and they generally tend to rely on local resources. Large enterprises are often national and they depend heavily on imported resources and technology.

There appears to be little difference in the capital intensities within small and large enterprises. Both appear to devote little capital to their workers. There is, therefore, little grounds to believe that output per worker will differ significantly between these two types of establishment size. In fact, both generate almost the same labour productivity coefficients. Small enterprises may have, however, compensated for size by better management.

Profitability is relatively high in the private sector. This is not a reflection of efficiency, it is perhaps more a reflection of lack of competition. The Sudan has a very poor transportation network. Markets are often isolated and enterprises in different locations enjoy monopoly powers.

Larger enterprises pay larger wages than smaller ones, but enjoy almost the same levels of productivity and capital per worker. It is not surprising, therefore, to find their profitability, although adequate by any standard, fall far short of the rates achieved by small enterprises.

Public enterprises are generally over-staffed but committed to use local resources. In the Northern region these facts have resulted in higher degrees of processing in the public sector than in the private sector. The latter sector is, however, highly productive with labour productivity coefficients at least 3 times as high as those of the public sector.

3.3.2.6 Manufacturing Performance By Region: the Darfur Region

The manufacturing structure of the Darfur region is not only deficient, its performance is also lagging. Very little value added is generated by small or large enterprises, privately or publically owned. Capital-labour ratios in the small scale sector are low and barely adequate in the large establishments. The average size of establishments is low providing little or no chance for reaping economies of scale.

Tables 3.39 and 3.40 reveal a large number of empty cells signalling the weak structure of the manufacturing sector in the Darfur region. Wages in the manufacturing sector are low and way below average productivity. This should have resulted in higher profitability ratios but didn't. This must be the result of several technical and economic difficulties that manufacturing enterprises face in the region as will become evident in Chapter 5.

Public enterprises are concentrated in the textile sector and are unprofitable and unproductive. Private enterprises in the chemical sector are very profitable and productive.

3.3.2.7 Manufacturing Performance By Region: the Kordofan Region

Manufacturing activity in Kordofan suffers from two deficiencies -- one of structure and one of performance. Small scale enterprises are less of a problem than large enterprises, and in the large enterprises category private concerns perform better than those that are publically owned.

Most of the small scale establishments, irrespective of sector, produce a significant ratio of value added per unit of gross output. Labour productivity in this activity is adequate despite inadequate average establishment size and low capital per worker. Average wages are very low

but so is profitability. Generally these two variables tend to move in opposite directions. It must be the case that capital and raw material costs are high in this region or management is inefficient.

3.3.2.8 Manufacturing Performance By Region: The Equatoria Region

There are not much manufacturing activity in the Equatoria region to report on. What exists is generally unprofitable with low capital intensity, low wages and low labour productivity.

The food, beverages and tobacco sector is relatively efficient, the textile sector is primarily public and shows a high rate of losses. Poor coverage of this region, however, makes generalizations less applicable.

3.4 Concluding Remarks

Sudanese manufacturing despite fundamental problems of structure and despite performance difficulties holds some real promise for development. Invariably economic and technical factors appear to hold as expected in the Sudan. With larger and adequate size, more capital per worker, efficient management, proper pricing of products and inputs, and proper protection and nurturing, manufacturing could grow and develop.

There are some real and significant problems that need careful attention. There is a strong concentration of activities in few regions to the neglect of others. Traditional activities and sectors are still dominant. The large enterprises are overly dependent on imports. Public enterprises are generally overstaffed and inadequately managed. Linkages among sectors and activities appear limited.

The analysis here is not sufficient to ascertain most of the claims above. It is only when a more detailed analysis is made of the smaller components of sectors that the true picture of the sector is expected to emerge. This is the subject of the following chapter.

TABLES

Table 3.1 Gross Domestic Product at Factor Cost at Constant 1981/82 Prices

(LS Millions)

| Sector | Actual 1978/79 | 79/80 | 80/81 | revised 81/82 | revised 82/83 | revised 83/84 |
|--------------------------------------|---------------------------|--------------|--------------|--------------------------|--------------------------|--------------------------|
| Agriculture | 2095 | 2028 | 2133 | 2062 | 1785 | 1697 |
| Commerce | 1085 | 1220 | 1314 | 1349 | 1350 | 1330 |
| Manufacturing & Mining | 395 | 438 | 456 | 470 | 482 | 499 |
| Transport & Communication | 652 | 547 | 587 | 647 | 580 | 565 |
| Construction | 237 | 245 | 260 | 280 | 300 | 320 |
| Electricity | 86 | 105 | 111 | 117 | 123 | 129 |
| Government Services | 543 | 652 | 619 | 610 | 620 | 617 |
| Other Services | 476 | 492 | 510 | 528 | 545 | 573 |
| GDP | 5569 | 5727 | 5990 | 6063 | 5785 | 5730 |
| % Change in GDP | -4.6 | +2.8 | +4.6 | +1.2 | -4.6 | -1.0 |

Source: *General Administration for Economic Research, Ministry of Finance and Economic Planning, Economic Survey 1982/83 and Prospects, Programmes and Policies in Economic Development II, 1985/84 - 1985/80.

Table 3.2 Industrial Production in the Sudan 1978/79 - 1983/84

| Commodity | Unit | 1978/79 | 1979/80 | 1980/81 | 1981/82 | 1982/83 | 1983/84 |
|--------------------|------------|---------|---------|---------|---------|---------|---------|
| Sugar | T.M.T. | 119.6 | 129.8 | 207.6 | 238.9 | 360.0 | 418.5 |
| Yarn | T.M.T. | 10.9 | 11.2 | 9.3 | 10.9 | 10.5 | 9.7 |
| Textiles | MN.Yards | 92.5 | 86.5 | 62.7 | 66.2 | 68.5 | 57.3 |
| Cement | T.M.T. | 185.0 | 173.3 | 149.8 | 169.4 | 231.5 | 198.4 |
| Flour | T.M.T. | 269.7 | 243.3 | 256.5 | 255.0 | 276.3 | 266.3 |
| Vegetable Oils | T.M.T. | 72.8 | 82.5 | 69.2 | 76.8 | 73.8 | 70.4 |
| Soap | T.M.T. | 45.7 | 55.1 | 56.3 | 52.4 | 56.3 | 57.3 |
| Cigarettes | T. Kilos | 1,115.0 | 1,065.1 | 1,100.9 | 758.6 | 1,153.9 | 1,364.2 |
| Shoes | MN. pairs | 13.6 | 9.6 | 8.9 | 9.7 | 10.2 | 8.1 |
| Dry Cell Batteries | MN. | 38.6 | 90.2 | 81.2 | 60.5 | 42.2 | 65.8 |
| Tyres & Tubes | T. Units | - | - | 395.4 | 361.8 | 515.8 | 473.7 |
| Mineral Water | MN. dozens | 7.6 | 8.5 | 12.3 | 10.8 | 11.4 | 12.8 |

Source: Customs Department T = Thousand; MN = Million

TMT = Thousand metric tonnes

Table 3.3 Manufacturing Activity in the Sudan By Size, 1981/82

| Size | Number of Establishments | | Employment | | Gross Output | | Value Added | |
|---------------|--------------------------|--------------|----------------|--------------|------------------|--------------|------------------|--------------|
| | Number | % | Number | % | Value Million LS | % | Value Million LS | % |
| Less than 25 | 6,412 | 94.9 | 39,335 | 27.2 | 525.1 | 34.2 | 275.6 | 49.4 |
| 25-50 | 131 | 1.9 | 4,679 | 3.2 | 66.1 | 4.3 | 12.3 | 2.2 |
| 51-100 | 79 | 1.2 | 5,432 | 3.8 | 82.7 | 5.4 | 20.7 | 3.7 |
| 100 and above | 137 | 2.0 | 95,057 | 65.8 | 862.2 | 56.1 | 248.7 | 44.7 |
| Total | 6,759 | 100.0 | 144,503 | 100.0 | 1,536.1 | 100.0 | 557.3 | 100.0 |

Source: Government of Sudan, The Industrial Survey 1981/82.

Table 3.4 Percentage Distribution of Categories of Activities According to Size of Units in the Sudan 1981/82

| Size Units | Food, Beverages & Tobacco 31 | Textile Apparel & Leather & Products 32 | Wood & Wood Products Furniture 33 | Paper Printing & Publishing 34 | Chemical, Petro Coal & Products 35 | Non Metal Minerals 36 | Basic Metal 37 | Fabrication Metal & Products 38 |
|--------------|---------------------------------|--|--------------------------------------|-----------------------------------|---------------------------------------|--------------------------|-------------------|------------------------------------|
| Less than 25 | 79.9 | 1.2 | 2.7 | 1.2 | 1.1 | 1.0 | 0.1 | 12.8 |
| 25 - 50 | 44.3 | 14.5 | 4.6 | 6.1 | 16.8 | 2.3 | 3.1 | 8.3 |
| 51-100 | 44.3 | 11.4 | 1.3 | 2.5 | 21.5 | 5.1 | 2.5 | 11.4 |
| 101 & above | 43.3 | 25.0 | 1.5 | 7.2 | 7.2 | 4.3 | 1.3 | 10.2 |

Source: Government of Sudan, The Industrial Survey 1981/82.

Table 3.5: Regional and Ownership Distribution of Manufacturing Activity in the Sudan, 1981/82

| | <u>NO. of est.</u> | | <u>NO. of empl.</u> | | <u>Wages/salaries</u> | | <u>Gross output</u> | | <u>Gross value add.</u> | | <u>Capital</u> | |
|-----------|--------------------|----------|---------------------|----------|-----------------------|----------|---------------------|----------|-------------------------|----------|----------------|----------|
| | <u>No.</u> | <u>%</u> | <u>No.</u> | <u>%</u> | <u>Value</u> | <u>%</u> | <u>Value</u> | <u>%</u> | <u>Value</u> | <u>%</u> | <u>Value</u> | <u>%</u> |
| Khartoum | 1,922 | 28.4 | 49,576 | 34.3 | 73,601 | 47.7 | 602,864 | 39.2 | 159,482 | 28.6 | 307,775 | 28.6 |
| Central | 1,782 | 26.4 | 64,572 | 44.7 | 51,198 | 33.2 | 558,266 | 36.3 | 234,344 | 42.1 | 541,712 | 50.4 |
| Eastern | 777 | 11.5 | 12,807 | 8.9 | 16,409 | 10.6 | 241,745 | 15.7 | 117,697 | 21.1 | 174,288 | 16.2 |
| Northern | 933 | 13.8 | 4,879 | 3.4 | 5,215 | 3.4 | 41,147 | 2.7 | 20,511 | 3.7 | 10,665 | 1.0 |
| Darfur | 411 | 6.1 | 3,367 | 2.3 | 1,562 | 1.0 | 27,404 | 1.8 | 7,013 | 1.3 | 10,323 | 1.0 |
| Kordofan | 915 | 13.5 | 8,261 | 5.7 | 5,308 | 3.4 | 59,073 | 3.8 | 16,886 | 3.0 | 25,977 | 2.4 |
| Equatoria | 19 | 0.3 | 1,041 | 0.7 | 996 | 0.6 | 5,586 | 0.4 | 1,163 | 0.2 | 4,746 | 0.4 |
| TOTAL | 6,759 | 100.0 | 144,503 | 100.0 | 154,289 | 100.0 | 1,536,085 | 100.0 | 557,096 | 100.0 | 1,075,486 | 100.0 |

Source: Government of Sudan. The Industrial Survey, 1981/82

Manufacturing Activity in the Sudan by Type of Ownership, 1981/82 (≥ 25 empl.)

| | | | | | | | | | | | | |
|---------|-----|-------|---------|-------|---------|-------|-----------|-------|---------|-------|---------|-------|
| Public | 50 | 14.4 | 27,724 | 26.4 | 29,498 | 25.0 | 92,784 | 9.2 | 28,593 | 10.2 | 129,671 | 14.3 |
| Private | 290 | 83.6 | 44,020 | 41.9 | 68,825 | 58.4 | 794,279 | 78.6 | 196,177 | 69.7 | 477,527 | 52.7 |
| Mixed | 7 | 2.0 | 33,424 | 31.7 | 19,543 | 16.6 | 123,935 | 12.2 | 56,678 | 20.1 | 298,360 | 33.0 |
| TOTAL | 347 | 100.0 | 105,168 | 100.0 | 117,866 | 100.0 | 1,010,998 | 100.0 | 281,448 | 100.0 | 905,558 | 100.0 |

Source: The Government of Sudan. The Industrial Survey, 1981/82

Table 3.6: The Structure of the Manufacturing Sector in the Sudan, 1981/82

| Sectors | No. of est. | | No. of empl. | | Wages/salaries | | Gross output | | Gross value add. | | Capital | |
|---|-------------|-------|--------------|-------|----------------|-------|--------------|-------|------------------|-------|-----------|-------|
| | No. | % | No. | % | Value | % | Value | % | Value | % | Value | % |
| <u>All establishments</u> | | | | | | | | | | | | |
| 31 | 5,275 | 78.0 | 87,739 | 60.7 | 75,149 | 48.7 | 1,105,973 | 72.0 | 428,030 | 76.8 | 661,544 | 61.5 |
| 32 | 138 | 2.0 | 28,409 | 19.7 | 35,957 | 23.3 | 105,879 | 6.9 | 25,809 | 4.6 | 188,614 | 17.5 |
| 33 | 182 | 2.7 | 2,091 | 1.5 | 2,720 | 1.8 | 10,217 | 0.7 | 5,411 | 1.0 | 14,944 | 1.4 |
| 34 | 97 | 1.4 | 4,225 | 2.9 | 6,370 | 4.1 | 32,057 | 2.1 | 8,917 | 1.6 | 14,636 | 1.4 |
| 35 | 118 | 1.7 | 5,336 | 3.7 | 11,722 | 7.6 | 139,012 | 9.0 | 34,231 | 6.1 | 114,116 | 10.6 |
| 36 | 81 | 1.2 | 4,741 | 3.3 | 4,305 | 2.8 | 28,128 | 1.8 | 10,199 | 1.8 | 30,866 | 2.9 |
| 37 | 12 | 0.2 | 777 | 0.5 | 1,471 | 1.0 | 17,372 | 1.1 | 7,223 | 1.3 | 2,749 | 0.3 |
| 38 | 854 | 12.6 | 10,803 | 7.5 | 16,043 | 10.4 | 90,601 | 5.9 | 36,940 | 6.6 | 45,851 | 4.3 |
| 39 | 2 | 0.0 | 382 | 0.3 | 551 | 0.4 | 6,846 | 0.4 | 337 | 0.1 | 2,165 | 0.2 |
| TOTAL | 6,759 | 100.0 | 144,503 | 100.0 | 154,288 | 100.0 | 1,536,085 | 100.0 | 557,097 | 100.0 | 1,075,485 | 100.0 |
| <u>Small establishments (< 25 empl.)</u> | | | | | | | | | | | | |
| 31 | 5,124 | 79.9 | 26,032 | 66.9 | 22,382 | 61.5 | 428,971 | 81.7 | 239,365 | 86.8 | 111,794 | 65.8 |
| 32 | 77 | 1.2 | 984 | 2.5 | 785 | 2.2 | 11,864 | 2.3 | 5,266 | 1.9 | 7,321 | 4.3 |
| 33 | 173 | 2.7 | 1,467 | 3.7 | 2,177 | 6.0 | 8,369 | 1.6 | 4,638 | 1.6 | 13,521 | 8.0 |
| 34 | 77 | 1.2 | 796 | 2.0 | 908 | 2.5 | 3,244 | 0.6 | 814 | 0.3 | 4,835 | 2.8 |
| 35 | 69 | 1.1 | 1,232 | 3.1 | 1,160 | 3.2 | 30,376 | 5.8 | 3,499 | 1.3 | 8,766 | 5.2 |
| 36 | 68 | 1.0 | 2,059 | 5.2 | 765 | 2.1 | 7,909 | 1.5 | 3,697 | 1.3 | 6,818 | 4.0 |
| 37 | 4 | 0.1 | 64 | 0.2 | 49 | 0.1 | 159 | 0.0 | 70 | 0.0 | 347 | 0.2 |
| 38 | 820 | 12.8 | 6,431 | 16.4 | 8,198 | 22.5 | 34,196 | 6.5 | 18,299 | 6.6 | 16,526 | 9.7 |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 6,412 | 100.0 | 39,065 | 100.0 | 35,424 | 100.0 | 525,088 | 100.0 | 275,648 | 100.0 | 169,928 | 100.0 |
| <u>Large establishments (≥ 25 empl.)</u> | | | | | | | | | | | | |
| 31 | 151 | 43.5 | 61,437 | 58.4 | 52,767 | 44.8 | 677,002 | 67.0 | 188,665 | 67.0 | 544,750 | 60.7 |
| 32 | 61 | 17.6 | 27,425 | 26.1 | 35,172 | 29.8 | 94,015 | 9.3 | 20,543 | 7.3 | 181,293 | 20.0 |
| 33 | 9 | 2.6 | 624 | 0.6 | 543 | 0.5 | 1,848 | 0.2 | 773 | 0.3 | 1,423 | 0.2 |
| 34 | 20 | 5.8 | 3,429 | 3.3 | 5,462 | 4.6 | 28,813 | 2.9 | 8,103 | 2.9 | 9,801 | 1.1 |
| 35 | 49 | 14.1 | 4,104 | 3.9 | 10,562 | 9.0 | 108,636 | 10.8 | 30,737 | 10.9 | 105,350 | 11.6 |
| 36 | 13 | 3.8 | 2,682 | 2.6 | 3,540 | 3.0 | 20,219 | 2.0 | 6,502 | 2.3 | 24,048 | 2.7 |
| 37 | 8 | 2.3 | 713 | 0.7 | 1,422 | 1.2 | 17,213 | 1.7 | 7,153 | 2.5 | 2,402 | 0.3 |
| 38 | 34 | 9.8 | 4,372 | 4.2 | 7,845 | 6.7 | 56,405 | 5.6 | 18,641 | 6.6 | 24,375 | 3.2 |
| 39 | 2 | 0.6 | 382 | 0.4 | 551 | 0.5 | 6,846 | 0.7 | 337 | 0.1 | 2,165 | 0.2 |
| TOTAL | 347 | 100.0 | 105,168 | 100.0 | 117,864 | 100.0 | 1,010,997 | 100.0 | 281,444 | 100.0 | 905,557 | 100.0 |

Table 3.7: The Structure of the Manufacturing Sector by Type of Ownership, 1981/82 (2.25 sample.)

| Sectors | No. of est. | | No. of empl. | | Wages/salaries | | Gross output | | Gross value add. | | Capital | |
|----------------|-------------|-------|--------------|-------|----------------|-------|--------------|-------|------------------|-------|---------|-------|
| | No. | % | No. | % | Value | % | Value | % | Value | % | Value | % |
| Public | | | | | | | | | | | | |
| 31 | 15 | 30.0 | 14,347 | 51.8 | 14,983 | 50.8 | 43,159 | 46.5 | 11,066 | 38.7 | 70,391 | 54.3 |
| 32 | 18 | 36.0 | 9,319 | 33.6 | 7,934 | 26.9 | 18,743 | 20.2 | 4,126 | 14.4 | 53,542 | 41.3 |
| 33 | 5 | 10.0 | 449 | 1.6 | 368 | 1.3 | 888 | 1.0 | 513 | 1.8 | 699 | 0.5 |
| 34 | 6 | 12.0 | 2,100 | 7.6 | 3,189 | 10.8 | 12,507 | 13.5 | 6,306 | 22.0 | 2,527 | 1.9 |
| 35 | 1 | 2.0 | 85 | 0.3 | 82 | 0.3 | 539 | 0.6 | 253 | 0.9 | 5 | 0.0 |
| 36 | 1 | 2.0 | 868 | 3.1 | 1,865 | 6.3 | 10,811 | 11.7 | 4,487 | 15.7 | 1,247 | 1.0 |
| 37 | 1 | 2.0 | 221 | 0.8 | 344 | 1.2 | 250 | 0.3 | 89 | 0.3 | 195 | 0.2 |
| 38 | 2 | 4.0 | 135 | 0.5 | 398 | 1.4 | 5,784 | 6.2 | 2,085 | 7.2 | 340 | 0.3 |
| 39 | 1 | 2.0 | 200 | 0.7 | 333 | 1.1 | 104 | 0.1 | -72 | -1.1 | 725 | 0.6 |
| TOTAL | 50 | 100.0 | 27,724 | 100.0 | 29,498 | 100.0 | 92,784 | 100.0 | 28,593 | 100.0 | 129,671 | 100.0 |
| Private | | | | | | | | | | | | |
| 31 | 133 | 45.9 | 15,738 | 35.8 | 21,879 | 31.8 | 526,582 | 66.3 | 126,120 | 64.3 | 190,173 | 39.8 |
| 32 | 41 | 14.1 | 16,797 | 38.2 | 24,542 | 35.7 | 63,879 | 8.0 | 12,460 | 6.4 | 126,091 | 26.4 |
| 33 | 4 | 1.4 | 175 | 0.4 | 175 | 0.3 | 960 | 0.1 | 260 | 0.1 | 724 | 0.2 |
| 34 | 14 | 4.8 | 1,329 | 3.0 | 2,273 | 3.3 | 16,307 | 2.1 | 1,797 | 0.9 | 7,274 | 1.5 |
| 35 | 48 | 16.6 | 4,019 | 9.1 | 10,480 | 15.2 | 108,097 | 13.6 | 30,478 | 15.5 | 105,345 | 22.1 |
| 36 | 11 | 3.8 | 1,248 | 2.8 | 1,178 | 1.7 | 5,219 | 0.7 | 1,063 | 0.5 | 17,381 | 3.6 |
| 37 | 7 | 2.4 | 492 | 1.1 | 1,078 | 1.6 | 16,963 | 2.1 | 7,064 | 3.6 | 2,206 | 0.5 |
| 38 | 31 | 10.7 | 4,040 | 9.2 | 7,003 | 10.2 | 49,529 | 6.2 | 16,266 | 8.3 | 26,984 | 5.6 |
| 39 | 1 | 0.3 | 182 | 0.4 | 218 | 0.3 | 6,743 | 0.9 | 669 | 0.3 | 1,440 | 0.3 |
| TOTAL | 290 | 100.0 | 44,020 | 100.0 | 68,825 | 100.0 | 794,279 | 100.0 | 196,177 | 100.0 | 477,527 | 100.0 |
| Mixed | | | | | | | | | | | | |
| 31 | 3 | 42.9 | 31,352 | 93.8 | 15,905 | 81.4 | 107,761 | 86.6 | 51,479 | 90.8 | 289,236 | 96.9 |
| 32 | 2 | 28.0 | 1,309 | 3.9 | 2,696 | 13.8 | 11,393 | 9.2 | 3,957 | 7.0 | 1,660 | 0.5 |
| 33 | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | - | - | - | - | - | - | - | - | - | - | - | - |
| 36 | 1 | 14.3 | 566 | 1.7 | 497 | 2.5 | 4,189 | 3.3 | 952 | 1.7 | 5,410 | 1.8 |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | 1 | 14.3 | 197 | 0.6 | 444 | 2.3 | 1,092 | 0.9 | 290 | 0.5 | 2,042 | 0.7 |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 7 | 100.0 | 33,424 | 100.0 | 19,543 | 100.0 | 123,935 | 100.0 | 56,678 | 100.0 | 298,360 | 100.0 |

Source: Government of Sudan, The Industrial Survey, 1981/82.

Table 3.8 No. of Establishments in Manufacturing by Size and Sector in 1981

| Size | 31 | as%of total | 32 | as%of total | 33 | as%of total | 34 | as%of total | 35 | as%of total | 36 | as%of total | 37 | as%of total | 38 | as%of total | 39 | as%of total | Total | % |
|--------|------|----------------|-----|----------------|-----|----------------|----|----------------|-----|----------------|----|----------------|----|----------------|-----|----------------|----|----------------|-------|-------|
| <25 | 5124 | 97.1 | 77 | 55.8 | 173 | 95.1 | 77 | 79.4 | 69 | 58.5 | 68 | 84.0 | 4 | 33.3 | 820 | 96.0 | | | 6412 | 94.9 |
| 25-50 | 58 | 1.1 | 19 | 13.8 | 6 | 3.3 | 8 | 8.2 | 22 | 18.6 | 3 | 3.7 | 4 | 33.3 | 11 | 1.3 | | | 131 | 1.9 |
| 51-100 | 1 | 0.7 | 9 | 6.5 | 1 | 0.5 | 2 | 2.1 | 17 | 14.4 | 4 | 4.9 | 2 | 16.7 | 9 | 1.1 | | | 79 | 1.2 |
| >100 | 18 | 1.1 | 33 | 23.9 | 2 | 1.1 | 10 | 10.3 | 10 | 8.5 | 6 | 7.4 | 2 | 16.7 | 14 | 1.6 | 2 | 100.0 | 137 | 2.0 |
| TOTAL | | 100.0 | 138 | 100.0 | 182 | 100.0 | 97 | 100.0 | 118 | 100.0 | 81 | 100.0 | 12 | 100.0 | 854 | 100.0 | 2 | 100.0 | 6759 | 100.0 |

Table 3.9 Employment in Manufacturing by Size and Sector 1981/82

(persons)

| Size | 31 | as%of total | 32 | as%of total | 33 | as%of total | 34 | as%of total | 35 | as%of total | 36 | as%of total | 37 | as%of total | 38 | as%of total | 39 | as%of total | Total | % |
|--------|-------|----------------|-------|----------------|------|----------------|------|----------------|------|----------------|------|----------------|-----|----------------|-------|----------------|-----|----------------|--------|-------|
| <25 | 26302 | 30.0 | 984 | 3.5 | 1467 | 70.2 | 796 | 18.8 | 1232 | 23.1 | 2059 | 43.4 | 64 | 8.2 | 6431 | 59.5 | | | 39335 | 27.2 |
| 25-50 | 2016 | 2.3 | 707 | 2.5 | 208 | 9.9 | 276 | 6.5 | 806 | 15.1 | 120 | 2.5 | 156 | 20.1 | 390 | 3.6 | | | 4679 | 3.2 |
| 51-100 | 2419 | 2.7 | 665 | 2.3 | 64 | 3.1 | 137 | 3.3 | 1135 | 27.3 | 264 | 5.6 | 140 | 18.0 | 608 | 5.6 | | | 5432 | 3.8 |
| >100 | 57002 | 65.0 | 26053 | 91.7 | 352 | 16.8 | 3016 | 71.4 | 2163 | 40.5 | 2298 | 48.5 | 417 | 53.7 | 3374 | 31.3 | 382 | 100.0 | 95057 | 65.8 |
| TOTAL | 87739 | 100.0 | 28409 | 100.0 | 2091 | 100.0 | 4225 | 100.0 | 5336 | 100.0 | 4741 | 100.0 | 777 | 100.0 | 10803 | 100.0 | 382 | 100.0 | 144503 | 100.0 |

Table 3.10 Wages in Manufacturing by Size and Sector in 1981/82

(£, 000's)

| Size | 31 | as%of total | 32 | as%of total | 33 | as%of total | 34 | as%of total | 35 | as%of total | 36 | as%of total | 37 | as%of total | 38 | as%of total | 39 | as%of total | Total | % |
|--------|-------|----------------|-------|----------------|------|----------------|------|----------------|-------|----------------|------|----------------|------|----------------|------|----------------|-----|----------------|--------|-------|
| <25 | 22382 | 29.8 | 785 | 2.2 | 2177 | 80.1 | 908 | 14.3 | 1160 | 9.9 | 765 | 17.8 | 49 | 3.3 | 8198 | 51.1 | | | 36424 | 23.6 |
| 25-50 | 2025 | 2.7 | 539 | 1.5 | 194 | 7.1 | 457 | 7.2 | 1008 | 8.6 | 109 | 2.5 | 500 | 34.0 | 576 | 3.6 | | | 5408 | 3.5 |
| 51-100 | 2019 | 2.7 | 636 | 1.8 | 90 | 3.3 | 436 | 6.8 | 2011 | 17.2 | 257 | 6.0 | 70 | 4.8 | 877 | 5.5 | | | 6396 | 4.1 |
| >100 | 48723 | 64.8 | 33998 | 94.5 | 259 | 9.5 | 4569 | 71.7 | 7543 | 64.3 | 3174 | 73.7 | 852 | 5.7 | 392 | 39.8 | 551 | 100.0 | 106061 | 68.8 |
| TOTAL | 75149 | 100.0 | 35958 | 100.0 | 2720 | 100.0 | 6370 | 100.0 | 11722 | 100.0 | 4305 | 100.0 | 1471 | 100.0 | 1043 | 100.0 | 551 | 100.0 | 154289 | 100.0 |

Table 3 11 Gross Output in Manufacturing by Size and Sector in 1981/82 (£5 000')

| Size | 31 | as%of total | 32 | as%of total | 33 | as%of total | 34 | as%of total | 35 | as%of total | 36 | as%of total | 37 | as%of total | 38 | as%of total | 39 | as%of total | Total | % |
|--------|---------|----------------|--------|----------------|-------|----------------|-------|----------------|--------|----------------|-------|----------------|-------|----------------|-------|----------------|------|----------------|---------|-------|
| <25 | 428971 | 38.8 | 11864 | 11.2 | 8369 | 81.9 | 3244 | 10.1 | 30376 | 21.9 | 7909 | 28.1 | 159 | 0.9 | 34196 | 37.7 | | | 525088 | 34.2 |
| 25-50 | 37514 | 3.4 | 3361 | 3.2 | 801 | 7.8 | 3861 | 12.0 | 11603 | 8.3 | 858 | 3.1 | 3125 | 18.0 | 4937 | 5.5 | | | 66060 | 4.3 |
| 51-100 | 40997 | 3.7 | 4366 | 4.1 | 256 | 2.5 | 1748 | 5.5 | 20309 | 14.6 | 2373 | 8.4 | 7441 | 42.8 | 5260 | 5.8 | | | 82750 | 5.4 |
| >100 | 598492 | 54.1 | 86289 | 81.5 | 791 | 7.8 | 23205 | 72.4 | 76724 | 55.2 | 16988 | 60.4 | 6647 | 38.3 | 46208 | 51.0 | 6846 | 100.0 | 862190 | 56.7 |
| TOTAL | 1105974 | 100.0 | 105880 | 100.0 | 10217 | 100.0 | 32058 | 100.0 | 139012 | 100.0 | 28128 | 100.0 | 17372 | 100.0 | 90601 | 100.0 | 6846 | 100.0 | 1536088 | 100.0 |

Table 3.12 Gross Value Added in Manufacturing by Size and Sector in 1981/82 (£ s 000')

| Size | 31 | as%of total | 32 | as%of total | 33 | as%of total | 34 | as%of total | 35 | as%of total | 36 | as%of total | 37 | as%of total | 38 | as%of total | 39 | as%of total | Total | % |
|--------|--------|----------------|-------|----------------|------|----------------|------|----------------|-------|----------------|-------|----------------|------|----------------|-------|----------------|-----|----------------|--------|-------|
| <25 | 239365 | 55.9 | 5266 | 20.2 | 4638 | 85.7 | 914 | 9.1 | 3499 | 10.2 | 3697 | 36.2 | 70 | 1.0 | 18299 | 49.5 | | | 275648 | 49.4 |
| 25-50 | 4056 | 0.9 | 1007 | 3.9 | 201 | 3.7 | 1028 | 11.5 | 2636 | 7.7 | 217 | 2.1 | 332 | 4.6 | 2819 | 7.6 | | | 12296 | 2.2 |
| 51-100 | 5832 | 1.4 | 1342 | 5.1 | 129 | 2.4 | 705 | 7.9 | 4632 | 13.5 | 495 | 4.9 | 6330 | 87.6 | 1198 | 3.3 | | | 20663 | 3.7 |
| >100 | 178777 | 41.8 | 18439 | 70.8 | 443 | 8.2 | 6369 | 71.5 | 23463 | 68.6 | 5789 | 56.8 | 492 | 6.8 | 14624 | 39.6 | 337 | 100.0 | 248733 | 44.7 |
| TOTAL | 428030 | 100.0 | 26054 | 100.0 | 5411 | 100.0 | 8916 | 100.0 | 34230 | 100.0 | 10198 | 100.0 | 7224 | 100.0 | 36940 | 100.0 | 337 | 100.0 | 557340 | 100.0 |

Table 3.13 Total Capital in Manufacturing by Size and Sector in 1981/82

(£ 000's)

| Size | 31 | as%of total | 32 | as%of total | 33 | as%of total | 34 | as%of total | 35 | as%of total | 36 | as%of total | 37 | as%of total | 38 | as%of total | 39 | as%of total | TOTAL | % |
|--------|--------|----------------|--------|----------------|-------|----------------|-------|----------------|--------|----------------|-------|----------------|------|----------------|-------|----------------|------|----------------|---------|-------|
| >25 | 111794 | 16.9 | 7321 | 3.9 | 13521 | 90.5 | 4835 | 33.0 | 8766 | 7.7 | 6818 | 22.1 | 347 | 12.6 | 16526 | 36.0 | | | 169928 | 15.8 |
| 25-50 | 28772 | 4.3 | 3275 | 1.7 | 273 | 1.8 | 2049 | 14.0 | 6236 | 5.5 | 397 | 1.3 | 859 | 31.3 | 3420 | 7.5 | | | 45281 | 4.2 |
| 51-100 | 19677 | 3.0 | 2062 | 1.1 | 481 | 3.2 | 899 | 6.2 | 7978 | 7.0 | 513 | 1.6 | 860 | 31.3 | 2929 | 6.4 | | | 35393 | 3.3 |
| >100 | 501297 | 75.8 | 175957 | 93.3 | 670 | 4.5 | 6852 | 46.8 | 91137 | 79.8 | 23139 | 75.0 | 683 | 24.8 | 22976 | 50.1 | 2165 | 100.0 | 824876 | 76.7 |
| TOTAL | 661540 | 100.0 | 188615 | 100.0 | 14945 | 100.0 | 14635 | 100.0 | 114117 | 100.0 | 30867 | 100.0 | 2749 | 100.0 | 45851 | 100.0 | 2165 | 100.0 | 1075484 | 100.0 |

Table 3.14: The Structure of the Manufacturing Sector in the Kharloum Region, 1981/82

| Sectors | No. of est. | | No. of empl. | | Wages/salaries | | Gross output | | Gross value add. | | Capital | |
|--|-------------|-------|--------------|-------|----------------|-------|--------------|-------|------------------|-------|---------|-------|
| | No. | % | No. | % | Value | % | Value | % | Value | % | Value | % |
| All establishments | | | | | | | | | | | | |
| 31 | 1,085 | 56.4 | 15,295 | 30.9 | 20,360 | 27.7 | 314,902 | 52.2 | 81,142 | 50.9 | 111,088 | 36.1 |
| 32 | 101 | 5.3 | 14,060 | 28.4 | 21,340 | 29.0 | 56,277 | 9.3 | 17,526 | 11.0 | 76,482 | 24.9 |
| 33 | 113 | 5.9 | 1,143 | 2.3 | 1,898 | 2.6 | 8,080 | 1.4 | 4,409 | 2.8 | 13,621 | 4.4 |
| 34 | 82 | 4.3 | 4,059 | 8.2 | 6,187 | 8.4 | 31,444 | 5.2 | 8,609 | 5.4 | 13,939 | 4.5 |
| 35 | 97 | 5.0 | 4,234 | 8.5 | 7,698 | 10.5 | 99,825 | 16.6 | 16,782 | 10.5 | 27,788 | 9.0 |
| 36 | 47 | 2.4 | 2,764 | 5.6 | 1,676 | 2.3 | 10,928 | 1.8 | 3,758 | 2.3 | 23,274 | 7.6 |
| 37 | 6 | 0.3 | 578 | 1.1 | 1,140 | 1.5 | 9,083 | 1.5 | 904 | 0.6 | 1,734 | 0.6 |
| 38 | 390 | 20.3 | 7,243 | 14.6 | 12,969 | 17.6 | 72,219 | 12.0 | 26,684 | 16.7 | 39,124 | 12.7 |
| 39 | 1 | 0.1 | 200 | 0.4 | 333 | 0.4 | 104 | 0.0 | -332 | -0.2 | 725 | 0.2 |
| TOTAL | 1,922 | 100.0 | 49,576 | 100.0 | 73,601 | 100.0 | 602,862 | 100.0 | 159,482 | 100.0 | 307,775 | 100.0 |
| Small establishments (< 15 empl.) | | | | | | | | | | | | |
| 31 | 1,017 | 59.5 | 6,032 | 42.2 | 8,498 | 45.3 | 83,874 | 52.5 | 22,754 | 47.4 | 51,624 | 51.8 |
| 31' | 67 | 3.9 | 856 | 6.0 | 698 | 3.7 | 11,105 | 6.9 | 4,984 | 10.4 | 6,898 | 6.7 |
| 33 | 109 | 6.4 | 968 | 6.8 | 1,723 | 9.2 | 7,120 | 4.5 | 4,148 | 8.6 | 12,897 | 12.9 |
| 34 | 62 | 3.6 | 630 | 4.4 | 725 | 3.9 | 2,631 | 1.6 | 506 | 1.1 | 4,138 | 4.2 |
| 35 | 56 | 3.3 | 1,041 | 7.3 | 875 | 4.7 | 26,811 | 16.8 | 2,315 | 4.8 | 7,133 | 7.2 |
| 36 | 38 | 2.2 | 1,670 | 11.7 | 634 | 3.4 | 6,312 | 4.0 | 3,005 | 6.3 | 5,987 | 6.0 |
| 37 | 1 | 0.1 | 14 | 0.1 | 11 | 0.0 | 38 | 0.0 | 5 | 0.0 | 250 | 0.3 |
| 38 | 359 | 21.0 | 3,079 | 21.5 | 5,581 | 29.8 | 21,972 | 13.7 | 10,255 | 21.4 | 10,869 | 10.9 |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 1,709 | 100.0 | 14,290 | 100.0 | 18,745 | 100.0 | 159,863 | 100.0 | 47,972 | 100.0 | 99,596 | 100.0 |
| Large establishments (> 25 empl.) | | | | | | | | | | | | |
| 31 | 68 | 31.9 | 9,263 | 26.3 | 11,862 | 21.6 | 231,028 | 52.2 | 58,388 | 52.4 | 59,464 | 28.6 |
| 32 | 34 | 16.0 | 13,204 | 37.4 | 20,642 | 37.6 | 45,172 | 10.2 | 12,542 | 11.2 | 69,784 | 33.5 |
| 33 | 4 | 1.9 | 175 | 0.5 | 175 | 0.3 | 960 | 0.2 | 261 | 0.2 | 724 | 0.3 |
| 34 | 20 | 9.4 | 3,429 | 9.7 | 5,462 | 10.0 | 28,813 | 6.5 | 8,103 | 7.3 | 9,801 | 4.7 |
| 35 | 41 | 19.2 | 3,193 | 9.0 | 6,823 | 12.4 | 73,014 | 16.5 | 14,467 | 13.00 | 20,055 | 9.9 |
| 36 | 9 | 4.2 | 1,094 | 3.1 | 1,042 | 1.9 | 4,616 | 1.0 | 753 | 0.7 | 17,287 | 8.3 |
| 37 | 5 | 2.3 | 564 | 1.6 | 1,129 | 2.1 | 9,045 | 2.0 | 899 | 0.8 | 1,484 | 0.7 |
| 38 | 31 | 14.6 | 4,164 | 11.8 | 7,388 | 13.5 | 50,247 | 11.4 | 16,429 | 14.7 | 26,255 | 13.6 |
| 39 | 1 | 0.5 | 200 | 0.6 | 333 | 0.6 | 104 | 0.0 | -332 | -0.3 | 725 | 0.4 |
| TOTAL | 213 | 100.0 | 35,286 | 100.0 | 54,856 | 100.0 | 442,999 | 100.0 | 111,510 | 100.0 | 208,174 | 100.0 |

Source: Department of Statistics, The Industrial Survey, 1982/83.

