



THE UNITED REPUBLIC OF TANZANIA

# CENSUS OF INDUSTRIAL PRODUCTION 2013 TANZANIA MAINLAND

ANALYTICAL REPORT





THE UNITED REPUBLIC OF TANZANIA

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# **CENSUS OF INDUSTRIAL PRODUCTION 2013**

## **TANZANIA MAINLAND**

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**ANALYTICAL REPORT**

Additional information on the 2013 Census of Industrial Production  
Analytical Report can be obtained from:

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Ministry of Industry, Trade and Investment



**National Bureau  
of Statistics**

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September, 2016

# TABLE OF CONTENTS

<b>LIST OF TABLES .....</b>	<b>vi</b>
<b>LIST OF FIGURES .....</b>	<b>x</b>
<b>ABBREVIATIONS AND ACRONYMS .....</b>	<b>xi</b>
<b>FOREWORD .....</b>	<b>xiii</b>
<b>ACKNOWLEDGEMENTS .....</b>	<b>xiv</b>
<b>EXECUTIVE SUMMARY .....</b>	<b>xv</b>
<b>CHAPTER ONE.....</b>	<b>1</b>
<b>INTRODUCTION .....</b>	<b>1</b>
1.0 The Economy of Tanzania .....	1
1.1 The Manufacturing Sub-Sector.....	2
1.2 National Development Policies, Strategies and Goals for the Industrial Sector .....	3
1.3 Rationale for Conducting the 2013 Census of Industrial Production .....	4
1.4 Objectives.....	4
<b>CHAPTER TWO.....</b>	<b>5</b>
<b>CENSUS METHODOLOGY.....</b>	<b>5</b>
2.0 Introduction.....	5
2.1 Reference Period .....	5
2.2 Industrial Classification.....	5
2.3 Unit of Enquiry .....	5
2.4 Scope and Coverage .....	5
2.5 The Questionnaire .....	5
2.6 Response Rate .....	6
2.7 Data Collection .....	7
2.8 Data Processing .....	7
2.9 Limitations of the Methodology Used.....	7
<b>CHAPTER THREE .....</b>	<b>8</b>
<b>MAIN INDUSTRIAL CHARACTERISTICS .....</b>	<b>8</b>
3.0 Introduction.....	8
3.1 Organization of Firms .....	8
3.2 Main Industrial Activities.....	9
3.3 Number of Establishments by Region and Employment Size .....	11
3.4 Ownership by Origin.....	12
3.5 Form of Ownership.....	13
3.6 Types of Legal Organization .....	14
3.7 Year an Establishment Started to Operate .....	16



## **CHAPTER FOUR..... 18**

### **THE PERFORMANCE OF INDUSTRIAL SECTOR ..... 18**

4.0	Introduction.....	18
4.1	Production Capacity Utilization .....	18
4.2	Reasons for Capacity Under-Utilization .....	19
4.3	Sales from Own Production.....	20
4.3.1	Exports and Local Sales.....	21
4.3.2	Exports by Region .....	21
4.3.3	Local Sales by Region .....	21
4.4	Income from Services .....	25
4.4.1	Industrial Services.....	25
4.4.2	Non-Industrial Services.....	25
4.4.3	Other Receipts .....	25
4.5	Manufacturing Value Added (MVA) by Region .....	25
4.5.1	Manufacturing Value Added (MVA) by Region for Large Establishments .....	26
4.5.2	Manufacturing Value Added (MVA) by Region for Small Establishments .....	26
4.5.3	Average Manufacturing Value Added (MVA) per Establishment in Large and Small Establishments.....	26
4.6	Value Added by Industrial Sub-Sector for Large Establishments .....	28
4.7	Value Added by Industrial Sub-Sector for Small Establishments .....	30
4.8	Share of Manufacturing Value Added (MVA) by Industrial Activity.....	31

## **CHAPTER FIVE..... 34**

### **EMPLOYMENT PERFORMANCE IN THE INDUSTRIAL SECTOR..... 34**

5.0	Introduction.....	34
5.1	Number of Persons Engaged by Industrial Sub-Sector, Citizenship and Sex.....	34
5.1.1	Number of Persons Engaged by Industrial Sub-Sector, Citizenship and Sex in Large Establishments.....	34
5.1.2	Number of Persons Engaged by Industrial Sub-Sector, Citizenship and Sex for Small Establishments.....	36
5.2	Number of Employees by Industrial Sub-Sector.....	39
5.3	Number of Operatives by Employment Skills and Industrial Sub-Sector.....	42
5.4	Labour Costs .....	43

## **CHAPTER SIX..... 49**

### **MATERIALS AND SERVICES INPUT UTILIZATION ..... 49**

6.0	Introduction.....	49
6.1	Material Inputs .....	49
6.2	Energy Consumption .....	50
6.3	Sources of Raw Materials .....	51
6.4	Industrial Services .....	54
6.5	Non-Industrial Services .....	55
6.6	Other Expenses .....	55

<b>CHAPTER SEVEN .....</b>	<b>57</b>
<b>VALUE OF INVENTORIES AND EXPENDITURE ON FIXED ASSETS.....</b>	<b>57</b>
7.0 Introduction.....	57
7.1 Importance of Inventories .....	57
7.2 Value of Stocks for Large Establishments .....	57
7.3 Value of Stocks for Small Establishments .....	58
7.4 Value of Fixed Assets .....	59
7.5 Depreciation of Fixed Assets .....	62
<b>CHAPTER EIGHT .....</b>	<b>63</b>
<b>BUSINESS ENVIRONMENT .....</b>	<b>63</b>
8.0 Introduction.....	63
8.1 Establishment Membership in Umbrella Organizations .....	63
8.2 Establishments' Awareness .....	64
8.3 Registration of Establishments .....	64
8.4 Tenure of the Occupied Buildings.....	66
8.5 Products Quality Certification .....	67
8.6 Quality Control of Raw Materials .....	70
8.7 Laboratory Ownership.....	71
8.8 Quality Management System .....	72
8.9 Quality Control Staff .....	73
8.10 Marketing Access and Media .....	74
8.11 Main Sources of Water .....	78
8.12 Environmental Management Plan.....	79
8.13 Waste Management Facilities .....	80
8.14 Environmental Impact Assessment (EIA).....	81
8.15 Types of Plant Technology .....	81
8.16 Sources of Current Plant Technology.....	82
8.17 Machine Life Span .....	84
8.18 Information Technology Infrastructure .....	85
8.19 Internet Connectivity.....	85
8.20 Usage of Information Technology and ICT.....	86
8.21 Usage of Electronic Business .....	86
8.22 Investment Plan.....	87
8.23 HIV/AIDS in Manufacturing Sub-Sector .....	88
8.24 Major Challenges Faced by Industrial Sector in Tanzania .....	89
<b>CHAPTER NINE.....</b>	<b>91</b>
<b>CONCLUSION .....</b>	<b>91</b>
9.0 Introduction.....	91
9.1 Main Findings .....	91
9.2 Major Challenges to Manufacturers in Tanzania Mainland .....	93

<b>CHAPTER TEN .....</b>	<b>94</b>
<b>POLICY IMPLICATION .....</b>	<b>94</b>
10.0 Introduction.....	94
10.1 Employment Performance.....	94
10.2 Skilled and Non-Skilled Operatives.....	94
10.3 Labour Costs.....	95
10.4 Promotion of Membership to Business Support and Private Sector Associations .....	95
10.5 Promotion of Establishments Registration to Legal Authorities .....	95
10.6 Quality Control of Raw Materials and Products .....	96
10.7 Laboratories and Quality Control Staff .....	96
10.8 Access to International Markets.....	96
10.9 Water Supply Demand.....	96
10.10 Promotion of Environmental Management Mechanisms .....	97
10.11 Promotion of Plant Technology for the Manufactured Products .....	97
10.12 Promotion of Information Technology Infrastructure .....	97
10.13 HIV and AIDS in Manufacturing Sub-Sector. ....	97
10.14 High Cost of Production.....	98
10.15 Main Sources of Energy Used-.....	98
10.16 Status of Domestic Raw Materials.....	98
<b>List of Annexes .....</b>	<b>99</b>
<b>REFERENCES .....</b>	<b>111</b>



DID YOU KNOW TANZANIA  
MAINLAND HAS 49,243  
INDUSTRIES?

YES, IT IS ONE OF THE OFFICIAL  
STATISTICS PRODUCED BY THE  
NATIONAL BUREAU OF  
STATISTICS

I WONDER HOW I AM GOING TO  
BENEFIT IN ORDER TO REDUCE  
MY POVERTY

OUR AGRICULTURE COMMODITIES WILL  
BE INPUTS FOR THESE INDUSTRIES AS  
RAW MATERIALS INSTEAD OF IMPORTING  
FROM OTHER COUNTRIES



# LIST OF TABLES

Table 1.1:	Annual Growth Rates of Gross Domestic Product at 2007 Prices by Economics Activity, Tanzania Mainland, 2008-2013 .....	1
Table 1.2:	Contribution of Manufacturing Sub-Sector to GDP and Per Capita MVA, EAC Countries, 2013 .....	2
Table 1.3:	Growth Rates of the Manufacturing Sub-Sector (at 2005 Constant Prices-), EAC Countries .....	2
Table 1.4:	Tanzania Exports of Manufactured Products, 2009-2013 .....	3
Table 3.1:	Organization Structure of Establishments by Industrial Sub-Sector, Tanzania Mainland, CIP-2013 ....	8
Table 3.2:	Number and Percentage of Mining, Electricity and Water Establishments by Industrial Activity, Tanzania Mainland, CIP-2013 .....	9
Table 3.3:	Number and Percentage of Manufacturing Establishments by Industrial Activity, Tanzania Mainland, CIP-2013 .....	10
Table 3.4:	Number of Establishments by Region and Employment Size, Tanzania Mainland, CIP-2013 .....	11-12
Table 3.5:	Percentage of Large and Small Establishments by Industrial Sub-Sector and Origin of Ownership, Tanzania Mainland, CIP-2013 .....	13
Table 3.6:	Percentage of Establishments by Industrial Sub-Sector and Form of Ownership, Tanzania Mainland, CIP-2013 .....	13
Table 3.7:	Percentage of Large Establishments by Industrial Sub-Sector and Types of Legal Organization, Tanzania Mainland, CIP-2013 .....	15
Table 3.8:	Percentage of Small Establishments by Industrial Sub-Sector and Types of Legal Organization, Tanzania Mainland, CIP-2013 .....	15
Table 3.9:	Percentage of Establishments by Industrial Sub-Sector and Period Operation Started, Tanzania Mainland, CIP-2013 .....	16
Table 3.10:	Percentage of Manufacturing Establishments by Industrial Sub-Sector and Period Operation Started, Tanzania Mainland, CIP-2013 .....	17
Table 4.1:	Average Utilization of Production Capacity by Product, Tanzania Mainland, CIP-2013 .....	18-19
Table 4.2:	Reasons for Capacity Under-Utilization, Tanzania Mainland, CIP-2013 .....	20
Table 4.3:	Value of Industrial Products Sales by Region and Type, Tanzania Mainland, CIP-2013 .....	21-22
Table 4.4:	Export and Local Sales by Industrial Sub-Sector for large Establishments, Tanzania Mainland, CIP-2013 .....	22
Table 4.5:	Sales in the Local Market by Industrial Sub-Sector for Small Establishments, Tanzania Mainland, CIP-2013 .....	23
Table 4.6:	Manufacturing Sales: Export and Local Sales by Industrial Activity for Large Establishments, Tanzania Mainland, CIP-2013 .....	23-24
Table 4.7:	Income from Services by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013 .....	25
Table 4.8:	Manufacturing Value Added by Region for Large and Small Establishments, Tanzania Mainland, CIP-2013 .....	26
Table 4.9:	Average Manufacturing Value Added (MVA) per Establishment by Region and Establishment Size, Tanzania Mainland, CIP-2013 .....	27
Table 4.10:	Manufacturing Value Added (MVA) by the Top Five Region with the Highest Five MVA industrial activities, Tanzania Mainland, CIP-2013 .....	28
Table 4.11:	Value Added by Region and Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013 .....	29