Table 3.15: The Structure of the Manufacturing Output by Type of Ownership in the Khartoum Region, 1981/82

| Sectors | No. of est. | | No. of empl. | | Wages/salaries | | Gross output | | Gross value add. | | Capital | |
|----------------|-------------|-------|--------------|-------|----------------|-------|--------------|-------|------------------|-------|---------|-------|
| | No. | % | No. | % | Value | % | Value | % | Value | % | Value | % |
| Public | | | | | | | | | | | | |
| 31 | 5 | 27.8 | 1,349 | 27.2 | 1,729 | 24.2 | 9,534 | 35.7 | 2,320 | 23.7 | 974 | 13.8 |
| 32 | 3 | 16.7 | 975 | 19.7 | 1,391 | 19.5 | 3,618 | 13.6 | 1,090 | 11.1 | 2,624 | 37.1 |
| 33 | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | 6 | 33.3 | 2,100 | 42.4 | 3,189 | 44.7 | 12,506 | 46.9 | 6,306 | 64.4 | 2,527 | 35.7 |
| 35 | 1 | 5.6 | 85 | 1.7 | 82 | 1.2 | 539 | 2.0 | 253 | 2.6 | 5 | 0.1 |
| 36 | - | - | - | - | - | - | - | - | - | - | - | - |
| 37 | 1 | 5.6 | 221 | 4.5 | 344 | 4.8 | 250 | 0.9 | 89 | 0.9 | 195 | 2.8 |
| 38 | 1 | 5.6 | 29 | 0.6 | 66 | 0.9 | 141 | 0.5 | 73 | 0.7 | 27 | 0.4 |
| 39 | 1 | 5.6 | 200 | 4.0 | 333 | 4.7 | 104 | 0.4 | -332 | -3.4 | 725 | 10.2 |
| TOTAL | 18 | 100.0 | 4,959 | 100.0 | 7,134 | 100.0 | 26,692 | 100.0 | 9,799 | 100.0 | 7,077 | 100.0 |
| Private | | | | | | | | | | | | |
| 31 | 62 | 32.5 | 7,761 | 27.1 | 9,799 | 22.2 | 219,780 | 54.7 | 55,569 | 57.3 | 58,261 | 29.5 |
| 32 | 29 | 15.2 | 10,920 | 38.1 | 16,555 | 37.4 | 30,161 | 7.5 | 7,494 | 7.7 | 65,498 | 33.2 |
| 33 | 4 | 2.1 | 175 | 0.6 | 175 | 0.4 | 960 | 0.2 | 261 | 0.3 | 724 | 0.4 |
| 34 | 14 | 7.3 | 1,329 | 4.6 | 2,273 | 5.1 | 16,307 | 4.1 | 1,797 | 1.9 | 7,274 | 3.7 |
| 35 | 40 | 20.9 | 3,108 | 10.8 | 6,740 | 15.2 | 72,475 | 18.0 | 14,214 | 14.7 | 20,649 | 10.5 |
| 36 | 9 | 4.7 | 1,094 | 3.8 | 1,042 | 2.4 | 4,616 | 1.2 | 753 | 0.8 | 17,287 | 8.8 |
| 37 | 4 | 2.1 | 343 | 1.2 | 785 | 1.8 | 8,795 | 2.2 | 810 | 0.8 | 1,287 | 0.7 |
| 38 | 29 | 15.2 | 3,938 | 13.7 | 6,879 | 15.6 | 49,014 | 12.2 | 16,066 | 16.6 | 26,187 | 13.3 |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 191 | 100.0 | 28,668 | 100.0 | 44,248 | 100.0 | 402,108 | 100.0 | 96,964 | 100.0 | 197,167 | 100.0 |
| Mixed | | | | | | | | | | | | |
| 31 | 1 | 25.0 | 153 | 9.2 | 334 | 9.6 | 1,714 | 12.1 | 499 | 10.5 | 230 | 5.8 |
| 32 | 2 | 50.0 | 1,309 | 78.9 | 2,696 | 77.6 | 11,393 | 80.2 | 3,957 | 83.3 | 1,660 | 42.2 |
| 33 | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | - | - | - | - | - | - | - | - | - | - | - | - |
| 36 | - | - | - | - | - | - | - | - | - | - | - | - |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | 1 | 25.0 | 197 | 11.9 | 444 | 12.8 | 1,092 | 7.7 | 290 | 6.1 | 2,042 | 51.9 |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 4 | 100.0 | 1,659 | 100.0 | 3,474 | 100.0 | 14,199 | 100.0 | 4,746 | 100.0 | 3,932 | 100.0 |

Source: Government of Sudan. The Industrial Survey, 1981/82

Table 3.16: The Structure of the Manufacturing Sector in the Central Region, 1981/82

| Sectors | No. of est. | | No. of empl. | | Wages/salaries | | Gross output | | Gross value add. | | Capital | |
|---|-------------|-------|--------------|-------|----------------|-------|--------------|-------|------------------|-------|---------|-------|
| | No. | % | No. | % | Value | % | Value | % | Value | % | Value | % |
| <u>All establishments</u> | | | | | | | | | | | | |
| 31 | 1,534 | 86.1 | 51,849 | 80.3 | 38,400 | 75.0 | 498,217 | 89.2 | 222,158 | 94.8 | 463,805 | 85.6 |
| 32 | 21 | 1.2 | 9,900 | 15.3 | 10,158 | 19.8 | 39,424 | 7.1 | 6,600 | 2.8 | 64,920 | 12.0 |
| 33 | 40 | 2.2 | 628 | 1.0 | 453 | 0.9 | 1,529 | 0.3 | 622 | 0.3 | 1,001 | 0.2 |
| 34 | 4 | 0.2 | 30 | 0.0 | 20 | 0.0 | 195 | 0.0 | 66 | 0.0 | 209 | 0.0 |
| 35 | 4 | 0.2 | 117 | 0.2 | 382 | 0.7 | 1,697 | 0.3 | -74 | 0.0 | 728 | 0.1 |
| 36 | 21 | 1.2 | 879 | 1.4 | 641 | 1.3 | 5,669 | 1.0 | 1,566 | 0.7 | 5,814 | 1.1 |
| 37 | 2 | 0.1 | 30 | 0.0 | 22 | 0.0 | 97 | 0.0 | 49 | 0.0 | 81 | 0.0 |
| 38 | 155 | 8.7 | 957 | 1.5 | 904 | 1.8 | 4,697 | 0.8 | 2,688 | 1.1 | 3,714 | 0.7 |
| 39 | 1 | 0.1 | 182 | 0.3 | 218 | 0.4 | 6,743 | 1.2 | 669 | 0.3 | 1,440 | 0.3 |
| TOTAL | 1,782 | 100.0 | 64,572 | 100.0 | 51,198 | 100.0 | 558,266 | 100.0 | 234,344 | 100.0 | 541,712 | 100.0 |
| <u>Small establishments (< 25 empl.)</u> | | | | | | | | | | | | |
| 31 | 1,502 | 87.0 | 7,906 | 84.1 | 7,580 | 85.8 | 192,088 | 96.7 | 115,738 | 97.7 | 27,946 | 85.1 |
| 32 | 7 | 0.4 | 63 | 0.7 | 53 | 0.6 | 138 | 0.1 | 38 | 0.0 | 507 | 1.5 |
| 33 | 36 | 2.1 | 209 | 2.2 | 140 | 1.6 | 650 | 0.3 | 114 | 0.1 | 302 | 0.9 |
| 34 | 4 | 0.2 | 30 | 0.3 | 20 | 0.2 | 195 | 0.1 | 66 | 0.1 | 209 | 0.6 |
| 35 | 2 | 0.1 | 30 | 0.3 | 180 | 2.0 | 113 | 0.1 | -460 | -0.4 | 450 | 1.4 |
| 36 | 19 | 1.1 | 244 | 2.6 | 43 | 0.5 | 1,052 | 0.5 | 425 | 0.4 | 394 | 1.2 |
| 37 | 2 | 0.1 | 30 | 0.3 | 22 | 0.3 | 97 | 0.1 | 49 | 0.0 | 81 | 0.3 |
| 38 | 154 | 8.9 | 890 | 9.5 | 801 | 9.1 | 4,225 | 2.1 | 2,522 | 2.1 | 2,957 | 9.0 |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 1,726 | 100.0 | 9,402 | 100.0 | 8,838 | 100.0 | 198,558 | 100.0 | 118,492 | 100.0 | 32,846 | 100.0 |
| <u>Large establishments (> 25 empl.)</u> | | | | | | | | | | | | |
| 31 | 32 | 57.1 | 43,943 | 79.7 | 30,820 | 72.8 | 306,129 | 85.1 | 106,420 | 91.9 | 435,859 | 85.7 |
| 32 | 14 | 25.0 | 9,837 | 17.8 | 10,105 | 23.9 | 39,286 | 10.9 | 6,562 | 5.7 | 64,413 | 12.7 |
| 33 | 4 | 7.1 | 419 | 0.8 | 313 | 0.7 | 879 | 0.2 | 508 | 0.4 | 699 | 0.1 |
| 34 | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | 2 | 3.6 | 87 | 0.2 | 202 | 0.5 | 1,584 | 0.4 | 386 | 0.3 | 278 | 0.1 |
| 36 | 2 | 3.6 | 635 | 1.2 | 598 | 1.4 | 4,617 | 1.3 | 1,141 | 1.0 | 5,420 | 1.1 |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | 1 | 1.8 | 67 | 0.1 | 103 | 0.2 | 472 | 0.1 | 166 | 0.1 | 757 | 0.1 |
| 39 | 1 | 1.8 | 182 | 0.3 | 218 | 0.5 | 6,743 | 1.9 | 669 | 0.6 | 1,440 | 0.3 |
| TOTAL | 56 | 100.0 | 55,170 | 100.0 | 42,360 | 100.0 | 359,708 | 100.0 | 115,852 | 100.0 | 508,866 | 100.0 |

Source: Government of Sudan, The Industrial Survey, 1981/82

Table 3.17: The Structure of the Manufacturing Output by Type of Ownership in the Central Region, 1981/82

| Sectors | No. of est. | | No. of empl. | | Wages/salaries | | Gross output | | Gross value add. | | Capital | |
|----------------|-------------|-------|--------------|-------|----------------|-------|--------------|-------|------------------|-------|---------|-------|
| | No. | % | No. | % | Value | % | Value | % | Value | % | Value | % |
| <u>Public</u> | | | | | | | | | | | | |
| 31 | 4 | 26.7 | 8,677 | 61.1 | 7,758 | 66.2 | 22,759 | 63.1 | 3,084 | 47.5 | 66,253 | 64.3 |
| 32 | 7 | 46.7 | 5,114 | 36.0 | 3,651 | 31.2 | 12,436 | 34.5 | 2,896 | 44.6 | 36,158 | 35.1 |
| 33 | 4 | 26.7 | 419 | 3.0 | 313 | 2.7 | 879 | 2.4 | 508 | 7.8 | 699 | 0.7 |
| 34 | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | - | - | - | - | - | - | - | - | - | - | - | - |
| 36 | - | - | - | - | - | - | - | - | - | - | - | - |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | - | - | - | - | - | - | - | - | - | - | - | - |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 15 | 100.0 | 14,210 | 100.0 | 11,722 | 100.0 | 36,074 | 100.0 | 6,488 | 100.0 | 103,110 | 100.0 |
| <u>Private</u> | | | | | | | | | | | | |
| 31 | 26 | 68.4 | 4,067 | 44.2 | 7,491 | 51.4 | 177,823 | 83.1 | 52,356 | 91.2 | 80,598 | 72.4 |
| 32 | 7 | 18.4 | 4,723 | 51.4 | 6,454 | 44.3 | 26,850 | 12.6 | 3,666 | 6.4 | 28,254 | 25.4 |
| 33 | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | 2 | 5.3 | 87 | 1.0 | 202 | 1.4 | 1,584 | 0.7 | 386 | 0.7 | 278 | 0.3 |
| 36 | 1 | 2.6 | 69 | 0.8 | 101 | 0.7 | 428 | 0.2 | 189 | 0.3 | n.a. | n.a. |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | 1 | 2.6 | 67 | 0.7 | 103 | 0.7 | 472 | 0.2 | 166 | 0.3 | 757 | 0.7 |
| 39 | 1 | 2.6 | 182 | 2.0 | 218 | 1.5 | 6,743 | 3.2 | 669 | 1.2 | 1,440 | 1.3 |
| TOTAL | 38 | 100.0 | 9,195 | 100.0 | 14,564 | 100.0 | 213,900 | 100.0 | 57,432 | 100.0 | 111,327 | 100.0 |
| <u>Mixed</u> | | | | | | | | | | | | |
| 31 | 2 | 66.7 | 31,195 | 98.2 | 15,571 | 96.9 | 105,547 | 96.2 | 50,980 | 98.2 | 289,007 | 98.2 |
| 32 | - | - | - | - | - | - | - | - | - | - | - | - |
| 33 | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | - | - | - | - | - | - | - | - | - | - | - | - |
| 36 | 1 | 33.3 | 566 | 1.8 | 497 | 3.1 | 4,189 | 3.8 | 952 | 1.8 | 5,420 | 1.8 |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | - | - | - | - | - | - | - | - | - | - | - | - |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 3 | 100.0 | 31,761 | 100.0 | 16,068 | 100.0 | 109,735 | 100.0 | 51,933 | 100.0 | 294,427 | 100.0 |

Source: Government of Sudan. The Industrial Survey, 1981/82

Table 3.18: The Structure of the Manufacturing Sector in the Eastern Region, 1981/82.

| Sectors | No. of est. | | No. of empl. | | Wages/salaries | | Gross output | | Gross value add. | | Capital | |
|--|-------------|-------|--------------|-------|----------------|-------|--------------|-------|------------------|-------|---------|-------|
| | No. | % | No. | % | Value | % | Value | % | Value | % | Value | % |
| <u>All establishments</u> | | | | | | | | | | | | |
| 31 | 607 | 78.1 | 8,812 | 68.8 | 9,242 | 56.3 | 187,674 | 77.6 | 90,477 | 76.9 | 53,440 | 30.7 |
| 32 | 4 | 0.5 | 1,441 | 11.3 | 1,615 | 9.8 | 6,729 | 2.8 | 1,248 | 1.1 | 33,506 | 19.2 |
| 33 | 16 | 2.1 | 242 | 1.9 | 236 | 1.4 | 275 | 0.1 | 226 | 0.2 | 80 | 0.0 |
| 34 | 6 | 0.8 | 87 | 0.7 | 132 | 0.8 | 199 | 0.1 | 120 | 0.1 | 168 | 0.1 |
| 35 | 5 | 0.6 | 668 | 5.2 | 3,397 | 20.7 | 30,876 | 12.8 | 15,473 | 13.1 | 84,504 | 48.5 |
| 36 | 5 | 0.6 | 140 | 1.1 | 74 | 0.5 | 322 | 0.1 | 199 | 0.2 | 402 | 0.2 |
| 37 | 4 | 0.5 | 169 | 1.3 | 308 | 1.9 | 8,192 | 3.4 | 6,270 | 5.3 | 935 | 0.5 |
| 38 | 130 | 16.7 | 1,244 | 9.7 | 1,403 | 8.6 | 7,479 | 3.1 | 3,635 | 3.1 | 1,253 | 0.7 |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 777 | 100.0 | 12,805 | 100.0 | 16,409 | 100.0 | 241,745 | 100.0 | 117,647 | 100.0 | 174,288 | 100.0 |
| <u>Small establishments (< 25 empl.)</u> | | | | | | | | | | | | |
| 31 | 589 | 78.7 | 2,777 | 63.7 | 1,118 | 42.4 | 80,160 | 96.4 | 70,963 | 96.9 | 9,006 | 80.6 |
| 32 | - | - | - | - | - | - | - | - | - | - | - | - |
| 33 | 16 | 2.1 | 242 | 5.6 | 236 | 9.0 | 275 | 0.3 | 226 | 0.3 | 80 | 0.7 |
| 34 | 6 | 0.8 | 87 | 2.0 | 132 | 5.0 | 199 | 0.2 | 120 | 0.2 | 168 | 1.5 |
| 35 | 3 | 0.4 | 37 | 0.9 | 27 | 1.0 | 528 | 0.6 | 178 | 0.2 | 658 | 5.9 |
| 36 | 4 | 0.5 | 59 | 1.4 | 38 | 1.4 | 147 | 0.2 | 78 | 0.1 | 308 | 2.8 |
| 37 | 1 | 0.1 | 20 | 0.5 | 15 | 0.6 | 24 | 0.0 | 16 | 0.0 | 17 | 0.2 |
| 38 | 129 | 17.3 | 1,138 | 26.1 | 1,073 | 40.7 | 1,836 | 2.2 | 1,623 | 2.2 | 941 | 8.4 |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 744 | 100.0 | 4,360 | 100.0 | 2,639 | 100.0 | 83,169 | 100.0 | 73,203 | 100.0 | 11,178 | 100.0 |
| <u>Large establishments (> 25 empl.)</u> | | | | | | | | | | | | |
| 31 | 18 | 62.1 | 6,035 | 71.5 | 8,124 | 59.0 | 107,514 | 67.8 | 19,514 | 43.9 | 44,434 | 27.2 |
| 32 | 4 | 13.8 | 1,441 | 17.1 | 1,615 | 11.7 | 6,729 | 4.2 | 1,298 | 2.9 | 33,506 | 20.5 |
| 33 | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | 2 | 6.9 | 631 | 7.5 | 3,370 | 24.5 | 30,348 | 19.1 | 15,295 | 34.4 | 83,846 | 51.4 |
| 36 | 1 | 3.5 | 85 | 1.0 | 36 | 0.3 | 175 | 0.1 | 121 | 0.3 | 94 | 0.1 |
| 37 | 3 | 10.3 | 149 | 1.8 | 293 | 2.1 | 8,168 | 5.2 | 6,254 | 14.1 | 918 | 0.6 |
| 38 | 1 | 3.5 | 106 | 1.3 | 333 | 2.4 | 5,643 | 3.6 | 2,012 | 4.5 | 312 | 0.2 |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 29 | 100.0 | 8,447 | 100.0 | 13,770 | 100.0 | 158,576 | 100.0 | 44,494 | 100.0 | 163,110 | 100.0 |

Source: Government of Sudan, The Industrial Survey, 1981/82.

Table 3.19: The Structure of the Manufacturing Output by Type of Ownership in the Eastern Region, 1981/82

| Sectors | No. of est. | | No. of empl. | | Wages/salaries | | Gross output | | Gross value add. | | Capital | |
|----------------|-------------|-------|--------------|-------|----------------|-------|--------------|-------|------------------|-------|---------|-------|
| | No. | % | No. | % | Value | % | Value | % | Value | % | Value | % |
| <u>Public</u> | | | | | | | | | | | | |
| 31 | 2 | 50.0 | 3,507 | 88.7 | 4,672 | 90.8 | 9,751 | 62.5 | 5,251 | 71.4 | 2,352 | 58.5 |
| 32 | 1 | 25.0 | 343 | 8.7 | 140 | 2.7 | 212 | 1.4 | 87 | 1.2 | 1,357 | 33.7 |
| 33 | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | - | - | - | - | - | - | - | - | - | - | - | - |
| 36 | - | - | - | - | - | - | - | - | - | - | - | - |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | 1 | 25.0 | 106 | 2.7 | 333 | 6.5 | 5,643 | 36.2 | 2,012 | 27.4 | 312 | 7.8 |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 4 | 100.0 | 3,956 | 100.0 | 5,145 | 100.0 | 15,606 | 100.0 | 7,351 | 100.0 | 4,021 | 100.0 |
| <u>Private</u> | | | | | | | | | | | | |
| 31 | 16 | 64.0 | 2,528 | 56.3 | 3,457 | 40.0 | 97,762 | 68.4 | 14,263 | 38.4 | 42,082 | 26.5 |
| 32 | 3 | 12.0 | 1,098 | 24.4 | 1,475 | 17.1 | 6,517 | 4.6 | 1,211 | 3.3 | 32,199 | 20.2 |
| 33 | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | 2 | 8.0 | 631 | 14.1 | 3,370 | 39.1 | 30,348 | 21.2 | 15,295 | 41.2 | 83,846 | 52.7 |
| 36 | 1 | 4.0 | 85 | 1.9 | 36 | 0.4 | 175 | 0.1 | 121 | 0.3 | 94 | 0.1 |
| 37 | 3 | 12.0 | 149 | 3.3 | 293 | 3.4 | 8,168 | 5.7 | 6,254 | 16.8 | 918 | 0.6 |
| 38 | - | - | - | - | - | - | - | - | - | - | - | - |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 25 | 100.0 | 4,491 | 100.0 | 8,625 | 100.0 | 142,970 | 100.0 | 37,143 | 100.0 | 159,039 | 100.0 |
| <u>Mixed</u> | | | | | | | | | | | | |
| 31 | - | - | - | - | - | - | - | - | - | - | - | - |
| 32 | - | - | - | - | - | - | - | - | - | - | - | - |
| 33 | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | - | - | - | - | - | - | - | - | - | - | - | - |
| 36 | - | - | - | - | - | - | - | - | - | - | - | - |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | - | - | - | - | - | - | - | - | - | - | - | - |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | - | - | - | - | - | - | - | - | - | - | - | - |

Source: Government of Sudan, The Industrial Survey, 1981/82

Table 3.20: The Structure of the Manufacturing Sector in the Northern Region, 1981/82

| Sectors | No. of est. | | No. of empl. | | Wages/salaries | | Gross output | | Gross value add. | | Capital | |
|---|-------------|-------|--------------|-------|----------------|-------|--------------|-------|------------------|-------|---------|-------|
| | No. | % | No. | % | Value | % | Value | % | Value | % | Value | % |
| <u>All establishments</u> | | | | | | | | | | | | |
| 31 | 845 | 90.6 | 3,168 | 64.9 | 2,588 | 49.6 | 24,639 | 59.9 | 13,928 | 67.9 | 5,338 | 50.1 |
| 32 | 3 | 0.3 | 431 | 8.8 | 363 | 7.0 | 1,249 | 3.0 | 237 | 1.2 | 3,207 | 30.1 |
| 33 | 12 | 1.3 | 48 | 1.0 | 78 | 1.5 | 324 | 0.8 | 150 | 0.7 | 243 | 2.2 |
| 34 | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | 2 | 0.2 | 104 | 2.1 | 131 | 2.5 | 2,335 | 5.7 | 310 | 1.5 | 412 | 3.9 |
| 36 | 3 | 0.3 | 886 | 18.2 | 1,887 | 36.2 | 10,860 | 26.4 | 4,515 | 22.0 | 1,258 | 11.8 |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | 68 | 7.3 | 242 | 5.0 | 168 | 3.2 | 1,740 | 4.2 | 1,371 | 6.7 | 207 | 1.9 |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 933 | 100.0 | 4,879 | 100.0 | 5,215 | 100.0 | 41,147 | 100.0 | 20,511 | 100.0 | 10,665 | 100.0 |
| <u>Small establishments</u> (<u>< 25 empl.</u>) | | | | | | | | | | | | |
| 31 | 841 | 91.1 | 2,477 | 88.9 | 1,892 | 87.6 | 20,560 | 90.7 | 13,708 | 89.8 | 3,860 | 89.3 |
| 32 | - | - | - | - | - | - | - | - | - | - | - | - |
| 33 | 12 | 1.3 | 48 | 1.7 | 78 | 3.6 | 324 | 1.4 | 150 | 1.0 | 243 | 5.6 |
| 34 | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | - | - | - | - | - | - | - | - | - | - | - | - |
| 36 | 2 | 0.2 | 18 | 0.7 | 22 | 1.0 | 49 | 2.2 | 28 | 0.2 | 11 | 0.3 |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | 7 | 7.4 | 242 | 8.7 | 168 | 7.8 | 1,740 | 7.7 | 1,371 | 9.0 | 207 | 4.8 |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 923 | 100.0 | 2,855 | 100.0 | 2,160 | 100.0 | 22,673 | 100.0 | 15,257 | 100.0 | 4,321 | 100.0 |
| <u>Large establishments</u> (<u>≥ 25 empl.</u>) | | | | | | | | | | | | |
| 31 | 4 | 40.0 | 691 | 33.0 | 696 | 22.8 | 4,079 | 22.1 | 220 | 4.2 | 1,478 | 23.3 |
| 32 | 3 | 30.0 | 431 | 20.6 | 363 | 11.9 | 1,249 | 6.8 | 237 | 4.5 | 3,207 | 50.5 |
| 33 | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | 2 | 20.0 | 104 | 5.0 | 131 | 4.3 | 2,335 | 12.6 | 310 | 5.9 | 412 | 6.5 |
| 36 | 1 | 10.0 | 886 | 41.4 | 1,865 | 61.0 | 10,811 | 58.5 | 4,487 | 85.4 | 1,247 | 19.7 |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | - | - | - | - | - | - | - | - | - | - | - | - |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 10 | 100.0 | 2,094 | 100.0 | 3,055 | 100.0 | 18,474 | 100.0 | 5,254 | 100.0 | 6,344 | 100.0 |

Source: Government of Sudan, The Industrial Survey, 1981/82

Table 3.21: The Structure of the Manufacturing Output by Type of Ownership in the Northern Region, 1981/82

| Sectors | No. of est. | | No. of empl. | | Wages/salaries | | Gross output | | Gross value add. | | Capital | |
|----------------|-------------|--------------|--------------|--------------|----------------|--------------|---------------|--------------|------------------|--------------|--------------|--------------|
| | No. | % | No. | % | Value | % | Value | % | Value | % | Value | % |
| Public | | | | | | | | | | | | |
| 31 | 3 | 60.0 | 580 | 31.8 | 605 | 21.8 | 655 | 5.3 | 98 | 2.1 | 811 | 16.0 |
| 32 | 1 | 20.0 | 375 | 20.6 | 305 | 11.0 | 899 | 7.3 | 149 | 3.1 | 3,018 | 59.5 |
| 33 | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | - | - | - | - | - | - | - | - | - | - | - | - |
| 36 | 1 | 20.0 | 868 | 47.6 | 1,865 | 67.2 | 10,811 | 87.4 | 4,487 | 94.8 | 1,247 | 24.5 |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | - | - | - | - | - | - | - | - | - | - | - | - |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 5 | 100.0 | 1,823 | 100.0 | 2,775 | 100.0 | 12,365 | 100.0 | 4,734 | 100.0 | 5,076 | 100.0 |
| Private | | | | | | | | | | | | |
| 31 | 1 | 20.0 | 111 | 41.0 | 92 | 32.7 | 3,424 | 56.1 | 122 | 23.4 | 667 | 52.6 |
| 32 | 2 | 40.0 | 56 | 20.7 | 58 | 20.6 | 351 | 5.7 | 89 | 17.1 | 188 | 14.8 |
| 33 | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | 2 | 40.0 | 104 | 38.3 | 131 | 46.7 | 2,335 | 38.2 | 310 | 59.5 | 412 | 32.5 |
| 36 | - | - | - | - | - | - | - | - | - | - | - | - |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | - | - | - | - | - | - | - | - | - | - | - | - |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 5 | 100.0 | 271 | 100.0 | 280 | 100.0 | 6,109 | 100.0 | 520 | 100.0 | 1,267 | 100.0 |
| Mixed | | | | | | | | | | | | |
| 31 | - | - | - | - | - | - | - | - | - | - | - | - |
| 32 | - | - | - | - | - | - | - | - | - | - | - | - |
| 33 | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | - | - | - | - | - | - | - | - | - | - | - | - |
| 36 | - | - | - | - | - | - | - | - | - | - | - | - |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | - | - | - | - | - | - | - | - | - | - | - | - |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | - | - | - | - | - | - | - | - | - | - | - | - |

Source: Government of Sudan, The Industrial Survey, 1981/82

Table 3.22: The Structure of the Manufacturing Sector in Darfur Region, 1981/82

| Sectors | No. of est. | | No. of empl. | | Wages/salaries | | Gross output | | Gross value add. | | Capital | |
|---|-------------|-------|--------------|-------|----------------|-------|--------------|-------|------------------|-------|---------|-------|
| | No. | % | No. | % | Value | % | Value | % | Value | % | Value | % |
| <u>All establishments</u> | | | | | | | | | | | | |
| 31 | 366 | 89.1 | 2,521 | 74.9 | 1,074 | 68.8 | 22,240 | 81.2 | 4,409 | 62.9 | 5,730 | 55.5 |
| 32 | 1 | 0.2 | 194 | 5.8 | 181 | 11.6 | 110 | 0.4 | 13 | 0.2 | 3,264 | 31.6 |
| 33 | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | 2 | 0.5 | 14 | 0.4 | 9 | 0.6 | 25 | 0.1 | 6 | 0.1 | 25 | 0.2 |
| 35 | 6 | 1.5 | 169 | 5.0 | 85 | 5.4 | 2,685 | 9.8 | 849 | 12.1 | 412 | 4.0 |
| 36 | - | - | - | - | - | - | - | - | - | - | - | - |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | 36 | 8.8 | 469 | 13.9 | 213 | 13.6 | 2,344 | 8.6 | 1,736 | 24.8 | 692 | 6.6 |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 411 | 100.0 | 3,357 | 100.0 | 1,562 | 100.0 | 27,404 | 100.0 | 7,013 | 100.0 | 10,323 | 100.0 |
| <u>Small establishments</u> (<u>< 25 empl.</u>) | | | | | | | | | | | | |
| 31 | 359 | 89.5 | 2,235 | 79.9 | 963 | 78.1 | 19,753 | 84.2 | 3,994 | 63.3 | 3,781 | 76.4 |
| 32 | - | - | - | - | - | - | - | - | - | - | - | - |
| 33 | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | 2 | 0.5 | 14 | 0.5 | 9 | 0.7 | 25 | 0.1 | 6 | 0.1 | 25 | 0.5 |
| 35 | 4 | 1.0 | 80 | 2.9 | 48 | 3.9 | 1,329 | 5.7 | 575 | 9.1 | 253 | 5.1 |
| 36 | - | - | - | - | - | - | - | - | - | - | - | - |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | 36 | 9.0 | 469 | 16.8 | 213 | 17.3 | 2,344 | 10.0 | 1,736 | 27.5 | 692 | 18.0 |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 401 | 100.0 | 2,798 | 100.0 | 1,233 | 100.0 | 23,451 | 100.0 | 6,311 | 100.0 | 8,951 | 100.0 |
| <u>Large establishments</u> (<u>> 25 empl.</u>) | | | | | | | | | | | | |
| 31 | 7 | 70.0 | 286 | 50.3 | 111 | 33.6 | 2,487 | 62.9 | 415 | 59.2 | 1,949 | 36.3 |
| 32 | 1 | 10.0 | 194 | 34.1 | 181 | 55.0 | 110 | 2.8 | 13 | 1.8 | 3,264 | 60.8 |
| 33 | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | 2 | 20.0 | 89 | 15.6 | 37 | 11.4 | 1,356 | 34.3 | 274 | 39.0 | 159 | 3.0 |
| 36 | - | - | - | - | - | - | - | - | - | - | - | - |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | - | - | - | - | - | - | - | - | - | - | - | - |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 10 | 100.0 | 569 | 100.0 | 329 | 100.0 | 3,953 | 100.0 | 702 | 100.0 | 5,372 | 100.0 |

Source: Government of Sudan. The Industrial Survey, 1981/82

1981/82 Table 3.23: The Structure of the Manufacturing Output by Type of Ownership in the Darfur Region.

| Sector | No. of est. | | No. of empl. | | Wages/salaries | | Gross output | | Gross value add. | | Capital | |
|----------------|-------------|-------|--------------|-------|----------------|-------|--------------|-------|------------------|-------|---------|-------|
| | No. | £ | No. | £ | Value | £ | Value | £ | Value | £ | Value | £ |
| Public | | | | | | | | | | | | |
| 31 | - | - | - | - | - | - | - | - | - | - | - | - |
| 32 | 1 | 100.0 | 194 | 100.0 | 181 | 100.0 | 110 | 100.0 | 13 | 100.0 | 3,264 | 100.0 |
| 33 | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | - | - | - | - | - | - | - | - | - | - | - | - |
| 36 | - | - | - | - | - | - | - | - | - | - | - | - |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | - | - | - | - | - | - | - | - | - | - | - | - |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 1 | 100.0 | 194 | 100.0 | 181 | 100.0 | 110 | 100.0 | 13 | 100.0 | 3,264 | 100.0 |
| Private | | | | | | | | | | | | |
| 31 | 7 | 77.8 | 286 | 76.3 | 111 | 74.7 | 2,487 | 64.7 | 415 | 60.3 | 1,949 | 92.5 |
| 32 | - | - | - | - | - | - | - | - | - | - | - | - |
| 33 | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | 2 | 22.2 | 89 | 23.7 | 37 | 25.3 | 1,356 | 35.3 | 274 | 39.7 | 159 | 7.5 |
| 36 | - | - | - | - | - | - | - | - | - | - | - | - |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | - | - | - | - | - | - | - | - | - | - | - | - |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 9 | 100.0 | 375 | 100.0 | 148 | 100.0 | 3,843 | 100.0 | 690 | 100.0 | 2,108 | 100.0 |
| Mixed | | | | | | | | | | | | |
| 31 | - | - | - | - | - | - | - | - | - | - | - | - |
| 32 | - | - | - | - | - | - | - | - | - | - | - | - |
| 33 | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | - | - | - | - | - | - | - | - | - | - | - | - |
| 36 | - | - | - | - | - | - | - | - | - | - | - | - |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | - | - | - | - | - | - | - | - | - | - | - | - |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | - | - | - | - | - | - | - | - | - | - | - | - |

Source: Government of Sudan The Industrial Survey 1981/82

Table 3.24: The Structure of the Manufacturing Sector in Kordofan Region, 1981/82

| Sectors | <u>No. of est.</u> | | <u>No. of empl.</u> | | <u>Wages/salaries</u> | | <u>Gross output</u> | | <u>Gross value add.</u> | | <u>Capital</u> | |
|---|--------------------|----------|---------------------|----------|-----------------------|----------|---------------------|----------|-------------------------|----------|----------------|----------|
| | <u>No.</u> | <u>%</u> | <u>No.</u> | <u>%</u> | <u>Value</u> | <u>%</u> | <u>Value</u> | <u>%</u> | <u>Value</u> | <u>%</u> | <u>Value</u> | <u>%</u> |
| <u>All establishments</u> | | | | | | | | | | | | |
| 31 | 833 | 91.0 | 5,827 | 70.6 | 3,107 | 58.5 | 53,879 | 91.2 | 14,852 | 87.9 | 21,128 | 81.3 |
| 32 | 2 | 0.2 | 1,714 | 20.8 | 1,810 | 34.1 | 1,062 | 1.8 | 93 | 0.6 | 3,634 | 14.0 |
| 33 | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | 3 | 0.3 | 35 | 0.4 | 23 | 0.4 | 193 | 0.3 | 116 | 0.7 | 294 | 1.1 |
| 35 | 4 | 0.4 | 44 | 0.5 | 30 | 0.6 | 1,595 | 2.7 | 891 | 5.3 | 271 | 1.0 |
| 36 | 5 | 0.6 | 68 | 0.8 | 30 | 0.6 | 348 | 0.6 | 161 | 0.9 | 116 | 0.5 |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | 68 | 7.5 | 573 | 6.9 | 308 | 5.8 | 1,996 | 3.4 | 773 | 4.6 | 534 | 2.1 |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 915 | 100.0 | 8,261 | 100.0 | 5,308 | 100.0 | 59,073 | 100.0 | 16,886 | 100.0 | 25,977 | 100.0 |
| <u>Small establishments</u> (<u>< 25 empl.</u>) | | | | | | | | | | | | |
| 31 | 813 | 91.1 | 4,822 | 87.6 | 2,307 | 86.1 | 32,406 | 88.8 | 12,182 | 86.5 | 15,470 | 92.7 |
| 32 | - | - | - | - | - | - | - | - | - | - | - | - |
| 33 | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | 3 | 0.3 | 35 | 0.6 | 23 | 0.9 | 193 | 0.5 | 116 | 0.8 | 294 | 1.8 |
| 35 | 4 | 0.5 | 44 | 0.8 | 30 | 1.1 | 1,595 | 4.4 | 891 | 6.3 | 271 | 1.6 |
| 36 | 5 | 0.6 | 68 | 1.2 | 30 | 1.1 | 348 | 1.0 | 161 | 1.1 | 116 | 0.7 |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | 67 | 7.5 | 538 | 9.8 | 288 | 10.8 | 1,953 | 5.3 | 740 | 5.3 | 534 | 3.2 |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 892 | 100.0 | 5,507 | 100.0 | 2,678 | 100.0 | 36,495 | 100.0 | 14,090 | 100.0 | 16,685 | 100.0 |
| <u>Large establishments</u> (<u>≥ 25 empl.</u>) | | | | | | | | | | | | |
| 31 | 20 | 87.0 | 1,005 | 36.5 | 800 | 30.4 | 21,473 | 95.1 | 2,670 | 95.5 | 5,658 | 60.9 |
| 32 | 2 | 8.7 | 1,714 | 62.2 | 1,810 | 68.8 | 1,062 | 4.7 | 93 | 3.3 | 3,634 | 39.1 |
| 33 | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | - | - | - | - | - | - | - | - | - | - | - | - |
| 36 | - | - | - | - | - | - | - | - | - | - | - | - |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | 1 | 4.3 | 35 | 1.3 | 20 | 0.8 | 43 | 0.2 | 33 | 1.2 | n.a. | - |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 23 | 100.0 | 2,754 | 100.0 | 2,630 | 100.0 | 22,578 | 100.0 | 2,796 | 100.0 | 9,292 | 100.0 |

Source: Government of Sudan, The Industrial Survey, 1981/82

Table 3.25: The Structure of the Manufacturing Output by Type of Ownership in Kordofan, 1981/82

| Sectors | No. of est. | | No. of empl. | | Wages/salaries | | Gross output | | Gross value add. | | Capital | |
|----------------|-------------|-------|--------------|-------|----------------|-------|--------------|-------|------------------|-------|---------|-------|
| | No. | % | No. | % | Value | % | Value | % | Value | % | Value | % |
| <u>Public</u> | | | | | | | | | | | | |
| 31 | 1 | 33.3 | 234 | 12.0 | 220 | 10.8 | 460 | 30.2 | 312 | 77.0 | n.a. | n.a. |
| 32 | 2 | 66.7 | 1,714 | 88.0 | 1,810 | 89.2 | 1,062 | 69.8 | 93 | 23.0 | 3,634 | 100.0 |
| 33 | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | - | - | - | - | - | - | - | - | - | - | - | - |
| 36 | - | - | - | - | - | - | - | - | - | - | - | - |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | - | - | - | - | - | - | - | - | - | - | - | - |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 3 | 100.0 | 1,948 | 100.0 | 2,030 | 100.0 | 1,522 | 100.0 | 405 | 100.0 | 3,634 | 100.0 |
| <u>Private</u> | | | | | | | | | | | | |
| 31 | 19 | 95.0 | 771 | 95.7 | 580 | 96.6 | 21,013 | 99.8 | 2,358 | 98.6 | 5,658 | 100.0 |
| 32 | - | - | - | - | - | - | - | - | - | - | - | - |
| 33 | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | - | - | - | - | - | - | - | - | - | - | - | - |
| 36 | - | - | - | - | - | - | - | - | - | - | - | - |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | 1 | 5.0 | 35 | 4.3 | 20 | 3.4 | 43 | 0.2 | 33 | 1.4 | n.a. | n.a. |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 20 | 100.0 | 806 | 100.0 | 601 | 100.0 | 21,056 | 100.0 | 2,391 | 100.0 | 5,658 | 100.0 |
| <u>Mixed</u> | | | | | | | | | | | | |
| 31 | - | - | - | - | - | - | - | - | - | - | - | - |
| 32 | - | - | - | - | - | - | - | - | - | - | - | - |
| 33 | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | - | - | - | - | - | - | - | - | - | - | - | - |
| 36 | - | - | - | - | - | - | - | - | - | - | - | - |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | - | - | - | - | - | - | - | - | - | - | - | - |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | - | - | - | - | - | - | - | - | - | - | - | - |

Source: Government of Sudan. The Industrial Survey, 1981/82

Table 3.26 The Structure of the Manufacturing Sector in Equatoria in 1981/82

| Sectors | No. of est. | | No. of empl. | | Wages/salaries | | Gross output | | Gross value add. | | Capital | |
|---|-------------|-------|--------------|-------|----------------|-------|--------------|-------|------------------|-------|---------|-------|
| | No. | £ | No. | £ | Value | £ | Value | £ | Value | £ | Value | £ |
| <u>All establishments</u> | | | | | | | | | | | | |
| 31 | 5 | 26.3 | 267 | 25.6 | 377 | 37.9 | 4,424 | 79.2 | 1,064 | 91.5 | 1,016 | 21.4 |
| 32 | 6 | 31.6 | 669 | 64.3 | 489 | 49.1 | 1,026 | 18.3 | 42 | 3.6 | 3,602 | 75.9 |
| 33 | 1 | 5.3 | 30 | 2.9 | 55 | 5.5 | 9 | 0.2 | 5 | 0.4 | n.a. | n.a. |
| 34 | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | - | - | - | - | - | - | - | - | - | - | - | - |
| 36 | - | - | - | - | - | - | - | - | - | - | - | - |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | 7 | 36.8 | 75 | 7.2 | 74 | 7.4 | 126 | 2.3 | 52 | 4.5 | 128 | 2.7 |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 19 | 100.0 | 1,041 | 100.0 | 995 | 100.0 | 5,586 | 100.0 | 1,163 | 100.0 | 4,746 | 100.0 |
| <u>Small establishments (< 25 empl.)</u> | | | | | | | | | | | | |
| 31 | 3 | 23.1 | 53 | 27.5 | 22 | 17.3 | 131 | 14.9 | 26 | 8.1 | 106 | 30.3 |
| 32 | 3 | 23.1 | 65 | 33.7 | 33 | 25.8 | 620 | 70.6 | 244 | 75.9 | 116 | 33.1 |
| 33 | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | - | - | - | - | - | - | - | - | - | - | - | - |
| 36 | - | - | - | - | - | - | - | - | - | - | - | - |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | 7 | 53.8 | 75 | 38.9 | 74 | 56.9 | 126 | 14.4 | 52 | 16.1 | 128 | 36.6 |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 13 | 100.0 | 193 | 100.0 | 129 | 100.0 | 878 | 100.0 | 322 | 100.0 | 350 | 100.0 |
| <u>Large establishments (≥ 25 empl.)</u> | | | | | | | | | | | | |
| 31 | 2 | 33.3 | 214 | 25.2 | 355 | 41.0 | 4,293 | 91.2 | 1,038 | 123.4 | 910 | 20.7 |
| 32 | 3 | 50.0 | 604 | 71.2 | 456 | 52.7 | 406 | 8.6 | -202 | -24.0 | 3,486 | 79.3 |
| 33 | 1 | 16.7 | 30 | 3.5 | 55 | 6.3 | 9 | 0.2 | 5 | 0.6 | n.a. | n.a. |
| 34 | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | - | - | - | - | - | - | - | - | - | - | - | - |
| 36 | - | - | - | - | - | - | - | - | - | - | - | - |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | - | - | - | - | - | - | - | - | - | - | - | - |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 6 | 100.0 | 848 | 100.0 | 866 | 100.0 | 4,708 | 100.0 | 841 | 100.0 | 4,396 | 100.0 |

Source: Government of Sudan, The Industrial Survey, 1981/82

Table 3.27: The Structure of the Manufacturing Output by Type of Ownership in Equatoria, 1981/82

| Sector | No. of est. | | No. of empl. | | Wages/salaries | | Gross output | | Gross value add. | | Capital | |
|----------------|-------------|-------|--------------|-------|----------------|-------|--------------|-------|------------------|-------|---------|-------|
| | No. | % | No. | % | Value | % | Value | % | Value | % | Value | % |
| <u>Public</u> | | | | | | | | | | | | |
| 31 | - | - | - | - | - | - | - | - | - | - | - | - |
| 32 | 3 | 75.0 | 604 | 95.3 | 456 | 89.2 | 406 | 97.8 | 202 | 102.5 | 3,486 | 100.0 |
| 33 | 1 | 25.0 | 30 | 4.7 | 55 | 10.8 | 9 | 2.2 | 5 | 2.5 | n.a. | n.a. |
| 34 | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | - | - | - | - | - | - | - | - | - | - | - | - |
| 36 | - | - | - | - | - | - | - | - | - | - | - | - |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | - | - | - | - | - | - | - | - | - | - | - | - |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 4 | 100.0 | 634 | 100.0 | 511 | 100.0 | 415 | 100.0 | 197 | 100.0 | 3,486 | 100.0 |
| <u>Private</u> | | | | | | | | | | | | |
| 31 | 2 | 100.0 | 214 | 100.0 | 355 | 100.0 | 4,293 | 100.0 | 1,038 | 100.0 | 910 | 100.0 |
| 32 | - | - | - | - | - | - | - | - | - | - | - | - |
| 33 | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | - | - | - | - | - | - | - | - | - | - | - | - |
| 36 | - | - | - | - | - | - | - | - | - | - | - | - |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | - | - | - | - | - | - | - | - | - | - | - | - |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 2 | 100.0 | 214 | 100.0 | 355 | 100.0 | 4,293 | 100.0 | 1,038 | 100.0 | 910 | 100.0 |
| <u>Mixed</u> | | | | | | | | | | | | |
| 31 | - | - | - | - | - | - | - | - | - | - | - | - |
| 32 | - | - | - | - | - | - | - | - | - | - | - | - |
| 33 | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | - | - | - | - | - | - | - | - | - | - | - | - |
| 36 | - | - | - | - | - | - | - | - | - | - | - | - |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | - | - | - | - | - | - | - | - | - | - | - | - |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | - | - | - | - | - | - | - | - | - | - | - | - |

Source: Government of Sudan. The Industrial Survey, 1981/82

Table 3.28: Performance Indices in the Manufacturing Sector of Sudan by Size, 1981/82

| Sector | Small establishments (25 emp.) | | | | | | Large establishments (25 emp.) | | | | | | Total | | | | | |
|--------|---------------------------------|-----------|----------|-----------|----------|------------|---------------------------------|-----------|----------|-----------|----------|------------|-----------|-----------|----------|-----------|----------|------------|
| | GVA GO | GO EMP | K EMP | GVA NO | W EMP | GVA-W K | GVA GO | GO EMP | K EMP | GVA NO | W EMP | GVA-W K | GVA GO | GO EMP | K EMP | GVA NO | W EMP | GVA-W K |
| 31 | 0.558 | 16.479 | 4.294 | 46.714 | 0.860 | 1.941 | 0.028 | 11.019 | 8.948 | 1249.44 | 0.859 | 0.247 | 0.387 | 1.208 | 7.540 | 81.143 | 0.857 | 0.533 |
| 32 | 0.444 | 12.057 | 7.440 | 68.390 | 0.798 | 0.612 | 0.219 | 3.428 | 6.610 | 336.770 | 1.282 | (0.081) | 0.244 | 3.726 | 6.639 | 187.014 | 1.266 | (0.054) |
| 33 | 0.554 | 5.705 | 9.217 | 26.809 | 1.484 | 0.182 | 0.418 | 3.962 | 2.280 | 85.89 | 0.870 | 0.162 | 0.530 | 4.886 | 7.147 | 29.73 | 1.30 | 0.180 |
| 34 | 0.251 | 4.075 | 6.074 | 10.571 | 1.141 | (0.02) | 0.281 | 8.403 | 2.858 | 405.15 | 1.593 | 0.270 | 0.278 | 7.587 | 3.464 | 91.93 | 1.508 | 0.174 |
| 35 | 0.115 | 24.656 | 7.115 | 50.710 | 0.942 | 0.267 | 0.283 | 26.471 | 25.670 | 627.16 | 2.574 | 0.191 | 0.246 | 26.052 | 21.386 | 290.093 | 2.197 | 0.191 |
| 36 | 0.467 | 3.841 | 3.311 | 54.368 | 0.372 | 0.430 | 0.322 | 7.539 | 8.966 | 500.15 | 1.320 | 0.123 | 0.363 | 5.933 | 6.510 | 125.914 | 0.908 | 0.218 |
| 37 | 0.440 | 2.484 | 5.422 | 17.500 | 0.766 | 0.061 | 0.416 | 24.142 | 3.369 | 894.13 | 1.990 | 2.386 | 0.416 | 22.357 | 3.538 | 601.920 | 1.893 | 2.092 |
| 38 | 0.535 | 5.317 | 2.570 | 22.316 | 1.275 | 0.611 | 0.327 | 12.901 | 6.707 | 548.264 | 1.794 | 0.362 | 0.408 | 8.387 | 4.244 | 43.255 | 1.485 | 0.456 |
| 39 | - | - | - | - | - | - | 0.049 | 17.922 | 5.668 | 168.500 | 1.442 | (0.099) | 0.049 | 17.922 | 5.668 | 168.500 | 1.442 | (0.099) |
| TOTAL | 0.525 | 13.344 | 4.350 | 42.989 | 0.926 | 1.407 | 0.278 | 9.613 | 8.611 | 811.091 | 1.121 | 0.181 | 0.362 | 10.630 | 7.443 | 82.423 | 1.068 | 0.375 |

Source: Calculations based on the Industrial Survey, 1981/82

Table 3.29: Performance Indices in the Manufacturing of Sudan by Type of Ownership, 1981/82

| Sector | Public | | | | | | Private | | | | | | Mixed | | | | | |
|--------|-----------|-----------|----------|-----------|----------|------------|-----------|-----------|----------|-----------|----------|------------|-----------|-----------|----------|-----------|----------|------------|
| | GVA GO | GO EMP | K EMP | GVA NO | W EMP | GVA-W K | GVA GO | GO EMP | K EMP | GVA NO | W EMP | GVA-W K | GVA GO | GO EMP | K EMP | GVA NO | W EMP | GVA-W K |
| 31 | 0.26 | 3.008 | 4.906 | 737.73 | 1.044 | -0.056 | 0.24 | 33.459 | 12.080 | 948.30 | 1.390 | 0.548 | 0.48 | 3.421 | 9.225 | 17159.7 | 0.507 | 0.123 |
| 32 | 0.220 | 2.011 | 5.745 | 229.22 | 0.851 | -0.070 | 0.195 | 3.840 | 7.509 | 303.902 | 1.461 | -0.096 | 0.347 | 8.704 | 1.268 | 1978.500 | 2.059 | 0.759 |
| 33 | 0.58 | 1.98 | 1.56 | 102.60 | 0.82 | 0.210 | 0.27 | 5.49 | 4.14 | 65.25 | 1.00 | 0.12 | - | - | - | - | - | - |
| 34 | 0.50 | 5.96 | 1.20 | 1051.00 | 1.52 | 1.23 | 0.11 | 12.27 | 5.770 | 128.360 | 1.71 | -0.065 | - | - | - | - | - | - |
| 35 | 0.47 | 6.34 | 0.06 | 2.53 | 0.96 | 34.20 | 0.28 | 26.896 | 26.212 | 634.958 | 2.608 | 0.190 | - | - | - | - | - | - |
| 36 | 0.42 | 12.46 | 1.44 | 4487.00 | 2.15 | 2.10 | 0.20 | 4.18 | 13.9 | 96.64 | 0.94 | -0.01 | 0.23 | 7.40 | 9.58 | 952.00 | 0.88 | 0.08 |
| 37 | 0.356 | 1.131 | 0.882 | 89.00 | 1.557 | -1.308 | 0.416 | 34.478 | 4.484 | 1009.142 | 2.191 | 2.714 | - | - | - | - | - | - |
| 38 | 0.36 | 42.844 | 2.519 | 1042.50 | 2.948 | 4.962 | 0.328 | 12.260 | 6.669 | 524.710 | 1.733 | 0.344 | 0.266 | 5.543 | 10.365 | 290.00 | 2.254 | -0.075 |
| 39 | 3.192 | 0.520 | 3.625 | 332.00 | 1.665 | -0.917 | 0.099 | 37.049 | 7.912 | 669.00 | 1.198 | 0.313 | - | - | - | - | - | - |
| TOTAL | 0.308 | 3.346 | 4.677 | 571.86 | 1.064 | -0.007 | 0.247 | 18.044 | 10.848 | 676.472 | 1.563 | 0.267 | 0.457 | 3.708 | 8.927 | 8096.857 | 0.585 | 0.124 |

Source: Calculations Based on the Industrial Survey 1981/82.

Table 3.30: Manufacturing Performance: A Regional Perspective
1981/82

| | <u>GVA/GO</u> | <u>GO/EMP.</u> | <u>K/EMP.</u> | <u>GVA/NO</u> | <u>W/EMP.</u> | <u>(GVA-W)/K</u> |
|-------------|---------------|----------------|---------------|---------------|---------------|------------------|
| Khartoum | 0.265 | 12.160 | 6.208 | 82.977 | 1.485 | 0.279 |
| Central | 0.420 | 8.646 | 8.389 | 131.506 | 0.793 | 0.338 |
| Eastern | 0.487 | 18.876 | 13.609 | 151.476 | 1.281 | 0.581 |
| Northern | 0.498 | 8.433 | 2.186 | 21.984 | 1.069 | 1.434 |
| Darfur | 0.256 | 3.139 | 3.066 | 17.063 | 0.464 | 0.528 |
| Kordofan | 0.286 | 7.151 | 3.145 | 18.455 | 0.643 | 0.446 |
| Equatoria | 0.208 | 5.366 | 4.559 | 61.211 | 0.957 | 0.035 |
| SIDAN TOTAL | 0.363 | 10.630 | 7.443 | 82.423 | 1.068 | 0.374 |

Source: Based on Calculations using data in the Industrial Survey, 1981/82

Table 3.31: Performance Indices in the Manufacturing Sector by Size in Khartoum Region, 1981/82

| Size Sector | Small establishments (< 25 emp.) | | | | | | Large establishments (≥ 25 emp.) | | | | | | Total | | | | | |
|----------------|----------------------------------|-----------|----------|-----------|----------|------------|----------------------------------|-----------|----------|-----------|----------|------------|-----------|-----------|----------|-----------|----------|------------|
| | GVA GO | GO EMP | K EMP | GVA NO | W EMP | GVA-W K | GVA GO | GO EMP | K EMP | GVA NO | W EMP | GVA-W K | GVA GO | GO EMP | K EMP | GVA NO | W EMP | GVA-W K |
| 31 | 0.27 | 13.904 | 8.558 | 22.4 | 1.408 | 0.276 | 0.25 | 24.94 | 6.419 | 858.6 | 1.280 | 0.782 | 0.258 | 20.589 | 7.263 | 74.785 | 1.331 | 0.547 |
| 32 | 0.45 | 12.973 | 7.824 | 74.4 | 0.815 | 0.639 | 0.278 | 3.42 | 5.285 | 368.9 | 1.563 | (0.116) | 0.311 | 4.003 | 5.439 | 173.524 | 1.517 | (0.059) |
| 33 | 0.58 | 7.355 | 13.324 | 38.1 | 1.779 | 0.188 | 0.27 | 5.48 | 4.137 | 65.3 | 1.000 | 0.118 | 0.55 | 7.07 | 11.917 | 35.01 | 1.660 | 0.184 |
| 34 | 0.19 | 4.176 | 6.568 | 8.2 | 1.150 | (0.053) | 0.28 | 8.40 | 2.858 | 405.2 | 1.592 | 0.269 | 0.27 | 7.746 | 3.434 | 104.987 | 1.524 | 0.174 |
| 35 | 0.09 | 25.755 | 6.853 | 41.3 | 0.840 | 0.201 | 0.20 | 22.86 | 6.468 | 352.9 | 2.136 | 0.370 | 0.168 | 23.576 | 6.563 | 173.010 | 1.818 | 0.327 |
| 36 | 0.48 | 3.779 | 3.585 | 79.1 | 0.379 | 0.396 | 0.16 | 4.2 | 15.801 | 83.7 | 0.952 | (0.016) | 0.34 | 3.953 | 8.420 | 80.0 | 0.606 | 0.089 |
| 37 | 0.13 | 2.714 | 17.857 | 5.0 | 0.785 | (0.024) | 0.10 | 16.04 | 2.631 | 179.8 | 2.001 | (0.154) | 0.100 | 15.715 | 3.000 | 150.7 | 1.972 | (0.136) |
| 38 | 0.47 | 7.136 | 3.530 | 28.6 | 1.812 | 0.430 | 0.33 | 12.067 | 6.785 | 530.0 | 1.774 | 0.319 | 0.37 | 9.970 | 5.401 | 68.4 | 1.790 | 0.350 |
| 39 | - | - | - | - | - | - | (3.22) | 0.520 | 3.625 | (332) | 1.665 | (0.904) | (3.19) | 0.52 | 3.625 | (332) | 1.665 | (0.917) |
| W.A. | 0.30 | 11.187 | 6.969 | 28.1 | 1.311 | 0.293 | 0.252 | 12.554 | 5.889 | 523.52 | 1.554 | 0.272 | 0.264 | 12.160 | 6.208 | 82.977 | 1.484 | 0.279 |

Source: Based on Calculations Using Data from the Industrial Survey, 1981/82

Table 3.32: Performance Indices for the Manufacturing Sector by Ownership in Khartoum 1980/81

| Sector | Public | | | | | | Private | | | | | | Mixed | | | | | |
|--------|-----------|-----------|----------|-----------|----------|------------|-----------|-----------|----------|-----------|----------|------------|-----------|-----------|----------|-----------|----------|------------|
| | GVA GO | GO EMP | K EMP | GVA NO | W EMP | GVA-W K | GVA GO | GO EMP | K EMP | GVA NO | W EMP | GVA-W K | GVA GO | GO EMP | K EMP | GVA NO | W EMP | GVA-W K |
| 31 | 0.24 | 7.067 | 0.772 | 464.0 | 1.281 | 0.606 | 0.25 | 28.318 | 7.506 | 896.3 | 1.262 | 0.785 | 0.29 | 11.202 | 1.503 | 459.0 | 2.183 | 0.717 |
| 32 | 0.30 | 3.710 | 2.691 | 363.3 | 1.426 | (.144) | 0.25 | 2.761 | 5.990 | 258.4 | 1.518 | (0.138) | 0.347 | 8.703 | 1.268 | 1978.5 | 2.059 | 0.759 |
| 33 | - | - | - | - | - | - | 0.27 | 5.485 | 4.137 | 65.3 | 1.000 | 0.118 | - | - | - | - | - | - |
| 34 | 0.50 | 5.956 | 1.203 | 1051.0 | 1.518 | 1.233 | 0.11 | 12.270 | 5.473 | 128.4 | 1.710 | (0.065) | - | - | - | - | - | - |
| 35 | 0.47 | 6.347 | 0.058 | 253.0 | 0.964 | 34.2 | 0.20 | 23.318 | 6.643 | 355.4 | 2.168 | 0.361 | - | - | - | - | - | - |
| 36 | - | - | - | - | - | - | 0.16 | 4.219 | 15.801 | 83.7 | 0.952 | (0.016) | - | - | - | - | - | - |
| 37 | 0.36 | 1.131 | 0.881 | 89 | 1.556 | (1.307) | 0.09 | 25.641 | 3.752 | 202.5 | 2.288 | 0.019 | - | - | - | - | - | - |
| 38 | 0.52 | 4.862 | 0.931 | 73 | 2.275 | 0.259 | 0.33 | 12.446 | 6.649 | 554.0 | 1.746 | 0.350 | 0.27 | 5.543 | 10.365 | 290.0 | 2.253 | (0.075) |
| 39 | (3.22) | 0.520 | 3.625 | (332) | 1.665 | (0.917) | - | - | - | - | - | - | - | - | - | - | - | - |
| W.A. | 0.37 | 5.382 | 1.427 | 544.4 | 1.438 | 0.38 | 0.24 | 14.026 | 6.877 | 507.7 | 1.543 | 0.267 | 0.334 | 8.558 | 2.370 | 1186.5 | 2.094 | 0.323 |

Source: Based on Calculations using Data from the Industrial Survey 1981/82.

Table 3.33: Performance Indices for the Manufacturing Sector in Central Region, 1981/82

| Sector | Small establishments (< 25 emp.) | | | | | | Large establishments (≥ 25 emp.) | | | | | | Total | | | | | |
|--------|----------------------------------|-----------|----------|-----------|----------|------------|----------------------------------|-----------|----------|-----------|----------|------------|-----------|-----------|----------|-----------|----------|------------|
| | GVA GO | GO EMP | K EMP | GVA NO | W EMP | GVA-W K | GVA GO | GO EMP | K EMP | GVA NO | W EMP | GVA-W K | GVA GO | GO EMP | K EMP | GVA NO | W EMP | GVA-W K |
| 31 | 0.603 | 24.296 | 3.535 | 77.056 | 0.959 | 3.87 | 0.348 | 6.967 | 9.919 | 3325.625 | 0.701 | 0.173 | 0.446 | 9.609 | 8.945 | 144.823 | 0.741 | 0.396 |
| 32 | 0.275 | 2.190 | 8.048 | 5.429 | 0.841 | (0.03) | 0.167 | 3.994 | 6.548 | 468.714 | 1.027 | (0.355) | 0.167 | 3.982 | 6.558 | 314.286 | 1.026 | (0.055) |
| 33 | 0.175 | 3.110 | 1.445 | 3.167 | 0.670 | (0.086) | 0.578 | 2.098 | 1.668 | 127.00 | 0.747 | 0.279 | 0.407 | 2.435 | 1.594 | 15.550 | 0.721 | 0.169 |
| 34 | 0.338 | 6.500 | 6.967 | 16.500 | 0.667 | 0.220 | - | - | - | - | - | - | 0.338 | 6.500 | 6.967 | 16.500 | 0.667 | 0.220 |
| 35 | (4.071) | 3.767 | 15.000 | (30.0) | 6.000 | (1.422) | 0.244 | 18.207 | 3.195 | 193.000 | 2.322 | 0.662 | (0.044) | 14.504 | 6.222 | (18.500) | 3.265 | (0.626) |
| 36 | 0.404 | 4.311 | 1.615 | 22.368 | 0.176 | 0.970 | 0.247 | 7.271 | 2.53 | 570.500 | 0.942 | 0.1 | 0.276 | 6.449 | 6.614 | 74.571 | 0.729 | (0.159) |
| 37 | 0.505 | 3.233 | 2.700 | 24.500 | 0.733 | 0.333 | - | - | - | - | - | - | 0.505 | 3.233 | 2.700 | 24.500 | 0.733 | 0.333 |
| 38 | 0.597 | 4.747 | 3.322 | 16.377 | 0.900 | 0.582 | 0.352 | 7.045 | 11.299 | 166.000 | 1.537 | 0.083 | 0.572 | 4.908 | 3.881 | 17.342 | 0.945 | 0.480 |
| 39 | - | - | - | - | - | - | 0.099 | 37.04 | 7.912 | 669.00 | 1.198 | 0.313 | 0.099 | 33.04 | 7.912 | 669.00 | 1.198 | 0.313 |
| W.A. | 0.597 | 21.119 | 3.494 | 68.652 | 0.940 | 3.338 | 0.322 | 6.52 | 9.224 | 2068.80 | 0.768 | 0.144 | 0.420 | 8.646 | 8.389 | 131.506 | 0.793 | 0.338 |

Source: Based on Calculations using Data from the Industrial Survey 1981/82.

Table 3.34: Performance Indices for the Manufacturing Sector by Ownership in Central Region, 1980/81

| Sector | Public | | | | | | Private | | | | | | Mixed | | | | | |
|--------|------------------|------------------|-----------------|------------------|-----------------|-------------------|------------------|------------------|-----------------|------------------|-----------------|-------------------|------------------|------------------|-----------------|------------------|-----------------|-------------------|
| | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ |
| 31 | 0.136 | 2.623 | 7.635 | 771.00 | 0.894 | (0.071) | 0.294 | 43.723 | 19.818 | 2013.692 | 1.842 | 0.557 | 0.483 | 3.383 | 9.268 | 25490.0 | 0.499 | 0.123 |
| 32 | 0.233 | 2.432 | 7.070 | 413.714 | 0.714 | (0.021) | 0.137 | 5.685 | 5.982 | 523.714 | 1.367 | (0.099) | - | - | - | - | - | - |
| 33 | 0.578 | 2.098 | 1.666 | 127.00 | 0.747 | 0.279 | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | - | - | - | - | - | - | 0.244 | 18.206 | 3.195 | 193.00 | 2.322 | 0.662 | - | - | - | - | - | - |
| 36 | - | - | - | - | - | - | 0.442 | 6.203 | - | 189.00 | 1.464 | - | 0.227 | 7.401 | 9.578 | 952.00 | 0.878 | 0.084 |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | - | - | - | - | - | - | 0.351 | 7.045 | 11.299 | 166.00 | 1.537 | 0.083 | - | - | - | - | - | - |
| 39 | - | - | - | - | - | - | 0.099 | 37.050 | 7.912 | 669.00 | 1.198 | 0.313 | - | - | - | - | - | - |
| W.A. | 0.180 | 2.539 | 7.256 | 432.533 | 0.825 | (0.051) | 0.269 | 23.262 | 12.108 | 1511.368 | 1.584 | 0.382 | 0.473 | 3.455 | 9.269 | 17311.00 | 0.506 | 0.122 |

Source: Based on Calculations using Data from the Industrial Survey 1981/82.