Table 4.12: Value Added by Region and Industrial Sub-Sector for Small Establishments, Tanzania Mainland, CIP-2013.....	31
Table 4.13: Value Added in Manufacturing by Industrial Activity for Large Establishments, Tanzania Mainland, CIP-2013 .....	32
Table 4.14: Value Added in Manufacturing by Industrial Activity for Small Establishments, Tanzania Mainland, CIP-2013 .....	33
Table 5.1: Number of Persons Engaged by Industrial Sub-Sector, Citizenship and Sex for Large Establishments, Tanzania Mainland, CIP-2013 .....	34
Table 5.2: Number of Persons Engaged in Manufacturing Sub-sector by Citizenship and Sex for Small Establishments, Tanzania Mainland, CIP-2013 .....	35-36
Table 5.3: Number of Persons Engaged by Industrial Sub-Sector, Citizenship and Sex for Small Establishments, Tanzania Mainland, CIP-2013 .....	36
Table 5.4: Number of Persons Engaged in Manufacturing Sub sector by Citizenship and Sex for Small Establishments, Tanzania Mainland, CIP-2013 .....	37-38
Table 5.5: Number of Persons Engaged by Industrial Sub-Sector and Sex, Tanzania Mainland, CIP-2013...	38-39
Table 5.6: Number of Employees by Industrial Sub-Sector, Tanzania Mainland, CIP-2013 .....	40
Table 5.7: Number of Employees in Manufacturing Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013 .....	40-41
Table 5.8: Number of Employees in Manufacturing Sub-Sector for Small Establishments, Tanzania Mainland, CIP-2013 .....	41-42
Table 5.9: Number of Operatives by Employment Skill and Industrial Sub- Sector, Tanzania Mainland, CIP-2013 .....	43
Table 5.10: Total Labour Costs by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013 ..	44
Table 5.11: Average Labour Costs per Establishment by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013 .....	44
Table 5.12: Total Labour Costs in Manufacturing Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013 .....	45-46
Table 5.13: Total Labour Costs by Industrial Sub-Sector for Small Establishments, Tanzania Mainland, CIP-2013 ..	46
Table 5.14: Labour Costs in Manufacturing Industrial Sub-Sector for Small Establishments, Tanzania Mainland, CIP-2013 .....	47-48
Table 6.1: Cost of Material Inputs Used in Production by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013 .....	49
Table 6.2: Average Production Inputs Cost per Establishments by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CI- 2013 .....	50
Table 6.3: Utility Cost Structure by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013.....	50-51
Table 6.4: Value of Raw Materials by Industrial Sub-Sector and Source for Large Establishments, Tanzania Mainland, CIP-2013 .....	51
Table 6.5: Cost of Raw Materials for the Manufacturing Activities for Large Establishments, Tanzania Mainland, CIP-2013 .....	52-53
Table 6.6: Cost of Industrial Services Consumed by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013 .....	54
Table 6.7: Cost of Non-Industrial Services ..... by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013 .....	55
Table 6.8: Other Expenses by Type for Large Establishments, Tanzania Mainland, CIP-2013 .....	56
Table 7.1: Value and Percentage of Stocks by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013 .....	57-58

Table 7.2:	Value and Percentage of Stocks by Industrial Sub-Sector for Small Establishments, Tanzania Mainland, CIP-2013 .....	58-59
Table 7.3:	Value of Fixed Assets at the Beginning of 2013 by Industrial Sub-Sector and Type of Asset for Large Establishments, Tanzania Mainland, CIP-2013 .....	59
Table 7.4:	Value of Fixed Assets at the End of 2013 by Industrial Sub-Sector and Type of Asset for Large Establishments, Tanzania Mainland, CIP-2013 .....	60
Table 7.5:	Value of Machinery and Equipment at the End of 2013 by Industrial Sub-Sector and Employment Size for Large Establishments, Tanzania Mainland, CIP-2013 .....	60
Table 7.6:	Percentage Distribution of Expenditure on Fixed Assets by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013 .....	61-62
Table 8.1:	Large Establishments Membership of Organizations by Industrial Sub-Sector, Tanzania Mainland, CIP-2013 .....	63
Table 8.2:	Large Establishments Awareness of Services/Functions of Umbrella Organizations by Industrial Sub-Sector Tanzania Mainland, CIP-2013 .....	64
Table 8.3:	Registration of Establishments by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013 .....	65
Table 8.4:	Number and Percentage of Un- Licensed Large Establishments by Industrial Sub-Sector and Reasons for Not Having a Licenses, Tanzania Mainland, CIP-2013 .....	65
Table 8.5:	Reasons for the Un-Registered for Small Establishments by Industrial Sub-Sector, Tanzania Mainland, CIP-2013 .....	66
Table 8.6:	Distribution of Respondents on Product Certification by Industrial Sub-Sector, Tanzania Mainland, CIP-2013 .....	68
Table 8.7:	Distribution of Responses on Product Certification by Manufacturing Activities, Tanzania Mainland, CIP-2013 .....	68-69
Table 8.8:	Distribution of Respondents on Quality Control of Raw Materials by Industrial Sub-Sector, Size of Establishments and Type of Response, Tanzania Mainland, CIP-2013 .....	70
Table 8.9:	Distribution of Large Establishments by Industrial Sub-Sector and Laboratories Ownership, Tanzania Mainland, CIP-2013 .....	71
Table 8.10:	Distribution of Large Manufacturing Establishments by Laboratory Ownership and Industrial Activity, Tanzania Mainland CIP-2013 .....	71-72
Table 8.11:	Percentage Distribution of Large Establishments by Industrial Sub-Sector and Status of Quality Management System, Tanzania Mainland, CIP-2013.....	73
Table 8.12:	Number of Large Establishments by Industrial Sub-Sector and Type of Marketing for Finished Products, Tanzania Mainland, CIP-2013 .....	74
Table 8.13:	Number of Large Manufacturing Establishments by Industrial Activity and Type of Marketing of for Finished Products, Tanzania Mainland, CIP-2013 .....	74-76
Table 8.14:	Number of Responses on Barriers to Expand Exports by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013 .....	76
Table 8.15:	Percentage Distribution of Responses on Barriers to Expand Exports for Manufacturing Sub-sector for Large Establishments, Tanzania Mainland, CIP-2013 .....	77
Table 8.16:	Number of Responses by Industrial Sub-Sector by Type and Importance of Trade Agreements for Large Establishments, Tanzania Mainland, CIP-2013.....	78
Table 8.17:	Percentage Distribution of Responses by Main Sources of Water and Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013 .....	78
Table 8.18:	Percentage Distribution of Responses by Main Sources of Water and Industrial Sub-Sector for Small Establishments, Tanzania Mainland, CIP-2013 .....	79
Table 8.19:	Number of Responses on Existence of Environmental Management Plans by Industrial Sub- Sector for Large Establishments, Tanzania Mainland, CIP-2013 .....	80

Table 8.20:	Number of Responses on Waste Management Facilities by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013 .....	80
Table 8.21:	Number of Responses on Certificate of Environmental Impact Assessment by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013 .....	81
Table 8.22:	Current Plant Technology by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013.....	82
Table 8.23:	Responses on Plant Sources by Industrial Activity for Large Establishments, Tanzania Mainland, CIP-2013.....	83-84
Table 8.24:	Number of Responses on Plant Life Span by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013 .....	85
Table 8.25:	Number of Responses on Information Technology Infrastructure by Type of Infrastructure and Status of Use for Large Establishments, Tanzania Mainland, CIP-2013 .....	85
Table 8.26:	Type of Internet Connectivity for Large Establishments, Tanzania Mainland, CIP-2013.....	86
Table 8.27:	Number and Percentage of Responses on Effects of Usage of Modern Technology and ICT by Area of Production for Large Establishments, Tanzania Mainland, CIP-2013.....	86
Table 8.28:	Number and Percentage of Responses on Usage of E-Business Technology by Business Activity for Large Establishments, Tanzania Mainland, CIP-2013.....	87
Table 8.29:	Percentage Investment Plans by Industrial Sub-Sector for Large Establishments Tanzania Mainland, CIP-2013 .....	88
Table 8.30:	Percentage Distribution of Responses on Major Challenges Faced by Industrial Sub-Sector for Large and Small Establishments, Tanzania Mainland, CIP-2013.....	89-90



## LIST OF FIGURES

Figure 4.1:	Exports and Local Sales for Large Industrial Establishments, Tanzania Mainland, CIP-2013 .....	22
Figure 4.2:	Value Added by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013 .....	28
Figure 4.3:	Value Added by Industrial Sub-sector for Small Establishments, Tanzania Mainland, CIP-2013 .....	30
Figure 5.1:	Labour Costs by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013 .....	45
Figure 5.2:	Labour Cost by Industrial Sub-Sector for Small Establishments, Tanzania Mainland, CIP-2013 .....	47
Figure 6.1:	Sources of Raw Materials for Large Establishments, Tanzania Mainland, CIP-2013 .....	52
Figure 6.2:	Percentage of Cost of Raw Materials by Industrial Sub-Sector for Small Establishments, Tanzania Mainland, CIP 2013 .....	53
Figure 6.3:	Percentage of the Value of Industrial Services Consumed by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013 .....	54
Figure 7.1:	Percentage of Value of fixed Asset at the End of 2013 by Manufacturing Sub-Sector by Type of Asset, for Large Establishments, Tanzania Mainland, CIP-2013 .....	61
Figure 8.1:	Percentage Distribution of Large and Small Establishments by Tenure of Buildings Owned, Tanzania Mainland, CIP-2013 .....	66
Figure 8.2:	Percentage Distribution of Respondents based on Certification of the Products, Tanzania Mainland, CIP-2013 .....	67
Figure 8.3:	Percentage Distribution of Large Establishments by Status of Quality Management System, Tanzania Mainland, CIP-2013 .....	72
Figure 8.4:	Distribution of Quality Control Staff by Industrial Sub-Sector, Tanzania Mainland, CIP-2013 .....	73
Figure 8.5:	Distribution of Responses on Major Media for Product Exports for Large Establishments, Tanzania Mainland, CIP-2013 .....	77
Figure 8.6:	Percentage of Responses on Plant Sources by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013 .....	83
Figure 8.7:	Percentage Distribution of Large Establishments with Investment Plan by Industrial Sub-Sector, Tanzania Mainland, CIP-2013 .....	87
Figure 8.8:	Percentage Distribution of Large and Small Establishments by Method for Reducing HIV/AIDS Vulnerability, Tanzania Mainland, CIP-2013 .....	88

# ABBREVIATIONS AND ACRONYMS

“-”	Means Zero
RSM	Regional Statistical Manager
ATE	Association of Tanzania Employers
BRN	Big Results Now
CIP	Census of Industrial Production
CPC	Central Products Classification
CTI	Confederation of Tanzania Industries
EAC	East African Community
EPZ	Economic Processing Zone
EPZA	Export Processing Zone Authority.
ESRF	Economic and Social Research Foundation
EWURA	Energy and Water Utility Regulatory Authority
FYDP	Five Year Development Plan
GCLA	Government Chemist Laboratory Agency
GDP	Gross Domestic Products
ICT	Information and Communication Technology
IDR	Industrial Development Report
IIDS	Integrated Industrial Development Strategy
IIP	Indices of Industrial Production
IRIS	International Recommendations for Industrial Statistics
ISIC	International Standard Industrial Classification
ISO	International Organization for Standardization
LAN	Local Area Network
MHT	Medium-High Tech
MIT	Ministry of Industry and Trade
MITI	Ministry of Industry, Trade and Investment
MVA	Manufacturing Value Added
n.e.c	not elsewhere classified
NBS	National Bureau of Statistics
NHIF	National Health Insurance Fund
PPI	Producer Price Index
PPP	Public Private Partnership
QC	Quality Control

REA	Rural Energy Agency
SADC	Southern African Development Community
SIDO	Small Industries Development Organization
SIDP	Sustainable Industrial Development Policy
SUMATRA	Surface and Marine Transport Regulatory Authority
TAEC	Tanzania Atomic Energy Commission
TBS	Tanzania Bureau of Standards
TCCIA	Tanzania Chamber of Commerce, Industrial and Agriculture
TCME	Tanzania Chamber of Minerals and Energy
TFDA	Tanzania Food and Drugs Authority
TIRDO	Tanzania Industrial Research and Development Organization
TSMP	Tanzania Statistical Master Plan
TZS	Tanzania Shilling
UNIDO	United Nations Industrial Development Organization
VETA	Vocational Education and Training Authority

## FOREWORD



Tanzania has undertaken various macro-economic policy reforms aimed at improving its economic performance. Industrial sector has been benefited from these reforms, leading to a noticeable industrial growth rate from 4.7 percent in 2009 to 6.5 percent in 2013. The growth of the sector is also evidenced by growing interest in the industrial sector and increased number of new private sector industries in different sub-sectors of the economy.

In order to achieve sustainable growth in the industrial sector, more information needs to be collected and analyzed for use in planning. Reliable and current statistics are among the essential tools for industrial development. Detailed statistics show the performance and prospects of the sector, and can only be obtained through the industrial census. In view of this, National Bureau of Statistics (NBS) in collaboration with the Ministry of Industry, Trade and Investment (MITI); Confederation of Tanzania Industries (CTI) and UNIDO

conducted the Census of Industrial Production, 2013 (CIP, 2013).

Historically, the CIP 2013 is the fourth Industrial Census to be conducted in Tanzania Mainland since independence in 1961. The first census was done in 1963, the second in 1978 and the third in 1989.

The CIP 2013 therefore, aimed at providing quality and relevant industrial statistics data for planning, evidence-based policy formulation and decision making for the sector. Furthermore, the CIP 2013 results played an important role of improving the national industrial programmes by providing a structured overview of the industrial sector focusing on challenges and good practices in this area.

The Government urges all the beneficiaries including policy makers, business community, development partners, the academia, local and foreign investors, non-state actors, and other stakeholders in the industrial sector to use this detailed and informative report for different purposes including promoting and building a competitive and vibrant industrial sector in Tanzania.

**Hon. Charles John Mwijage**

Minister for Industry, Trade and Investment

September, 2016



## ACKNOWLEDGEMENTS



The National Bureau of Statistics (NBS) in collaboration with the Ministry of Industry, Trade and Investment (MITI); Confederation of Tanzania Industries (CTI) and UNIDO would like to express their appreciation and gratitude to the census management team and staff members of the collaborating organizations who have been involved in the design and implementation of this important project.