Table 3.35: Performance Indices for the Manufacturing Sector in the Eastern Region, 1981/82

| Sector | Small establishments (< 25 emp.) | | | | | | Large establishments (≥ 25 emp.) | | | | | | Total | | | | | |
|--------|----------------------------------|------------------|-----------------|------------------|-----------------|-------------------|----------------------------------|------------------|-----------------|------------------|-----------------|-------------------|------------------|------------------|-----------------|------------------|-----------------|-------------------|
| | $\frac{GVA}{OO}$ | $\frac{OO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ | $\frac{GVA}{OO}$ | $\frac{OO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ | $\frac{GVA}{OO}$ | $\frac{OO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ |
| 31 | 0.88 | 28.87 | 3.24 | 120.48 | 0.40 | 7.76 | 0.18 | 17.82 | 7.36 | 1084.11 | 1.35 | 0.26 | 0.48 | 21.30 | 6.06 | 149.06 | 1.05 | 1.52 |
| 32 | - | - | - | - | - | - | 0.19 | 4.67 | 23.25 | 324.5 | 1.12 | (0.01) | 0.19 | 4.67 | 23.25 | 324.5 | 1.12 | (0.01) |
| 33 | 0.82 | 1.14 | 0.33 | 14.13 | 0.98 | (0.13) | - | - | - | - | - | - | 0.82 | 1.14 | 0.33 | 4.13 | 0.98 | (0.13) |
| 34 | 0.60 | 2.28 | 1.93 | 20.00 | 1.52 | (0.07) | - | - | - | - | - | - | 0.60 | 2.28 | 1.93 | 20.00 | 1.52 | (0.07) |
| 35 | 0.34 | 14.27 | 17.78 | 59.33 | 0.73 | 0.23 | 0.50 | 48.10 | 132.88 | 7647.5 | 5.34 | 0.14 | 0.50 | 46.22 | 126.50 | 3094.6 | 5.09 | 0.14 |
| 36 | 0.53 | 2.49 | 5.22 | 19.5 | 0.64 | 0.3 | 0.69 | 2.06 | 1.11 | 121.00 | 0.42 | 0.90 | 0.62 | 2.3 | 2.87 | 39.8 | 0.53 | 0.31 |
| 37 | 0.66 | 1.20 | 0.85 | 16.00 | 0.75 | 0.06 | 0.77 | 54.82 | 6.16 | 2084.66 | 1.96 | 6.49 | 0.77 | 48.47 | 5.53 | 1567.5 | 1.82 | 6.38 |
| 38 | 0.88 | 1.61 | 0.83 | 12.58 | 0.94 | 0.58 | 0.36 | 53.24 | 2.9 | 2012.00 | 3.14 | 5.38 | 0.49 | 6.01 | 1.01 | 27.96 | 1.13 | 1.78 |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| W.A. | 0.88 | 19.07 | 2.56 | 97.86 | 0.61 | 6.31 | 0.28 | 18.77 | 19.3 | 1534.28 | 1.63 | 0.19 | 0.49 | 18.88 | 13.609 | 151.45 | 1.28 | 0.581 |

Source: Based on Calculations Using Data from the Industrial Survey, 1981/82

Table 3.36: Performance Indices for the Manufacturing Sector by Ownership in the Eastern Region 1980/81

| SECTOR | OWNERSHIP | | | PUBLIC | | | | | | PRIVATE | | | | MIXED | | | | |
|---------|------------------|------------------|-----------------|------------------|-----------------|-------------------|------------------|------------------|-----------------|------------------|-----------------|-------------------|------------------|------------------|-----------------|------------------|-----------------|-------------------|
| | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ |
| 31 | 0.54 | 2.78 | 0.67 | 2625.50 | 1.33 | 0.25 | 0.15 | 38.67 | 16.65 | 891.44 | 1.37 | 0.26 | - | - | - | - | - | - |
| 32 | 0.41 | 0.62 | 3.96 | 87.00 | 0.41 | (0.04) | 0.19 | 5.94 | 29.52 | 403.67 | 1.34 | (0.01) | - | - | - | - | - | - |
| 33 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | - | - | - | - | - | - | 0.50 | 48.10 | 132.88 | 7647.50 | 5.34 | 0.14 | - | - | - | - | - | - |
| 36 | - | - | - | - | - | - | 0.69 | 2.06 | 1.11 | 121.00 | 0.42 | 0.90 | - | - | - | - | - | - |
| 37 | - | - | - | - | - | - | 0.77 | 54.8 | 6.16 | 2084.66 | 1.97 | 6.49 | - | - | - | - | - | - |
| 38 | 0.36 | 53.24 | 2.94 | 2012.00 | 3.14 | 5.38 | - | - | - | - | - | - | - | - | - | - | - | - |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Average | 0.47 | 3.94 | 1.02 | 1837.75 | 1.30 | 0.55 | 0.26 | 31.83 | 35.42 | 1485.72 | 1.92 | 0.18 | - | - | - | - | - | - |

Source: Based of Calculations Using Data from the Industrial Survey, 1981/82.

Table 3.37: Performance Indices in the Manufacturing Sector by Size in the Northern Region, 1981/82

| Sector | <u>Small establishments (< 25 emp.)</u> | | | | | | <u>Large establishments (≥ 25 emp.)</u> | | | | | | <u>Total</u> | | | | | |
|--------|--|------------------|-----------------|------------------|-----------------|-------------------|---|------------------|-----------------|------------------|-----------------|-------------------|------------------|------------------|-----------------|------------------|-----------------|-------------------|
| | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ |
| 31 | 0.667 | 8.300 | 1.558 | 16.300 | 0.764 | 3.061 | 0.054 | 5.903 | 2.139 | 55.000 | 1.007 | (0.322) | 0.565 | 7.777 | 1.685 | 16.483 | 0.817 | 2.124 |
| 32 | - | - | - | - | - | - | 0.190 | 2.898 | 7.441 | 79.000 | 0.842 | (0.039) | 0.190 | 2.898 | 7.441 | 79.00 | 0.842 | (0.039) |
| 33 | 0.463 | 6.750 | 5.063 | 12.500 | 1.625 | 0.296 | - | - | - | - | - | - | 0.463 | 6.750 | 5.063 | 12.500 | 1.625 | 0.296 |
| 34 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | - | - | - | - | - | - | 0.132 | 22.452 | 3.962 | 155.000 | 1.260 | 0.434 | 0.132 | 22.452 | 3.962 | 155.000 | 1.260 | 0.434 |
| 36 | 0.571 | 2.722 | 0.611 | 14.000 | 1.222 | 0.545 | 0.415 | 12.455 | 1.436 | 4487.00 | 2.149 | 2.103 | 0.416 | 12.257 | 1.420 | 1505.00 | 2.130 | 2.089 |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | 0.788 | 7.190 | 0.855 | 20.162 | 0.694 | 5.812 | - | - | - | - | - | - | 0.788 | 7.190 | 0.855 | 20.162 | 0.694 | 5.812 |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| W.A. | 0.673 | 8.141 | 1.551 | 16.531 | 0.776 | 3.033 | 0.284 | 8.822 | 3.030 | 525.40 | 1.459 | 0.347 | 0.498 | 8.434 | 2.186 | 21.985 | 1.069 | 1.434 |

Source: Based on Calculations Using Data from the Industrial Survey, 1981/82

Table 3.38: Performance Indices for the Manufacturing Industry by Ownership in the Northern Region, 1980/81

| OWNERSHIP SECTOR | PUBLIC | | | | | | PRIVATE | | | | | | MIXED | | | | | |
|---------------------|------------------|------------------|-----------------|------------------|-----------------|-------------------|------------------|------------------|-----------------|------------------|-----------------|-------------------|------------------|------------------|-----------------|------------------|-----------------|-------------------|
| | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ |
| 31 | 0.150 | 1.129 | 1.398 | 32.667 | 1.043 | (0.625) | 0.036 | 30.846 | 6.009 | 122.000 | 0.829 | 0.045 | - | - | - | - | - | - |
| 32 | 0.166 | 2.397 | 8.048 | 149.000 | 0.813 | (0.05) | 0.253 | 6.268 | 3.357 | 44.500 | 1.036 | 0.165 | - | - | - | - | - | - |
| 33 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | - | - | - | - | - | - | 0.132 | 22.452 | 3.962 | 155.000 | 1.260 | 0.434 | - | - | - | - | - | - |
| 36 | 0.415 | 12.455 | 1.437 | 4487.000 | 2.100 | 2.902 | - | - | - | - | - | - | - | - | - | - | - | - |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Average | 0.382 | 6.783 | 2.785 | 946.600 | 1.522 | 0.386 | 0.085 | 22.542 | 4.679 | 104.000 | 1.033 | 1.189 | - | - | - | - | - | - |

Source: Based on Calculations Using Data from the Industrial Survey, 1981/82.

Table 3.39: Performance Indices in the Manufacturing Sector by Size in Darfur Region, 1981/82

| Sector | Small establishments (\leq 25emp.) | | | | | | Large establishments (\geq 25 emp.) | | | | | | Total | | | | | |
|--------|---------------------------------------|------------------|-----------------|------------------|-----------------|-------------------|--|------------------|-----------------|------------------|-----------------|-------------------|------------------|------------------|-----------------|------------------|-----------------|-------------------|
| | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ |
| 31 | 0.202 | 8.838 | 1.692 | 11.125 | 0.431 | 0.802 | 0.167 | 8.696 | 6.815 | 59.286 | 0.388 | 0.156 | 0.198 | 8.822 | 2.273 | 12.046 | 0.426 | 0.582 |
| 32 | - | - | - | - | - | - | 0.118 | 0.567 | 16.825 | 13.000 | 0.933 | (0.051) | 0.118 | 0.567 | 16.825 | 13.000 | 0.933 | (0.051) |
| 33 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | 0.240 | 1.786 | 1.786 | 3.000 | 0.643 | (0.120) | - | - | - | - | - | - | 0.240 | 1.786 | 1.786 | 3.000 | 0.643 | (0.120) |
| 35 | 0.433 | 16.613 | 3.163 | 143.750 | 0.600 | 2.083 | 0.202 | 15.23 | 1.787 | 137 | 0.416 | 1.491 | 0.316 | 15.888 | 2.438 | 141.50 | 0.503 | 1.854 |
| 36 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | 0.741 | 4.998 | 1.902 | 48.222 | 0.454 | 1.707 | - | - | - | - | - | - | 0.741 | 4.998 | 1.902 | 48.222 | 0.454 | 1.707 |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| W.A. | 0.269 | 8.381 | 1.769 | 15.738 | 0.441 | 1.025 | 0.178 | 6.947 | 9.441 | 70.2 | 0.578 | 0.069 | 0.256 | 8.138 | 3.066 | 17.063 | 0.464 | 0.528 |

Source: Based on Calculations using Data from the Industrial Survey 1981/82.

Table 3.40: Performance Indices for the Manufacturing Sector by Ownership in Darfur, 1980/81

| OWNERSHIP | PUBLIC | | | | | | PRIVATE | | | | | | MIXED | | | | | |
|-----------|-----------|-----------|----------|-----------|----------|------------|-----------|-----------|----------|-----------|----------|------------|-----------|-----------|----------|-----------|----------|------------|
| | GVA GO | GO EMP | K EMP | GVA NO | W EMP | GVA-W K | GVA GO | GO EMP | K EMP | GVA NO | W EMP | GVA-W K | GVA GO | GO EMP | K EMP | GVA NO | W EMP | GVA-W K |
| 31 | - | - | - | - | - | - | 0.167 | 8.696 | 6.815 | 59.286 | 0.388 | 0.156 | - | - | - | - | - | - |
| 32 | 0.118 | 0.567 | 16.825 | 13.00 | 0.933 | (0.051) | - | - | - | - | - | - | - | - | - | - | - | - |
| 33 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | - | - | - | - | - | - | 0.202 | 15.230 | 1.787 | 137 | 0.416 | 1.491 | - | - | - | - | - | - |
| 36 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Average | 0.118 | 0.567 | 16.825 | 13.00 | 0.933 | (0.051) | 0.180 | 10.248 | 5.621 | 76.667 | 0.395 | 0.257 | - | - | - | - | - | - |

Source: Based on Calculations Using Data from the Industrial Survey, 1981/82.

Table 3.41: Performance Indices for the Manufacturing Sector in Kordofan, 1981/82

| Sector | Small establishments (< 25 emp.) | | | | | | Large establishments (≥ 25 emp.) | | | | | | Total | | | | | |
|--------|----------------------------------|-----------|----------|-----------|----------|------------|----------------------------------|-----------|----------|-----------|----------|------------|-----------|-----------|----------|-----------|----------|------------|
| | GVA OO | OO EMP | K EMP | GVA NO | W EMP | GVA-W K | GVA OO | OO EMP | K EMP | GVA NO | W EMP | GVA-W K | GVA OO | OO EMP | K EMP | GVA NO | W EMP | GVA-W K |
| 31 | 0.376 | 6.720 | 3.2 | 14.984 | 0.478 | 0.64 | 0.124 | 21.366 | 5.629 | 133.5 | 0.796 | 0.331 | 0.276 | 9.246 | 3.626 | 17.829 | 0.533 | 0.556 |
| 32 | - | - | - | - | - | - | 0.088 | 0.619 | 2.120 | 46.5 | 1.056 | (0.472) | 0.088 | 0.619 | 2.120 | 46.5 | 1.056 | (0.472) |
| 33 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | 0.601 | 5.514 | 8.4 | 38.666 | 0.657 | 0.316 | - | - | - | - | - | - | 0.6 | 5.514 | 8.4 | 38.666 | 0.657 | 0.316 |
| 35 | 0.559 | 36.25 | 6.159 | 222.75 | 0.681 | 3.177 | - | - | - | - | - | - | 0.559 | 36.250 | 6.159 | 222.75 | 0.682 | 3.177 |
| 36 | 0.463 | 5.118 | 1.705 | 32.2 | 0.441 | 1.129 | - | - | - | - | - | - | 0.463 | 5.118 | 1.706 | 32.2 | 0.441 | 1.129 |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | 0.379 | 3.630 | 0.993 | 11.045 | 0.535 | 0.840 | 0.767 | 1.228 | - | 33.0 | 0.571 | - | 0.387 | 3.483 | 0.932 | 11.368 | 0.538 | 0.871 |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| W.A. | 0.386 | 6.627 | 3.029 | 15.795 | 0.486 | 0.684 | 0.123 | 8.198 | 3.373 | 121.565 | 0.955 | 0.017 | 0.286 | 7.151 | 3.144 | 18.455 | 0.43 | 0.446 |

Source: Based on Calculations Using Data from the Industrial Survey, 1981/82

Table 3.42: Performance Indices for the Manufacturing Sector by Ownership in Kordofan, 1980/81

| Sector | Public | | | | | | Private | | | | | | Mixed | | | | | |
|--------|------------------|------------------|-----------------|------------------|-----------------|-------------------|------------------|------------------|-----------------|------------------|-----------------|-------------------|------------------|------------------|-----------------|------------------|-----------------|-------------------|
| | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ |
| 31 | 0.678 | 1.966 | - | 312.0 | 0.940 | - | 0.112 | 27.254 | 7.339 | 124.105 | 0.752 | 0.314 | - | - | - | - | - | - |
| 32 | 0.088 | 0.619 | 2.120 | 46.5 | 1.056 | (0.472) | - | - | - | - | - | - | - | - | - | - | - | - |
| 33 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 36 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | - | - | - | - | - | - | 0.767 | 1.229 | - | 33.000 | 0.571 | - | - | - | - | - | - | - |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| W.A. | 0.142 | 0.781 | 1.86 | 168.0 | 1.042 | (0.31) | 0.114 | 26.124 | 7.01 | 119.55 | 0.746 | 0.314 | - | - | - | - | - | - |

Source: Based on Calculations using Data from the Industrial Survey 1981/82.

Table 3.43: Performance Indices in the Manufacturing Sector by Size in Equatoria Region, 1981/82

| Size Sector | Small establishments (< 25 emp.) | | | | | | Large establishments (≥ 25 emp.) | | | | | | Total | | | | | |
|----------------|----------------------------------|------------------|-----------------|------------------|-----------------|-------------------|----------------------------------|------------------|-----------------|------------------|-----------------|-------------------|------------------|------------------|-----------------|------------------|-----------------|-------------------|
| | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ |
| 31 | 0.20 | 2.47 | 2.00 | 8.67 | 0.42 | 0.04 | 0.24 | 20.06 | 4.25 | 519.00 | 1.66 | 0.75 | 0.24 | 16.57 | 3.81 | 212.80 | 1.41 | 0.68 |
| 32 | 0.39 | 9.54 | 1.78 | 81.33 | 0.51 | 1.82 | (0.497) | 0.67 | 5.77 | (67.33) | 0.75 | (0.189) | 0.04 | 1.53 | 5.38 | 7.000 | 0.73 | (0.124) |
| 33 | - | - | - | - | - | - | 0.56 | 0.30 | - | 5.00 | 1.83 | - | 0.56 | 0.30 | - | 5.00 | 1.83 | - |
| 34 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 36 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | 0.41 | 1.68 | 1.71 | 7.43 | 0.99 | (0.172) | - | - | - | - | - | - | 0.41 | 1.68 | 1.71 | 7.43 | 0.99 | (0.172) |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| W.A. | 0.37 | 4.55 | 1.81 | 24.69 | 0.67 | 0.55 | 0.18 | 5.55 | 5.18 | 140.17 | 1.02 | (0.01) | 0.208 | 5.37 | 4.56 | 61.211 | 0.96 | 0.035 |

Source: Based on Calculations Using Data from the Industrial Survey, 1981/82

Table 3.44: Performance Indices in the Manufacturing Sector by Ownership in Equatoria, 1981/82

| Sector | <u>Public</u> | | | | | | <u>Private</u> | | | | | | <u>Mixed</u> | | | | | |
|--------|------------------|------------------|-----------------|------------------|-----------------|-------------------|------------------|------------------|-----------------|------------------|-----------------|-------------------|------------------|------------------|-----------------|------------------|-----------------|-------------------|
| | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ |
| 31 | - | - | - | - | - | - | 0.24 | 20.06 | 4.25 | 519.00 | 1.66 | 0.75 | - | - | - | - | - | - |
| 32 | (0.49) | 0.67 | 5.77 | (-67.3) | 0.75 | (-0.189) | - | - | - | - | - | - | - | - | - | - | - | - |
| 33 | 0.56 | 0.30 | - | 5.00 | 1.83 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 36 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 37 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 39 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | (0.47) | 0.65 | 5.50 | (49.25) | 0.81 | (0.20) | 0.24 | 20.06 | 4.25 | 519.00 | 1.66 | 0.75 | - | - | - | - | - | - |

Source: Based on Calculations using Data from the Industrial Survey 1981/82.

Chapter Four

The Sudanese Manufacturing Sector, Structure and Performance:

A Microeconomic Perspective

4.0 Introduction

The manufacturing activity may be studied from a number of vantage points, each with its own justifications and usefulness. We have so far examined the operations, structure, pattern, and performance of this activity within a macroeconomic perspective and within an aggregative and regional perspective. Manufacturing activity was broken into the major divisions of sectors which were compared and analyzed. But each sector entails a broad spectrum of branches that are fundamentally different from each other with respect to technology, size, scale, and operations. Some of these differences within the sector may be more important than differences between sectors.

The finer the level of disaggregation is the more homogeneous will be the component parts. It is at this level of disaggregation that generalizations about structure and performance are perhaps more precise and meaningful.

In what follows, an attempt is made to study the structure and performance of manufacturing activity in the Sudan in 1981/82 using the Survey results at the branch level within each sector. Only the Sudanese perspective is presented here. A more detailed analysis by branch in each region is being undertaken by the Ministry of Industry staff.

4.1 The Structure and Performance of the Food, Beverages and Tobacco Sector in 1981/82

The food, beverages and tobacco sector is the core sector of Sudanese manufacturing; it dominates all other sectors in almost every technical or economic indicator. More importantly, it is linked directly to the agricultural sector; the mainstay of the Sudanese economy.

4.1.1 Structure

Small scale establishments represent over 97 percent of all establishments in this sector, but contribute less than 30 percent of its total employment, and about 56 percent of its MVA.

Four branches account for most of the activity within the sector. These are: vegetables and animal oils and fats, grain and mill products, bakery, macaroni and noodle products and sugar production and refining.

The sugar industry alone supports about 50 percent of the total employment in the sector, but because of technical problems it did not account but for 13.8 percent of its total MVA. Sugar production is undertaken in five large establishments. The Kenana project is the third largest in the world with a rated capacity of 300 thousand tpa. It is to be noted, however, that Sudan is still a net importer of sugar and four out of the five establishments in the sugar industry are publically owned, where the capacity is still highly under-utilized.

Production of vegetable and animal oils and fats is well spread with over 112 establishments, most of them (70) employ 25 or more workers. The large establishments employ over 90 percent of the labour force in this branch and account for about the same percentage share of its MVA.

The overall importance of this branch within the sector as a whole is rather modest. As is clear from Table 4.1, it represents 2.1 percent of the total number of establishments, 8.8 percent of total employment and 13.4 percent of MVA. Most of the establishments are privately owned (see Table 4.2).

Grain and mill products account for 47.5 percent of all establishments in the food, beverages and tobacco sector, but account for less than 15 percent of its employment. This branch, however, is relatively efficient in generating value added. Its share in the sector's MVA exceeded 33.6 percent in 1981/82.

Characteristically, most of the operations within the grain and mill products are small scale. The smaller establishments generate the bulk of the employment within the sector with a share of about 79 percent in 1981/82. Their share in the total MVA of the branch exceeded 69 percent in the same year. The operations in this branch are exclusively private except for one establishment owned jointly by the private and the public sector.

Bakery, macaroni and noodle products are produced primarily in small establishments. The total branch accounts for 44.2 percent of the total number of establishments within the sector, but explains only 16.4 percent of its total employment. Its share in the sectoral MVA is, however, 28.5 percent.

The small scale establishments within this branch account for almost 99.4 percent of its establishments and about 92 percent of its employment. Again this sector is exclusively privately owned.

Tobacco, cigar and cigarette industry contributes about 4.6 percent of the sectoral MVA, but employs few workers with a share of about one percent. All other branches show weak and limited impact on the manufacturing sector and the economy.

4.1.2 Performance

Structure impinges on performance, but it is the latter that determines the success or failure of an activity.

The performance indices of the food, beverages and tobacco branches are presented in Tables 4.3 and 4.4. The first table presents these indices for small, large and total establishments, whereas Table 4.4 is restricted to large establishments and presents performance indices distinguished by type of ownership.

A large number of conclusions and remarks are drawn from these tables. Below is a brief account of the most important of these:

First, the various branches within this sector generate significant value added per unit of gross output but in varying proportions. The highest degrees of processing are noted in the grain and mill products, tobacco, cigar and cigarettes, and food industries not elsewhere classified. The lowest degrees of processing are associated with dairy products, vegetable and animal oils and fats, and distilled alcoholic drinks. Invariably, small establishments tend to generate more local value added per unit of output than larger enterprises with only minor exceptions. This is the result of the

greater dependence of larger establishments on foreign machinery, technology and raw materials than the small ones. It is also generally the case, that public enterprises in this sector tend to have higher coefficients of the degree of processing.

Second, smaller establishments were more efficient and productive than larger establishments in several branches including canning, bakery, sugar confectionary, food industries n.e.c., and prepared animal food. But larger establishments dominate clearly in vegetable and animal oils and fats, and in grain and mill products.

Third, most operations within this sector are profitable, particularly small scale enterprises in the production of grain and mill products and in bakery, macaroni and noodle production. Public enterprises, because of pricing policies, appear generally unprofitable.

Fourth, capital per worker ratios within the branches vary unsystematically. On average, however, larger enterprises are more adequately tooled.

Fifth, the degree of processing is positively correlated with labour productivity, capital per worker, size of establishment, wages per worker and profitability. The highest positive correlation is 0.638 and this is with profitability. Thus, a greater ratio of value added per unit of output could be expected in this sector, the more profitable its branches are, the more wages they pay and the larger they are.

Sixth, labour productivity depends significantly on capital per worker and branch profitability. The higher the ratio of capital per worker, the higher is labour productivity within this sector. The

correlation coefficient is a positive (0.458) but not overly significant.

Seventh, capital per worker does not correlate highly (0.03) with size in this sector. This is why we claimed that this ratio varies unsystematically within the sector.

Eighth, profitability varies with size. The larger the enterprise within the sector, the higher is the rate of return on fixed assets. This may be indicative of monopoly profits within the sector.

Ninth, private enterprises are more productive and efficient than public enterprises in the large establishments within the sector.

4.2 The Structure and Performance of Textiles, Wearing Apparel and

Leather Products Sector

The textile and leather products sector is another traditional manufacturing sector that plays a major role in the overall manufacturing activity in the Sudan. Therefore, its performance or lack of it would impinge severely and directly on economic activity in the country.

4.2.1 Structure

There are a total of 138 establishments in this sector and they are almost evenly divided between small and large establishments. The number of establishments is, however, a poor indicator of the relative importance of the small versus large establishments. The large establishments account for almost 97 percent of total employment and fixed capital in the sector, and about 80 percent of MVA.

The most prominent branch is spinning, weaving, dying and preparation. This branch alone generated 81.5 percent of the total

employment in the sector as well as 52 percent of MVA. The largest part of these contributions were made by large establishments operating in this branch.

Four other branches account together for almost 15 percent of sectoral employment and the remaining 48 percent of MVA. These branches are -- ready made apparel, excluding footwear, tanning and repairing of leather, leather and substitute products excluding footwear, footwear except plastic and rubber. The last branch is the most prominent of the four in terms of employment and MVA.

There are several branches within this sector that are not represented in the textile and leather sector in the Sudan. Most conspicuous absence is that of carpets and rugs.

The private sector is more prominent than the public sector in the production of textiles and leather sector. But the public sector still plays a relatively important role in this activity. The most visible public involvement is in weaving, spinning and dying as well as in tanning of leather. In the private sector, weaving, spinning and dying strongly dominates all other branches and activities. (see Table 4.6). There were two only establishments in the mixed sector.

4.2.2 Performance

There are some evident performance difficulties in this sector across branches. The larger establishments appear, however, to face more operational problems than the small enterprises.

The data in Table 4.7 presents performance indices by size in the textile and leather sector. It is clear that small enterprises are more productive and profitable. In particular, leather and

substitute products excluding footwear are highly profitable. Labour productivity in the small establishments is almost 4 times larger, on average, than that of larger establishments. The most productive coefficients in small establishments are in leather and substitute products and in footwear production. It is also surprising to find that capital per worker is higher in small establishments than in larger establishments in most branches, but particularly in leather and in footwear production. Capital is scarce in the Sudan, but the substitution of cheaper workers is carried beyond the efficient limits.

The degree of processing within the textile sector is highly correlated (0.875) with labour productivity and with capital per worker (0.812). The more capital per worker, there is in an establishment, the higher the productivity per worker. The correlation between these two variables in the textile sector by branch is as high as (0.922). It is also true that profitable concerns are generally those with high degrees of processing. That is, the more local raw materials are processed within the branch the more profitable will be its concerns. The correlation coefficient here is (0.886).

The highest correlation coefficient is associated with profitability and labour productivity (0.971). The highest rates of return on fixed capital within the textile and leather sector are in branches that utilize efficiently their labour. It is also true that the more capital per worker there is in a branch the higher is its profitability rate (0.867). These correlations validate the claims above.

Size is very critical in this sector. The larger the average size of an establishment is within a branch, the more likely it is to manage efficiently its labour (0.758), the more capital per worker it can manage to afford (0.749), and the higher the ratio of value added to gross output (0.876).

Establishments that tend to pay high wages per worker, tend to be unprofitable and often unproductive.

The private and public enterprises in the weaving, spinning, dying and repairing are both unprofitable. This should be a cause of concern. Given, the results above a very thorough microeconomic study must be conducted in this branch to highlight and diagnose the problems. Labour productivity in the public sector is generally low and it is not much higher in the private sector. The average size of establishments in both the private and public sector seem to be adequate, but capital intensities are rather low. (see Table 4.8).

4.3 The Structure and Performance of the Wood, Wood Products Including Furniture Sector 1981/82

Wood, wood products including furniture production is rather limited in the Sudan. This is surprising given Sudan's forest endowment and the historic handicrafts and furniture industries. There are to be sure severe structure and performance problems, but there are problems relating to the utilization of wood. About 90 percent of the wood use is for energy and this is depleting very fast Sudan's forestry wealth.

4.3.1 Structure

Two tables are constructed to reveal the structure of the wood, wood products including furniture in the Sudan in 1981/82.

Table 4.9 is devoted to reveal structure by size and Table 4.10 reveals structure by type of ownership.

Most of the activity in this sector is generated by small scale enterprises. These represent over 70 percent of the employment in the sector and over 86 percent of its MVA.

Wood products including furniture is the dominant branch with 70.1 percent of the employment in the sector and 86.8 percent of MVA. These shares jump to 85.9 percent and 95.7 percent when only small establishments are considered.

The public sector dominates the surveyed sawmills whereas the private sector dominates the operation of wood products and furniture (see Table 4.10). In the large establishments, the public sector is larger and generates more jobs and MVA than the private sector.

4.3.2 Performance

Performance indices divide rather strikingly between branches and sizes. The degree of processing in wood products and furniture is decisively higher than in the sawmills in the small establishments, whereas the same coefficients reverse magnitudes in the larger establishments.

Labour productivity, however, is higher in the smaller establishments for both branches and not surprisingly, but perhaps, because of the higher capital-labour ratios in the small establishments. The small establishments are marginally more profitable than the large establishments on average. However, large sawmills are substantially more profitable than small ones, whereas small wood products and furniture establishments are substantially more productive than the larger establishments in this branch.

Public enterprises generate substantial value added per unit of output and are generally more profitable than private concerns (see Table 4.12).

4.4 The Structure and Performance of Paper, Paper Products, Printing and Publishing Sector in 1981/82

The production of paper, paper products, printing and publishing is generally a capital intensive and size-sensitive activity. The forest endowment of the Sudan, as in the case of wood and wood products, if properly managed could entitle the Sudan to a substantive share in this industry. This so far has not happened. This activity is operating well below its potential.

There are only few operations within this sector in the Sudan and what exists is rudimentary and suffers from structural and performance difficulties.

4.4.1 Structure

There is a heavy preponderance of activity in the printing and publishing branch. This branch accounts alone for 97.9 percent of all establishments in the sector, 86.5 percent of its employment complement, and given the negative value added in the pulp and paper branch, it produces all the positive MVA of the sector.

Small scale production is concentrated in the printing and publishing branch, as is clearly displayed in Table 4.13. Large establishments, however, characterize the production of recycled fibre and paper. There was very limited production of containers and boxes of paper board in the Sudan in 1981/82 and these products are often cited as major bottlenecks.

Public enterprises in this sector are in the printing and publishing, whereas private enterprises are also in pulp and paper production. Most of the employment and MVA generated in this sector in large establishments are in the public sector. (see Table 4.14).

4.4.2 Performance

The importation of machinery and even raw materials by the branches in this sector result in low degrees of processing. For small and large enterprises the coefficients are relatively low, 0.25 and 0.28 respectively. Labour productivity ratios are low in the small establishments and although they are significantly higher in larger establishments they are still relatively modest. Profitability is also low and even negative in small and some large establishments. In the public sector, printing and publishing, however, appears to be highly profitable. In the private sector, the unprofitable operations in pulp and paper override the profitability of printing and publishing and end up with overall losses for the sector.

4.5 The Structure and Performance of Chemicals, Chemical Products and Products of Coal and Petroleum Sector in 1981/82

The chemicals and coal and petroleum sector is a significant sector in overall manufacturing in the Sudan. Although, the number of establishments in this sector is not large, their contributions to employment and particularly income are significant.

4.5.1 Structure

Most of the production in this sector takes place in large establishments. The latter contributed over 76 percent of sectoral employment and about 90 percent of its MVA.

A large set of products are produced within this sector, but the dominant branches in 1981/82 were in soap, cleaners and toilet products, tire and tube industries and in plastic products n.e.c.

Soap, cleaners and toilet products represent 55.1 percent of total establishments within the sector, but produce over 43.1 percent of its total employment, and a disproportionately lower share of about 20 percent of its MVA. This latter fact is due to the large proportion of imported expensive raw materials.

Tire and tube products are produced in one large establishment in Khartoum and this single establishment was credited with generating 8 percent of the total sectoral employment and a high 29.7 percent of its MVA.

Plastic products n.e.c., are produced in small and large establishments and have accounted for 23.7 of the total number of establishments in the chemicals sector, 17.3 percent of its employment complement but only 8.9 percent of its MVA.

Basic chemicals produce a significant share of MVA but does not generate much employment, whereas chemical products n.e.c., generates more employment than it generates value added.

Most of the large branches in this sector are privately controlled with the exception of one public enterprise in plastic production. But this latter enterprise is relatively limited in size and operations (see Table 4.18).

4.5.2 Performance

The chemicals sector is typically import dependent in the Sudan and this results in low value added per one unit of gross output coefficients. This is true of both small and large establishments, although it applies more strictly to the small enterprises.

On the other hand, it is also characteristic of this sector to exhibit high capital intensities and, therefore, high labour productivity coefficients.

Profitability ratios are particularly high in basic chemicals and in drugs and medicines. But the overall profitability of most branches is rather modest.

Large enterprises tend to pay inordinately high average wages by Sudanese standards, but this is perhaps more due to the highly skilled labour requirements of the sector than to any other reason.

The correlation matrix of the various variables within the sector reveals several interesting relationships.

First, the degree of processing is positively related to capital per worker (0.763) and size of establishment (0.645).

Second, labour productivity is highly and equally correlated with capital per worker and the size of establishment (0.791).

Third, the highest correlation is that of size of establishment with capital per worker (0.957).

Fourth, profitability in the sector is poorly and even negatively correlated with most variables. This is perhaps due to the fact that no adjustment was made for depreciation for a highly capital-intensive sector.

The public sector with one establishment does not provide a significant background to make any useful generalizations.