The Census Executive Committee was comprised of Dr. Abdallah Kigoda (the late Minister for Industry and Trade); Ms. Janeth Mbene, Former Deputy Minister for Industry and Trade; Mr Uledi Mussa, Former Permanent Secretary (MIT) and Ms. Christine Kilindu, former Executive Director (CTI).

The Census Management Team was comprised of Mr. Morice Oyuke, then Director of Economic Statistics; Ms Joy Sawe, Tanzania Statistical Master Plan (TSMP) Coordinator; Mr. Valerian Tesha, the CIP Project Manager and Mr. Fadhili Khalfani, the CIP Desk Officer. The management team from collaborating institutions constituted of Mr. Obadia Nyagi, Director of Industrial Development (MITI), Ms. Elly Pallangyo, Assistance Director of Industrial Investment and Research (MITI), Juma Mwambapa, Assistant Director of Industrial Support and Promotion (MITI), and Mr. Hussein Kamote, Director of Policy, Confederation of Tanzania Industries (CTI).

I am grateful to the CIP Technical Team and authors of this report, especially Mr. Willem Van den Aniel, an International Consultant from UNIDO; and Mr. Sange Mbaruku, a National Consultant; for their advice and technical guidance.

I also recognize field work enumerators, Regional Statistical Managers, Regional and District Commissioners, and Chief Executive Officers of different establishments in all Regions of Tanzania Mainland for their effort at different stages of the Census. Moreover, the cooperation of establishment managers/owners throughout the country was very instrumental for the success of this project; our greatest thanks are due to all of them.

**Dr. Albina Chuwa**

Director General  
National Bureau of Statistics  
September, 2016

## EXECUTIVE SUMMARY

The CIP, 2013 is the fourth Industrial Census to be conducted in Tanzania Mainland since independence in 1961. The first, second and the third were conducted in 1963, 1978 and 1989 respectively. The National Bureau of Statistics (NBS) in collaboration with the Ministry of Industry, Trade and Investment (MITI) were responsible for conducting the Census. The broad objective of this Census is to generate relevant and up-dated industrial information that will be used to assess the contribution of industrial sector to the economy.

The 2013 CIP, covered small establishments using a short questionnaire and large establishments using long or detailed questionnaire. Furthermore, the census covered all establishments that engaged ten or more persons and a sample of establishments which engaged less than ten persons (referred to as small establishments) in the following four industrial activities namely; grain milling, tailoring, carpentry, and welding. A sample of 13,619 establishment was covered during enumeration, of which, 12,297 were small establishments and 1,322 were large establishments which were fully (100 percent) covered.

### Main Findings

The following are some of the major findings and facts based on the statistical analysis.

The results show that, out of the total 49,243 establishments, 47,921 (97.3 percent) were small and 1,322 (2.7 percent) were large. Out of the total establishments, manufacturing sub-sector had the largest number (48,474; 98.4 percent); followed by mining and quarrying (391; 0.8 percent); water supply, sewerage, waste management and remediation activities (227; 0.5 percent); and electricity, gas, steam and air conditioning supply with 151 establishments (0.3 percent).

### Type of Establishments

Analysis reflects that, 81.8 percent and 98.3 percent were single establishments engaged in large establishments and in small establishments respectively. This means that, the industrial sector is dominated by single and independent production units operating in a competitive product markets.

### Establishments by Industrial Sub-Sector

The 2013 CIP revealed that, out of the 49,243 surveyed establishments, 48,474 (98.4 percent) were engaged in manufacturing sub-sector. Most of the manufacturing activities such as food processing, beverage, tobacco, textile and wood products industries depended much on raw materials from agricultural sector; implying that, there are opportunities in agricultural sector to produce more for feeding the local manufacturing industries adequately.

### Establishments Ownership

The results show that; 99.6 percent of small establishments were privately owned while 0.4 percent were publicly owned. The same situation was in large establishments whereby, 85.2 percent were privately owned; while 11.0 percent were publicly owned; and 3.8 percent had a mixed ownership (private and public).

### Capacity Under-Utilization

The findings show that, most of the establishments operated under their respective installed capacities. Reasons for the under-utilization were mainly on; insufficient power supply (18.3 percent); insufficient domestic demand (11.1 percent) and poor transport facilities/high transport cost (7.5 percent). In general, manufacturing sub sector were mostly affected by insufficient power supply, competition from imports, high transport cost and higher cost of credit.

## Employment Opportunity in Industrial Sector

During the year 2013, industrial sector created 264,223 employment opportunities; out of which, 125,336 (47.4 percent) were in small industries and 138,887 (52.6 percent) were in large industries.

## Cost of Inputs

The findings reveal that, most of the industrial establishments in Tanzania Mainland spend more on raw materials (56.3 percent). The highest costs on materials and supplies were due to importation of raw materials such as products of agriculture, horticulture and market gardening, fish and other fishing products, meat, fruit, vegetables, oils and fats, basic chemicals.

## Value Added by Industrial Sub-Sector for Large Establishments

In large establishments, the results on value added show that manufacturing sub-sector contributed the largest proportion (57.9 percent) to the total MVA for large establishments; followed by mining and quarrying sub-sector with a contribution of 37.1 percent; electricity, gas, steam and air conditioning supply with 4.0 percent; and water supply; sewerage, waste management and remediation activity sub-sector with 1.0 percent of the total MVA.

## Manufacturing Value Added (MVA) by Region for Small Establishments

CIP 2013 results show that small establishments in Dar es Salaam region had the highest MVA of TZS 97,422 million (27.4 percent) the total MVA, followed by Morogoro region with TZS 28,936 million (8.1 percent) and Mara region with TZS 21,089 million (5.9 percent). Mtwara region had the lowest MVA with TZS 2,257 million (0.6 percent) of the total MVA.

## Value of Inventory

The value of inventory held by large establishments was TZS 2,332,092 million at the beginning of the year and TZS 2,528,541 million at the end of the year. Furthermore, the results show that, materials and supplies accounted for the highest proportion of inventories at the beginning (70.0 percent) as well as at the end (69.0 percent) of the reference year.

## Value of Fixed Assets

The census results show that, total expenditure on fixed assets was TZS 63,220,390 million; out of which, 85.4 percent was spent by electricity, gas, steam and air conditioning supply; while the remaining three sub-sectors spent 14.6 percent of the total expenditure on fixed assets.

## Membership to Business Associations

Among the surveyed establishments, 27.6 percent of responses indicated to be members of CTI, 24.1 percent were members of TCCIA and other membership organization such as SIDO and EWURA accounted for 22.3 percent of responses. On the other hand, among establishments that did not belong to any organization, 23.3 percent indicated to be aware of the services and functions of TCCIA while 21.4 percent were aware of CTI services and functions.

## Registration of Establishments

The findings show that, out of 12,848 respondents, 4,509 (35.1 percent) were registered while 8,339 (64.9 percent) were not registered.

## Reasons for Non-Registration

Among the reasons listed for the non-registration of large establishments, Complicated bureaucratic procedures ranked first with 29.5 percent; followed by Financial problems with 26.4 percent; Too small business (22.3 percent); Does not see the need to register (5.7 percent); and other reasons accounted for 5.7 percent.

Among the small establishments, the reasons were; Too small business ranked first with 43.6 percent as the

main reason for not being registered; followed by Financial problems (34.7 percent); Complicated bureaucratic procedures (12.2 percent); and Does not see the need to register (4.2 percent); and other reasons (5.3 percent).

## **Ownership of Premises Used by Establishments**

Information on ownership of the building(s) used by large establishments show that, 63.1 percent were wholly owned. On the other hand, the highest proportion (42.1 percent) of the buildings used by small establishments were partly rented.

## **Certification Eminence of Industrial Products**

CIP 2013 results show that, high proportion (46.5 percent) of large establishments certified their products through TBS; followed by TFDA (29.8 percent), ISO (12.3 percent). Other authorities accounted for 11.4 percent. However, manufacturing was the leading sub-sector by contributing 84.3 percent of the total industrial products certification; whereby, under TBS, out of 458 respondents, 405 (88.4 percent) were certified; followed by TFDA with 293 respondents; out of which, 270 (92.2 percent) were certified.

In small establishments, out of 1,412 respondents, 616 (43.6 percent) were certified by TFDA; and 456 (32.3 percent) were certified by TBS. The remaining authorities certified 24.1 percent.

## **Accessibility to International Markets**

The CIP 2013 results identified low accessibility to International markets for the industrial products. The results show that 3.5 percent of the products were exported to international markets; while 80.6 percent were sold in domestic markets while 15.9 percent were sold in both domestic and international markets.

## **Organization of the Report**

The report presents the industrial statistics according to the latest International Recommendations for Industrial Statistics, 2008 (IRIS 2008) of the United Nations. It includes establishments with one to nine persons and those engaging ten or more persons. In total, there were 49,243 establishments which were operating during the reference year 2013.

The report also presents main results relating to both qualitative and quantitative information that was collected through the census. Tables and figures referring to such information are integrated within the sections discussing major findings.

The Census of Industrial Production, 2013 Analytical report covers a wide range of statistics analyzed in the following ten chapters:

Chapter one provides an introduction of industrial sector in Tanzania. Chapter two explains in detail the census methodology used. Chapter three provides information on the main industrial characteristics. Chapter four highlights on performance of the Manufacturing sub-sector in Tanzania Mainland.

Chapter five provides analysis on the employment performance. Chapter six gives the detailed analysis on the performance of material input utilization. Chapter seven discusses the value of inventories and additions to fixed assets. Chapter eight provides detailed analysis on business environment (i.e. establishment membership, waste management facilities, market access, quality control of raw materials etc.). Chapter nine provides the conclusion and recommendations for all major findings on key issues from the census. Chapter ten provides policy briefs assessing progress of industrial sector in the economy.

Generally, the above ten chapters provide basic industrial data and information that can be used by the Government and other users in formulating or reviewing industrial policies, programmes and strategies that support sector-productivity and growth. This will also provide the Private Sector with basic facts to support dialogue with the Government and other development partners to enhance Public-Private Partnership (PPP).



## 1.0 The Economy of Tanzania

The economy of Tanzania has continued to perform well, recording a growth of 5.1 percent in 2012, to 7.3 percent in 2013, driven by construction, information and communications, electricity, gas, steam and air conditioning supply, manufacturing and other services.

Table 1.1 shows that the construction sector has grown at a rate of 14.6 percent in 2013. The growth was driven by an increase in construction activity and rehabilitation of roads and bridges including the Dar es Salaam Rapid Transport (DART); ongoing construction of airports; and residential and non-residential buildings. Continued growth in mobile phone usage, including the recent expansion in mobile money services, has been the main factor driving the performance of the information and communication sub-sector to reach 13.3 percent in 2013. Performance of the manufacturing sub-sector remained strong, recording a growth of 6.5 percent, mainly due to the continued stability in electricity generation (which grew by 13.0 percent in 2013) coupled with sustained demand for the manufactured goods in both domestic and regional markets.

**Table 1.1: Annual Growth Rates of Gross Domestic Product at 2007 Prices by Economics Activity, Tanzania Mainland, 2008-2013**

Section	Economic Activity	2008	2009	2010	2011	2012	2013
A	Agriculture, forestry and fishing	7.3	4.2	3.4	1.9	3.2	4.0
B	Mining and quarrying	-9.8	18.7	7.3	6.3	6.7	3.9
C	Manufacturing	11.4	4.7	8.9	6.9	4.1	6.5
D	Electricity, gas, steam and air conditioning supply	8.1	4.3	13.4	-4.3	3.3	13.0
E	Water supply; sewerage, waste management and remediation activities	2.3	4.6	2.2	-1.2	2.8	2.7
F	Construction	9.7	-3.8	10.3	22.9	3.2	14.6
G	Wholesale and retail trade; repair of motor vehicles and motorcycles	6.5	2.7	10.0	11.3	3.8	4.5
H	Transportation and storage	1.8	6.9	10.7	4.4	4.2	12.2
I	Accommodation and food service activities	3.3	1.0	3.7	4.1	6.7	2.8
J	Information and communication	11.9	26.6	24.4	8.6	22.2	13.3
K	Financial and insurance activities	18.8	18.4	12.6	14.8	5.1	6.2
L	Real estate activities	1.7	1.8	1.8	1.9	2.0	2.1
M	Professional, scientific and technical activities	30.6	15.8	29.9	4.8	-5.8	5.4
N	Administrative and support service activities	-1.8	0.4	8.6	5.1	23.8	12.2
O	Public administration and defense; compulsory social security	-6.3	-0.7	-5.0	15.9	9.1	7.8
P	Education	9.5	9.2	6.4	5.6	7.4	4.3
Q	Human health and social work activities	5.5	7.4	3.3	5.3	11.4	8.8
R	Arts, entertainment and recreation	6.4	3.0	7.3	7.7	11.0	5.7
S	Other service activities	5.8	5.9	6.0	6.2	6.4	6.5
T	Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use	2.7	2.7	2.7	2.7	2.7	2.7
X	Activities of extraterritorial organizations and bodies	6.8	20.0	7.9	22.6	1.2	0.1
	<b>GDP at Market Price</b>	<b>5.6</b>	<b>5.4</b>	<b>6.4</b>	<b>7.9</b>	<b>5.1</b>	<b>7.3</b>

Source: Economic Survey, 2014

## 1.1 The Manufacturing Sub-Sector

Tanzania manufacturing sub-sector has been transformed over-time, reflecting changes in national policies, varying domestic demand and the world market dynamics. Importance of the manufacturing sub-sector to the national economy has varied across different periods since independence. However, in recent years, its contribution to the national income and hence, its importance has been increasing. Industrial structure, policy, output composition and magnitude have experienced notable changes over time. The manufacturing sub-sector grew at an average of 7.1 percent annually from 2008 to 2013.

Table 1.2 shows the contribution of the manufacturing sub-sector to Gross Domestic Product (GDP) and per capita Manufacturing Value Added (MVA per capita) for the year 2013 in the EAC countries. The table reveals that Tanzania recorded a MVA of USD 50.20 less than that of Kenya (USD 60.11); followed by Uganda (USD 26.08); Rwanda (USD 21.31); and Burundi (USD 13.67). The contribution of the manufacturing sub-sector to GDP in Tanzania was 6.9 percent in 2013 while that of Kenya was 11.9 percent; followed by Uganda with 10.8 percent; Burundi 9.5 percent; and Rwanda 5.2 percent.

**Table 1.2: Contribution of Manufacturing Sub-Sector to GDP and Per Capita MVA, EAC Countries, 2013**

Country	Share of GDP (Percent)	MVA per Capita (USD)
Tanzania	6.9	50.20
Kenya	11.9	60.11
Uganda	10.8	26.08
Rwanda	5.2	21.31
Burundi	9.5	13.67

Source: World Development Indicators Database

Table 1.3 illustrates growth rates of the manufacturing sub-sector in EAC countries for the last five years. The growth rate of the manufacturing sub-sector in Tanzania increased from 4.7 percent in 2009 to 6.5 percent in 2013; Kenya from a negative growth rate of 1.1 percent in 2009 to positive 5.6 percent in 2013; Uganda from a growth rate of 10.0 percent in 2009 to a negative growth rate of 2.5 in 2013; Rwanda from a growth rate of 2.4 percent in 2009 to 4.6 percent in 2013; and Burundi from a growth rate of 0.8 percent in 2009 to 10.0 percent in 2013.

**Table 1.3: Growth Rates of the Manufacturing Sub-Sector (at 2005 Constant Prices-), EAC Countries**

Country	2009	2010	2011	2012	2013	Average
(2009-2013)						
Tanzania	4.7	8.9	6.9	4.1	6.5	6.2
Kenya	-1.1	4.5	7.2	-0.6	5.6	3.1
Uganda	10.0	4.5	7.8	2.7	-2.5	4.5
Rwanda	2.4	9.9	7.9	5.9	4.6	6.1
Burundi	0.8	-1.3	-1.0	-2.4	10.0	1.2

Source: World Development Indicators Database

Table 1.4 shows that the manufactured goods export increased from USD 506.5 million in 2009 to USD 1,072.1 million in 2013. Exports nearly doubled in 2010 from 2009, this increase was highly attributed to sharp increase of cement exports in 2010 (from 57,569 tonnes in year 2009 to 189,321 tonnes in year 2010-Economic Survey report, 2014). However, the exports grew at a negative rate of 24 percent in 2009 to a positive rate of 3 percent in 2013. With regards to shares to the total export; the manufactured products had a share of 15.4 percent in 2009 and a share of 20.4 percent in 2013.

**Table 1.4: Tanzania Exports of Manufactured Products, 2009-2013**

Item	2009	2010	2011	2012	2013
Value (USD million)	506.5	964.0	861.5	1037.3	1072.1
Growth Rate (%)	-24.0	90.0	-11.0	20.0	3.0
Share of Total Export (%)	15.4	22.3	16.9	17.6	20.4

Source: Economic Survey, 2014

## 1.2 National Development Policies, Strategies and Goals for the Industrial Sector

The Government of Tanzania continued to implement the National Strategy for the Development of Industries by promoting investment in basic industries, for example; EPZAs, Small and Medium Industries. Industrial sector is one among the priority sectors in building the country's economy and eliminate income poverty. The country continues to implement National Goals with a vision to become a Semi Industrialized Economy by 2025.

These goals have been major drivers in the formulation of policies, strategies and different sectoral rules. They help to regulate the enabling environment for the public and the private sector in industrial production and business. Furthermore, they ensure policies, strategies and rules which foster development in other economic sectors, including; agriculture, livestock, mining, fisheries and natural resources.

The National Policies and Strategies that are under implementation include; Vision 2025, Long Term Perspective Plan 2011/12 - 2025/26, Five Year Development Plan (FYDP) (2011/12-2015/16), the Ruling Party Manifesto 2010, Big Results Now (BRN), Sustainable Industrial Development Policy (SIDP) 1996-2020 and the Integrated Industrial Development Strategy (IIDS).

The main objective of Sustainable Industrial Development Policies (SIDP) and the Integrated Industrial Development Strategy (IIDS) is to contribute to the economic transformation for achieving sustainable economic growth through:

- increasing the contribution of manufacturing sector to GDP from 9.0 percent in 2010 to 23.0 percent by 2025;
- increasing the MVA from USD 1.8 billion 2010 to USD 16.8 in 2025 and increasing the average annual growth rate of the manufacturing sub-sector to 15.0 percent.

Amongst the interventions of the Five Year Development Plan 2010-2015 was development of the Special Economic Zone (SEZs) to foster manufacturing growth, increasing the number of factories as well as the development of coal and steel industries.

The interventions that will transform the industrial sector include; improvement of business environment. This can be realized by improving supporting systems such as reliable supply of energy and water, physical infrastructure (roads, railways and ports), availability of capital and other supporting services. Business environment can also be improved through implementation of various empowerment policies; promotion of selective manufactured exports to regional and global markets; supporting complete value chains in agriculture; promoting branding of manufactured products in domestic, regional and international markets.

In order to ensure a competitive industrial sector in Domestic, Regional (EAC and SADC) and International Markets, the role of Research and Development (R&D); Innovation, Science and Technology (IST) and Information and Communication Technology (ICT) are inevitable. Coordinated industrial researches carried out by the R&D institutions, Universities and Technical Institutions need to avail technological solutions to local manufacturers and promoting new innovations with a view of solving the day to day problems.

Moreover, this necessitates the provision of industrial parks served with adequate supportive infrastructure for efficient and productive industrial sector, prioritizing agro-processing for value addition, promoting SMEs and use of environmental friendly technologies.

## **1.3 Rationale for Conducting the 2013 Census of Industrial Production**

Industrial sector has been an important driver of the economy for most countries in the world. Tanzanian government has been keen in regulating, promoting and facilitating performance of this sector to ensure that the pace of industrial development conforms to the objectives and targets of the National Development Goals. The 2013 Census of Industrial Production provides comprehensive information that can be used to assess the impact and outcome of the implemented industrial policies and programmes.

## **1.4 Objectives**

### **1.4.1 General Objectives**

The main objective of the Census of Industrial Production, 2013 was to provide information on economic characteristics of the industrial sector. The information gathered can be used to facilitate the improvement of industrial performance, designing policy, planning, monitoring and evaluation of programmes and providing advice to the sector so as to achieve sustained products quality and productivity.

### **1.4.2 Specific Objectives**

Specifically, the census aimed at up-dating:

1. The structure, composition and activities of the industrial sector in the economy;
2. The contribution of the sector to GDP;
3. The list of commodities to be used in the construction of Indices of Industrial Production (IIP), Producer Price Index (PPI) and National Accounts;
4. Information for evidence-based formulation of the sector policies;
5. Factors influencing the growth and structural changes in the sector;
6. Marketing information and
7. The list of establishments or a sampling frame for establishment based surveys.



## 2.0 Introduction

The methodology adopted in this census was intended to collect quality data that would facilitate better understanding the status of the industrial sector and to provide instruments that will enable appropriate follow ups.

## 2.1 Reference Period

The Census involved establishments that were active in 2013, that is, the information requested for and supplied was based on financial year covering January to December 2013. Those establishments that could not supply data according to the stated reference period were advised to supply data according to their financial years that covered largest part of the reference 2013 calendar year.

## 2.2 Industrial Classification

Establishments were classified into industries on the basis of major activity that conforms to the International Standard Industrial Classification (ISIC) Revision 4. Each industrial activity is basically defined in terms of its principal products or services that had highest proportion of the total establishment's value added.

## 2.3 Unit of Enquiry

The statistical unit used for this census is an establishment, which is defined as an economic unit, under a single ownership or control, engaging one or predominantly one kind of economic activity at a single physical location (i.e. an individual firm, mining, factory or workshop). However, due to record keeping practices, it was not always possible to strictly follow the definition of an establishment as stated above. In some cases, the restrictions especially on location were relaxed.

## 2.4 Scope and Coverage

The Census of Industrial Production, 2013 used the International Standard Industrial Classification (ISIC) Revision 4 to capture all economic activities surveyed. The census covered all establishments that engaged ten or more persons (referred to as large establishments) disaggregated into 10 to 99 persons (referred to as medium) and those with 100 or more persons (referred to as big), and a sample of establishments which engaged less than ten persons (referred to as small establishments) in the following four industrial activities; grain milling, tailoring, furniture, and welding. Generally, the census included establishments that were active in 2013 and were engaged in any of the following four industrial sub-sectors; mining and quarrying, manufacturing, electricity, gas, steam and air conditioning supply, and water supply, sewerage, waste management and remediation activities. The Census covered a total of 49,243 establishments.

## 2.5 The Questionnaire

The 2013 CIP, unlike quarterly and annual industrial surveys, covered both small and large establishments. This necessitated designing of a short questionnaire for small establishments and a long or detailed questionnaire for large establishments. The questionnaires conformed to the International Recommendations for Industrial Statistics (IRIS), 2008 of the United Nations and incorporated the stakeholders' requirements. The questionnaires were designed to ensure that the information to be collected satisfied the needs of national accounts, the Government, researchers and the business community.

The information collected through the questionnaires include; general information, employment, labour and production costs, output, value of inventory and value of fixed assets.

### **2.5.1 General Information**

This includes full name of the establishment, physical location of the establishment, contact address, type of the establishment, main and auxiliary activities, main and auxiliary products, origin of ownership, form of ownership, type of legal organization, establishment's source of finance and other related information.

### **2.5.2 Employment**

This includes the number of persons engaged in production as at 30th June 2013 and 31st December 2013. Additionally, the average number of persons engaged was collected, that is; working proprietors and partners, unpaid family workers, employees and the number of out-sourced workers as at 31st December, 2013.

### **2.5.3 Labour Costs**

These are costs incurred by owners of the establishments for provided labour. It includes wages and salaries, overtime payments, reimbursement of travel expenses, payments in kind, employers' contribution to social security schemes, training expenses and other relevant labour costs.

### **2.5.4 Production Costs**

This includes costs for inputs used during production, namely; electricity, water, gas and fuels, goods purchased for re-sale, raw materials and components, expenses on industrial and non-industrial services consumed and other related expenses. According to National Accounts, these costs are known as Intermediate Consumption.

### **2.5.5 Output**

The information gathered was on the utilization of production capacity and problems associated with it, quantities and values of principal and auxiliary products manufactured, income from industrial and non-industrial services done for others and other income received, including interests and dividends, subsidies and the like.

### **2.5.6 Value of Inventory**

This includes value of stocks at the beginning and at the end of the accounting year for materials and supplies (raw materials and chemicals), fuel, work in progress, finished products and goods purchased for re-sale.

### **2.5.7 Value of Fixed Assets**

This includes value of capital expenditure on land, buildings and other construction works, transport equipment, machinery and other equipment, computer and other data processing equipment; and other fixed assets during the accounting year. The value of additions, disposals and depreciation charged for the respective items was also captured.

## **2.6 Response Rate**

The 2013 CIP covered 49,243 establishments whereby 13,619 were sampled establishments, of which 12,297 were small establishments and 1,322 were large establishments which were fully (100.0 percent) covered. The response was that; a total of 11,585 small establishments and 1,209 large establishments responded during the survey, making a total response rate of 93.9 percent. This was a satisfactory response for producing reliable statistics. It was also realized that despite all efforts made by field personnel, 825 (6.1 percent of the establishments) did not respond for the reason that; they were closed during the survey execution, absence of owners, and refusals. These were ultimately estimated on the basis of the laid down Estimation Procedures.

## 2.7 Data Collection

Data collection exercise was under-taken by a qualified field team of 200 enumerators and 50 supervisors in all regions of Tanzania Mainland. The distribution of enumerators was based on the work-load in each region. The field work was carried out for four months from 10th March, 2015 to 11th June, 2015. During the field work, enumerators were responsible for the enumeration of both small establishments and large establishments under the supervision of Regional Statistical Managers (RSM). Respondents were asked to provide data from their accounting records for the calendar year 2013 or from their financial years covering largest part of 2013.

## 2.8 Data Processing

Completed questionnaires were edited in the field before sending them to NBS headquarters in Dar es Salaam where they were further checked for consistency and coded by qualified editors under the supervision of staff from NBS, MITI, CTI and SIDO. The data entry package used was CSPro and after completion of data entry, the CIP micro data was transferred to Microsoft Access for generation of tables. Weighting of the census sub-sample was taken as the inverse of the probability of the selected establishments.