4.6 The Structure and Performance of the Other Non-Metallic Mineral Products Sector in 1981/82

Cement production dominates the activities of this sector and as such it is inextricably linked to construction. The cyclical

pattern of construction imputes a high degree of variability to the operations of this sector and therefore diminishes in turn the relevance of typical and general tendencies ascribed to its pattern and structure of its output and to its performance indices.

4.6.1 Structure

A total of 4741 jobs were sustained by this sector in 1981/82, the bulk of these jobs were in large establishments which accounted for over 81 percent of the total sectoral employment.

There were little or no production of pottery, ceramics or other earth products in the Sudan in 1981/82. There was only one large establishment with 500 employees producing glass. Alone it accounted for 10.5 percent of sectoral employment, and 4.8 percent of MVA. The largest contributions within this sector were made by cement, quicklime and plaster. This branch represented over 87 percent of the total number of establishments, 78.8 percent of total employment, and as high as 95.5 percent of MVA.

Production of cement, quicklime and plaster takes place in both small and large establishments. The smaller establishments account for more jobs than the larger ones, and the reverse is true in the case of MVA.

Non-metallic minerals n.e.c. contribute about 10.7 percent of employment, but show a negative value added signifying that losses exceeded the sum of other factor payments and depreciation in this branch. (see Table 4.21).

In the large enterprises, the private and mixed sectors prevail over the public sector. The results in Table 4.22 show a large cement factory in the mixed sector with 566 employees and with

over LS 0.9 million in MVA. There were also another cement establishments wholly owned by the public sector with 868 employees, but with LS 4.5 million MVA. The private sector fielded operations in cement, glassware and other non-metallic minerals n.e.c.; the majority of its operations, however, were in cement production.

4.6.2 Performance

Small scale establishments generate a high ratio of value added per unit of gross output, particularly in the cement, quicklime and plaster production. They are generally profitable in this branch to the tune of 0.62 on every LS in fixed assets. Non-metallic minerals n.e.c. production is not as viable; the degree of processing coefficient in this branch is low and profitability is barely positive.

Large establishments in glass and glass products appear with low labour productivity coefficients, low capital-labour ratios and generate losses not profits. The situation is totally different in cement production. There labour productivity is relatively high, capital-labour ratio is limited but perhaps adequate for this sector, average establishment size is relatively adequate and the profitability rate is relatively high. (see Table 4.23).

The performance indices associated with the operations of the public sector supercede those of the private or the mixed sectors. The degree of processing is high, labour productivity is also high, the average establishments size is very large, and profitability is specifically high. (see Table 4.24). The private sector performance is mixed. In the cement production, it is productive and profitable, whereas in all other branches it suffers from operational difficulties and therefore losses.

4.7 The Structure and Performance of the Basic Metals Sector in 1981/82

The Sudanese basic metals sector is a small sector that is still in its infancy. Given, its modest beginnings and the great expanse of the country, there are ample opportunities to develop this sector into a major activity. Its current structure and performance are, therefore, poor indicators of what is to be expected of this sector in the future.

4.7.1 Structure

Two characteristics describe the pattern of production in this sector in the Sudan in 1981/82. First, most of the production takes place in large establishments. The small scale operations are only trivial. Second, the private sector is more prominent than the public sector in the operations of this sector.

There are only two activities in the Sudan that are associated with basic metals.

First, the basic metal industries branch accounts for 41.7 percent of the total number of establishments in this sector, about 42.7 percent of employment, but as low as 7.5 percent of MVA. On the other hand, non-ferrous metal industries account for the rest of the contributions in this sector.

Second, in the small scale enterprises, the basic metals industries dominate the non-ferrous metals industries, whereas in the larger establishments non-ferrous metals prevail decisively over basic metals industries.

4.7.2 Performance

There is a perfect assignment of performance proficiency between branches and sizes. The basic metals industries are profitable and efficient in small scale enterprises but not in the larger establishments, whereas the non-ferrous metal industries are only and singularly efficient and profitable in large establishments but not in the smaller ones.

Whether in small or large establishments, however, the basic metals sector generates a fair ratio of value added per unit of gross output, but the perfect assignment above holds in this case too.

When labour productivity is considered, the larger establishments in both branches show much more significant and larger coefficients. (see Table 4.27).

The public sector enterprise in the basic metals appears lacking in size, capital and management. It is small wonder that it shows a large loss rate. On the other hand, the private sector is very profitable particularly in the production of non-ferrous metals. (see Table 4.28.

4.8 The Structure and Performance of the Metal Fabricating and Machinery Sector, 1981/82

The importance of this sector in Sudanese manufacturing is exaggerated by the inclusion of garages and service stations which give the impression that some significant and complicated manufacturing of machinery and equipment are taking place within this sector. The consideration of branches and their activities dispels any doubt in this regard.

4.8.1 Structure

Four basic branches stand out as major contributors to output and employment. The largest contributor to employment is fabricated metals n.e.c. with a share of almost 25 percent of the total sectoral employment. However, this branch contributed only 18.1 percent of MVA. The most prominent contributor to MVA is the metallic fixtures and furniture branch with a 23.6 percent share; its contribution to employment is almost identical to its contribution to MVA with a 23.9 percent share.

Motor vehicles servicing and repair generates almost 18.2 percent of the total sectoral employment and about 22 percent of MVA, making this branch a very important component of the sector and defining the part played by garage and services stations.

Cutlery, handtools and metallic outfittings contribute significantly to employment but marginally to MVA, whereas electrical apparatus n.e.c., contributes substantially to MVA but much less proportionately to employment.

Output and income tend to be evenly split between the small establishments and the larger ones, however, the former appear to have generated more employment within the sector than the latter. Only agricultural machines are produced within the larger enterprises exclusively, otherwise both the small and the larger establishment co-produce in every other branch. The structure of production is very similar in both types of establishments with minor differences. In the small scale activity, the most prominent branch is metallic furniture and fixtures. In the larger enterprises dominance is observed in electrical apparatus and in fabricated metals n.e.c..

The fabricated metals and machinery sector does not seem to have attracted significant public involvement in production. Only two establishments are publically owned, both are relatively small -- one is in the production of agricultural implements and the other motor vehicles servicing. There is also one large establishment in the mixed sector in the motor vehicles servicing. Otherwise, the private sector operates exclusively. (See Table 4.30).

4.8.2 Performance

Typically this sector in developing countries is very efficient at the large scale level but only profitable at the small scale level. The results in Table 4.31 seem to substantiate this proposition in the Sudan. It is also typical to see small scale establishments generating large ratios of value added per unit of gross output. In the production of metallic fixtures, household appliances and motor vehicles, the degree of processing coefficients are rather very high. This is not true, however, of production in the larger enterprises with the exception of structural metal products.

Labour productivity coefficients are relatively high in most of the branches in large establishments. The only two deviations here are those coefficients associated with structural metal products and agricultural machines. These two branches suffer from very low capital per worker coefficients and inadequate size.

There are three branches which show losses in large enterprises -- cutlery and handtools, structural metal, and agricultural machines. In the first branch, the problem appears to be related to pricing. In the remaining two it is the result of poor productivity, management and inadequate size.

The performance indices in this sector support four general assertions. First, labour productivity rises as more tools are made available per worker. The correlation coefficient of labour productivity coefficients and those of capital intensities is as high as (0.906) in this sector. Second, capital intensities rise with the average size of the establishment. The larger the establishments are, the more they provide their labour with capital (0.917). Third, larger establishments pay higher wages than smaller ones. Fourth, the degree of processing coefficients tend to decrease with the increase in size and in capital per worker. This is the result of the fact that most of the capital used in the sector is imported.

The public sector is in two activities and in both of them but particularly in the motor vehicles activities it shows a very high rate of profitability and productivity. The mixed sector enterprise appears to be losing money.

4.9 Concluding Remarks

Some very interesting and useful results emerged from the consideration of the structure and performance of branches within sectors. The finer details highlighted some very important aspects of structural difficulties and performance deficiencies.

The overall structure of sectors in the Sudan reveals heavy dependence on foreign spare parts, raw materials and machinery particularly in large establishments. Linkages among branches and sectors is not evident. Markets tend to be segmented geographically and monopolistic powers are rampant. Public enterprises are not

necessarily inherently less profitable or efficient than private enterprises. Most performance difficulties tend to result from inadequate size, low capital-labour ratios and therefore low labour productivity and as such not insurmountable.

TABLES

Table 4.1: The Structure of the Food, Beverages and Tobacco Sector By Size, 1981/82

| | No of Est | | No of Empl. | | Wages/Salaries | | Gross Output | | Gross Value add. | | Capital | |
|---|-------------|--------------|--------------|--------------|----------------|--------------|----------------|--------------|------------------|--------------|---------------|--------------|
| | No | % | No | % | Value | % | Value | % | Value | % | Value | % |
| All Establishments | | | | | | | | | | | | |
| 3111 | 1 | 0.0 | 299 | 0.3 | 433 | 0.6 | 4370 | 0.4 | 1964 | 0.5 | 2952 | 0.5 |
| 3112 | 141 | 2.7 | 817 | 0.9 | 506 | 0.7 | 14214 | 1.3 | 605 | 0.1 | 2368 | 0.4 |
| 3113 | 18 | 0.3 | 2312 | 2.6 | 1780 | 2.4 | 9120 | 0.8 | 2537 | 0.6 | 3476 | 0.5 |
| 3114 | 1 | 0.0 | 110 | 0.1 | 216 | 0.3 | 422 | 0.0 | 201 | 0.0 | - | - |
| 3115 | 112 | 2.1 | 7690 | 8.8 | 10548 | 14.0 | 355359 | 32.1 | 57497 | 13.4 | 142575 | 21.6 |
| 3116 | 2507 | 47.5 | 12453 | 14.2 | 9973 | 13.3 | 235683 | 21.3 | 143599 | 33.6 | 57756 | 8.7 |
| 3117 | 2329 | 44.2 | 14375 | 16.4 | 14821 | 19.7 | 248420 | 22.5 | 122005 | 28.5 | 52215 | 7.9 |
| 3118 | 5 | 0.1 | 43166 | 49.2 | 27865 | 37.1 | 136841 | 12.4 | 59090 | 13.8 | 356423 | 53.9 |
| 3119 | 57 | 1.1 | 2217 | 2.5 | 2486 | 3.3 | 31546 | 2.9 | 7478 | 1.8 | 8158 | 1.2 |
| 3121 | 51 | 1.0 | 1105 | 1.3 | 1337 | 1.8 | 10926 | 1.0 | 7017 | 1.6 | 14408 | 2.2 |
| 3122 | 5 | 0.1 | 116 | 0.1 | 259 | 0.3 | 5601 | 0.5 | 1292 | 0.3 | 4943 | 0.7 |
| 3131 | 2 | 0.0 | 271 | 0.3 | 610 | 0.8 | 3076 | 0.3 | 614 | 0.1 | 613 | 0.1 |
| 3132 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3133 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3134 | 43 | 0.8 | 1816 | 2.1 | 1963 | 2.6 | 16600 | 1.5 | 4335 | 1.0 | 12407 | 1.9 |
| 3140 | 3 | 0.1 | 992 | 1.1 | 2353 | 3.1 | 33795 | 3.1 | 19796 | 4.6 | 3250 | 0.5 |
| TOTAL | 5275 | 100.0 | 87739 | 100.0 | 75150 | 100.0 | 1105973 | 100.0 | 428030 | 100.0 | 661544 | 100.0 |
| Small Establishments (< 25 empl) | | | | | | | | | | | | |
| 3111 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3112 | 140 | 2.7 | 756 | 2.9 | 417 | 1.9 | 12969 | 3.0 | 357 | 0.2 | 2070 | 1.9 |
| 3113 | 8 | 0.2 | 152 | 0.6 | 106 | 0.5 | 778 | 0.2 | 690 | 0.3 | 41 | 0.0 |
| 3114 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3115 | 42 | 0.8 | 759 | 2.9 | 458 | 2.1 | 23171 | 5.4 | 5986 | 2.5 | 6627 | 5.9 |
| 3116 | 2493 | 48.7 | 9747 | 37.1 | 6077 | 27.2 | 129335 | 30.2 | 100006 | 41.8 | 34385 | 30.8 |
| 3117 | 2316 | 45.2 | 13195 | 50.2 | 13775 | 61.6 | 235212 | 54.8 | 120507 | 50.3 | 48816 | 43.7 |
| 3118 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3119 | 42 | 0.8 | 639 | 2.4 | 560 | 2.5 | 12668 | 3.0 | 3919 | 1.6 | 3874 | 3.5 |
| 3121 | 44 | 0.9 | 571 | 2.2 | 534 | 2.4 | 6537 | 1.5 | 5252 | 2.2 | 7506 | 6.7 |
| 3122 | 4 | 0.1 | 84 | 0.3 | 181 | 0.8 | 5336 | 1.2 | 1163 | 0.5 | 4683 | 4.2 |
| 3131 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3132 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3133 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3134 | 35 | 0.7 | 399 | 1.5 | 275 | 1.2 | 2965 | 0.7 | 1486 | 0.6 | 3792 | 3.2 |
| 3140 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 5124 | 100.0 | 26302 | 100.0 | 22383 | 100.0 | 428971 | 100.0 | 239365 | 100.0 | 111794 | 100.0 |

Table 4.1 Con't

| Large Establishments (> 25 empl) | No of Est | | No of Empl. | | Wages/Salaries | | Gross Output | | Gross Value add. | | Capital | |
|--------------------------------------|-----------|-------|-------------|-------|----------------|-------|--------------|-------|------------------|-------|---------|-------|
| | No | % | No | % | Value | % | Value | % | Value | % | Value | % |
| 3111 | 1 | 0.7 | 299 | 0.5 | 433 | 0.8 | 4370 | 0.7 | 1964 | 1.0 | 2952 | 0.5 |
| 3112 | 1 | 0.7 | 61 | 0.1 | 89 | 0.2 | 1245 | 0.2 | 248 | 0.1 | 298 | 0.1 |
| 3113 | 10 | 6.6 | 2160 | 3.5 | 1674 | 3.2 | 8342 | 1.2 | 1847 | 1.0 | 3435 | 0.6 |
| 3114 | 1 | 0.7 | 110 | 0.2 | 216 | 0.4 | 422 | 0.1 | 201 | 0.1 | - | - |
| 3115 | 70 | 46.4 | 6931 | 11.3 | 10090 | 19.1 | 332188 | 49.1 | 51511 | 27.3 | 135948 | 24.7 |
| 3116 | 14 | 9.3 | 2706 | 4.4 | 3896 | 7.4 | 106348 | 15.7 | 43593 | 23.1 | 23371 | 4.3 |
| 3117 | 13 | 8.6 | 1180 | 1.9 | 1046 | 2.0 | 13208 | 2.0 | 1498 | 0.8 | 3399 | 0.6 |
| 3118 | 5 | 3.3 | 43166 | 70.3 | 27865 | 52.8 | 136841 | 20.2 | 59090 | 31.3 | 356423 | 64.8 |
| 3119 | 15 | 9.9 | 1578 | 2.6 | 1926 | 3.7 | 18878 | 2.8 | 3559 | 1.9 | 4284 | 0.8 |
| 3121 | 7 | 4.6 | 534 | 0.9 | 803 | 1.5 | 4389 | 0.7 | 1765 | 0.9 | 6902 | 1.3 |
| 3122 | 1 | 0.7 | 32 | 0.1 | 78 | 0.2 | 265 | 0.0 | 129 | 0.1 | 260 | 0.0 |
| 3131 | 2 | 1.3 | 271 | 0.4 | 610 | 1.2 | 3076 | 0.5 | 614 | 0.3 | 613 | 0.1 |
| 3132 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3133 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3134 | 8 | 5.3 | 1417 | 2.3 | 1688 | 3.2 | 13635 | 2.0 | 2849 | 1.5 | 8615 | 1.6 |
| 3140 | 3 | 2.0 | 922 | 1.6 | 2353 | 4.5 | 33795 | 5.0 | 19796 | 10.5 | 3250 | 0.6 |
| TOTAL | 151 | 100.0 | 61437 | 100.0 | 52767 | 100.0 | 677002 | 100.0 | 188665 | 100.0 | 549750 | 100.0 |

Source: Government of Sudan. The Industrial Survey, 1981/82.

Table 4.2: The Structure of the Food, Beverages and Tobacco Sector By Type of Ownerships, 1981/8. (25 Employees)

| | No of Est. | | No of Empl. | | Wages/Salaries | | Gross Output | | Gross Value add. | | Capital | |
|----------------|------------|--------------|--------------|--------------|----------------|--------------|---------------|--------------|------------------|--------------|---------------|--------------|
| | No | % | No | % | Value | % | Value | % | Value | % | Value | % |
| Public | | | | | | | | | | | | |
| 3111 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3112 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3113 | 3 | 20.0 | 704 | 4.9 | 609 | 4.1 | 693 | 1.6 | 210 | 1.9 | 811 | 1.2 |
| 3114 | 1 | 6.7 | 110 | 0.8 | 216 | 1.4 | 422 | 1.0 | 201 | 1.8 | - | - |
| 3115 | 2 | 13.3 | 908 | 6.3 | 1054 | 7.0 | 7411 | 17.2 | 2103 | 19.0 | 311 | 0.4 |
| 3116 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3117 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3118 | 4 | 26.7 | 12102 | 84.4 | 12361 | 82.5 | 32250 | 74.7 | 8297 | 75.0 | 68344 | 97.1 |
| 3119 | 2 | 13.3 | 323 | 2.2 | 399 | 2.7 | 762 | 1.8 | 102 | 0.9 | 278 | 0.4 |
| 3121 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3122 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3131 | 1 | 6.7 | 118 | 0.8 | 276 | 1.8 | 1361 | 3.2 | 115 | 1.0 | 383 | 0.5 |
| 3132 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3133 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3134 | 2 | 13.3 | 82 | 0.6 | 69 | 0.5 | 260 | 0.6 | 39 | 0.4 | 261 | 0.4 |
| 3140 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 15 | 100.0 | 14347 | 100.0 | 14983 | 100.0 | 43159 | 100.0 | 11066 | 100.0 | 70391 | 100.0 |
| Private | | | | | | | | | | | | |
| 3111 | 1 | 0.8 | 299 | 1.9 | 433 | 2.0 | 4370 | 0.8 | 1964 | 1.6 | 2952 | 1.6 |
| 3112 | 1 | 0.8 | 61 | 0.4 | 89 | 0.4 | 1245 | 0.2 | 248 | 0.2 | 298 | 0.2 |
| 3113 | 7 | 5.3 | 1456 | 9.3 | 1065 | 4.9 | 7649 | 1.5 | 1638 | 1.3 | 2625 | 1.4 |
| 3114 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3115 | 68 | 51.1 | 6023 | 38.3 | 9036 | 41.3 | 324777 | 61.7 | 49407 | 39.2 | 135636 | 71.3 |
| 3116 | 13 | 9.8 | 2571 | 16.3 | 3828 | 17.5 | 105392 | 20.0 | 43405 | 34.4 | 22444 | 11.8 |
| 3117 | 13 | 9.8 | 1180 | 7.5 | 1046 | 4.8 | 13208 | 2.5 | 1498 | 1.2 | 3399 | 1.8 |
| 3118 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3119 | 13 | 9.8 | 1255 | 8.0 | 1527 | 7.0 | 18116 | 3.4 | 3457 | 2.7 | 4005 | 2.1 |
| 3121 | 7 | 5.3 | 534 | 3.4 | 803 | 3.7 | 4389 | 0.8 | 1765 | 1.4 | 6902 | 3.6 |
| 3122 | 1 | 0.8 | 32 | 0.2 | 78 | 0.4 | 265 | 0.1 | 129 | 0.1 | 260 | 0.1 |
| 3131 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3132 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3133 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3134 | 6 | 4.5 | 1335 | 8.5 | 1619 | 7.4 | 13375 | 2.5 | 2811 | 2.2 | 8354 | 4.4 |
| 3140 | 3 | 2.3 | 902 | 6.3 | 2353 | 10.8 | 33795 | 6.4 | 19796 | 15.7 | 3250 | 1.7 |
| TOTAL | 133 | 100.0 | 15738 | 100.0 | 21879 | 100.0 | 526582 | 100.0 | 126120 | 100.0 | 190123 | 100.0 |

Table 4.2 Con't

| | <u>No of Est.</u> | | <u>No of Empl.</u> | | <u>Wages/Salaries</u> | | <u>Gross output</u> | | <u>Gross value add.</u> | | <u>Capital</u> | |
|-------|-------------------|-------|--------------------|-------|-----------------------|-------|---------------------|-------|-------------------------|-------|----------------|-------|
| | No | % | No | % | Value | % | Value | % | Value | % | Value | % |
| Mixed | | | | | | | | | | | | |
| 3111 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3112 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3113 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3114 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3115 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3116 | 1 | 33.3 | 135 | 0.4 | 67 | 0.4 | 956 | 0.9 | 187 | 0.4 | 928 | 0.3 |
| 3117 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3118 | 1 | 33.3 | 31064 | 99.1 | 15504 | 97.5 | 104591 | 97.5 | 50793 | 98.7 | 288079 | 99.6 |
| 3119 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3121 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3122 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3131 | 1 | 33.3 | 153 | 0.5 | 334 | 2.1 | 1714 | 1.6 | 499 | 1.0 | 230 | 0.1 |
| 3132 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3133 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3134 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3140 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 3 | 100.0 | 31352 | 100.0 | 15905 | 100.0 | 107261 | 100.0 | 51479 | 100.0 | 289237 | 100.0 |

Source: Government of Sudan. The Industrial Survey 1981/82.

Table 4.3: Performance Indices in the Food, Beverages and Tobacco Sector

| SIZE | SMALL ESTABLISHMENTS (< 25 EMP) | | | | | | LARGE ESTABLISHMENTS (>25 EMP) | | | | | | TOTAL | | | | | |
|---------|---------------------------------|-----------|----------|-----------|----------|------------|--------------------------------|-----------|----------|-----------|----------|------------|-----------|-----------|----------|-----------|----------|------------|
| | GVA GO | GO EMP | K EMP | GVA NO | W EMP | GVA-W K | GVA GO | GO EMP | K EMP | GVA NO | W EMP | GVA-W K | GVA GO | GO EMP | K EMP | GVA NO | W EMP | GVA-W K |
| 3111 | - | - | - | - | - | - | 0.45 | 14.6 | 9.87 | 1.964.0 | 1.448 | 0.519 | 0.45 | 14.615 | 9.87 | 1.964.0 | 1.448 | 0.519 |
| 3112 | 0.028 | 17.155 | 2.738 | 2.550 | 0.552 | (0.029) | 0.20 | 20.410 | 4.885 | 248 | 1.459 | 0.533 | 0.04 | 17.400 | 2.891 | 4.3 | 0.619 | 0.042 |
| 3113 | 0.887 | 5.118 | 5.125 | 86.250 | 0.697 | 14.244 | 0.22 | 3.862 | 1.590 | 184.7 | 0.775 | 0.050 | 0.28 | 3.940 | 1.503 | 140.9 | 0.770 | 0.218 |
| 3114 | - | - | - | - | - | - | 0.47 | 3.836 | - | 201.0 | 1.964 | --- | 0.47 | 3.836 | --- | 201.0 | 1.964 | --- |
| 3115 | 0.258 | 30.528 | 8.731 | 142.523 | 0.603 | 0.843 | 0.16 | 47.928 | 19.641 | 735.87 | 1.456 | 0.305 | 0.16 | 46.210 | 18.540 | 513.4 | 1.372 | 0.329 |
| 3116 | 0.773 | 13.269 | 3.528 | 40.115 | 0.623 | 2.732 | 0.41 | 39.301 | 8.637 | 3.113.78 | 1.440 | 1.700 | 0.61 | 18.930 | 4.639 | 57.3 | 0.801 | 2.314 |
| 3117 | 0.513 | 17.826 | 3.700 | 52.032 | 1.044 | 2.186 | 0.11 | 11.193 | 2.881 | 115.23 | 0.886 | 0.133 | 0.49 | 17.28 | 3.632 | 52.4 | 1.031 | 2.053 |
| 3118 | - | - | - | - | - | - | 0.43 | 3.170 | 8.257 | 11.818.0 | 0.645 | 0.087 | 0.43 | 3.170 | 8.257 | 11.818.0 | 0.645 | (-0.22) |
| 3119 | 0.309 | 19.847 | 6.063 | 93.300 | 0.876 | 0.867 | 0.19 | 11.963 | 2.715 | 237.26 | 1.221 | 0.381 | 0.24 | 14.220 | 3.680 | 131.2 | 1.121 | 0.612 |
| 3121 | 0.803 | 11.448 | 13.145 | 119.363 | 0.935 | 0.629 | 0.40 | 8.212 | 12.925 | 252.14 | 1.504 | 0.139 | 0.64 | 9.890 | 13.039 | 137.6 | 1.210 | 0.394 |
| 3122 | 0.218 | 63.524 | 55.750 | 290.750 | 2.155 | 0.270 | 0.49 | 8.281 | 8.125 | 129 | 2.438 | 0.196 | 0.23 | 48.280 | 42.612 | 258.4 | 2.230 | 0.210 |
| 3131 | - | - | - | - | - | - | 0.20 | 11.351 | 2.262 | 307.0 | 2.251 | 0.006 | 0.20 | 11.351 | 2.262 | 307.0 | 2.251 | 0.006 |
| 3134 | 0.501 | 7.431 | 9.504 | 42.457 | 0.689 | 0.319 | 0.2 | 9.622 | 6.080 | 356.125 | 1.191 | 0.134 | 0.26 | 9.140 | 6.832 | 100.8 | 1.081 | 0.191 |
| 3140 | - | - | - | - | - | - | 0.59 | 34.068 | 3.52 | 6.598.7 | 2.55 | 5.367 | 0.59 | 34.068 | 3.276 | 6.598.7 | 2.372 | 5.367 |
| Average | 0.558 | 16.309 | 4.250 | 46.714 | 0.851 | 1.941 | 0.28 | 11.019 | 8.948 | 1.249.4 | 0.859 | 2.470 | 0.39 | 12.605 | 7.540 | 81.1 | 0.857 | 0.532 |

Table 4.4:
Performance Indices In the Food, Beverages and Tobacco Sector By Type of Ownership, 1981/82

| Sector | OWNERSHIP | | | PUBLIC | | | PRIVATE | | | | | | MIXED | | | | | |
|---------|-----------|-----------|----------|-----------|----------|------------|-----------|-----------|----------|-----------|----------|------------|-----------|-----------|----------|-----------|----------|------------|
| | GVA GO | GO EMP | K EMP | GVA NO | N EMP | GVA-W K | GVA GO | GO EMP | K EMP | GVA NO | N EMP | GVA-W K | GVA GO | GO EMP | K EMP | GVA NO | N EMP | GVA-W K |
| 3111 | - | - | - | - | - | - | 0.45 | 14.615 | 9.873 | 1964.0 | 1.448 | 0.518 | - | - | - | - | - | - |
| 3112 | - | - | - | - | - | - | 0.20 | 20.410 | 4.885 | 248.0 | 1.459 | 0.533 | - | - | - | - | - | - |
| 3113 | 0.34 | 0.984 | 1.152 | 70.0 | 0.865 | (0.492) | 0.21 | 5.253 | 1.803 | 234.0 | 0.731 | 0.218 | - | - | - | - | - | - |
| 3114 | 0.48 | 3.836 | - | 201.0 | 1.964 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 3115 | 0.28 | 8.168 | 0.343 | 1051.5 | 1.161 | 3.375 | 0.15 | 53.922 | 24.180 | 726.6 | 1.500 | 0.297 | - | - | - | - | - | - |
| 3116 | - | - | - | - | - | - | 0.41 | 40.993 | 8.730 | 3338.8 | 1.488 | 1.763 | 0.20 | 7.081 | 6.881 | 187.0 | 0.496 | 0.129 |
| 3117 | - | - | - | - | - | - | 0.11 | 11.193 | 2.881 | 115.2 | 0.885 | 0.132 | - | - | - | - | - | - |
| 3118 | 0.26 | 2.665 | 5.647 | 2074.3 | 1.021 | (0.059) | - | - | - | - | - | - | 0.49 | 3.366 | 9.273 | 50793.0 | 0.499 | 0.122 |
| 3119 | 0.13 | 2.359 | 0.861 | 51.0 | 1.235 | (-1.068) | 0.19 | 14.43 | 3.191 | 189.0 | 1.216 | 0.481 | - | - | - | - | - | - |
| 3121 | - | - | - | - | - | - | 0.40 | 8.219 | 12.925 | 252.1 | 1.503 | 0.139 | - | - | - | - | - | - |
| 3122 | - | - | - | - | - | - | 0.49 | 8.281 | 8.125 | 129.0 | 2.437 | 0.196 | - | - | - | - | - | - |
| 3131 | 0.08 | 11.534 | 3.246 | 115.0 | 2.339 | (0.420) | - | - | - | - | - | - | 0.29 | 11.202 | 1.503 | 499.0 | 2.183 | 0.717 |
| 3134 | 0.15 | 3.170 | 3.183 | 19.5 | 0.841 | (0.115) | 0.21 | 10.018 | 8.125 | 468.5 | 1.212 | 0.136 | - | - | - | - | - | - |
| 3140 | - | - | - | - | - | - | 0.59 | 34.068 | 3.275 | 6598.7 | 2.371 | 5.367 | - | - | - | - | - | - |
| Average | 0.26 | 3.001 | 4.906 | 737.7 | 1.004 | (0.056) | 0.24 | 33.459 | 12.080 | 848.3 | 1.390 | 0.548 | 0.48 | 3.421 | 9.225 | 17159.7 | 0.507 | 0.122 |

Table 4.5: The Structure of the Textile, Wearing Apparel and Leather Products By size, 1981/82

| | No of Est | | No of Empl. | | Wages/Salaries | | Gross Output | | Gross value add. | | Capital | |
|--|------------|--------------|--------------|--------------|----------------|--------------|---------------|--------------|------------------|--------------|---------------|--------------|
| | No | % | No | % | Value | % | Value | % | Value | % | Value | % |
| All Establishments | | | | | | | | | | | | |
| 3211 | 76 | 55.1 | 23140 | 81.5 | 29016 | 80.7 | 69224 | 65.4 | 13383 | 51.9 | 171675 | 91.0 |
| 3212 | 3 | 2.2 | 312 | 1.1 | 346 | 1.0 | 1993 | 1.9 | 377 | 1.5 | 534 | 0.3 |
| 3213 | 4 | 2.9 | 463 | 1.6 | 504 | 1.4 | 1800 | 1.7 | 664 | 2.6 | 882 | 0.5 |
| 3214 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3215 | 4 | 2.9 | 145 | 0.5 | 114 | 0.3 | 687 | 0.6 | 175 | 0.7 | 251 | 0.1 |
| 3219 | 6 | 4.3 | 96 | 0.3 | 79 | 0.2 | 357 | 0.3 | -1386 | -5.4 | - | - |
| 3220 | 20 | 14.5 | 847 | 3.0 | 697 | 1.9 | 3698 | 3.5 | 679 | 2.6 | 2185 | 1.2 |
| 3231 | 4 | 2.9 | 1558 | 5.5 | 1822 | 5.1 | 5250 | 5.0 | 1940 | 7.5 | 5446 | 2.9 |
| 3233 | 7 | 5.1 | 182 | 0.6 | 118 | 0.3 | 7020 | 6.6 | 4858 | 18.8 | 3718 | 2.0 |
| 3240 | 14 | 10.1 | 1666 | 5.9 | 3259 | 9.1 | 15850 | 15.0 | 5118 | 19.8 | 3923 | 2.1 |
| TOTAL | 138 | 100.0 | 28409 | 100.0 | 35955 | 100.0 | 105879 | 100.0 | 25808 | 100.0 | 188614 | 100.0 |
| Small Establishments (< 25 empl.) | | | | | | | | | | | | |
| 3211 | 45 | 58.4 | 472 | 48.0 | 335 | 42.7 | 2341 | 19.7 | 1081 | 20.5 | 2211 | 30.2 |
| 3212 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3213 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3214 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3215 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3219 | 6 | 7.8 | 96 | 9.8 | 79 | 10.1 | 357 | 3.0 | -1386 | -26.3 | - | - |
| 3220 | 10 | 13.0 | 138 | 14.0 | 90 | 11.5 | 1079 | 9.3 | 260 | 4.9 | 542 | 7.4 |
| 3231 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3233 | 7 | 9.1 | 182 | 18.5 | 118 | 15.1 | 7020 | 59.2 | 4858 | 92.3 | 3718 | 50.8 |
| 3240 | 9 | 11.7 | 96 | 9.8 | 161 | 20.6 | 1049 | 8.8 | 452 | 8.6 | 850 | 11.6 |
| TOTAL | 77 | 100.0 | 984 | 100.0 | 783 | 100.0 | 11864 | 100.0 | 5265 | 100.0 | 7321 | 100.0 |
| Large Establishments (> 25 empl.) | | | | | | | | | | | | |
| 3211 | 31 | 50.8 | 22668 | 82.7 | 28681 | 81.5 | 66883 | 71.1 | 12302 | 59.0 | 169464 | 93.5 |
| 3212 | 3 | 4.9 | 312 | 1.1 | 346 | 1.0 | 1993 | 2.1 | 377 | 1.8 | 534 | 0.3 |
| 3213 | 4 | 6.6 | 463 | 1.7 | 504 | 1.4 | 1800 | 1.9 | 664 | 3.2 | 882 | 0.5 |
| 3214 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3215 | 4 | 6.6 | 145 | 0.5 | 114 | 0.3 | 687 | 0.7 | 175 | 0.9 | 251 | 0.1 |
| 3219 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3220 | 10 | 16.4 | 709 | 2.6 | 607 | 1.7 | 2601 | 2.8 | 419 | 2.0 | 1643 | 0.9 |
| 3231 | 4 | 6.6 | 1558 | 5.7 | 1822 | 5.2 | 5250 | 5.6 | 1940 | 9.4 | 5446 | 3.0 |
| 3233 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3240 | 5 | 8.2 | 1570 | 5.7 | 3098 | 8.8 | 14801 | 15.7 | 4666 | 22.7 | 3073 | 1.7 |
| TOTAL | 61 | 100.0 | 27425 | 100.0 | 35172 | 100.0 | 94015 | 100.0 | 20543 | 100.0 | 181293 | 100.0 |

Source: Government of Sudan. The Industrial Survey, 1981/82.