## 2.9 Limitations of the Methodology Used

This survey was jointly conducted by all key stakeholders; therefore, it is believed to have captured all the necessary information that can be used in assessing the industrial sector. However, some limitations were realized during this assignment as shown below;

- i. The survey followed all procedures as recommended by International Industrial Statistics guidelines. However, the tendency among the establishments to hide information relating to outputs and over-reporting on inputs due to the belief that information supplied would be reported to the tax authorities.

This was dealt with by extensive sensitization carried at different levels, from National to District level. Hence, fears of data providers were taken care of through sensitization programmes, and guaranteeing quality and reliability of the collected information.

- ii. A number of establishments were engaged in more than one activity with nearly equal importance in terms of value added. In some cases, it has been difficult for establishments to maintain separate records. However, establishments were asked to provide information for the main activity, but due to non-availability of separate records, information relating to a particular establishment might have included data for the other secondary activities as well. This situation involved a small number (about 0.01 percent) of the total establishments.
- iii. Some establishments could not provide detailed information for certain items such as:
  - a. Consumption of electricity, water and fuels separately
  - b. Purchase of raw materials and sales from own production by main product,
  - c. Expenditure on fixed assets especially for land and buildings were not separated
- iv. Other establishments did not provide information on the level of stocks and assets.

These and other missing data had to be estimated using the laid down Editing Specifications.

## Chapter 3

# Main Industrial Characteristics

### 3.0 Introduction

Industrial sector is among the key sectors in the development of Tanzanian economy and at improving social welfare of the people. The contribution of the sector to the economy can be visualized in all aspects of the economy such as utilization of agriculture raw materials, producing inputs to other sectors of the economy as well as at creating employment opportunities. This chapter discusses the characteristics that describe the sector in Tanzania, such as; economic organization, industrial activities, structure, ownership and forms of ownership and other major areas.

### 3.1 Organization of Firms

Organization of firms is an important information in assessing performance of the industrial sector. Table 3.1 shows that 81.8 percent of large establishments were single establishments; 9.6 percent were branches and 8.6 percent were head offices which owned or controlled other establishments. Among the small establishments, 98.3 percent were single establishments while 0.9 percent of the establishments were branches and only 0.7 percent of them were head offices. Establishments that managed to open up branches illustrated that there was a supportive business environment for expansion, a situation not realized in small establishments.

Among the large establishments, single establishment structure was the most common within the manufacturing sub-sector (83.4 percent); followed by mining and quarrying (83.1 percent); and water supply; sewerage, waste management and remediation activities (79.8 percent). However, 81.4 percent of the establishments dealing with electricity, gas, steam and air conditioning supply were branches.

Organization structure among the small establishments followed the same pattern as that of large establishments. Single establishment structure accounted for 98.3 percent while the remaining two structures, each had less than 1.0 percent.

**Table 3.1: Organization Structure of Establishments by Industrial Sub-Sector, Tanzania Mainland, CIP-2013**

(Percent)				
Industrial Sub-Sector	Single Establishment	Head Office Establishment	Branch	Total
<b>Large Establishments</b>				
Mining and quarrying	83.1	8.9	8.0	100.0
Manufacturing	83.4	8.5	8.1	100.0
Electricity, gas, steam and air conditioning supply	18.6	0.0	81.4	100.0
Water supply; sewerage, waste management and remediation activities	79.8	12.6	7.6	100.0
<b>Total</b>	<b>81.8</b>	<b>8.6</b>	<b>9.6</b>	<b>100.0</b>
<b>Small Establishments</b>				
Mining and quarrying	97.7	1.1	1.1	100.0
Manufacturing	98.3	0.7	0.9	100.0
Electricity, gas, steam and air conditioning supply	97.2	0.9	1.8	100.0
Water supply; sewerage, waste management and remediation activities	98.6	1.4	0.0	100.0
<b>Total</b>	<b>98.3</b>	<b>0.7</b>	<b>0.9</b>	<b>100.0</b>

## 3.2 Main Industrial Activities

The CIP 2013, captured data on four Industrial sub-sectors of mining and quarrying, manufacturing, electricity, gas, steam and air conditioning supply and water collection, treatment and supply with their respective activities. Generally, manufacturing sub-sector has the largest number of industrial activities when compared to the rest of sub-sectors. Table 3.2 shows the distribution of industrial activities in three industrial sub-sectors for both large and small establishments.

**Table 3.2: Number and Percentage of Mining, Electricity and Water Establishments by Industrial Activity, Tanzania Mainland, CIP-2013**

ISIC Rev.4 Code	Industrial Activity	Large Establishments		Small Establishments		Total	
		Number	Percent	Number	Percent	Number	Percent
05	Mining of coal and lignite	1	0.5	-	0.0	1	0.3
07	Mining of metal ores	32	15.3	12	6.6	44	11.3
08	Other mining and quarrying	176	84.2	170	93.4	346	88.4
B	Mining and quarrying	210	100.0	182	100.0	391	100.0
35	Electricity, gas, steam and air conditioning supply	27	100.0	124	100.0	151	100.0
D	Electricity, gas, steam and air conditioning supply	27	100.0	124	100.0	151	100.0
36	Water collection, treatment and supply	84	96.1	137	98.6	221	97.8
38	Waste collection, treatment and disposal activities; materials recovery	3	3.4	2	1.4	5	2.2
E	Water supply; sewerage, waste management and remediation activities	87	100.0	139	100.0	226	100.0

Tanzanian manufactured products are categorized into two major forms based on technology which are resource-based manufacturers and low technology manufacturers. The resource-based manufactures are mainly agricultural products such as coffee, tea, tobacco, cotton and food products. The products can be simple and their manufacturing require intensive labour (simple food or leather processing) or intensive capital, scale and skills (some firms use modern processing technology). Generally, the competitive advantage of these products arises from the local availability of agricultural and natural resources. The low technology manufacture comprises of textiles, garments, footwear, other leather products, simple metal and plastic products and furniture. These tend to have stable, well-diffused technologies largely embodied in capital equipment, with low Research and Development (R&D) expenditure skills requirements and low economies of scale. Labour is the major element of cost, and the products tend to be un-differentiated.

Table 3.3 shows that manufacturing sub-sector had a total of 48,474 establishments equivalent to 98.4 percent of the total 49,243 industrial census establishments.

**Table 3.3: Number and Percentage of Manufacturing Establishments by Industrial Activity, Tanzania Mainland, CIP-2013**

ISIC Rev.4 Code	Industrial Activity	Large Establishments		Small Establishments		Total	
		Number	Percent	Number	Percent	Number	Percent
10	Manufacture of food products	382	38.3	19,318	40.7	19,700	40.6
11	Manufacture of beverages	48	4.8	29	0.1	77	0.2
12	Manufacture of tobacco products	4	0.4	10	0.0	14	0.0
13	Manufacture of textiles	32	3.2	676	1.4	708	1.5
14	Manufacture of wearing apparel	13	1.3	13,280	28.0	13,293	27.4
15	Manufacture of leather and related products	17	1.7	159	0.3	177	0.4
16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	68	6.8	1,702	3.6	1,770	3.7
17	Manufacture of paper and paper products	12	1.2	6	0.0	19	0.0
18	Printing and reproduction of recorded media	48	4.8	119	0.3	168	0.3
19	Manufacture of coke and refined petroleum products	3	0.3	0	0.0	3	0.0
20	Manufacture of chemicals and chemical products	39	3.9	48	0.1	87	0.2
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations	5	0.5	2	0.0	7	0.0
22	Manufacture of rubber and plastics products	43	4.3	22	0.0	65	0.1
23	Manufacture of other non-metallic mineral products	88	8.8	1,014	2.1	1,102	2.3
24	Manufacture of basic metals	14	1.4	5	0.0	19	0.0
25	Manufacture of fabricated metal products, except machinery and equipment	54	5.4	3,751	7.9	3,804	7.8
26	Manufacture of computer, electronic and optical products	1	0.1	1	0.0	2	0.0
27	Manufacture of electrical equipment	20	2.0	233	0.5	253	0.5
28	Manufacture of machinery and equipment n.e.c.	14	1.5	84	0.2	99	0.2
29	Manufacture of motor vehicles, trailers and semi-trailers	14	1.4	24	0.1	38	0.1
30	Manufacture of other transport equipment	2	0.2	45	0.1	47	0.1
31	Manufacture of furniture	60	6.0	6,763	14.2	6,823	14.1
32	Other manufacturing	13	1.3	162	0.3	175	0.4
33	Repair and installation of machinery and equipment	4	0.4	24	0.1	28	0.1
	<b>Total</b>	<b>998</b>	<b>100.0</b>	<b>47,476</b>	<b>100.0</b>	<b>48,474</b>	<b>100.0</b>



The results further indicate that manufacture of food products had the largest number of establishments (19,700; 40.6 percent); followed by manufacture of wearing apparel with 13,293 establishments (27.4 percent); and manufacture of furniture with 6,823 establishments (14.1 percent). The remaining manufacturing activities, had less than 10.0 percent each.

In small establishments, manufacture of food products also had the largest number of establishments (19,318; 40.7 percent); followed by manufacture of wearing apparel with 13,280 establishments (28.0 percent); and manufacture of furniture with 6,763 establishments (14.2 percent). The remaining manufacturing activities, had less than 10.0 percent each.

In large establishments, manufacture of food products had the largest number of establishments (382; 38.3 percent); followed by manufacture of other non-metallic mineral products with 88 establishments (8.8 percent); manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials 68 establishments (6.8 percent); manufacture of furniture with 60 establishments (6.0 percent); and manufacture of fabricated metal products except machinery and equipment with 54 establishments (5.4 percent). The remaining manufacturing activities, each had a contribution of less than five percent.

### 3.3 Number of Establishments by Region and Employment Size

The results show that Dar es Salaam region had the largest number of establishments (7,443; 15.1 percent); followed by Mara with 3,549 establishments (7.2 percent); Ruvuma (3,477; 7.1 percent); and Morogoro (3,077; 6.2 percent). However, Katavi region had the smallest number of establishments (221; 0.4 percent). This situation calls for policy interventions to boost industrial sector in this region. Dominance of Dar es Salaam in almost all economic activities indicates its economic importance in Tanzania.

Results also show that establishments with less than five persons had the largest number of establishments (41,919; 85.1 percent); followed by those engaging 5 to 9 persons (6,002; 12.2 percent). Establishments engaging 500 or more persons accounted for the smallest number of establishments (48; 0.1 percent).

In addition, out of the 7,443 establishments in Dar es Salaam, 5,802 establishments, 78.0 percent were in the 1 to 4 employment size group; followed by 1,253 establishments (16.8 percent) engaged in the 5 to 9 size group; and only 11 establishments (0.1 percent) were in the 500+ employment size group. Furthermore, (2,981 establishments; 84.0 percent) and (3,258 establishments; 93.7 percent) of the establishments in Mara and Ruvuma regions, respectively, were in the 1 to 4 employment size group (Table 3.4).

Table 3.4: Number of Establishments by Region and Employment Size, Tanzania Mainland, CIP-2013

Region	Employment Size							Total
	1 - 4	5 - 9	10 - 19	20-49	50-99	100-499	500+	
Dodoma	1,608	212	15	9	2	4	0	1,850
Arusha	1,826	231	30	15	20	19	5	2,146
Kilimanjaro	1,494	197	29	15	11	8	2	1,757
Tanga	1,502	166	13	11	8	12	4	1,716
Morogoro	2,627	403	17	17	1	5	7	3,077
Pwani	1,216	234	8	9	1	5	1	1,474
Dar es Salaam	5,802	1,253	111	118	68	81	11	7,443
Lindi	675	181	7	3	0	2	0	868
Mtwara	870	123	0	3	5	3		1,005
Ruvuma	3,258	201	10	7	1	1	0	3,477
Iringa	2,277	209	9	7	6	7	3	2,518
Mbeya	2,542	248	33	23	6	12	0	2,864
Singida	1,389	219	33	13	2	1	0	1,657

Table 3.4: Number of Establishments by Region and Employment Size, Tanzania Mainland, CIP-2013 (continued)

Region	Employment Size							Total
	1 - 4	5 - 9	10 - 19	20-49	50-99	100-499	500+	
Tabora	865	84	7	3	1	3	0	963
Rukwa	868	64	3	5	1	0	0	942
Kigoma	841	102	9	1	1	2	0	957
Shinyanga	929	233	22	11	2	1	3	1,201
Kagera	2,062	276	35	31	3	6	2	2,415
Mwanza	1,075	279	23	13	8	8	4	1,410
Mara	2,981	540	8	9	4	4	2	3,549
Manyara	2,067	166	60	79	14	13	1	2,400
Njombe	1,547	120	0	4	2	1	1	1,676
Katavi	200	20	0	1	0	0	0	221
Simiyu	638	112	10	2	0	0	0	762
Geita	762	129	1	1	1	0	1	895
<b>Total</b>	<b>41,919</b>	<b>6,002</b>	<b>493</b>	<b>412</b>	<b>170</b>	<b>199</b>	<b>48</b>	<b>49,243</b>
<b>Percent</b>	<b>85.1</b>	<b>12.2</b>	<b>1.0</b>	<b>0.8</b>	<b>0.3</b>	<b>0.4</b>	<b>0.1</b>	<b>100.0</b>

### 3.4 Ownership by Origin

Ownership is determined by the origin of shareholders whether they are nationals, foreigners or jointly owned (nationals and foreigners). Ownership involves multiple rights, collectively referred to as title which may be separated and held by different parties. Table 3.5 summarizes ownership by origin, whether it is a national, foreign or jointly owned company. The results show that 82.0 percent of the large establishments were owned by nationals; 10.8 percent were owned by foreigners; and 7.2 percent were jointly owned. The table also shows that almost all (99.9 percent) small establishments were owned by nationals and only 0.1 percent were owned by foreigners. The findings therefore suggest that large establishments attract more foreign investors than small establishments; whereas, nationals are more likely to own small establishments than large establishments.

The table further reveals that for small establishments in the national ownership, the sub-sector of mining and quarrying was wholly (100.0 percent) owned by Tanzanians, followed by manufacturing sub-sector (99.9 percent), water supply; sewerage, waste management and remediation activities (98.4 percent) and electricity, gas, steam and air conditioning supply (98.2 percent). While foreign ownership accounted for a total of 0.1 percent and there was no joint ownership.

As for national ownership in large establishments, the sub-sector of electricity, gas, steam and air conditioning supply was mostly owned by nationals (96.3 percent); followed by water supply; sewerage, waste management and remediation activities (94.8 percent); mining and quarrying (94.0 percent); and manufacturing (78.0 percent). Foreign ownership accounted for 10.8 percent and joint ownership 7.2 percent.

It was also observed that most of the establishments were small scale enterprises and were owned by nationals, this is the result of the Government effort to transform the economy into semi-industrial economy as identified through different mechanisms, adopted by the Government to develop small enterprises. One of the tools used by the Government was the Sustainable Industrial Development Policy (SIDP) 1996, with the objective of implementing the government decision of withdrawing the public sector from engagement in the production activities, and enabling the private sector to become the principal vehicle for the economic growth.

**Table 3.5: Percentage of Large and Small Establishments by Industrial Sub-Sector and Origin of Ownership, Tanzania Mainland, CIP-2013**

								(Percent)
Industrial Sub-Sector	Large Establishments				Small Establishments			
	National	Foreign	Joint	Total	National	Foreign	Joint	Total
Mining and quarrying	94.0	5.0	1.0	100.0	100.0	0.0	0.0	100.0
Manufacturing	78.0	12.9	9.2	100.0	99.9	0.1	0.0	100.0
Electricity, gas, steam and air conditioning supply	96.3	0.0	3.7	100.0	98.2	1.8	0.0	100.0
Water supply; sewerage, waste management and remediation activities	94.8	5.2	0.0	100.0	98.4	1.6	0.0	100.0
<b>Total</b>	<b>82.0</b>	<b>10.8</b>	<b>7.2</b>	<b>100.0</b>	<b>99.9</b>	<b>0.1</b>	<b>0.0</b>	<b>100.0</b>

### 3.5 Form of Ownership

The industrial sector in Tanzania can be classified into public, private or mixed form of ownership. The classification is based on whether the establishment is owned/controlled by public authority, private or both public and private entities. Table 3.6 provides detailed classification of the forms of ownership by small establishments and large establishments.

It shows that majority of the surveyed establishments in all the industrial sub-sectors were privately owned firms. Percentagewise, 99.8 percent of small establishments were privately owned while 0.2 percent were publicly owned. There was no mixed ownership in all the four sub-sectors. In large establishments, the results show that 86.6 percent of the establishments had private ownership, 11.4 percent had public ownership and only 2.0 percent had mixed ownership.

In terms of Private Ownership, the results show that 99.9 percent of small manufacturing sub-sector establishments were privately owned; followed by electricity, gas, steam and air conditioning supply (99.1 percent); mining and quarrying (98.3 percent) and water supply; sewerage, waste management and remediation activities (94.8 percent). In large establishments, the findings show that mining and quarrying and manufacturing sub-sectors were mostly privately owned by 97.3 percent and 92.6 percent respectively.

In Terms of Public Ownership, the results show that 35.2 percent of small establishments, water supply; sewerage, waste management and remediation activity was publicly owned; followed by mining and quarrying sub-sector with 1.7 percent. The remaining two sub-sectors, each had less than one percent. While in large establishments, the findings show that the sub-sector of water supply; sewerage, waste management and remediation establishments were mostly (85.9 percent) publicly owned; followed by electricity, gas, steam and air conditioning (85.1 percent), (Table 3.5).

**Table 3.6: Percentage of Establishments by Industrial Sub-Sector and Form of Ownership, Tanzania Mainland, CIP-2013**

					(Percent)
Industrial Sub-Sector		Form of Ownership			
		Public	Private	Mixed	Total
<b>Large Establishments</b>					
Mining and quarrying		2.1	97.3	0.5	100.0
Manufacturing		4.9	92.6	2.5	100.0
Electricity, gas, steam and air conditioning supply		85.1	14.9	0.0	100.0
Water supply; sewerage, waste management and remediation activities		85.9	14.1	0.0	100.0
<b>Total</b>		<b>11.4</b>	<b>86.6</b>	<b>2.0</b>	<b>100.0</b>

**Table 3.6: Percentage of Establishments by Industrial Sub-Sector and Form of Ownership, Tanzania Mainland, CIP-2013 (continued)**

	(Percent)			
Industrial Sub-Sector	Form of Ownership			
	Public	Private	Mixed	Total
<b>Small Establishments</b>				
Mining and quarrying	1.7	98.3	0.0	100.0
Manufacturing	0.1	99.9	0.0	100.0
Electricity, gas, steam and air conditioning supply	0.9	99.1	0.0	100.0
Water supply; sewerage, waste management and remediation activities	35.2	64.8	0.0	100.0
<b>Total</b>	<b>0.2</b>	<b>99.8</b>	<b>0.0</b>	<b>100.0</b>

The census results show that Tanzania Mainland has more public firms in electricity and water supply, the two sub-sectors which need to have high attention from the Government. However, during the second half of the 1990s (MIT 2012 Report), the Government formulated the Sustainable Industrial Development Policy (SIDP) 1996-2020. The main purpose of this policy was to shift the economy engine for growth from the public to the private sector. As a results of this initiative, survey results show that the majority of the surveyed establishments were privately owned.

The study also reveals that about 7.2 percent of the surveyed establishments were jointly (public and private) owned which is very minor compared to private owned firms only. The number of private owned firms, especially the small scale ones, continued increasing due to the Government efforts of stimulating new private enterprises after its decision of pulling out in direct involvement in the productive activities by letting the private sector be the principal vehicle for that role. Those efforts continued in 2003 after formulating the Small and Medium Enterprise Development Policy (SMEs). With its biased emphasis on Small and Medium Enterprise (SMEs), focuses largely on supporting the existing and new institutions, simplifying taxation, licensing, registration of small and medium enterprises and improvement of accessibility to financial services as were stipulated in Sustainable Development Policy (1996-2020).

This kind of arrangement is the result of Government effort in the provision of vocational schools, financial support, smoothening investment infrastructure and the role played by other players in the economy, such as TIRDO and VETA.

### 3.6 Types of Legal Organization

Types of Legal Organization have been categorized as Sole proprietorship, Partnership, Public, Parastatal, Cooperative, Private Company, Private Company Limited or any other forms of legal organization. Table 3.7 gives details of the types of legal organizations for large establishments.

According to the table, 28.3 percent of large establishments were Private Company Limited; followed by Sole proprietorship (28.1 percent); Partnership (26.7 percent); Public (6.6 percent); Cooperative (3.7 percent); Private Company (3.2 percent); Parastatal (2.7 percent) and other legal organizations (0.7 percent).

However, the results also show that 77.7 percent of the establishments that dealt with electricity, gas, steam and air conditioning supply activities were Parastatal organizations; followed by Public organizations (73.3 percent) in water supply, sewerage, waste management and remediation activities; Sole proprietorship (56.7 percent) in mining and quarrying and Private Company Limited (35.2 percent) in manufacturing sub-sector.

**Table 3.7: Percentage of Large Establishments by Industrial Sub-Sector and Types of Legal Organization, Tanzania Mainland, CIP-2013**

					(Percent)
Type of Legal Organization	Industrial Sub-Sectors				Total
	Mining and quarrying	Manufacturing	Electricity, gas, steam and air conditioning supply	Water supply; sewerage, waste management and remediation activity	
Sole Proprietorship	56.7	25.1	3.7	1.3	28.1
Partnership	31.8	28.2	0.0	6.6	26.7
Public	0.5	2.0	7.4	73.3	6.6
Parastatal	0.6	0.5	77.7	10.1	2.7
Cooperative	1.1	4.4	0.0	2.5	3.7
Private Company	1.7	3.9	0.0	0.0	3.2
Private Company Limited	7.6	35.2	11.1	4.9	28.3
Other	0.0	0.9	0.0	1.3	0.7
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Table 3.8 shows types of legal organization in small establishments. The results show that 92.6 percent of small establishments were in Sole proprietorship organization 6.3 percent were in Partnership; 0.7 percent were in Cooperative; 0.1 percent in both Public and Private Company Limited. Other types of legal organization accounted for a total of 0.2 percent. It was also observed that there were no establishments with Private Company and Parastatal type of organizations. Within the Sole Proprietorship, manufacturing sub-sector establishments had 92.8 percent; followed by electricity, gas, steam and air conditioning supply (88.6 percent); mining and quarrying (71.1 percent); and water supply; sewerage, waste management and remediation activities (47.6 percent).

**Table 3.8: Percentage of Small Establishments by Industrial Sub-Sector and Types of Legal Organization, Tanzania Mainland, CIP-2013**

					(Percent)
Type of Legal Organization	Industrial Sub-Sector				Total
	Mining and quarrying	Manufacturing	Electricity, gas, steam and air conditioning supply	Water supply; sewerage, waste management and remediation activity	
Sole Proprietorship	71.1	92.8	88.6	47.6	92.6
Partnership	25.5	6.2	6.4	11.2	6.3
Public	1.7	0.0	0.0	31.4	0.1
Parastatal	0.0	0.0	0.0	0.0	0.0
Cooperative	1.1	0.6	5.0	7.4	0.7
Private Company	0.0	0.0	0.0	0.0	0.0
Private Company Limited	0.0	0.1	0.0	0.0	0.1
Other	0.6	0.2	0.0	2.4	0.2
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

### 3.7 Year an Establishment Started to Operate

One of the indicators used to determine the age of a firm is the year an establishment started to operate. Table 3.9 gives the periods when the establishments started operation. The results show that 73.8 percent of small establishments started to operate between the years 2000-2004. During this period, 85 percent of the small establishments were in the sub-sector of electricity, gas, steam and air conditioning supply activities; followed by manufacturing (73.8 percent), mining and quarrying (64.3 percent) and water supply; sewerage, waste management and remediation activities (59.9 percent).

However, in the period between independence (1961) and 1990, there was a small number of large establishments compared to the period between 1990 and 2000s, whereby the largest number of establishments was in the period between 2000-2004 (43.1 percent). This was the period when the Government started to implement privatization of public owned firms. Most of the firms established during this period were in the manufacturing sub-sector with a proportion of 46.1 percent; followed by mining and quarrying (36.8 percent); water supply; sewerage, waste management and remediation activities (34.3 percent) and electricity, gas, steam and air conditioning supply activities (7.4 percent).

**Table 3.9: Percentage of Establishments by Industrial Sub-Sector and Period Operation Started, Tanzania Mainland, CIP-2013**

						(Percent)
Industrial Sub-Sector	Period Operation Started					
	Pre -1990	1990-1994	1995-1999	2000-2004	2005-2013	Total
<b>Large Establishments</b>						
Mining and quarrying	11.5	22.2	18.4	36.8	11.0	100.0
Manufacturing	17.5	14.1	16.3	46.1	6.0	100.0
Electricity, gas, steam and air conditioning supply	88.9	0.0	3.7	7.4	0.0	100.0
Water supply; sewerage, waste management and remediation activity	10.1	24.0	31.6	34.3	0.0	100.0
<b>Total</b>	<b>17.5</b>	<b>15.8</b>	<b>17.4</b>	<b>43.1</b>	<b>6.3</b>	<b>100.0</b>
<b>Small Establishments</b>						
Mining and quarrying	10.2	6.8	13.0	64.3	5.7	100.0
Manufacturing	4.0	6.5	13.0	73.8	2.7	100.0
Electricity, gas, steam and air conditioning supply	0.8	3.3	10.0	85.0	0.8	100.0
Water supply; sewerage, waste management and remediation activity	15.4	4.8	14.6	59.9	5.3	100.0
<b>Total</b>	<b>4.0</b>	<b>6.5</b>	<b>13.0</b>	<b>73.8</b>	<b>2.8</b>	<b>100.0</b>



Table 3.10 shows that 86.8 percent of establishments with less than ten persons were established between 1995-2004. Among the small manufacturing establishments, the manufacture of food products had the highest proportion (89.1 percent) followed by manufacture of wearing apparel (87.8 percent).

Furthermore, 62.4 percent of the establishments with ten or more persons were established between 1995-2004. The higher proportion of the industrial activities established were observed in manufacture of other non-metallic mineral products with 74.4 percent followed by manufacture of food products with 68.0 percent.