Table 4.6: The Structure of the Textile, Wearing Apparel and Leather Products By Type of Ownership, 1981/82

| | No of Est. | | No of empl. | | Wages/Salaries | | Gross Output | | Gross value add. | | Capital | |
|----------------|------------|--------------|--------------|--------------|----------------|--------------|--------------|--------------|------------------|--------------|---------------|--------------|
| | No | % | No | % | Value | % | Value | % | Value | % | Value | % |
| Public | | | | | | | | | | | | |
| 3211 | 14 | 77.8 | 7738 | 83.0 | 6010 | 75.8 | 13354 | 71.3 | 2035 | 49.3 | 48151 | 89.9 |
| 3212 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3213 | 1 | 5.6 | 70 | 0.8 | 136 | 1.7 | 396 | 2.1 | 212 | 5.2 | 112 | 0.2 |
| 3214 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3215 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3219 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3220 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3231 | 3 | 16.6 | 1511 | 16.2 | 1788 | 22.5 | 4992 | 26.6 | 1879 | 11.1 | 5279 | 9.9 |
| 3233 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3240 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 18 | 100.0 | 9319 | 100.0 | 7934 | 100.0 | 18743 | 100.0 | 4126 | 100.0 | 53542 | 100.0 |
| Private | | | | | | | | | | | | |
| 3211 | 17 | 41.5 | 14930 | 88.9 | 22671 | 92.4 | 53529 | 83.8 | 10267 | 82.4 | 121312 | 96.2 |
| 3212 | 2 | 4.9 | 261 | 1.6 | 299 | 1.2 | 1722 | 2.7 | 350 | 2.8 | 390 | 0.3 |
| 3213 | 3 | 7.3 | 393 | 2.3 | 368 | 1.5 | 1403 | 2.2 | 452 | 3.6 | 770 | 0.6 |
| 3214 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3215 | 4 | 9.8 | 145 | 0.9 | 114 | 0.5 | 687 | 1.1 | 175 | 1.4 | 251 | 0.2 |
| 3217 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3220 | 10 | 24.4 | 709 | 4.2 | 607 | 2.5 | 2601 | 4.1 | 419 | 3.4 | 1643 | 1.3 |
| 3231 | 1 | 2.4 | 47 | 0.3 | 34 | 0.1 | 258 | 0.4 | 61 | 0.5 | 167 | 0.1 |
| 3233 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3240 | 4 | 9.8 | 312 | 1.9 | 449 | 1.8 | 3679 | 5.8 | 736 | 5.9 | 1558 | 1.2 |
| TOTAL | 41 | 100.0 | 16797 | 100.0 | 24542 | 100.0 | 63879 | 100.0 | 12460 | 100.0 | 126091 | 100.0 |
| Mixed | | | | | | | | | | | | |
| 3211 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3212 | 1 | 50.0 | 51 | 3.9 | 47 | 1.8 | 272 | 2.4 | 27 | 0.7 | 145 | 8.7 |
| 3213 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3214 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3215 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3219 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3220 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3231 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3233 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3240 | 1 | 50.0 | 1258 | 96.1 | 2649 | 98.2 | 11122 | 97.6 | 3930 | 99.3 | 1516 | 91.3 |
| TOTAL | 2 | 100.0 | 1309 | 100.0 | 2696 | 100.0 | 11393 | 100.0 | 3957 | 100.0 | 1661 | 100.0 |

Source: Government of Sudan. The Industrial Survey 1981/82

Table 4.7: Performance Indices in Textile, Wearing Apparel and Leather Products By size 1981/82

| SIZE | SMALL ESTABLISHMENTS (<25 EMP) | | | | | | LARGE ESTABLISHMENTS (>25 EMP) | | | | | | TOTAL | | | | | |
|---------|--------------------------------|-----------|----------|-----------|----------|------------|--------------------------------|-----------|----------|-----------|----------|------------|-----------|-----------|----------|-----------|----------|------------|
| | GVA GO | GO EMP | K EMP | GVA NO | W EMP | GVA-W K | GVA GO | GO EMP | K EMP | GVA NO | W EMP | GVA-W K | GVA GO | GO EMP | K EMP | GVA NO | W EMP | GVA-W K |
| 3211 | 0.461 | 4.959 | 4.684 | 24.022 | 0.709 | 0.337 | 0.180 | 2.950 | 7.475 | 396.838 | 1.265 | (0.097) | 0.193 | 2.992 | 7.419 | 176.092 | 1.254 | 0.060 |
| 3212 | - | - | - | - | - | - | 0.189 | 6.387 | 1.711 | 125.667 | 1.109 | 0.058 | 0.189 | 6.387 | 1.711 | 125.667 | 1.109 | 0.058 |
| 3213 | - | - | - | - | - | - | 0.370 | 3.887 | 1.904 | 166.000 | 1.089 | 0.181 | 0.370 | 3.887 | 1.904 | 166.000 | 1.089 | 0.181 |
| 3215 | - | - | - | - | - | - | 0.250 | 4.737 | 1.731 | 43.750 | 0.786 | 0.243 | 0.250 | 4.737 | 1.731 | 43.750 | 0.786 | 0.243 |
| 3219 | (3.882) | 3.719 | - | (231.000) | 0.823 | - | - | - | - | - | - | - | (3.882) | 3.719 | - | (231.000) | 0.823 | - |
| 3220 | 0.237 | 7.949 | 3.927 | 26.000 | 0.652 | 0.314 | 0.150 | 3.689 | 2.317 | 41.900 | 0.856 | (0.114) | 0.184 | 4.366 | 2.579 | 33.950 | 0.823 | 0.038 |
| 3233 | 0.692 | 38.571 | 20.923 | 694.000 | 0.648 | 1.275 | - | - | - | - | - | - | 0.692 | 38.571 | 20.923 | 694.000 | 0.648 | 1.275 |
| 3231 | - | - | - | - | - | - | 0.370 | 3.369 | 3.495 | 485.000 | 1.169 | 0.022 | 0.370 | 3.369 | 3.495 | 485.000 | 1.169 | 0.022 |
| 3240 | 0.433 | 10.885 | 8.854 | 50.222 | 1.677 | 0.342 | 0.320 | 8.457 | 1.957 | 933.200 | 1.973 | 0.510 | 0.323 | 9.514 | 2.355 | 365.571 | 1.956 | 0.476 |
| Average | 0.444 | 12.057 | 7.440 | 70.213 | 0.798 | 0.612 | 0.219 | 3.428 | 5.610 | 336.770 | 1.282 | (0.081) | 0.244 | 3.726 | 6.639 | 187.014 | 1.266 | (0.054) |

Table 4.8: Performance Indices in the Textile, Wearing Apparel and Leather Products By Type of Ownership, 1981/82

| OWNERSHIP Sector | PUBLIC | | | PRIVATE | | | | | | MIXED | | | | | | | | |
|---------------------|------------------|------------------|-----------------|------------------|-----------------|-------------------|------------------|------------------|-----------------|------------------|-----------------|-------------------|------------------|------------------|-----------------|------------------|-----------------|-------------------|
| | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ |
| 3211 | 0.152 | 1.726 | 6.223 | 145.357 | 0.777 | (0.083) | 0.192 | 3.585 | 8.125 | 603.941 | 1.518 | (0.102) | - | - | - | - | - | - |
| 3212 | - | - | - | - | - | - | 0.203 | 6.598 | 1.493 | 175.000 | 1.145 | 0.131 | 0.099 | 5.333 | 2.843 | 27.000 | 0.922 | (-0.137) |
| 3213 | 0.535 | 5.657 | 1.600 | 212.000 | 1.943 | 0.679 | 0.322 | 3.569 | 1.959 | 150.667 | 0.936 | 0.109 | - | - | - | - | - | - |
| 3215 | - | - | - | - | - | - | 0.255 | 4.738 | 1.731 | 43.750 | 0.786 | 0.243 | - | - | - | - | - | - |
| 3220 | - | - | - | - | - | - | 0.161 | 3.669 | 2.317 | 41.900 | 0.856 | (0.114) | - | - | - | - | - | - |
| 3231 | 0.375 | 0.326 | 3.494 | 626.333 | 1.183 | 0.017 | 0.236 | 5.489 | 3.553 | 61.000 | 0.723 | 0.016 | - | - | - | - | - | - |
| 3240 | - | - | - | - | - | - | 0.200 | 11.792 | 4.994 | 184.000 | 1.439 | 0.184 | 0.353 | 8.841 | 1.205 | 3930.000 | 2.106 | 0.845 |
| Average | 0.220 | 2.011 | 5.745 | 229.220 | 0.851 | (0.070) | 0.195 | 3.840 | 7.509 | 303.902 | 1.461 | (0.095) | 0.347 | 8.704 | 1.268 | 1978.500 | 2.095 | 0.759 |

Table 4.9: The Structure of the Wood, Wood Products Including Furniture Sector By Size, 1981/82

| | <u>No of Est</u> | | <u>No of Empl.</u> | | <u>Wages/Salaries</u> | | <u>Gross Output</u> | | <u>Gross Value add.</u> | | <u>Capital</u> | |
|--|------------------|----------|--------------------|----------|-----------------------|----------|---------------------|----------|-------------------------|----------|----------------|----------|
| | <u>No</u> | <u>%</u> | <u>No</u> | <u>%</u> | <u>Value</u> | <u>%</u> | <u>Value</u> | <u>%</u> | <u>Value</u> | <u>%</u> | <u>Value</u> | <u>%</u> |
| All Establishments | | | | | | | | | | | | |
| 3311 | 35 | 19.2 | 626 | 29.9 | 478 | 17.8 | 1730 | 16.9 | 706 | 13.2 | 1220 | 8.2 |
| 3319 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3320 | 147 | 80.8 | 1465 | 70.1 | 2242 | 82.2 | 8488 | 83.1 | 4646 | 86.8 | 13723 | 91.8 |
| TOTAL | 182 | 100.0 | 2091 | 100.0 | 2720 | 100.0 | 10218 | 100.0 | 5352 | 100.0 | 14943 | 100.0 |
| Small Establishments (< 25 empl.) | | | | | | | | | | | | |
| 3311 | 31 | 17.9 | 207 | 14.1 | 165 | 7.6 | 851 | 10.2 | 198 | 4.3 | 521 | 3.9 |
| 3319 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3320 | 142 | 82.1 | 1260 | 85.9 | 2012 | 92.4 | 7510 | 89.8 | 4440 | 95.7 | 12999 | 96.1 |
| TOTAL | 173 | 100.0 | 1467 | 100.0 | 2177 | 100.0 | 8370 | 100.0 | 4638 | 100.0 | 13520 | 100.0 |
| Large Establishments (> 25 empl.) | | | | | | | | | | | | |
| 3311 | 4 | 44.4 | 419 | 67.2 | 313 | 57.7 | 879 | 47.6 | 508 | 65.7 | 699 | 49.1 |
| 3319 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3320 | 5 | 55.6 | 205 | 32.8 | 230 | 42.3 | 969 | 52.4 | 206 | 34.3 | 724 | 50.9 |
| TOTAL | 9 | 100.0 | 624 | 100.0 | 543 | 100.0 | 1848 | 100.0 | 773 | 100.0 | 1423 | 100.0 |

Source: Government of Sudan. The Industrial Survey, 1981/82.

Table 4.10: The Structure of the Wood, Wood Products Including Furniture By Type of Ownership 1981/82

| | No of Est. | | No of Empl. | | Wages/Salaries | | Gross Output | | Gross Value add. | | Capital | |
|----------------|------------|--------------|-------------|--------------|----------------|--------------|--------------|--------------|------------------|--------------|------------|--------------|
| | No | % | No | % | Value | % | Value | % | Value | % | Value | % |
| Public | | | | | | | | | | | | |
| 3311 | 4 | 80.0 | 419 | 93.3 | 313 | 85.1 | 879 | 99.0 | 508 | 99.1 | 699 | 100.0 |
| 3319 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3320 | 1 | 20.0 | 30 | 6.7 | 55 | 14.9 | 9 | 1.0 | 5 | 0.9 | - | - |
| TOTAL | 5 | 100.0 | 449 | 100.0 | 368 | 100.0 | 888 | 100.0 | 513 | 100.0 | 699 | 100.0 |
| Private | | | | | | | | | | | | |
| 3311 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3319 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3320 | 4 | 100.0 | 175 | 100.0 | 175 | 100.0 | 960 | 100.0 | 261 | 100.0 | 724 | 100.0 |
| TOTAL | 4 | 100.0 | 175 | 100.0 | 175 | 100.0 | 960 | 100.0 | 261 | 100.0 | 724 | 100.0 |
| Mixed | | | | | | | | | | | | |
| 3311 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3319 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3320 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | - | - | - | - | - | - | - | - | - | - | - | - |

Source: Government of Sudan. The Industrial Survey 1981/82

Table 4.11: Performance Indices in Wood, Wood Products Including Furniture By Size, 1981/82

| SIZE | SMALL ESTABLISHMENTS (< 25EMP) | | | | | | LARGE ESTABLISHMENTS (> 25EMP) | | | | | | TOTAL | | | | | |
|---------|--------------------------------|------------------|-----------------|------------------|-----------------|-------------------|--------------------------------|------------------|-----------------|------------------|-----------------|-------------------|------------------|------------------|-----------------|------------------|-----------------|-------------------|
| | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ |
| 3311 | 0.23 | 4.11 | 2.52 | 6.39 | 0.80 | 0.06 | 0.58 | 2.10 | 1.67 | 127.00 | 0.75 | 0.28 | 0.41 | 2.76 | 1.95 | 20.170 | 0.76 | 0.19 |
| 3320 | 0.59 | 5.97 | 10.32 | 31.27 | 1.60 | 0.19 | 0.27 | 4.73 | 3.53 | 53.20 | 1.12 | 0.05 | 0.55 | 5.76 | 9.30 | 31.605 | 1.52 | 0.17 |
| Average | 0.55 | 5.70 | 9.22 | 26.81 | 1.48 | 0.18 | 0.42 | 3.96 | 2.28 | 85.89 | 0.87 | 0.16 | 0.52 | 4.89 | 7.15 | 29.410 | 1.30 | 0.18 |

Table 4.12:
Performance Indices in the Wood, Wood Products and Furniture, By Type of Ownership, 1981/82

| Sector | <u>OWNERSHIP</u> | | | <u>PUBLIC</u> | | | | | | <u>PRIVATE</u> | | | | | | <u>MIXED</u> | | |
|---------|------------------|------------------|-----------------|------------------|-----------------|-------------------|------------------|------------------|-----------------|------------------|-----------------|-------------------|------------------|------------------|-----------------|------------------|-----------------|-------------------|
| | <u>GVA</u> GO | <u>GO</u> EMP | <u>K</u> EMP | <u>GVA</u> NO | <u>W</u> EMP | <u>GVA-W</u> K | <u>GVA</u> GO | <u>GO</u> EMP | <u>K</u> EMP | <u>GVA</u> NO | <u>W</u> EMP | <u>GVA-W</u> K | <u>GVA</u> GO | <u>GO</u> EMP | <u>K</u> EMP | <u>GVA</u> NO | <u>W</u> EMP | <u>GVA-W</u> K |
| 3311 | 0.58 | 2.10 | 1.67 | 127.00 | 0.75 | 0.28 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3320 | 0.56 | 0.30 | - | 5.00 | 1.83 | - | 0.27 | 5.49 | 4.14 | 65.25 | 1.00 | 0.12 | - | - | - | - | - | - |
| Average | 0.58 | 1.98 | 1.67 | 102.60 | 0.82 | 0.28 | 0.27 | 5.49 | 4.14 | 65.25 | 1.00 | 0.12 | - | - | - | - | - | - |

Table 4.13: The Structure of Paper, Paper Products, Printing and Publishing Sector By Size, 1981/82

| | No of Est | | No of Empl | | Wages/Salaries | | Gross Output | | Gross Value add. | | Capital | |
|--|-----------|-------|------------|-------|----------------|-------|--------------|-------|------------------|-------|---------|-------|
| | No | % | No | % | Value | % | Value | % | Value | % | Value | % |
| All Establishments | | | | | | | | | | | | |
| 3411 | 2 | 2.1 | 569 | 13.5 | 902 | 14.2 | 8057 | 25.1 | -484 | -5.4 | 3812 | 26.0 |
| 3412 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3420 | 95 | 97.9 | 3656 | 86.5 | 5469 | 85.8 | 24000 | 74.9 | 9401 | 105.5 | 10824 | 74.0 |
| TOTAL | 97 | 100.0 | 4225 | 100.0 | 6371 | 100.0 | 32057 | 100.0 | 8917 | 100.0 | 14636 | 100.0 |
| Small Establishments (< 25 empl.) | | | | | | | | | | | | |
| 3411 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3412 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3420 | 77 | 100.0 | 796 | 100.0 | 908 | 100.0 | 3244 | 100.0 | 814 | 100.0 | 4835 | 100.0 |
| TOTAL | 77 | 100.0 | 796 | 100.0 | 908 | 100.0 | 3244 | 100.0 | 814 | 100.0 | 4835 | 100.0 |
| Large Establishments (> 25 empl.) | | | | | | | | | | | | |
| 3411 | 2 | 10.0 | 569 | 16.6 | 902 | 16.5 | 8057 | 28.0 | -484 | -6.0 | 3812 | 38.9 |
| 3412 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3420 | 18 | 90.0 | 2860 | 83.4 | 4561 | 83.5 | 20756 | 72.0 | 8587 | 106.0 | 5989 | 61.1 |
| TOTAL | 20 | 100.0 | 3429 | 100.0 | 5462 | 100.0 | 28813 | 100.0 | 8103 | 100.0 | 9801 | 100.0 |

Source: Government of Sudan. The Industrial Survey, 1981/82.

Table 4.14: The Structure of the Paper, Paper Products, Printing and Publishing Sector By Type of Ownership 1981/82

| | <u>No of Est.</u> | | <u>No of Empl.</u> | | <u>Wages/Salaries</u> | | <u>Gross Output</u> | | <u>Gross Value add.</u> | | <u>Capital</u> | |
|----------------|-------------------|--------------|--------------------|--------------|-----------------------|--------------|---------------------|--------------|-------------------------|--------------|----------------|--------------|
| | <u>No</u> | <u>%</u> | <u>No</u> | <u>%</u> | <u>Value</u> | <u>%</u> | <u>Value</u> | <u>%</u> | <u>Value</u> | <u>%</u> | <u>Value</u> | <u>%</u> |
| Public | | | | | | | | | | | | |
| 3411 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3412 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3420 | 6 | 100.0 | 2100 | 100.0 | 3189 | 100.0 | 12507 | 100.0 | 6306 | 100.0 | 2527 | 100.0 |
| TOTAL | 6 | 100.0 | 2100 | 100.0 | 3189 | 100.0 | 12507 | 100.0 | 6306 | 100.0 | 2527 | 100.0 |
| Private | | | | | | | | | | | | |
| 3411 | 2 | 14.3 | 569 | 42.8 | 902 | 39.7 | 8057 | 49.4 | -484 | -26.9 | 3812 | 52.4 |
| 3412 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3420 | 12 | 85.7 | 760 | 57.2 | 1372 | 60.3 | 8250 | 50.6 | 2281 | 126.9 | 3461 | 47.6 |
| TOTAL | 14 | 100.0 | 1329 | 100.0 | 2273 | 100.0 | 16307 | 100.0 | 1796 | 100.0 | 7273 | 100.0 |
| Mixed | | | | | | | | | | | | |
| 3411 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3412 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3420 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | - | - | - | - | - | - | - | - | - | - | - | - |

Source: Government of Sudan. The Industrial Survey, 1981/82

Table 4.15: Performance Indices in the Paper, Paper Products, Printing and Publishing Sector by Size, 1981/82

| SIZE | SMALL ESTABLISHMENTS (<25 EMP) | | | | | | LARGE ESTABLISHMENTS (>25 EMP) | | | | | | TOTAL | | | | | |
|---------|---------------------------------|------------------|-----------------|------------------|-----------------|-------------------|---------------------------------|------------------|-----------------|------------------|-----------------|-------------------|------------------|------------------|-----------------|------------------|-----------------|-------------------|
| | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ |
| 3411 | - | - | - | - | - | - | (0.06) | 14.16 | 6.70 | (242.00) | 1.59 | (0.36) | (0.06) | 14.16 | 6.70 | (242.00) | 1.59 | (0.36) |
| 3420 | 0.25 | 4.08 | 6.07 | 10.57 | 1.14 | (0.02) | 0.41 | 7.26 | 2.09 | 477.06 | 1.59 | 0.67 | 0.39 | 6.56 | 2.96 | 98.96 | 1.50 | 0.36 |
| Average | 0.25 | 4.08 | 6.07 | 10.57 | 1.14 | (0.02) | 0.28 | 8.40 | 2.86 | 405.15 | 1.59 | 0.27 | 0.28 | 7.59 | 3.46 | 91.93 | 1.51 | 0.17 |

Table 4.16: Performance Indices in the Paper, Paper Products, Printing and Publishing By Type of Ownership, 1981/82

| <u>OWNERSHIP</u> | <u>PUBLIC</u> | | | | | | <u>PRIVATE</u> | | | | | <u>MIXED</u> | | | | | | | |
|------------------|---------------|------------------|------------------|-----------------|------------------|-----------------|-------------------|------------------|------------------|-----------------|------------------|-----------------|-------------------|------------------|------------------|-----------------|------------------|-----------------|-------------------|
| | <u>Sector</u> | <u>GVA</u> GO | <u>GO</u> EMP | <u>K</u> EMP | <u>GVA</u> NO | <u>W</u> EMP | <u>GVA-W</u> K | <u>GVA</u> GO | <u>GO</u> EMP | <u>K</u> EMP | <u>GVA</u> NO | <u>W</u> EMP | <u>GVA-W</u> K | <u>GVA</u> GO | <u>GO</u> EMP | <u>K</u> EMP | <u>GVA</u> NO | <u>W</u> EMP | <u>GVA-W</u> K |
| 3411 | - | - | - | - | - | - | (0.06) | 14.16 | 6.70 | (242.00) | 1.59 | (0.36) | - | - | - | - | - | - | - |
| 3420 | 0.50 | 5.96 | 1.20 | 1051.00 | 1.52 | 1.23 | 0.28 | 10.86 | 4.55 | 190.08 | 1.81 | 0.26 | - | - | - | - | - | - | - |
| Average | 0.50 | 5.96 | 1.20 | 1051.00 | 1.52 | 1.23 | 0.11 | 12.27 | 5.47 | 128.22 | 1.71 | (0.066) | - | - | - | - | - | - | - |

Table 4.17: The Structure of Chemicals, Chemical Products and Products of Coal and Petroleum Sector By Size, 1981/82

| | No of Est | | No of Empl. | | Wages/Salaries | | Gross Output | | Gross Value add. | | Capital | |
|--|------------|--------------|-------------|--------------|----------------|--------------|---------------|--------------|------------------|--------------|---------------|--------------|
| | No | % | No | % | Value | % | Value | % | Value | % | Value | % |
| All Establishments | | | | | | | | | | | | |
| 3511 | 7 | 5.9 | 214 | 4.0 | 445 | 3.8 | 6381 | 4.6 | 4239 | 12.4 | 1834 | 1.6 |
| 3512 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3521 | 2 | 1.7 | 413 | 7.7 | 1069 | 9.1 | 16261 | 11.7 | 1281 | 3.7 | 1365 | 1.2 |
| 3522 | 5 | 4.2 | 412 | 7.7 | 914 | 7.8 | 7459 | 5.4 | 2070 | 6.0 | 2297 | 2.0 |
| 3523 | 65 | 55.1 | 2299 | 43.1 | 4072 | 34.7 | 61078 | 43.9 | 6863 | 20.0 | 16008 | 14.0 |
| 3529 | 9 | 7.6 | 443 | 8.3 | 802 | 6.8 | 6281 | 4.5 | 1422 | 4.2 | 1836 | 1.6 |
| 3530 | 1 | 0.8 | 206 | 3.9 | 1941 | 16.6 | 9037 | 6.5 | 5126 | 15.0 | 24492 | 21.5 |
| 3540 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3551 | 1 | 0.8 | 425 | 8.0 | 1428 | 12.2 | 21311 | 15.3 | 10169 | 29.7 | 59356 | 52.0 |
| 3559 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3560 | 28 | 23.7 | 924 | 17.3 | 1052 | 9.0 | 11203 | 8.1 | 3062 | 8.9 | 6930 | 6.1 |
| TOTAL | 118 | 100.0 | 5336 | 100.0 | 11723 | 100.0 | 139011 | 100.0 | 34232 | 100.0 | 114118 | 100.0 |
| Small Establishments (< 25 empl.) | | | | | | | | | | | | |
| 3511 | 3 | 4.4 | 44 | 3.6 | 51 | 4.4 | 3556 | 11.7 | 3046 | 87.0 | 820 | 9.4 |
| 3512 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3521 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3522 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3523 | 39 | 56.5 | 763 | 61.9 | 855 | 73.7 | 18394 | 60.6 | -1334 | -38.1 | 3852 | 43.9 |
| 3529 | 7 | 10.1 | 94 | 7.6 | 19 | 1.6 | 3994 | 13.2 | 750 | 21.4 | 757 | 8.6 |
| 3530 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3540 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3551 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3559 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3560 | 20 | 29.0 | 331 | 26.9 | 236 | 20.3 | 4432 | 14.6 | 1038 | 29.7 | 3337 | 38.1 |
| TOTAL | 69 | 100.0 | 1232 | 100.0 | 1161 | 100.0 | 30376 | 100.0 | 3500 | 100.0 | 8766 | 100.0 |
| Large Establishments (> 25 empl.) | | | | | | | | | | | | |
| 3551 | 4 | 8.2 | 170 | 4.1 | 394 | 3.7 | 2825 | 2.6 | 1193 | 3.9 | 1014 | 1.0 |
| 3512 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3521 | 2 | 4.1 | 413 | 10.1 | 1069 | 10.1 | 16261 | 15.0 | 1281 | 4.2 | 1365 | 1.3 |
| 3522 | 5 | 10.2 | 412 | 10.0 | 914 | 8.7 | 7459 | 6.9 | 2070 | 6.7 | 2297 | 2.2 |
| 3523 | 26 | 53.1 | 1536 | 37.4 | 3217 | 30.5 | 42684 | 39.3 | 8197 | 26.7 | 12156 | 11.5 |
| 3529 | 2 | 4.1 | 349 | 8.5 | 783 | 7.4 | 2287 | 2.1 | 672 | 2.2 | 1079 | 1.0 |
| 3530 | 1 | 2.0 | 206 | 5.0 | 1941 | 18.4 | 9037 | 8.3 | 5126 | 16.7 | 24492 | 23.2 |
| 3540 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3551 | 1 | 2.0 | 425 | 10.4 | 1428 | 13.5 | 21311 | 19.6 | 10169 | 33.1 | 59356 | 56.3 |
| 3559 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3560 | 8 | 16.3 | 593 | 14.5 | 816 | 7.7 | 6771 | 6.2 | 2024 | 6.6 | 3593 | 3.4 |
| TOTAL | 49 | 100.0 | 4104 | 100.0 | 10562 | 100.0 | 108635 | 100.0 | 30732 | 100.0 | 105352 | 100.0 |

Source: Government of Sudan. The Industrial Survey, 1981/82.

Table 4.18: The Structure of Chemicals, Chemical Products and Products of Coal and Petroleum Sector By Type of Ownership, 1981/82

| | No of Est. | | No of Empl. | | Wages/Salaries | | Gross Output | | Gross Value add. | | Capital | |
|----------------|------------|--------------|-------------|--------------|----------------|--------------|---------------|--------------|------------------|--------------|---------------|--------------|
| | No | % | No | % | Value | % | Value | % | Value | % | Value | % |
| Public | | | | | | | | | | | | |
| 3511 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3512 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3521 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3522 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3523 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3529 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3530 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3540 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3551 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3559 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3560 | 1 | 100.0 | 85 | 100.0 | 82 | 100.0 | 539 | 100.0 | 253 | 100.0 | 5 | 100.0 |
| TOTAL | 1 | 100.0 | 85 | 100.0 | 82 | 100.0 | 539 | 100.0 | 253 | 100.0 | 5 | 100.0 |
| Private | | | | | | | | | | | | |
| 3511 | 4 | 8.3 | 170 | 4.2 | 394 | 3.8 | 2825 | 2.6 | 1193 | 3.9 | 1014 | 1.0 |
| 3512 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3521 | 2 | 4.2 | 413 | 10.3 | 1069 | 10.2 | 16261 | 15.0 | 1281 | 4.2 | 1365 | 1.3 |
| 3522 | 5 | 10.4 | 412 | 10.3 | 914 | 8.7 | 7459 | 6.9 | 2070 | 6.8 | 2297 | 2.2 |
| 3523 | 26 | 54.2 | 1536 | 38.2 | 3217 | 30.7 | 42684 | 39.5 | 8197 | 26.9 | 12156 | 11.5 |
| 3529 | 2 | 4.2 | 349 | 8.7 | 783 | 7.5 | 2287 | 2.1 | 672 | 2.2 | 1079 | 1.0 |
| 3530 | 1 | 2.1 | 206 | 5.1 | 1941 | 18.5 | 9037 | 8.4 | 5126 | 16.8 | 24492 | 23.2 |
| 3540 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3551 | 1 | 2.1 | 425 | 10.6 | 1428 | 13.6 | 21311 | 19.7 | 10169 | 33.4 | 59356 | 56.3 |
| 3559 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3560 | 7 | 14.6 | 508 | 12.6 | 734 | 7.0 | 6232 | 5.8 | 1770 | 5.8 | 3588 | 3.4 |
| TOTAL | 48 | 100.0 | 4019 | 100.0 | 10480 | 100.0 | 108097 | 100.0 | 30478 | 100.0 | 105345 | 100.0 |
| Mixed | | | | | | | | | | | | |
| 3511 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3512 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3521 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3522 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3523 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3529 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3530 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3540 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3551 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3559 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3560 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | - | - | - | - | - | - | - | - | - | - | - | - |

Source: Government of Sudan. The Industrial Survey, 1981/82.

Table 4.19: Performance Indices in the Chemicals and Chemical Products Including Products of Coal and Petroleum By Size, 1981/82

| SIZE | SMALL ESTABLISHMENTS (<25EMP) | | | | | | LARGE ESTABLISHMENTS (>25EMP) | | | | | | TOTAL | | | | | |
|---------|-------------------------------|-----------|----------|-----------|----------|------------|-------------------------------|-----------|----------|-----------|----------|------------|-----------|-----------|----------|-----------|----------|------------|
| | GVA GO | GO EMP | K EMP | GVA NO | W EMP | GVA-W K | GVA GO | GO EMP | K EMP | GVA NO | W EMP | GVA-W K | GVA GO | GO EMP | K EMP | GVA NO | W EMP | GVA-W K |
| 3511 | 0.86 | 80.818 | 18.636 | 1015.33 | 1.159 | 3.652 | 0.42 | 16.618 | 5.965 | 298.25 | 2.318 | 0.788 | 0.66 | 29.818 | 8.570 | 605.571 | 2.079 | 2.069 |
| 3521 | - | - | - | - | - | - | 0.08 | 39.373 | 3.305 | 640.50 | 2.588 | 0.155 | 0.08 | 39.373 | 3.305 | 640.500 | 2.588 | 0.155 |
| 3522 | - | - | - | - | - | - | 0.28 | 18.104 | 5.575 | 414.00 | 2.218 | 0.503 | 0.28 | 18.104 | 5.575 | 414.000 | 2.212 | 0.503 |
| 3523 | (0.07) | 24.107 | 5.048 | (34.21) | 1.121 | (0.568) | 0.19 | 27.789 | 7.914 | 315.27 | 2.094 | 0.409 | 0.11 | 26.567 | 6.963 | 105.585 | 1.771 | 0.174 |
| 3529 | 0.19 | 42.489 | 8.053 | 107.14 | 0.202 | 0.966 | 0.29 | 6.553 | 3.092 | 336.00 | 2.244 | (0.103) | 0.23 | 14.178 | 4.144 | 158.000 | 1.810 | 0.339 |
| 3530 | - | - | - | - | - | - | 0.57 | 43.869 | 118.893 | 5126.00 | 9.422 | 0.130 | 0.57 | 43.869 | 118.893 | 5126.000 | 9.422 | 0.130 |
| 3551 | - | - | - | - | - | - | 0.48 | 50.144 | 139.661 | 10169.00 | 3.360 | 0.147 | 0.48 | 50.144 | 139.661 | 10169.000 | 3.360 | 0.147 |
| 3560 | 0.23 | 13.390 | 10.082 | 51.90 | 0.715 | 0.240 | 0.30 | 11.418 | 6.059 | 253.00 | 1.376 | 0.336 | 0.27 | 12.124 | 7.500 | 109.357 | 1.139 | 0.290 |
| Average | 0.12 | 24.656 | 7.115 | 50.72 | 0.942 | 0.267 | 0.28 | 26.471 | 25.670 | 627.18 | 2.574 | 0.191 | 0.25 | 26.052 | 21.386 | 290.102 | 2.197 | 0.197 |

Table 4.20: Performance Indices In the Chemicals and Chemical Products and Products of Coal and Petroleum Sector By Type of Ownership 1981/82

| Sector | PUBLIC | | | | | | PRIVATE | | | | | MIXED | | | | | | |
|---------|-----------|-----------|----------|-----------|----------|------------|-----------|-----------|----------|-----------|----------|------------|-----------|-----------|----------|-----------|----------|------------|
| | GVA GO | GO EMP | K EMP | GVA NO | W EMP | GVA-W K | GVA GO | GO EMP | K EMP | GVA NO | W EMP | GVA-W K | GVA GO | GO EMP | K EMP | GVA NO | W EMP | GVA-W K |
| 3511 | - | - | - | - | - | - | 0.42 | 16.618 | 5.965 | 298.25 | 2.3 | 0.788 | - | - | - | - | - | - |
| 3521 | - | - | - | - | - | - | 0.08 | 39.373 | 3.305 | 640.50 | 2.588 | 0.155 | - | - | - | - | - | - |
| 3522 | - | - | - | - | - | - | 0.28 | 18.104 | 5.575 | 414.00 | 2.21 | 0.503 | - | - | - | - | - | - |
| 3523 | - | - | - | - | - | - | 0.19 | 27.789 | 7.914 | 315.267 | 2.094 | 0.410 | - | - | - | - | - | - |
| 3529 | - | - | - | - | - | - | 0.29 | 6.553 | 3.092 | 336.00 | 2.244 | (0.103) | - | - | - | - | - | - |
| 3530 | - | - | - | - | - | - | 0.57 | 43.869 | 118.893 | 5126.00 | 9.422 | 0.130 | - | - | - | - | - | - |
| 3551 | - | - | - | - | - | - | 0.48 | 50.144 | 139.661 | 10169.00 | 3.36 | 0.147 | - | - | - | - | - | - |
| 3559 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 3560 | 0.47 | 6.34 | 0.06 | 2.53 | 0.96 | 34.2 | 0.28 | 12.268 | 7.063 | 252.857 | 1.445 | 0.289 | - | - | - | - | - | - |
| Average | 0.47 | 6.34 | 0.06 | 2.53 | 0.96 | 34.2 | 0.28 | 26.896 | 26.212 | 634.958 | 2.608 | 0.190 | - | - | - | - | - | - |

Table 4.21: The Structure of the Other Non-Metallic Mineral Products Sector By Size, 1981/82

| | No of Est | | No of Empl. | | Wages/Salaries | Gross output | | Gross Value add. | | Capital | | |
|--|-----------|--------------|-------------|--------------|----------------|--------------|--------------|------------------|--------------|--------------|--------------|--------------|
| | No | % | No | % | Value | Value | % | Value | % | Value | % | |
| All Establishments | | | | | | | | | | | | |
| 3610 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3620 | 1 | 1.2 | 500 | 10.5 | 580 | 13.4 | 1010 | 3.4 | 526 | 4.8 | 2665 | 8.6 |
| 3691 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3692 | 71 | 87.7 | 3736 | 78.8 | 3419 | 79.1 | 25173 | 87.2 | 10554 | 95.5 | 13136 | 42.6 |
| 3699 | 9 | 11.1 | 505 | 10.7 | 323 | 7.5 | 2680 | 9.3 | -26 | -0.2 | 15065 | 48.8 |
| TOTAL | 81 | 100.0 | 4741 | 100.0 | 4322 | 100.0 | 28863 | 100.0 | 11054 | 100.0 | 30866 | 100.0 |
| Small Establishments (< 25 empl.) | | | | | | | | | | | | |
| 3610 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3620 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3691 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3692 | 64 | 94.1 | 1999 | 97.1 | 750 | 95.9 | 8220 | 95.1 | 4501 | 98.9 | 6018 | 88.3 |
| 3699 | 4 | 5.9 | 60 | 2.9 | 32 | 4.1 | 425 | 4.9 | 51 | 1.1 | 800 | 11.7 |
| TOTAL | 68 | 100.0 | 2059 | 100.0 | 782 | 100.0 | 8645 | 100.0 | 4552 | 100.0 | 6818 | 100.0 |
| Large Establishments (> 25 empl.) | | | | | | | | | | | | |
| 3610 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3620 | 1 | 7.7 | 500 | 18.6 | 580 | 16.4 | 1010 | 5.0 | 526 | 8.1 | 2665 | 11.1 |
| 3691 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3692 | 7 | 53.9 | 1737 | 64.8 | 2669 | 75.4 | 16953 | 83.9 | 6053 | 93.1 | 7118 | 29.6 |
| 3699 | 5 | 38.5 | 445 | 16.5 | 291 | 8.2 | 2255 | 11.2 | -77 | -1.2 | 14265 | 59.3 |
| TOTAL | 13 | 100.0 | 2682 | 100.0 | 3540 | 100.0 | 20219 | 100.0 | 6502 | 100.0 | 24048 | 100.0 |

Source: Government of Sudan. The Industrial Survey, 1981/82.

Table 4.22: The Structure of the Other Non-Metallic Mineral Products Sector by Type of Ownership, 1981/82

| | No of Est. | | No Empl. | | Wages/Salaries | | Gross Output | | Gross Value add. | | Capital | |
|----------------|------------|--------------|-------------|--------------|----------------|--------------|--------------|--------------|------------------|--------------|--------------|--------------|
| | No | % | No | % | Value | % | Value | % | Value | % | Value | % |
| Public | | | | | | | | | | | | |
| 3610 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3620 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3691 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3692 | 1 | 100.0 | 868 | 100.0 | 1865 | 100.0 | 10811 | 100.0 | 4487 | 100.0 | 1247 | 100.0 |
| 3699 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 1 | 100.0 | 868 | 100.0 | 1865 | 100.0 | 10811 | 100.0 | 4487 | 100.0 | 1247 | 100.0 |
| Private | | | | | | | | | | | | |
| 3610 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3620 | 1 | 9.1 | 500 | 40.1 | 580 | 49.2 | 1010 | 19.4 | 526 | 49.5 | 2665 | 15.3 |
| 3691 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3692 | 5 | 45.5 | 303 | 24.3 | 307 | 26.1 | 1954 | 37.4 | 613 | 57.7 | 450 | 2.6 |
| 3699 | 5 | 45.5 | 445 | 35.7 | 291 | 24.7 | 2255 | 43.2 | -76 | -7.2 | 14265 | 82.1 |
| TOTAL | 11 | 100.0 | 1248 | 100.0 | 1178 | 100.0 | 5219 | 100.0 | 1063 | 100.0 | 17380 | 100.0 |
| Mixed | | | | | | | | | | | | |
| 3610 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3620 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3691 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3692 | 1 | 100.0 | 566 | 100.0 | 497 | 100.0 | 4189 | 100.0 | 952 | 100.0 | 5420 | 100.0 |
| 3699 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 1 | 100.0 | 566 | 100.0 | 497 | 100.0 | 4189 | 100.0 | 952 | 100.0 | 5420 | 100.0 |

Source: Government of Sudan. The Industrial Survey, 1981/82

Table 4.23: Performance Indices in other Non-metallic Mineral Products Sector by size, 1981/82

| SIZE | SMALL ESTABLISHMENTS (25 EMP) | | | | | | LARGE ESTABLISHMENTS (25 EMP) | | | | | | TOTAL | | | | | |
|---------|--------------------------------|------------------|-----------------|------------------|-----------------|-------------------|--------------------------------|------------------|-----------------|------------------|-----------------|-------------------|------------------|------------------|-----------------|------------------|-----------------|-------------------|
| SECTOR | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ |
| 3620 | --- | --- | --- | --- | --- | --- | 0.521 | 2.020 | 5.330 | 526.00 | 1.160 | (0.020) | 0.521 | 2.020 | 5.330 | 526.000 | 1.160 | (0.020) |
| 3692 | 0.548 | 4.112 | 3.011 | 70.328 | 0.375 | 0.623 | 0.357 | 9.760 | 4.098 | 864.71 | 1.537 | 0.475 | 0.419 | 6.738 | 3.516 | 148.648 | 0.915 | 0.543 |
| 3699 | 0.120 | 7.083 | 13.333 | 12.750 | 0.523 | 0.024 | (0.034) | 5.067 | 32.056 | (15.40) | 0.654 | (0.026) | (0.010) | 5.307 | 29.832 | (2.889) | 0.640 | (0.023) |
| Average | 0.527 | 4.199 | 3.311 | 66.941 | 0.380 | 0.553 | 0.322 | 7.539 | 8.966 | 500.15 | 1.320 | 0.123 | 0.383 | 6.088 | 6.510 | 136.469 | 0.912 | 0.218 |

Table 4.24: Performance Indices in the Non-metallic Minerals Sector by type of ownership, 1981/82

| OWNERSHIP Sector | PUBLIC | | | | | | PRIVATE | | | | | | MIXED | | | | | |
|---------------------|------------------|------------------|-----------------|------------------|-----------------|-------------------|------------------|------------------|-----------------|------------------|-----------------|-------------------|------------------|------------------|-----------------|------------------|-----------------|-------------------|
| | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ |
| 3620 | --- | --- | --- | --- | --- | --- | 0.521 | 2.020 | 5.330 | 526.00 | 1.160 | (0.020) | --- | --- | --- | --- | --- | --- |
| 3692 | 0.415 | 12.455 | 1.437 | 4487.00 | 2.149 | 2.103 | 0.314 | 6.449 | 1.485 | 122.60 | 1.013 | 0.680 | 0.227 | 7.401 | 9.576 | 952.00 | 0.878 | 0.084 |
| 3699 | --- | --- | --- | --- | --- | --- | (0.034) | 5.067 | 32.056 | (15.20) | 0.654 | --- | --- | --- | --- | --- | --- | --- |
| Average | 0.415 | 12.455 | 1.437 | 4487.00 | 2.149 | 2.103 | 0.204 | 4.182 | 13.926 | 96.64 | 0.944 | (0.007) | 0.227 | 7.401 | 9.576 | 952.00 | 0.878 | 0.084 |

Table 4.25: The Structure of the Basic Metals Sector By Size, 1981/82

| | <u>No of Est</u> | | <u>No of Empl.</u> | | <u>Wages/Salaries</u> | | <u>Gross Output</u> | | <u>Gross Value add.</u> | | <u>Capital</u> | |
|--|------------------|----------|--------------------|----------|-----------------------|----------|---------------------|----------|-------------------------|----------|----------------|----------|
| | <u>No</u> | <u>%</u> | <u>No</u> | <u>%</u> | <u>Value</u> | <u>%</u> | <u>Value</u> | <u>%</u> | <u>Value</u> | <u>%</u> | <u>Value</u> | <u>%</u> |
| All Establishments | | | | | | | | | | | | |
| 3710 | 5 | 41.7 | 332 | 42.7 | 595 | 40.4 | 2621 | 15.1 | 543 | 7.5 | 697 | 25.4 |
| 3720 | 7 | 58.3 | 445 | 57.3 | 876 | 59.6 | 14752 | 84.9 | 6679 | 92.5 | 2052 | 74.6 |
| TOTAL | 12 | 100.0 | 777 | 100.0 | 1471 | 100.0 | 17372 | 100.0 | 7222 | 100.0 | 2749 | 100.0 |
| Small Establishments (< 25 Empl.) | | | | | | | | | | | | |
| 3710 | 2 | 50.0 | 30 | 46.9 | 22 | 45.2 | 97 | 60.7 | 49 | 70.7 | 81 | 23.3 |
| 3720 | 2 | 50.0 | 34 | 53.1 | 27 | 54.8 | 63 | 39.3 | 20 | 29.3 | 267 | 76.7 |
| TOTAL | 4 | 100.0 | 64 | 100.0 | 49 | 100.0 | 159 | 100.0 | 69 | 100.0 | 348 | 100.0 |
| Large Establishments (> 25 Empl.) | | | | | | | | | | | | |
| 3710 | 3 | 37.5 | 302 | 42.4 | 573 | 40.3 | 2524 | 14.7 | 494 | 6.9 | 616 | 25.7 |
| 3720 | 5 | 62.5 | 411 | 57.6 | 849 | 59.7 | 14689 | 83.3 | 6659 | 93.1 | 1785 | 74.3 |
| TOTAL | 8 | 100.0 | 713 | 100.0 | 1422 | 100.0 | 17213 | 100.0 | 7153 | 100.0 | 2401 | 100.0 |

Source: Government of Sudan. The Industrial Survey, 1981/82.

Table 4.26: The Structure of the Basic Metals Sector by Type of Ownership, 1981/82

| | <u>No of Est.</u> | | <u>No of Empl.</u> | | <u>Wages/Salaries</u> | | <u>Gross Output</u> | | <u>Gross Value add.</u> | | <u>Capital</u> | |
|----------------|-------------------|--------------|--------------------|--------------|-----------------------|--------------|---------------------|--------------|-------------------------|--------------|----------------|--------------|
| | <u>No</u> | <u>%</u> | <u>No</u> | <u>%</u> | <u>Value</u> | <u>%</u> | <u>Value</u> | <u>%</u> | <u>Value</u> | <u>%</u> | <u>Value</u> | <u>%</u> |
| Public | | | | | | | | | | | | |
| 3710 | 1 | 100.0 | 221 | 100.0 | 344 | 100.0 | 250 | 100.0 | 89 | 100.0 | 195 | 100.0 |
| 3720 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | 1 | 100.0 | 221 | 100.0 | 344 | 100.0 | 250 | 100.0 | 89 | 100.0 | 195 | 100.0 |
| Private | | | | | | | | | | | | |
| 3710 | 2 | 28.6 | 81 | 16.5 | 230 | 21.3 | 2274 | 13.4 | 405 | 5.7 | 421 | 19.1 |
| 3720 | 5 | 71.4 | 411 | 83.5 | 849 | 78.7 | 14685 | 86.6 | 6659 | 94.3 | 1785 | 80.9 |
| TOTAL | 7 | 100.0 | 492 | 100.0 | 1078 | 100.0 | 16963 | 100.0 | 7064 | 100.0 | 2206 | 100.0 |
| Mixed | | | | | | | | | | | | |
| 3710 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3720 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | - | - | - | - | - | - | - | - | - | - | - | - |

Source: Government of Sudan. The Industrial Survey, 1981/82.

Table 4.27: Performance Indices In the Basic Metals Sector By Size, 1981/82

| SIZE | SMALL ESTABLISHMENTS (<25EMP) | | | | | | LARGE ESTABLISHMENTS (>25EMP) | | | | | | TOTAL | | | | | |
|---------|--------------------------------|------------------|-----------------|------------------|-----------------|-------------------|--------------------------------|------------------|-----------------|------------------|-----------------|-------------------|------------------|------------------|-----------------|------------------|-----------------|-------------------|
| SECTOR | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ |
| 3710 | 0.51 | 3.23 | 2.70 | 24.50 | 0.73 | 0.33 | 0.20 | 8.36 | 2.04 | 164.67 | 1.90 | (0.12) | 0.21 | 7.89 | 2.10 | 108.60 | 1.79 | (0.07) |
| 3720 | 0.32 | 1.85 | 7.85 | 10.00 | 0.79 | (0.03) | 0.45 | 33.31 | 4.34 | 1331.80 | 2.07 | 3.25 | 0.45 | 33.15 | 4.61 | 954.14 | 1.97 | 2.83 |
| Average | 0.43 | 2.48 | 5.44 | 17.25 | 0.77 | 0.06 | 0.42 | 24.14 | 3.37 | 894.13 | 1.99 | 2.39 | 0.42 | 22.36 | 3.54 | 601.83 | 1.89 | 2.09 |

Table 4.28: Performance Indices In the Basic Metals Sector By Type of Ownership, 1981/82

| OWNERSHIP Sector | PUBLIC | | | | | | PRIVATE | | | | MIXED | | | | | | | |
|---------------------|------------------|------------------|-----------------|------------------|-----------------|-------------------|------------------|------------------|-----------------|------------------|-----------------|-------------------|------------------|------------------|-----------------|------------------|-----------------|-------------------|
| | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ |
| 3710 | 0.356 | 1.131 | 0.882 | 89.00 | 1.557 | (1.308) | 0.178 | 28.074 | 5.198 | 202.50 | 2.840 | 0.42 | - | - | - | - | - | - |
| 3720 | - | - | - | - | - | - | 0.453 | 35.730 | 4.343 | 1331.80 | 2.066 | 3.25 | - | - | - | - | - | - |
| Average | 0.356 | 1.131 | 0.882 | 89.00 | 1.557 | (1.308) | 0.416 | 34.478 | 4.484 | 1009.14 | 2.191 | 2.71 | - | - | - | - | - | - |

Table 4.29: The Structure of the Metal Fabricating and Machinery Sector By Size, 1981/82

| | No of Est | | No of Empl. | | Wages/Salaries | | Gross Output | | Gross Value add. | | Capital | |
|--|-----------|-------|-------------|-------|----------------|-------|--------------|-------|------------------|-------|---------|-------|
| | No | % | No | % | Value | % | Value | % | Value | % | Value | % |
| All Establishments | | | | | | | | | | | | |
| 3811 | 160 | 18.7 | 1451 | 13.4 | 1023 | 6.4 | 6514 | 7.2 | 2152 | 5.8 | 2920 | 6.4 |
| 3812 | 295 | 34.5 | 2577 | 23.9 | 2430 | 15.1 | 16395 | 18.1 | 8709 | 23.6 | 7229 | 15.8 |
| 3813 | 11 | 1.3 | 340 | 3.1 | 353 | 2.2 | 2293 | 2.5 | 766 | 2.1 | 2576 | 5.6 |
| 3819 | 167 | 19.6 | 2676 | 24.8 | 3677 | 22.9 | 15107 | 16.7 | 6688 | 18.1 | 4962 | 10.8 |
| 3821 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3822 | 2 | 0.2 | 94 | 0.9 | 128 | 0.8 | 176 | 0.2 | 90 | 0.2 | 306 | 0.7 |
| 3823 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3833 | 24 | 2.8 | 755 | 7.0 | 4113 | 25.6 | 8479 | 9.4 | 2087 | 5.6 | 2998 | 6.5 |
| 3839 | 29 | 3.4 | 945 | 8.7 | 1977 | 12.3 | 25457 | 28.1 | 8401 | 22.7 | 15444 | 33.7 |
| 3842 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3843 | 166 | 19.4 | 1965 | 18.2 | 2342 | 14.6 | 16180 | 17.9 | 8048 | 21.8 | 9417 | 20.5 |
| TOTAL | 854 | 100.0 | 10803 | 100.0 | 16043 | 100.0 | 90601 | 100.0 | 36940 | 100.0 | 45852 | 100.0 |
| Small Establishments (< 25 Empl.) | | | | | | | | | | | | |
| 3811 | 156 | 19.0 | 1183 | 18.4 | 824 | 10.1 | 3583 | 10.5 | 1971 | 10.8 | 832 | 5.0 |
| 3812 | 286 | 34.9 | 1936 | 30.1 | 1321 | 16.1 | 9748 | 28.5 | 6010 | 32.8 | 4329 | 26.2 |
| 3813 | 9 | 1.1 | 207 | 3.2 | 149 | 1.8 | 2250 | 6.6 | 733 | 4.0 | 2229 | 13.5 |
| 3819 | 161 | 19.6 | 1165 | 18.1 | 1405 | 17.1 | 6864 | 20.1 | 3555 | 19.4 | 2167 | 13.1 |
| 3821 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3822 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3823 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3833 | 19 | 2.3 | 171 | 2.7 | 2736 | 33.4 | 97 | 0.3 | 95 | 0.5 | 6 | 0.0 |
| 3839 | 26 | 3.2 | 220 | 3.4 | 348 | 4.3 | 2606 | 7.6 | 357 | 2.0 | 142 | 0.9 |
| 3842 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3843 | 163 | 19.9 | 1549 | 24.1 | 1415 | 17.3 | 9048 | 26.5 | 5579 | 30.5 | 6821 | 41.3 |
| TOTAL | 820 | 100.0 | 6431 | 100.0 | 8198 | 100.0 | 34196 | 100.0 | 18299 | 100.0 | 16526 | 100.0 |
| Large Establishments (> 25 Empl.) | | | | | | | | | | | | |
| 3811 | 4 | 11.8 | 268 | 6.1 | 199 | 2.5 | 2931 | 5.2 | 181 | 1.0 | 2088 | 7.1 |
| 3812 | 9 | 26.5 | 641 | 14.7 | 1109 | 14.1 | 6647 | 11.8 | 2699 | 14.5 | 2900 | 9.9 |
| 3813 | 2 | 5.9 | 133 | 3.0 | 204 | 2.6 | 43 | 0.1 | 33 | 0.2 | 347 | 1.2 |
| 3819 | 6 | 17.7 | 1511 | 34.6 | 2272 | 29.0 | 8243 | 14.6 | 3133 | 16.8 | 2795 | 9.5 |
| 3821 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3822 | 2 | 5.9 | 94 | 2.2 | 128 | 1.6 | 176 | 0.3 | 90 | 0.5 | 306 | 1.0 |
| 3823 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3833 | 5 | 14.7 | 584 | 13.4 | 1377 | 17.6 | 8382 | 14.9 | 1992 | 10.7 | 2992 | 10.2 |
| 3839 | 3 | 8.8 | 725 | 16.6 | 1629 | 20.8 | 22851 | 40.5 | 8044 | 43.2 | 15302 | 52.2 |
| 3842 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3843 | 3 | 8.8 | 416 | 9.5 | 927 | 11.8 | 7132 | 12.6 | 2469 | 13.2 | 2596 | 8.9 |
| TOTAL | 34 | 100.0 | 4372 | 100.0 | 7845 | 100.0 | 56405 | 100.0 | 18641 | 100.0 | 29326 | 100.0 |

Source: Government of Sudan. The Industrial Survey, 1981/82.

Table 4.30: The Structure of the Metal Fabricating and Machinery Sector by Type of Ownership 1981/82

| | No of Est. | | No of Empl. | | Wages/Salaries | | Gross Output | | Gross Value add. | | Capital | |
|----------------|------------|--------------|-------------|--------------|----------------|--------------|--------------|--------------|------------------|--------------|--------------|--------------|
| | No | % | No | % | Value | % | Value | % | Value | % | Value | % |
| Public | | | | | | | | | | | | |
| 3811 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3812 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3813 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3819 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3821 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3822 | 1 | 50.0 | 29 | 21.5 | 66 | 16.5 | 141 | 2.4 | 73 | 3.5 | 27 | 8.0 |
| 3823 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3833 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3839 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3842 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3843 | 1 | 50.0 | 106 | 78.5 | 333 | 83.5 | 5643 | 97.6 | 2012 | 96.5 | 312 | 92.0 |
| TOTAL | 2 | 100.0 | 135 | 100.0 | 399 | 100.0 | 5784 | 100.0 | 2085 | 100.0 | 339 | 100.0 |
| Private | | | | | | | | | | | | |
| 3811 | 4 | 12.9 | 268 | 6.6 | 199 | 2.8 | 2931 | 5.9 | 181 | 1.1 | 2088 | 7.7 |
| 3812 | 9 | 29.0 | 641 | 15.9 | 1109 | 15.8 | 6647 | 13.4 | 2699 | 16.6 | 2900 | 10.8 |
| 3813 | 2 | 6.5 | 133 | 3.3 | 204 | 2.9 | 43 | 0.1 | 33 | 0.2 | 347 | 1.3 |
| 3819 | 6 | 19.4 | 1511 | 37.4 | 2272 | 32.4 | 8243 | 16.6 | 3133 | 19.3 | 2795 | 10.4 |
| 3821 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3822 | 1 | 3.2 | 65 | 1.6 | 62 | 0.9 | 34 | 0.1 | 17 | 0.1 | 279 | 1.0 |
| 3823 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3833 | 5 | 16.1 | 584 | 14.5 | 1377 | 19.7 | 8382 | 16.9 | 1992 | 12.3 | 2992 | 11.1 |
| 3839 | 3 | 9.7 | 725 | 18.0 | 1629 | 23.3 | 22851 | 46.1 | 8044 | 49.5 | 15302 | 56.8 |
| 3842 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3843 | 1 | 3.2 | 113 | 2.8 | 151 | 2.2 | 397 | 0.8 | 167 | 1.0 | 341 | 0.9 |
| TOTAL | 31 | 100.0 | 4040 | 100.0 | 7003 | 100.0 | 49529 | 100.0 | 16266 | 100.0 | 26944 | 100.0 |
| Mixed | | | | | | | | | | | | |
| 3811 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3812 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3813 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3819 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3821 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3822 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3823 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3833 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3839 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3842 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3843 | 1 | 100.0 | 197 | 100.0 | 444 | 100.0 | 1092 | 100.0 | 290 | 100.0 | 2042 | 100.0 |
| TOTAL | 1 | 100.0 | 197 | 100.0 | 444 | 100.0 | 1092 | 100.0 | 290 | 100.0 | 2042 | 100.0 |

Source: Government of Sudan. The Industrial Survey, 1981/82.

Table 4.31: Performance Indices In the Metal Fabricating and Machinery Sector By Size, 1981/82

| SIZE | SMALL ESTABLISHMENTS (<25EMP) | | | | | | LARGE ESTABLISHMENTS (>25 EMP) | | | | | | TOTAL | | | | | |
|---------|-------------------------------|-----------|----------|-----------|----------|------------|--------------------------------|-----------|----------|-----------|----------|------------|-----------|-----------|----------|-----------|----------|------------|
| | GVA GO | GO EMP | K EMP | GVA NO | W EMP | GVA-W K | GVA GO | GO EMP | K EMP | GVA NO | W EMP | GVA-W K | GVA GO | GO EMP | K EMP | GVA NO | W EMP | GVA-W K |
| 3811 | 0.550 | 3.028 | 0.703 | 12.635 | 0.697 | 1.379 | 0.062 | 10.937 | 7.791 | 45.250 | 0.743 | (0.009) | 0.330 | 4.489 | 2.012 | 14.450 | 0.705 | 0.387 |
| 3812 | 0.616 | 5.035 | 2.236 | 21.014 | 0.682 | 1.083 | 0.406 | 10.370 | 4.524 | 299.890 | 1.730 | 0.548 | 0.531 | 6.362 | 2.805 | 29.522 | 0.943 | 0.868 |
| 3813 | 0.326 | 10.870 | 10.768 | 81.444 | 0.720 | 0.262 | 0.767 | 0.323 | 2.609 | 16.500 | 1.534 | (0.493) | 0.334 | 6.744 | 7.576 | 69.636 | 1.038 | 0.160 |
| 3819 | 0.518 | 5.892 | 1.860 | 22.081 | 1.206 | 0.992 | 0.380 | 5.455 | 1.850 | 522.167 | 1.504 | 0.308 | 0.443 | 5.645 | 1.854 | 40.04 | 1.374 | 0.607 |
| 3822 | - | - | - | - | - | - | 0.511 | 1.872 | 3.255 | 45.000 | 1.362 | (0.124) | 0.511 | 1.872 | 3.255 | 45.000 | 1.362 | (0.124) |
| 3833 | 0.979 | 0.567 | 0.035 | 5.000 | (?) | (?) | 0.238 | 14.352 | 5.123 | 398.400 | 2.358 | 0.206 | 0.246 | 11.230 | 3.971 | 86.958 | (?) | (0.675) |
| 3839 | 0.137 | 11.845 | 0.645 | 13.731 | 1.582 | 0.063 | 0.352 | 31.519 | 21.106 | 2681.333 | 2.247 | 0.419 | 0.330 | 26.939 | 16.343 | 289.689 | 2.092 | 0.416 |
| 3843 | 0.617 | 5.841 | 4.403 | 34.227 | 0.913 | 0.610 | 0.346 | 17.144 | 6.240 | 823.000 | 2.228 | 0.594 | 0.497 | 8.234 | 4.792 | 48.482 | 1.192 | 0.606 |
| Average | 0.535 | 5.317 | 2.570 | 22.316 | 1.274 | 0.611 | 0.330 | 12.901 | 6.707 | 548.264 | 1.794 | 0.368 | 0.408 | 8.387 | 4.244 | 43.255 | 1.485 | 0.456 |

Table 4.32: Performance Indices In the Metal Fabricating and Manufacturing Sector By Type of Ownership 1981/82

| OWNERSHIP Sector | PUBLIC | | | PRIVATE | | | | | | | MIXED | | | | | | | |
|---------------------|------------------|------------------|-----------------|------------------|-----------------|-------------------|------------------|------------------|-----------------|------------------|-----------------|-------------------|------------------|------------------|-----------------|------------------|-----------------|-------------------|
| | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ |
| 3811 | - | - | - | - | - | - | 0.062 | 10.937 | 7.791 | 45.250 | 0.743 | (0.009) | - | - | - | - | - | - |
| 3812 | - | - | - | - | - | - | 0.406 | 10.370 | 4.524 | 299.890 | 1.730 | 0.548 | - | - | - | - | - | - |
| 3813 | - | - | - | - | - | - | 0.767 | 0.323 | 2.609 | 16.500 | 1.534 | (0.493) | - | - | - | - | - | - |
| 3819 | - | - | - | - | - | - | 0.380 | 5.455 | 1.850 | 522.167 | 1.504 | 0.308 | - | - | - | - | - | - |
| 3822 | 0.518 | 4.862 | 0.931 | 73.000 | 2.276 | 0.259 | 0.500 | 0.523 | 4.292 | 17.000 | 0.954 | (0.161) | - | - | - | - | - | - |
| 3833 | - | - | - | - | - | - | 0.238 | 14.352 | 5.123 | 398.400 | 2.358 | 0.206 | - | - | - | - | - | - |
| 3839 | - | - | - | - | - | - | 0.352 | 31.513 | 21.106 | 2681.330 | 2.247 | 0.419 | - | - | - | - | - | - |
| 3843 | 0.357 | 53.236 | 2.943 | 2012.000 | 3.142 | 5.381 | 0.421 | 3.513 | 2.132 | 167.000 | 1.336 | 0.066 | 0.266 | 5.543 | 10.365 | 290.00 | 2.254 | (0.075) |
| Average | 0.360 | 12.844 | 2.519 | 1042.500 | 2.948 | 4.962 | 0.328 | 12.260 | 6.669 | 524.710 | 1.733 | 0.344 | 0.266 | 5.543 | 10.365 | 290.00 | 2.254 | (0.075) |

Table 4.33: The Structure of Other Manufacturing Industries By Size, 1981/82

| Others | | No of Est | | No of Empl. | | Wages/Salaries | | Gross Output | | Gross value add. | | Capital | |
|--|--|-----------|-------|-------------|-------|----------------|-------|--------------|-------|------------------|-------|---------|-------|
| | | No | % | No | % | Value | % | Value | % | Value | % | Value | % |
| All Establishments | | | | | | | | | | | | | |
| 3901 | | 2 | 100.0 | 382 | 100.0 | 551 | 100.0 | 6846 | 100.0 | 337 | 100.0 | 2165 | 100.0 |
| TOTAL | | 2 | 100.0 | 382 | 100.0 | 551 | 100.0 | 6846 | 100.0 | 337 | 100.0 | 2165 | 100.0 |
| Small Establishments (< 25 empl.) | | | | | | | | | | | | | |
| 3901 | | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | | - | - | - | - | - | - | - | - | - | - | - | - |
| Large Establishment (> 25 empl.) | | | | | | | | | | | | | |
| 3901 | | 2 | 100.0 | 382 | 100.0 | 551 | 100.0 | 6846 | 100.0 | 337 | 100.0 | 2165 | 100.0 |
| TOTAL | | 2 | 100.0 | 382 | 100.0 | 551 | 100.0 | 6846 | 100.0 | 337 | 100.0 | 2165 | 100.0 |

Source: Government of Sudan. The Industrial Survey, 1981/82.

Table 4.34: The Structure of Other Manufacturing Industries by Type of Ownership, 1981/82

| | No of Est. | | No of Empl. | | Wages/Salaries | | Gross Output | | Gross Value add. | | Capital | |
|---------|------------|-------|-------------|-------|----------------|-------|--------------|-------|------------------|-------|---------|-------|
| | No | % | No | % | Value | % | Value | % | Value | % | Value | % |
| Public | | | | | | | | | | | | |
| 3901 | 1 | 100.0 | 200 | 100.0 | 333 | 100.0 | 104 | 100.0 | -332 | 100.0 | 725 | 100.0 |
| TOTAL | 1 | 100.0 | 200 | 100.0 | 333 | 100.0 | 104 | 100.0 | -332 | 100.0 | 725 | 100.0 |
| Private | | | | | | | | | | | | |
| 3901 | 1 | 100.0 | 182 | 100.0 | 218 | 100.0 | 6743 | 100.0 | 669 | 100.0 | 1440 | 100.0 |
| TOTAL | 1 | 100.0 | 182 | 100.0 | 218 | 100.0 | 6743 | 100.0 | 669 | 100.0 | 1440 | 100.0 |
| Mixed | | | | | | | | | | | | |
| 3901 | - | - | - | - | - | - | - | - | - | - | - | - |
| TOTAL | - | - | - | - | - | - | - | - | - | - | - | - |

Source: Government of Sudan. The Industrial Survey, 1981/82.

Table 4.35: Performance Indices of Other Industries Not Elsewhere Classified by size 1981/82

| SIZE | SMALL ESTABLISHMENTS (< 25 EMP) | | | | | | LARGE ESTABLISHMENTS (> 25 EMP) | | | | | | TOTAL | | | | | |
|---------|---------------------------------|------------------|-----------------|------------------|-----------------|-------------------|---------------------------------|------------------|-----------------|------------------|-----------------|-------------------|------------------|------------------|-----------------|------------------|-----------------|-------------------|
| | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ | $\frac{GVA}{GO}$ | $\frac{GO}{EMP}$ | $\frac{K}{EMP}$ | $\frac{GVA}{NO}$ | $\frac{W}{EMP}$ | $\frac{GVA-W}{K}$ |
| 3901 | - | - | - | - | - | - | 0.049 | 17.924 | 5.668 | 168.500 | 1.442 | (0.099) | 0.049 | 17.924 | 5.668 | 168.500 | 1.442 | (0.099) |
| Average | - | - | - | - | - | - | 0.049 | 17.924 | 5.668 | 168.500 | 1.442 | (0.099) | 0.049 | 17.924 | 5.668 | 168.500 | 1.442 | (0.099) |

Table 4.36 Performance Indices for Other Manufacturing Industries m.e.c. By Type of Ownership

| Ownership Sector | PUBLIC | | | PRIVATE | | | MIXED | | | GVA-W | | | | | | | | |
|---------------------|-----------|-----------|----------|-----------|----------|------------|-----------|-----------|----------|-----------|----------|------------|---|---|---|---|---|---|
| | GVA GO | GO EMP | K EMP | GVA NO | W EMP | GVA-W K | GVA GO | GO EMP | K EMP | GVA NO | W EMP | GVA-W K | | | | | | |
| 3901 | (3.192) | 0.520 | 3.625 | (332.0) | 1.665 | (0.917) | 0.099 | 37.049 | 7.912 | 669.00 | 1.198 | 0.313 | - | - | - | - | - | - |
| Average | (3.192) | 0.520 | 3.625 | (332.0) | 1.665 | (0.917) | 0.099 | 37.049 | 7.912 | 669.00 | 1.198 | 0.313 | - | - | - | - | - | - |

Chapter Five

Non-Operating Establishments: Anatomy of Failure

5.0 Introduction

It is in the nature of things that in any economy some sectors boom and prosper and others fail and disappear. It is this process that Schumpeter calls "Creative Destruction", which propels the system forward and sustains growth and development in a market or capitalist economy. Failure in this system is of the inefficient and therefore the undesirable. The "Sun-Rise" industries are the "fit" industries those that are efficient and, therefore, needed and desirable. But does this framework apply to the development process in typically non-market or partly capitalist economies such as the one in existence in Sudan today?

With shortages of raw materials and spare parts, interruption of energy supplies, migration of skilled labour, disputes among owners and processing bottlenecks as the main explanatory reasons of failure in Sudan, it is unreasonable to ascribe failure and success to a creative process of the market. If anything these factors are beyond the ability of the entrepreneur to contend with and are as such external constraints imposed on him by the system at large. Only in the absence of these obstacles would the entrepreneur be held accountable for his fate and failure. Nevertheless, it is instructive to wonder why should some firms buckle under these external obstacles, whereas other entrepreneurs facing these same difficulties are able to continue to prosper. This takes us into a detailed study of the failures hoping to pin-point the major reasons that forced their

shut-down and to separate problems inherent to the environment from those of inefficiencies internal to the firm.

5.1 Failure: A Macro-Perspective

A total of 74 establishments were found to have ceased operation in 1981/82. All of these are in the large establishment category; i.e., they employ more than 25 workers each. This represents a 17.5 percent of the total establishments in this category. In other words, more than 1 out of 6 establishments have failed (shut-down) in 1981/82. This is a rather high percentage of large establishments. Indeed, small establishments appear and disappear more regularly and at high frequencies in most countries whether developed or developing. But their impact on the economy at large is usually insignificant to create a major concern. But when "large" establishments disappear, their impact is usually felt and recognized. This is all the more disturbing when the failures are for reasons beyond or different from the normal business or commercial risks.