**Table 3.10: Percentage of Manufacturing Establishments by Industrial Sub-Sector and Period Operation Started, Tanzania Mainland, CIP-2013**

					(Percent)
ISIC Rev. 4 Code	Industrial Activity	Period operation started			Total
		Pre-1995	1995-2004	2005-2013	
Large establishments					
10	Manufacture of food products	26.5	68.0	5.5	100.0
16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	32.9	60.3	6.8	100.0
23	Manufacture of other non-metallic mineral products	21.8	74.4	3.8	100.0
31	Manufacture of furniture	39.3	55.4	5.4	100.0
	Other	37.3	55.8	7.0	100.0
	Total	31.6	62.4	6.0	100.0
Small establishments					
10	Manufacture of food products	9.2	89.1	1.7	100.0
14	Manufacture of wearing apparel	9.7	87.8	2.5	100.0
25	Manufacture of fabricated metal products, except machinery and equipment	10.0	87.8	2.2	100.0
31	Manufacture of furniture	16.0	77.9	6.2	100.0
	Other	10.2	86.4	3.3	100.0
	Total	10.5	86.8	2.7	100.0

## 4.0 Introduction

This chapter describes the performance of manufacturing sub-sector in Tanzania Mainland during the year 2013. Information in this chapter includes; production capacity utilization rates, sales from own production, industrial services, non-industrial services and other receipts.

According to the Economic Survey 2014 Report, growth rates of economic activities in the manufacturing sub-sector during the year 2013 was 6.5 percent compared to 4.1 percent in 2012. The growth was mainly attributed to improvement in the availability of power supply.

## 4.1 Production Capacity Utilization

Capacity utilization refers to the current level of production compared to what would have been produced, if all the machinery/equipment were fully engaged in production activities. Table 4.1 provides a breakdown of the average Capacity Utilization (in percentage) across the international Central Product Classification (CPC). Various factors were involved in determining the level of capacity utilization including the supply of skilled manpower, supply of raw materials and mechanical condition of the machinery in use.

The results show that 28 of the industrial products capacity utilization was between 50 and 69 percent, two had average capacity utilization between 25 and 49 percent and eight industrial products had an average capacity utilization between 70 and 94 percent.

The products whose average production capacity utilization was above 70.0 percent include; tobacco products, (93.8 percent), crude petroleum and natural gas at (82.3 percent) and other minerals at 79.1 percent. On the other hand, low average capacity utilization of less than 50.0 percent was recorded in industrial products of; coal and lignite; peat (25.0 percent), forest and logging products (37.8 percent) (Table 4.1). Since the average production capacity utilization of all establishments is below 100.0 percent, it is important to know the reasons why the capacity is under-utilized.

**Table 4.1: Average Utilization of Production Capacity by Product, Tanzania Mainland, CIP-2013**

		(Percent)
CPC Code	Product Description	Average Capacity Utilization
01	Products of agriculture, horticulture and market gardening	65.3
02	Live animals and animal products	49.7
03	Forestry and logging products	37.8
04	Fish and other fishing products	65.0
11	Coal and lignite; peat	25.0
12	Crude petroleum and natural gas	82.3
15	Stone, sand and clay	60.8
16	Other minerals	79.1
17	Electricity, town gas, steam and hot water	75.0
18	Water	63.3

Table 4.1: Average Utilization of Production Capacity by Product, Tanzania Mainland, CIP-2013 (continued)

		(Percent)
CPC Code	Product Description	Average Capacity Utilization
21	Meat, fish, fruit, vegetables, oils and fats	57.3
22	Dairy products	53.1
23	Grain mill products, starches and starch products; other food products	58.2
24	Beverages	63.0
25	Tobacco products	93.8
26	Yarn and thread; woven and tufted textile fabrics	57.7
27	Textile articles other than apparel	59.6
28	Knitted or crocheted fabrics; wearing apparel	51.9
29	Leather and leather products; footwear	64.0
31	Products of wood, cork, straw and plaiting materials	53.1
32	Pulp, paper and paper products; printed matter and related articles	64.2
33	Coke oven products; refined petroleum products; nuclear fuel	68.8
34	Basic chemicals	66.7
35	Other chemical products; man-made fibres	65.4
36	Rubber and plastics products	64.7
37	Glass and glass products and other non-metallic products n.e.c.	63.3
38	Furniture; other transportable goods n.e.c.	60.3
39	Wastes or scraps	58.2
41	Basic metals	59.4
42	Fabricated metal products, except machinery and equipment	64.0
43	General-purpose machinery	72.6
44	Special-purpose machinery	63.3
45	Office, accounting and computing machinery	77.0
46	Electrical machinery and apparatus	70.5
47	Radio, television and communication equipment and apparatus	72.3
48	Medical appliances, precision and optical instruments, watches and clocks	62.3
49	Transport equipment	57.6
99	Services provided by extraterritorial organizations and bodies	68.5
	<b>Total</b>	<b>63.0</b>

Note: n.e.c – not elsewhere classified

## 4.2 Reasons for Capacity Under-Utilization

All large establishments covered during the 2013 Census of Industrial Production reported various levels of under-utilization of the existing production capacities. This means that each of the surveyed establishments, if the production plant, labour force and other available resources were optimally applied, then the establishment would have room for increased production beyond the reported quantities during the reference year. The census sought to understand the operational challenges faced by industrial activities by including questions on the constraints making it difficult for establishments to realize full capacity production. For each of the mentioned reasons, the respondents assessed whether it affected the establishments highly, moderately, lowly or whether the mentioned reasons were not applicable.

The results in Table 4.2 show that among the highly affected establishments, the largest proportion of responses (18.3 percent) indicated that the establishments were affected by insufficient power supply, the similar problem was observed among those which indicated that they were moderately affected (10.6 percent). Lack of spare parts was the most common reason (9.2 percent) among the lowly affected establishments.

Insufficient power supply (18.3 percent) was found to be the main reason for capacity under-utilization. Sufficient power supply highly contributes to prosperous industrial productivity, hence, the Government needs to formulate a good policy that will ensure availability of sufficient power supply. For more details on the reasons for capacity under-utilization of each sub-sector see **Annex Tables 2 to Annex Table 4**.

**Table 4.2: Reasons for Capacity Under-Utilization, Tanzania Mainland, CIP-2013**

Reasons for Capacity Under-Utilization	High		Moderate		Low		Not Applicable	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Insufficient domestic demand	214	16.2	192	14.5	119	9.0	797	60.3
Shortage of domestic inputs	117	8.9	179	13.5	116	8.8	910	68.8
Shortage of imported inputs	33	2.5	82	6.2	106	8.0	1,101	83.3
Old plant machinery and equipment	98	7.4	140	10.6	158	12.0	926	70.0
Plant maintenance problems due to lack of spare parts	115	8.7	166	12.6	163	12.3	878	66.4
Plant maintenance problems due to shortage of skilled labour	76	5.7	143	10.8	135	10.2	968	73.2
High cost of credits	134	10.1	114	8.6	85	6.4	989	74.8
Inadequate access to financial services	118	8.9	137	10.4	112	8.5	955	72.2
Insufficient power supply	354	26.8	215	16.3	95	7.2	658	49.8
Insufficient water supply	100	7.6	150	11.3	113	8.5	959	72.5
Competition from imports	144	10.9	113	8.5	104	7.9	961	72.7
Loss of product due to strikes/stoppages	27	2.0	43	3.3	84	6.4	1,168	88.3
Un-competitiveness of exports	50	3.8	47	3.6	73	5.5	1,152	87.1
Poor transport facilities/high transport cost	145	11.0	150	11.3	120	9.1	907	68.6
Inability to grant credits to customers	77	5.8	85	6.4	95	7.2	1,065	80.6
Counterfeits	58	4.4	48	3.6	83	6.3	1,133	85.7
Others	76	5.7	18	1.4	6	0.5	1,222	92.4
<b>Total</b>	<b>1,322</b>	<b>100.0</b>	<b>1,322</b>	<b>100.0</b>	<b>1,322</b>	<b>100.0</b>	<b>1,322</b>	<b>100.0</b>

## 4.3 Sales from Own Production

Sales from own production is another important measure of industrial sector performance. It refers to values of main products and by-products produced and sold by the establishments during the reference period. This section provides sales value of industrial outputs of local industries categorized as sales to domestic market and exports. It is important to note that all the exported products were sold by large establishments.

### 4.3.1 Exports and Local Sales

Goods sold were valued at producer price (ex-factory price), i.e. at the price charged to the customer by the establishment. It includes all duties and other taxes imposed on the products when they leave the factory, with the exception of the value-added tax invoiced to the client. In addition, discounts, indirect taxes, duty drawback and allowances on returned goods allowed to the customer were deducted.

### 4.3.2 Exports by Region

Table 4.3 shows that total exports were TZS 5,502,506 million; out of which Mara region contributed TZS 1,214,397 million (22.1 percent); followed by Shinyanga region with TZS 1,043,286 million (19.0 percent); Geita with TZS 1,025,068 million (18.6 percent) and Dar es Salaam region with TZS 673,591 million (12.2 percent). With the exception of Dar es Salaam region, which is the most commercial region, other regions with high contributions were mainly due to the existence of mining and quarrying activities.

### 4.3.3 Local Sales by Region

From Table 4.3 it can be deduced that most of the sales (TZS 5,369,282 million; 88.9 percent) of the manufactured goods in Dar es Salaam region were done locally. Out of the total local sales of TZS 10,016,469 million, Dar es Salaam region contributed TZS. 5,369,282 million (53.6 percent); followed by Morogoro TZS. 1,226,118 million (12.2 percent); and Arusha with TZS. 676,948 million (6.8 percent). Each of the remaining regions, contributed less than 5.0 percent of the total local sales.

**Table 4.3: Value of Industrial Products Sales by Region and Type, Tanzania Mainland, CIP-2013**

						(TZS Million)
Region	Exports		Local		Total	
	Value	Percent	Value	Percent	Value	Percent
Dodoma	1,960	0.0	68,332	0.7	70,292	0.5
Arusha	188,104	3.4	676,948	6.8	865,052	5.6
Kilimanjaro	48,639	0.9	415,847	4.2	464,486	3.0
Tanga	158,611	2.9	441,773	4.4	600,384	3.9
Morogoro	273,465	5.0	1,226,118	12.2	1,499,583	9.7
Pwani	8,411	0.2	113,953	1.1	122,364	0.8
Dar es Salaam	673,591	12.2	5,369,282	53.6	6,042,872	38.9
Lindi	512	0.0	20,244	0.2	20,757	0.1
Mtwara	48,375	0.9	14,121	0.1	62,496	0.4
Ruvuma	0	0.0	45,217	0.5	45,217	0.3
Iringa	104,315	1.9	115,088	1.1	219,403	1.4
Mbeya	164,456	3.0	362,819	3.6	527,274	3.4
Singida	287	0.0	52,410	0.5	52,697	0.3
Tabora	232,837	4.2	34,163	0.3	267,000	1.7
Rukwa	4,807	0.1	62,495	0.6	67,302	0.4
Kigoma	7,619	0.1	29,403	0.3	37,022	0.2
Shinyanga	1,043,286	19.0	151,748	1.5	1,195,034	7.7
Kagera	25,850	0.5	126,802	1.3	152,652	1.0
Mwanza	235,276	4.3	454,870	4.6	690,146	4.4
Mara	1,214,397	22.1	80,154	0.8	1,294,551	8.3
Manyara	21,002	0.4	111,599	1.1	132,601	0.9
Njombe	21,638	0.4	18,882	0.2	40,520	0.3
Katavi	0	0.0	882	0.0	882	0.0

Table 4.3: Value of Industrial Products Sales by Region and Type, Tanzania Mainland, CIP-2013 (continued)

						(TZS Million)
Region	Exports		Local		Total	
	Value	Percent	Value	Percent	Value	Percent
Simiyu	0	0.0	12,154	0.1	12,154	0.1
Geita	1,025,068	18.6	11,165	0.1	1,036,233	6.7
<b>Total</b>	<b>5,502,506</b>	<b>100.0</b>	<b>10,016,469</b>	<b>100.0</b>	<b>15,518,975</b>	<b>100.0</b>

#### 4.3.4 Domestic and Export Markets

Figure 4.1 shows that total sales for establishments were TZS 15,084,240 million, out of which TZS 10,016,469 (64.5 percent), were local sales and TZS 5,502,506 (35.5 percent) were export sales.