The highest percentage of failure is in the Northern region where 23 percent of the total establishments (operating and non-operating) have failed. The lowest ratio of failure is in the Eastern region where only 1 in 8 appear to have shut-down in 1981/82.

At the sectoral level, the largest percentage of failures were in other non-metallic minerals excluding petroleum and coal products (sector 36). The failure rate in this sector exceeded 27.7 percent. The lowest failure rate is 10.5 percent in the fabricated metal and machinery sector.

The failure rates by sector and region are presented in Table 5.1. It is clear from these results that failure rates differ between regions and sectors. There are a few failure rates that represent 50 percent. This is particularly the case in the textile and leather products sector in the Northern region and the paper and paper products in the Eastern region. Indeed, whereas only few sectors have failed in the outlying regions, there is a concentration of failures in the Khartoum and Central regions. This is, of course, partly because of the concentration of industry in these two regions. More than 2/3 of the failures are in the Khartoum region, and Khartoum and the Central regions together account for 79.7 percent of the total failures (see Table 5.2). The first two sectors (food, beverages and tobacco, and textile, wearing apparel and leather products) being the largest two sectors in Sudan account together for almost 70 percent of the failures.

5.2 Failure: A Micro-Perspective

The aggregate picture (the forest perspective), may be helpful and necessary to gain an overall view, but it is not, however, sufficient to understand the nature and mechanisms of failure. To gain such a perspective we need to focus on the branch level (the tree perspective). It is at this level that we gain familiarity with the nature, causes and consequences of non-operation.

Two tables are presented to capture the details of this phenomenon, the first is Table 5.3 which displays failure rates by branch and region. The second table, is Table 5.4 which presents the number of failures and their share of total by branch and region.

5.2.1 The Food, Beverages and Tobacco Sector:

Here we find that one of two sectors in the pasteurized milk production in Khartoum have failed; and the only operating tea factory in 1981/82 in Khartoum was shut down.

On the other hand, five out of 29 factories in vegetable and animal oils and fats were put out of action in the Khartoum region, whereas 7 out of 23 in the Central region, 2 out of 5 in the Eastern region, 4 out of 19 in Kordofan and finally 1 out of 6 in Darfur.

Of the total failures in the Khartoum region 29.4 percent were in this branch, whereas it accounted for 100 percent of failures in sector 31 in the Central region, 66.7 percent in the Eastern region, 100 percent in Kordofan and 50 percent in Darfur. Of the total failures in sector 31, this branch represented the largest share of 57.6 percent. This is not surprising given that this branch represents 46.4 percent of the total number of establishments in the food, beverages and tobacco sector.

In the Bakery, macaroni and noodle products there were only four failures, three of them in the Khartoum region, the failure rate in this branch in Khartoum was 18.8 percent, whereas the one failure in Darfur was one out of two factories there. Of the total failures in this sector in Khartoum, this branch represented 17.6 percent, whereas it represented again 50 percent of total failures in sector 31 in Darfur. There were no other failures in this branch in any other region.

An exceptionally high failure rate is shown for chocolate and cocoa and other food industries (3118-3140) in the Khartoum region where 7 out of 8 failed (87.5 percent). Another failure is registered

in the Eastern region which represented a failure rate of 50 percent.

5.2.2 The Textile, Wearing Apparel and Leather Products:

Failures in this sector are exceptionally concentrated into two branches - ready made apparel excluding footwear (3220) and leather shoes (3240).

In the Khartoum region the same failure rate is shown for both of these two branches (almost 44.4 percent), whereas a failure rate of 100 percent is revealed for both of these branches in the other regions. In particular, for ready made apparel except shoes there is a total closure of all the then existing establishments in the Central, Kordofan and Northern regions. For leather shoes, there is a 100 percent failure rate in the Northern region. There is no other failures in all the other sub-branches of sector - 32 - across all regions.

The concentration of failure rates and failure shares in these two branches is symptomatic of some very peculiar reasons pertaining primarily to failures to compete with imported products and other operational and environmental difficulties.

Although the failure rates across regions and branches in this sector appear to be uniform, it is, nonetheless, the case that most of the failures (72.2 percent) are in the ready made apparels branch.

5.2.3 Wood and Wood Products Including Furniture

There are few failures in this sector, but this is a reflection also of the limited activity in Sudan in the production of wood and furniture. The failure rates are, however, significant.

In Khartoum region one out of five establishments involved in the production of wood products including furniture failed to operate in 1981/82. Another establishment in the same branch had a similar fate in the Central region. But there it was the only establishment.

There were no failures in the other sub-branches in this sector.

5.2.4 Paper, Paper Products, Printing and Publishing

There used to be one major producer of paper products in the Khartoum region but closed down in 1981/82 representing a failure rate of 100 percent. There were no other failures in this branch in any other region simply because there were none to begin with.

The other sub-branch where there were failures is printing and publishing (3420). In Khartoum region the failure rate was a meager 5.2 percent, but was 100 percent in the Eastern region.

5.2.5 Chemicals and Chemical Products Industry Including Petroleum and Coal:

There has been a number of shutdowns in this sector and only in the Khartoum region where most of the establishments used to operate.

In rubber products, n.e.c., (3559) the failure rate was 100 percent. It drops to 50 percent in chemicals n.e.c. (3529), to 27.2 percent for plastic products (3560) and to as low as 12.5 percent for perfuming and cleaning materials (3523). For the whole sector, the Khartoum region failure rate is 18 percent.

The failures in this sector are divided almost evenly within the branches with 33.3 percent share for plastics and for cleaning and perfuming materials, whereas the shares of chemicals n.e.c.. was 22.2 percent and that of rubber products 11.1 percent.

5.2.6 Other Non-Metallic Minerals Excluding Petroleum and Coal:

Failures are concentrated in the non-metallic minerals not elsewhere classified (3699) which includes primarily the production of cement blocks and sheets.

A total of five establishments were non-operative in 1981/82; four of which in Khartoum representing a failure rate of 50 percent and another in the Central region which was the only such establishment there. The failure rate in this sector is slightly over 30 percent in Khartoum and 33 percent in the Central region.

5.2.7 Basic Metal Industries:

There were no failures in the basic metal industries in the Sudan. Eight establishments were operating in 1981/82 and all remained in operation thereafter.

5.2.8 Fabricated Metal Products and Machinery

This sector includes a large set of activities but primarily those in cutlery and hand-tools, agricultural tools and appliances. The failures were concentrated, however, in the metallic furnitures and fixtures (3812) where 4 out of 12 were non-operating representing a failure rate of 30.7 percent. All the non-operating establishments were in the Khartoum region. The non-operating establishments represented 10.5 percent failure rate for the whole sector.

What emerges from this descriptive typology of failures is a number of interesting characteristics. These include:--

First, the failure rates are generally high and are of two types. Those pertaining to external factors and those that result from firm-specific problems.

Second, they are both regionally and sectorally differential. Failure rates are concentrated in the Khartoum region with few scattered in the Central and other regions. Two sectors (31 and 32) together account for about 70 percent of non-operating establishments.

Third, when the sectoral and regional failures are normalized by the respective sectoral and regional shares in manufacturing establishments, it is clear that the failure rates in sectors 31 and 32 are slightly higher than their proportions in manufacturing establishments which in 1981/82 stood (for establishments employing more than 25 workers) at 43.5 and 17.6 percent respectively. The failure shares, however, were 45 and 24.3 percent. At the regional level, failures in the Khartoum region represented 66.2 percent of total failures whereas this region had a total share of the corresponding types of manufacturing establishments of about 56.9 percent. Thus at the sectoral and regional levels failure rates exceed their corresponding proportional shares.

5.3 Anatomy of Failure: The Analytical Perspective:

The distribution of non-operating establishments over regions and sectors provides a background but only limited insight into the causes and nature of failure. Nonetheless, the distribution over sectors, branches and regions could provide important reference groups for the failure. These become extremely important when failure is

total or where failure is only a small fraction of the other operating establishments. In the first case, the surrounding environment may have precluded the operation of any establishment. In the latter situation it is instructive to wonder why did some establishments fail, whereas other perhaps "similar" establishments, or at least facing similar obstacles did not?

5.3.1 Causes of Failure and Their Frequency

When the manager/owners of non-operating establishments were asked about the reasons for halting operations they came up with a finite number of causes some of which were more frequent than others. These factors and their frequencies are presented in Table 5.5, whereas the individual factors are reported by branch in Table 5.6.

Incompetitiveness and marketing problems represented a rather small percentage of the total (17.3%). The major factor, which is typical of developing countries with foreign exchange shortages and heavy dependance on imports, is the shortages of raw materials. This factor alone represented about 27 percent of all frequencies. An allied problem, but one that is rather surprising given that Sudan is an Arab country and practically a neighbour of Saudi Arabia and Libya is the shortage of fuel and energy. This alone represented 18.8 percent. The two factors together tally for over 45 percent. To this, shortages of spare parts could be added for a total of 47 percent. Emigration of labour, particularly of skilled labour to the Gulf and/or other Arab oil producing states became a major obstacle in most non-oil producing Arab States and even Sudan with a very small skilled labour pool was drained of these prized resources. About 7 percent of the causes mentioned were in this area.

Few general reasons were raised but these reflect cultural problems or institutional weaknesses. All combined they represent about 16 percent.

5.3.2 Performance Indices

The analysis here will focus on those cases (by branch and region) where non-operating establishments are only a small fraction of the total establishments in the branch and region. Only here would it be possible to reason that failure is perhaps more an establishment specific factor than environment specific. Otherwise, why should some establishments continue to operate and how did they overcome the difficulties of the environment of production? Performance indices in the Khartoum region are presented in Table 5.7 and used as background to the analysis below.

In the case of pasteurized milk in the Khartoum region (3112), it is clear that the remaining firm is efficient. The rate of return on fixed capital is about 33 percent, productivity per worker (value added per worker) far exceeds () average wage and workers appear to have sufficient capital to work with. Besides the size is relatively small but appears to be adequate. The cause of failure mentioned is in the institutional category as one might have predicted (see Table 5.6).

The failures in the vegetable oil branch reflect a different problem. Here, there is sufficient ground to believe that operational problems may be involved. Those firms still in operation show low profitability (6 percent rate of return on fixed capital). This is due largely to an over capitalized structure. Machinery and plant per worker are relatively high (twice the average in this sector), whereas size is relatively small (below the average in the sector).

The respondents mentioned all sorts of problems, but their excessive capitalization made them vulnerable to shortages of spare parts and raw materials, interruption of power supply, and shortages of fuel. In many respects failures here could easily be also attributed to over saturation of the market and to low profitability.

In the bakery, macaroni and noodle production it is abundantly clear that profitability is the basic problem. In the operating establishments profitability is a meagre 3.3 percent (in the Khartoum region). Labour productivity barely covers wages per worker. The firms are inadequately capitalized and are generally small in size and face stiff competition from imports. Small wonder, all the failures represent establishments changing activities.

Alcoholic beverages production was costly and unprofitable even before the introduction of the Islamic laws in September 1983. Even in the soft drinks branch profitability was low.

Failures in the ready made apparels excluding footwear (3220) are primarily the reflection of lack of competitiveness. Production costs and inefficiencies make their products non-competitive with imports from South East Asia. Actually, even existing establishments in this branch show 13 percent losses on fixed capital and labour productivity is lower than wages paid per worker. The average size of these establishments is less than 1/8 of the average in the sector and capital per worker is relatively small.

The situation is markedly different in the production of shoes. The operating establishments are profitable with an average rate of return on fixed capital of 41 percent. The size is adequate at LS933 thousands per establishment and labour productivity is

significantly above average wages despite the fact that the latter are comparatively high by Sudanese standards. The major reasons advanced for failure in this branch are the shortages in fuel and raw materials. These were not apparently insurmountable by the efficient establishments.

In the wood products including furniture branch profitability is again the main culprit. On the whole, rates of return averaged about 2.1 percent in this activity by operating establishments. By comparison smaller units in this same branch (employing less than 25 workers) showed positive rates of return (9.1 percent) high capital per worker ratios and significant productivity gains. Operating "large" establishments, on the other hand, were under capitalized (less tools per worker), of inadequate size, and low productivity.

Few establishments were non-operating in the printing and publishing branch. All the performance indices point to efficient operations in this branch. Rates of return on fixed capital are about 57.0 percent, productivity is generally high and the usual size is adequate. There is little capital per worker, but then this is a generally labour intensive activity. Non-operating establishments were those that aged out of the activity because of worn out machines and little foreign exchange to replace them.

In the cosmetics branch 3 establishments out of 24 were non-operating and all of them in the Khartoum region. All other operating establishments were healthy and operating efficiently and with profits. Stoppages in this activity appear to be unrelated to efficiency. The reported reasons had much to do, however, with shortages in packing materials.

The rise in the price of petrochemicals in the wake of the second OPEC price adjustment is responsible for the demise of activities in the chemicals not elsewhere classified (3529). The same is also true of the demise of the plastic industries as the prices of LDPE, HDPE and PVC increased substantially over a short period at a time when the Sudan had less and less foreign exchange to allocate to industry.

Finally, non-operating establishments in the metallic furnitures and fixtures represent inefficient firms that faced financial problems in an imperfect capital (financial) market. Profitability and other efficiency criteria of operating establishments in this activity are adequate and proper. Troubles in this sector is of the normal commercial risk category.

5.4 Concluding Remarks

The main contribution of this chapter lies in its attempt to separate the explanatory factors of non-operation of industrial establishments in the Sudan in 1981/82. Two groups were created; in the first we included all those establishments whose shut down represented the entire activity. In the second group we included only those establishments where the failure rate was below 50 percent. The first group failure rate was ascribed primarily, if not solely, to the external factors that impose intolerable constraints and obstacles on the operation of enterprises. The second group failures were studied in more details as to profitability, productivity, factor intensities and size. Some clear cut conclusions were reached as to the causes of failure.

The closure of industrial factories in developing countries is a hard felt episode, the consequences are generally dire on employment, income, investment and foreign exchange. However, no country can afford to sustain, for a long period, inefficient industries that cost the consumer and society inordinate costs. The cleansing of the system of lagging establishments may very well be the minimum cost of restructuring and rationalizing the economy.

Care, however, must be exercised and efforts should not be spared to improve the external environment of production and investment. The cleansing process is only meaningful if no obstacles in the external environment are binding enough to cause the failure.

TABLES

**TABLE 5.1: THE FAILURE RATE OF MANUFACTURING ESTABLISHMENTS
BY SECTOR AND REGION, 1981/82**

| REGION SECTOR | <u>(%)</u> | | | | | | | TOTAL |
|------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | KHARTOUM | CENTRAL | EASTERN | KORDUFAN | DARFUR | NORTHERN | EQUATORIA | |
| 31 | 20.0 | 17.9 | 14.2 | 16.6 | 22.2 | -- | -- | 17.9 |
| 32 | 26.0 | 6.6 | -- | 33.3 | -- | 50.5 | 25.0 | 22.7 |
| 33 | 20.0 | 20.0 | -- | -- | -- | -- | -- | 18.1 |
| 34 | 9.0 | -- | 50.0 | -- | -- | -- | -- | 13.0 |
| 35 | 18.0 | -- | -- | -- | -- | -- | -- | 15.5 |
| 36 | 30.7 | 35.3 | -- | -- | -- | -- | -- | 27.7 |
| 37 | -- | -- | -- | -- | -- | -- | -- | -- |
| 38 | 11.4 | -- | -- | -- | -- | -- | -- | 10.5 |
| 39 | -- | -- | -- | -- | -- | -- | -- | -- |
| TOTAL | 18.7 | 15.2 | 12.1 | 17.9 | 16.7 | 23.0 | 14.3 | 17.5 |

Source: Government of Sudan: The Industrial Survey, 1981/82

TABLE 5.2: ACTIVITY AND REGIONAL ANALYSIS

| Region | | Khartoum | | Central | | Eastern | | Kordofan | | Darfur | | Northern | | Equatorial | | Total | |
|--------------|-----------|-------------|-----------|-------------|----------|------------|----------|------------|----------|------------|----------|------------|----------|------------|-----------|------------|----|
| Sector | No | % | No | % | No | % | No | % | No | % | No | % | No | % | No | % | |
| 31 | 17 | 51.5 | 7 | 21.2 | 3 | 9.1 | 4 | 12.1 | 2 | 6.1 | -- | -- | -- | -- | 33 | 45 | 10 |
| 32 | 12 | 66.7 | 1 | 5.5 | -- | -- | 1 | 5.5 | -- | -- | 3 | 16.7 | 1 | 5.6 | 18 | 24.3 | 10 |
| 33 | 1 | 50 | 1 | 50 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 2 | 2.7 | 10 |
| 34 | 2 | 66.7 | -- | -- | 1 | 33.3 | -- | -- | -- | -- | -- | -- | -- | -- | 3 | 4.1 | 10 |
| 35 | 9 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 9 | 12.2 | 10 |
| 36 | 4 | 80 | 1 | 20 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 5 | 6.8 | 10 |
| 38 | 4 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 4 | 5.4 | 10 |
| Total | 49 | 66.2 | 10 | 13.5 | 4 | 5.4 | 5 | 6.8 | 2 | 2.7 | 3 | 4.1 | 1 | 1.3 | 74 | 100 | |

Source: Government of Sudan: The Industrial Survey 1981/82

TABLE 5.3: BASIC DATA ON EXISTING NON-OPERATING ESTABLISHMENTS

| ACTIVITY | CODE | REGIONS | | | | | | | | | | | | | |
|--|-----------|----------|-------|---------|-------|---------|-------|----------|-------|--------|-------|----------|-------|-----------|-------|
| | | KHARTOUM | | CENTRAL | | EASTERN | | KORDUFAN | | DARFUR | | NORTHERN | | EQUATORIA | |
| | | NO | % | NO | % | NO | % | NO | % | NO | % | NO | % | NO | % |
| Pastured Milk | 3112 | 1/2 | 50.0 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Fruits, Tea | 3114 | 1/1 | 100.0 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Veg. Animal Oils and Fats | 3115 | 5/29 | 17.2 | 7/23 | 30.4 | 2/5 | 40.0 | 4/19 | 21.0 | 1/6 | 16.7 | -- | -- | -- | -- |
| Bakery, Macaroni, Noodle Prod. | 3117 | 3/16 | 18.8 | -- | -- | -- | -- | -- | -- | 1/1 | 100.0 | -- | -- | -- | -- |
| Tobacco, Cigar, Cigarettes, and others, | 3118-3140 | 7/8 | 87.5 | -- | -- | 1/2 | 50.0 | -- | -- | -- | -- | -- | -- | -- | -- |
| TOTAL OF SECTOR | | 17/85 | 20.0 | 7/39 | 17.9 | 3/7 | 42.9 | 4/19 | 21.0 | 2/7 | 28.6 | -- | -- | -- | -- |
| Ready made Apparel Exc. Footwear | 3220 | 8/18 | 44.4 | 1/1 | 100.0 | -- | -- | 1/1 | 100.0 | -- | -- | 2/2 | 100.0 | 1/1 | 100.0 |
| Leather Shoes | 3240 | 4/9 | 44.4 | -- | -- | -- | -- | -- | -- | -- | -- | 1/1 | 100.0 | -- | -- |
| TOTAL OF SECTOR | | 12/46 | 26.0 | 1/15 | 6.6 | -- | -- | 1/1 | 100.0 | -- | -- | 3/3 | 100.0 | -- | -- |
| Wood Prod. Including Furniture | 3320 | 1/5 | 20.0 | 1/1 | 100.0 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TOTAL OF SECTOR | | 1/5 | 20.0 | 1/5 | 20.0 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Paper and Paper Products | 3149 | 1/1 | 100.0 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Printing and Publishing | 3420 | 1/19 | 5.2 | -- | -- | 1/1 | 100.0 | -- | -- | -- | -- | -- | -- | -- | -- |
| TOTAL OF SECTOR | | 2/22 | 9.0 | -- | -- | 1/1 | 100.0 | -- | -- | -- | -- | -- | -- | -- | -- |
| Chemicals Not classified | 3529 | 2/4 | 50.0 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Plastic Product | 3560 | 3/11 | 27.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Cleaning, Perfuming Materials | 3523 | 3/24 | 12.5 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Rubber Prod. Not classified | 3559 | 1/1 | 100.0 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TOTAL OF SECTOR | | 9/50 | 18.0 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Non Metallic Product | 3699 | 4/8 | 50.0 | 1/1 | 100.0 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TOTAL OF SECTOR | | 4/13 | 30.7 | 1/2 | 33.3 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Metallic Furniture, Fixtures | 3812 | 4/13 | 30.7 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TOTAL OF SECTOR | | 4/38 | 10.5 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

Source: Government of Sudan: The Industrial Survey.

TABLE 5.4: INDUSTRIAL SURVEY OF THE SUDAN 1981/82 BASIC DATA ON EXISTING NON-OPERATING ESTABLISHMENTS
REGIONAL ANALYSIS

APP. NO. 1

| ACTIVITY | CODE NO. | Khartoum | | Middle | | Eastern | | Korsofan | | Darfur | | Northern Equat. | | Total | | cause of Stoppage | | |
|--|----------|----------|------|--------|-----|---------|------|----------|-----|--------|-----|-----------------|------|-------|------|---------------------------------------|---------------------------|---------------------------------------|
| | | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | | | |
| Meat Canning and Pastorised Milk | 3111 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| | 3112 | 1 | 5.9 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 3 | -- | |
| Vegetable Canning Fruits, Tea | 3113 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| | 3114 | 1 | 5.9 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 3 | Partners problems Marketing problems. | | |
| | 3115 | 5 | 29.4 | 7 | 100 | 2 | 66.7 | 4 | 100 | 1 | 50 | -- | -- | 19 | 57.6 | | | |
| Bakery Products | 3116 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| | 3117 | 3 | 17.6 | -- | -- | -- | -- | -- | -- | 1 | 50 | -- | -- | 4 | 12.1 | -- | -- | |
| Sugar, Cocoa, Molasses, Non- Alcoholic Beverage and Farming Products | 3118) | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| | 3119) | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| | 3121) | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| | 3122) | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| | 3131) | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| | 3132) | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| | 3134) | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| | 3140) | 7 | 41.2 | -- | -- | 1 | 33.3 | -- | -- | -- | -- | -- | -- | 8 | 24.2 | -- | -- | |
| 32 | | | | | | | | | | | | | | | | | Shortage in raw material | |
| Textile Weaving Ready Made Clothes | 3211 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | Marketing Problems |
| | 3212 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | Electricity prob. |
| | 3213 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | Migration of labour |
| | 3215 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | Machine's Depre- |
| | 3219 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ciation Failing |
| | 3220 | 8 | 66.7 | 1 | 100 | -- | -- | 1 | 100 | -- | -- | 2 | 66.7 | 1 | 100 | 13 | 72.2 | in competition the imported products. |
| Leather & Shoes of Leather | 3231 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | Shortage in fuel |
| | 3233 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | & raw material |
| | 3240 | 4 | 33.3 | -- | -- | -- | -- | -- | -- | -- | 1 | 33.3 | -- | 5 | 27.8 | 27.8 | and electricity problems. | |
| Total of units (Number) | | 29 | 200 | 8 | 200 | 3 | 100 | 5 | 200 | 2 | 100 | 3 | 100 | 1 | 100 | 51 | 200 | |

TABLE S.4 Con't

A/P. NO. 1

| ACTIVITY | CODE | REGIONAL ANALYSIS | | | | | | | | | | | | cause of Stoppage | | | |
|--------------------------|------|-------------------|------|--------|-----|---------|-----|----------|----|--------|----|-----------------|----|-------------------|-------|----|--|
| | | Khartoum | | Middle | | Eastern | | Kordofan | | Darfur | | Northern Equat. | | | Total | | |
| | | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | | No. | % | |
| 33 | | | | | | | | | | | | | | | | | |
| Wood and Furniture | 3311 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | Machine's Depreciation lack of hard currency. |
| | 3320 | 1 | 100 | 1 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | 2 | 100 | | |
| Total of Units (Number) | | 1 | 100 | 1 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | 2 | 100 | | |
| 34 | | | | | | | | | | | | | | | | | |
| Paper & Products | 3411 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | Machine's Depreciation |
| | 3412 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | | |
| | 3419 | 1 | 50 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 33.3 | | |
| Printing & Publication | 3420 | 1 | 50 | -- | -- | 1 | 100 | -- | -- | -- | -- | -- | -- | 2 | 66.7 | | |
| Total of Units (Number) | | 2 | 100 | -- | -- | 1 | 100 | -- | -- | -- | -- | -- | -- | 3 | 100 | | |
| 35 | | | | | | | | | | | | | | | | | |
| basic chemicals | 3511 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | Prices of raw materials are dearer. |
| Acids, liquids | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Cement and Pesticides | 3512 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Painting materials | 3521 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Drugs | 3522 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | | |
| Chemicals not Classified | 3529 | 2 | 22.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 2 | 22.2 | | |

TABLE 5.4: Con't

| ACTIVITY | CODE No. | Khartoum | | Middle | | Eastern | | Kordofan | | Darfur | | Northern Equat. | | Total | | cause of stoppage | |
|--|----------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------------|------------|----------|------------|---|------------|
| | | No | % | No | % | No | % | No | % | No | % | No | % | No | % | | |
| Raw Material of Plastics | 3513 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Plastic Products not Classified. | 3560 | 3 | 33.3 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 3 | 33.3 | Shortage in raw Material and | |
| Cleaning, Perfuming materials | 3523 | 3 | 33.3 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 3 | 33.3 | Shortage in packing materials | |
| | 3559 | 1 | 11.1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 11.1 | Pressure on lines of prod. Marketing problems | |
| Total of Units (Number) | | 9 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 9 | 100 | | |
| 36 | | | | | | | | | | | | | | | | | |
| Mining rather than Mineral (excluding petroleum & coal products) | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | Shortage of raw materials | |
| Building and construction | 3692 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Non Material Products | 3699 | 4 | 100 | 1 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | 5 | 100 | | |
| Total of Units (Number) | | 4 | 100 | 1 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | 5 | 100 | | |
| 38 | | | | | | | | | | | | | | | | | |
| Mineral Products | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | Finance Problems | |
| Machines and Equipment | | | | | | | | | | | | | | | | shortage of spare parts. | |
| Mineral furniture and Installation | 3812 | 4 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 4 | 100 | | |
| Total of Units | | 49 | 100 | 10 | 100 | 4 | 100 | 5 | 100 | 2 | 100 | 4 | 100 | 1 | 100 | 74 | 100 |

Source: Government of Sudan: The Industrial Survey 1961/82.

TABLE 5.5: FREQUENCY ANALYSIS OF CAUSES ON NON-OPERATION

| CAUSES | | FREQUENCY | |
|--------------|--|------------|------------|
| SERIAL | DESCRIPTION | NO | % |
| 1 | Difficulties of Raw Materials | 53 | 26.9 |
| 2 | Marketing problems and Incompetitiveness | 34 | 17.3 |
| 3 | Power and fuel problems | 37 | 18.8 |
| 4 | Owners disputes | 24 | 12.2 |
| 5 | Depreciation of Machines | 17 | 8.6 |
| 6 | Emigration of Labour | 13 | 6.6 |
| 7 | Financial Problems | 7 | 3.6 |
| 8 | Shortage of spare parts | 4 | 2.0 |
| 9 | Changing to another activity | 4 | 2.0 |
| 10 | Processing bottle necks | 1 | 0.5 |
| 11 | Other causes | 3 | 1.5 |
| 11/1 | -Transfer of Property | 1 | |
| 11/2 | -Fire damage | 1 | |
| 11/3 | -Activity forbidden | 1 | |
| Total | | 197 | 100 |

Source: Government of Sudan. The Industrial Survey 1981/82

TABLE 5 6: ANATOMY OF FAILURE: CAUSES BY BRANCH

| Activity %Code No. | cause | | | | | | | | | | | | | | | Total Est cause | |
|-----------------------------------|--------------------------------|----------------------|----------------------|-----------------------|------------------|-------------------------|---------------------------|----------------------------|-------------------------------|----------------------------|------------------------------|---------------------------------|----------------------|--------------------------|-----------|--------------------|-----------|
| | Non-Operating establishment | Transfer of Prop. | Raw mat. prob. | Marketing problems | Owners disput | Power fuel & 3 | Shortage of parts 8 | Changing of activ. 9 | Activity forbidden 11/2 | Financial problems 7 | Emigration of labour 6 | Deor. of machin. age 5 | Fire dam- 11/3 | Process bottle- 10 | | | |
| No. | % | 11/1 | 1 | 2 | 4 | 3 | 8 | 9 | 11/2 | 7 | 6 | 5 | 11/3 | 10 | | | |
| 31- Food and Beverages | | | | | | | | | | | | | | | | | |
| 3111-3112 | 1 | -- | 1 | - | - | - | - | - | - | - | - | - | - | 1 | 1 | | |
| 3113-3114 | 1 | -- | - | 1 | 1 | 1 | - | - | - | - | - | - | - | 1 | 3 | | |
| 3115 | 19 | -- | - | 19 | 19 | 19 | 19 | - | - | - | - | - | - | 19 | 76 | | |
| 3116-3117 | 4 | -- | - | - | - | - | - | 4 | - | - | - | - | - | 4 | 4 | | |
| 3118-3140 | 7 | -- | - | 7 | - | - | - | - | - | - | - | - | - | 7 | 7 | | |
| | 1 | -- | - | - | - | - | - | - | 1 | - | - | - | - | 1 | 1 | | |
| Frequency | 33 | -- | 1 | 27 | 20 | 20 | 19 | - | 4 | 1 | - | - | - | 33 | 92 | | |
| 32- Textiles & Leather | | | | | | | | | | | | | | | | | |
| 3211-3220 | 13 | -- | - | 13 | 13 | - | 13 | - | - | - | 13 | 13 | - | 13 | 65 | | |
| 3231-3240 | 5 | -- | - | - | - | - | 5 | - | - | - | - | - | - | 5 | 5 | | |
| Frequency | 18 | -- | - | 13 | 13 | - | 18 | - | - | - | 13 | 13 | - | 18 | 70 | | |
| 33- Wood | | | | | | | | | | | | | | | | | |
| 3311&3320 | 2 | -- | - | - | - | - | - | - | - | 2 | - | 2 | - | 2 | 4 | | |
| Frequency | 2 | -- | - | - | - | - | - | - | - | 2 | - | 2 | - | 2 | 4 | | |
| 34- Paper | | | | | | | | | | | | | | | | | |
| 3411-3420 | 1 | -- | - | - | - | - | - | - | - | - | - | - | 1 | 1 | 1 | | |
| | 2 | -- | - | - | - | - | - | - | - | - | - | 2 | - | 2 | 2 | | |
| Frequency | 3 | -- | - | - | - | - | - | - | - | - | - | 2 | 1 | 3 | 3 | | |
| 35- Chemicals | | | | | | | | | | | | | | | | | |
| Coal & Petroleum Products | 9 | -- | - | 8 | 1 | - | - | - | - | 1 | - | - | - | 1 | 11 | | |
| Frequency | 9 | -- | - | 8 | 1 | - | - | - | - | 1 | - | - | - | 1 | 11 | | |
| 36- 3692-3699 | 5 | -- | - | 5 | - | - | - | - | - | - | - | - | - | 5 | 5 | | |
| Frequency | 5 | -- | - | 5 | - | - | - | - | - | - | - | - | - | 5 | 5 | | |
| 38- 3812 | 4 | -- | - | - | - | 4 | - | 4 | - | 4 | - | - | - | 4 | 12 | | |
| Frequency | 4 | -- | - | - | - | 4 | - | 4 | - | 4 | - | - | - | 4 | 12 | | |
| Grand Total | 74 | -- | 1 | 53 | 34 | 24 | 37 | 4 | 4 | 1 | 7 | 13 | 17 | 1 | 1 | 74 | 19 |

-203-

Source: Government of Sudan. The Industrial Survey 1981/82

TABLE 5.7: PERFORMANCE INDICES: BRANCHES IN KHARTOUM REGION 1981/82

SIZE: SMALL ESTABLISHMENTS ('25) LARGE ESTABLISHMENTS (25 EMP)

| SECTOR | SMALL ESTABLISHMENTS ('25) | | | LARGE ESTABLISHMENTS (25 EMP) | | | SMALL ESTABLISHMENTS ('25) | | | LARGE ESTABLISHMENTS (25 EMP) | | | |
|--------|----------------------------|------------|----------|-------------------------------|----------|------------|----------------------------|------------|----------|-------------------------------|----------|------------|-----------|
| | GVA GO | GVA EMP | K EMP | GVA NO | W EMP | GVA-W K | GVA GO | GVA EMP | K EMP | GVA NO | W EMP | GVA-W K | GVA GO |
| 3112 | -- | -- | -- | -- | -- | -- | 0.20 | 4.1 | 4.9 | 248.0 | 1.3 | 0.43 | |
| 3115 | -- | -- | -- | -- | -- | -- | 0.12 | 3.9 | 11.3 | 544.4 | 0.9 | 0.16 | |
| 3117 | 0.28 | 0.49 | 9.8 | 43.4 | 1.8 | 0.22 | 0.11 | 1.3 | 2.9 | 115.2 | 0.9 | 0.33 | |
| 3220 | (0.08) | 0.87 | 4.8 | (7) | 0.6 | (0.41) | 0.16 | 0.6 | 2.3 | 41.9 | 0.8 | (0.13) | |
| 3240 | 0.43 | 4.7 | 8.9 | 56.0 | 1.7 | 0.27 | 0.32 | 3.0 | 2.0 | 933.2 | 2.0 | 0.41 | |
| 3320 | 0.59 | 4.6 | 14.1 | 40.4 | 1.9 | 0.09 | 0.27 | 1.5 | 4.1 | 65.3 | 1.0 | 0.02 | |
| 3420 | 0.19 | 0.8 | 6.6 | 8.2 | 1.2 | (0.15) | 0.41 | 3.0 | 2.1 | 476.6 | 1.6 | 0.57 | |
| 3529 | 0.19 | 7.9 | 8.1 | 107.1 | 0.66 | 0.82 | 0.28 | 1.9 | 3.2 | 335.0 | 2.2 | (0.21) | |
| 3560 | 0.22 | 2.9 | 10.6 | 47.3 | 0.7 | .08 | 0.28 | 3.4 | 6.1 | 253.0 | 1.4 | 0.24 | |
| 3523 | (0.16) | 4.0 | 3.8 | (88.1) | 1.0 | (1.43) | 0.20 | 5.8 | 8.8 | 360.7 | 2.3 | 0.29 | |
| 3699 | 0.50 | 0.85 | 11.8 | 12.8 | 0.53 | (0.079) | (0.09) | (0.55) | 39.4 | (49.5) | 0.71 | (0.13) | |
| 3812 | -- | -- | -- | -- | -- | -- | 0.41 | 4.4 | 3.7 | 316.0 | 1.7 | 0.61 | |

Source: Government of Sudan. The Industrial Survey 1981/82

Notes: Empty spaces reflect non-existing branches and brackets represent negative numbers.