Figure 4.1: Exports and Local Sales for Large Industrial Establishments, Tanzania Mainland, CIP-2013

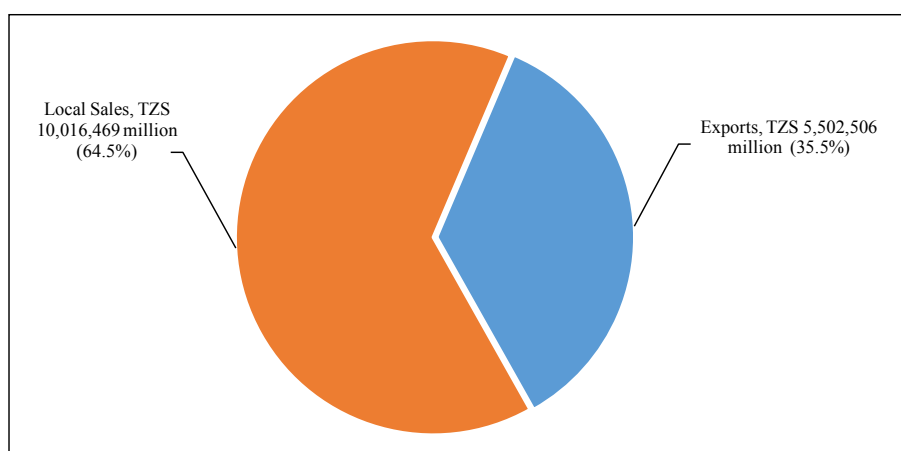


Table 4.4 shows that out of the total TZS 5,502,506 million export sales, the sub-sector of mining and quarrying contributed the largest amount of TZS 3,595,733 million (65.3 percent); followed by manufacturing sub-sector with TZS 1,902,476 (34.6 percent); water supply; sewerage, waste management and remediation activities with TZS 4,297 million (0.1 percent). However, the sub-sector of electricity, gas, steam and air conditioning supply did not export its products.

On domestic market, out of the total TZS 9,581,734 million local sales, the sub-sector of manufacturing contributed the largest amount of TZS 7,909,854 million (82.6 percent); followed by electricity, gas, steam and air conditioning supply sub-sector with TZS 1,429,365 million (14.9 percent); mining and quarrying with TZS 158,494 million (1.7 percent); and water supply; sewerage, waste management remediation activities with TZS 84,021 million or 0.9 percent of the total local sales.

Table 4.4: Export and Local Sales by Industrial Sub-Sector for large Establishments, Tanzania Mainland, CIP-2013

					(TZS Million)
Industrial Sub-Sector	Export Sales		Local Sales		
	Value	Percent	Value	Percent	
Mining and quarrying	3,595,733	65.3	158,494	1.7	
Manufacturing	1,902,476	34.6	7,909,854	82.6	
Electricity, gas, steam and air conditioning supply	0	0.0	1,429,365	14.9	
Water supply; sewerage, waste management and remediation activities	4,297	0.1	84,021	0.9	
<b>Total</b>	<b>5,502,506</b>	<b>100.0</b>	<b>9,581,734</b>	<b>100.0</b>	



From Table 4.5, analysis further reveals that small establishments produced mainly for local markets with total local sales of TZS 434,735 million; of which, manufacturing sub-sector contributed the largest amount (TZS 424,736 million; 97.7 percent) of the total local sales; followed by mining and quarrying with TZS 6,143 million (1.4 percent); water supply; sewerage, waste management and remediation activities with TZS 1,152 million (0.6 percent); and electricity, gas, steam and air conditioning supply with 0.3 percent of the total local sales.

**Table 4.5: Sales in the Local Market by Industrial Sub-Sector for Small Establishments, Tanzania Mainland, CIP-2013**

		(TZS Million)
Industrial Sub-Sector	Local Sales	
	Value	Percent
Mining and quarrying	6,143	1.4
Manufacturing	424,736	97.7
Electricity, gas, steam and air conditioning supply	1,152	0.3
Water supply; sewerage, waste management and remediation activities	2,704	0.6
Total	434,735	100.0

### 4.3.5 Manufacturing Sales: Exports and Local Sales, Large Establishments

Table 4.6 shows that out of the total TZS 9,812,331 million manufacturing sub-sector sales, manufacture of food products had the largest amount of TZS 3,814,575 million (38.9 percent) of the total sales; followed by manufacture of beverages with TZS 1,571,432 million (16.0 percent). Among the establishments that exported their products, manufacture of food products maintained its dominance with TZS 787,328 (41.4 percent) of the total manufacturing exports; followed by manufacture of rubber and plastics products with TZS 275,561 (14.5 percent).

For local sales, manufacture of food products accounted for the largest amount of TZS 3,027,246 (38.3 percent) of the total products sold locally; followed by manufacture of beverages with TZS 1,561,073 (19.7 percent). manufacture of wearing apparel and manufacture of computer, electronic and optical products had the smallest amounts to the total sales with 0.1 and 0.2 percent respectively. Moreover, manufacture of leather and related products was also among the sectors with lowest shares to total sales (0.5 percent). This activity had the same percentage in both exports and local sales, each with 0.5 percent. Given that manufacturing of wearing apparel, and leather and related products are labour intensive in nature, their better performance in terms of sales/income would play an important role in improving the well-being of the workers.

**Table 4.6: Manufacturing Sales: Export and Local Sales by Industrial Activity for Large Establishments, Tanzania Mainland, CIP-2013**

						(TZS Million)	
ISIC REV.4 Code	Industrial Activity	Export		Local Sales		Total	
		Value	Percent	Value	Percent	Value	Percent
10	Manufacture of food products	787,328	41.4	3,027,246	38.3	3,814,575	38.9
11	Manufacture of beverages	10,359	0.5	1,561,073	19.7	1,571,432	16.0
12	Manufacture of tobacco products	244,530	12.9	384,366	4.9	628,896	6.4
13	Manufacture of textiles	141,794	7.5	238,424	3.0	380,218	3.9
14	Manufacture of wearing apparel	14,865	0.8	9,178	0.1	24,043	0.2

**Table 4.6: Manufacturing Sales: Export and Local Sales by Industrial Activity for Large Establishments, Tanzania Mainland, CIP-2013 (continued)**

							(TZS Million)
ISIC REV.4 Code	Industrial Activity	Export		Local Sales		Total	
		Value	Percent	Value	Percent	Value	Percent
15	Manufacture of leather and related products	9,854	0.5	38,110	0.5	47,964	0.5
16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	52,404	2.8	47,486	0.6	99,890	1.0
17	Manufacture of paper and paper products	34,575	1.8	63,175	0.8	97,750	1.0
18	Printing and reproduction of recorded media	3,467	0.2	171,861	2.2	175,328	1.8
19	Manufacture of coke and refined petroleum products	13,871	0.7	50,421	0.6	64,292	0.7
20	Manufacture of chemicals and chemical products	88,776	4.7	439,405	5.6	528,182	5.4
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations	3,203	0.2	55,948	0.7	59,151	0.6
22	Manufacture of rubber and plastics products	275,561	14.5	343,021	4.3	618,582	6.3
23	Manufacture of other non-metallic mineral products	149,774	7.9	585,609	7.4	735,384	7.5
24	Manufacture of basic metals	9,667	0.5	145,668	1.8	155,334	1.6
25	Manufacture of fabricated metal products, except machinery and equipment	807	0.0	108,174	1.4	108,981	1.1
26	Manufacture of computer, electronic and optical products	16,318	0.9	18,193	0.2	34,512	0.4
27	Manufacture of electrical equipment	5,549	0.3	84,635	1.1	90,185	0.9
28	Manufacture of machinery and equipment n.e.c.	-	-	9,365	0.1	9,365	0.1
29	Manufacture of motor vehicles, trailers and semi-trailers	9,905	0.5	26,067	0.3	35,972	0.4
30	Manufacture of other transport equipment	-	-	60,445	0.8	60,445	0.6
31	Manufacture of furniture	27,087	1.4	341,663	4.3	368,750	3.8
32	Other manufacturing	2,781	0.1	65,810	0.8	68,591	0.7
33	Repair and installation of machinery and equipment	-	-	34,510	0.4	34,510	0.4
	<b>Total</b>	<b>1,902,476</b>	<b>100.0</b>	<b>7,909,854</b>	<b>100.0</b>	<b>9,812,331</b>	<b>100.0</b>

## 4.4 Income from Services

### 4.4.1 Industrial Services

It covers receipts for services of an industrial nature rendered to other establishments; for example, contract and commission, repair and maintenance and waste treatment. Table 4.7 shows that total income earned from industrial services during the year 2013 was TZS 47,892 million equivalent to 4.5 percent of the total amount received from the provided services. Manufacturing sub-sector had the highest income of TZS 35,894 million (74.9 percent) of the total industrial service receipts; followed by water supply; sewerage, waste management and remediation activities with TZS 8,422 million (17.6 percent); electricity, gas, steam and air conditioning supply with TZS 2,077 million (4.3 percent); and mining and quarrying with TZS 1,499 million (3.1 percent) of the total income from the industrial services rendered.

### 4.4.2 Non-Industrial Services

These are receipts received by the establishments from external clients for services rendered which are not directly related to production. These include sales of goods sold as purchased, rents, transport services, value of sold assets, receipts from warehousing services. Table 4.7 shows that total receipts accrued from the non-industrial services was TZS 913,523 million (85.7 percent) of the total amount received from services during the year.

### 4.4.3 Other Receipts

Other receipts include, incomes accrued from other sources other than industrial and non-industrial, such as interests and dividends, insurance premiums received, subsidies and sale of scraps. Table 4.7 shows that other receipts had a relatively large amount of TZS 104,860 million (9.8 percent) of the total services.

Table 4.7: Income from Services by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013

				(TZS Million)
Industrial Sub-Sector	Industrial Services	Non-Industrial Services	Other Receipts	Total
Mining and Quarrying	1,499	4,243	35,593	41,335
Manufacturing	35,894	582,568	43,337	661,799
Electricity, gas, steam and air conditioning supply	2,077	319,797	8,465	330,339
Water supply; sewerage, waste management and remediation activities	8,422	6,916	17,465	32,803
<b>Total</b>	<b>47,892</b>	<b>913,523</b>	<b>104,860</b>	<b>1,066,275</b>
<b>Percent</b>	<b>4.5</b>	<b>85.7</b>	<b>9.8</b>	<b>100.0</b>

## 4.5 Manufacturing Value Added (MVA) by Region

The Manufacturing Value Added (MVA) is the difference between the value of Gross Output and value of Intermediate Consumption (i.e. the contribution of manufacturing establishments to the value of finished and semi-finished manufactured goods and services). MVA data can also help to determine the performance of the manufacturing sub-sector.

Table 4.8 shows all the surveyed regions, the highest MVA was realized in Dar es Salaam region with TZS 2,059,503 million (42.0 percent of the total MVA); followed by Morogoro with TZS 1,020,646 million (20.8 percent); and Arusha with TZS 356,691 million (7.3 percent). However, Katavi region had the lowest MVA amounting to TZS 2,305 million (0.05 percent of the total MVA).

## 4.5.1 Manufacturing Value Added (MVA) by Region for Large Establishments

In Table 4.8 the results show that large establishments in Dar es Salaam region had the highest MVA of TZS 1,962,081 million (43.1 percent of the total MVA); followed by Morogoro region with TZS 991,710 million (21.8 percent); and Arusha with TZS 337,826 million (7.4 percent). The lowest MVA was recorded in Simiyu region with TZS 1,014 million (0.02 percent of the total large establishments MVA).

## 4.5.2 Manufacturing Value Added (MVA) by Region for Small Establishments

For small establishments, Table 4.8 shows that Dar es Salaam region had the highest MVA of TZS 97,422 million (27.4 percent) the total MVA; followed by Morogoro region with TZS 28,936 million (8.1 percent); and Mara region with TZS 21,089 million (5.9 percent). Mtwara region had the lowest MVA with TZS 2,257 million (0.6 percent) of the total MVA.

**Table 4.8: Manufacturing Value Added by Region for Large and Small Establishments, Tanzania Mainland, CIP-2013**

(TZS Million)									
Region	Large Establishments			Small Establishments			Total		
	Gross Output	Intermediate Consumption	MVA	Gross Output	Intermediate Consumption	MVA	Gross Output	Intermediate Consumption	MVA
Dodoma	23,872	11,054	12,818	32,088	16,240	15,848	55,960	27,294	28,667
Arusha	793,325	455,499	337,826	36,330	17,465	18,865	829,655	472,964	356,691
Kilimanjaro	412,039	191,964	220,075	15,037	5,228	9,809	427,076	197,193	229,884
Tanga	528,564	282,171	246,394	25,131	13,464	11,667	553,695	295,634	258,061
Morogoro	1,398,399	406,689	991,710	44,360	15,424	28,936	1,442,759	422,113	1,020,646
Pwani	45,288	31,674	13,613	17,702	7,685	10,017	62,990	39,360	23,630
Dar es Salaam	5,449,573	3,487,491	1,962,081	172,085	74,662	97,422	5,621,657	3,562,154	2,059,503
Lindi	5,646	4,516	1,130	5,840	1,532	4,308	11,485	6,048	5,437
Mtwara	52,409	24,201	28,208	4,615	2,357	2,257	57,024	26,559	30,465
Ruvuma	22,432	19,170	3,262	20,342	6,575	13,767	42,774	25,745	17,030
Iringa	183,874	95,634	88,241	18,206	8,409	9,797	202,080	104,042	98,038
Mbeya	331,887	163,956	167,931	33,343	16,646	16,697	365,230	180,602	184,628
Singida	21,763	8,625	13,138	22,732	8,297	14,435	44,495	16,922	27,573
Tabora	9,223	7,249	1,974	8,237	2,755	5,483	17,461	10,004	7,457
Rukwa	57,304	4,439	52,865	7,109	3,145	3,964	64,413	7,584	56,829
Kigoma	22,932	3,410	19,522	5,297	2,632	2,665	28,229	6,042	22,187
Shinyanga	50,249	35,935	14,315	28,476	10,186	18,290	78,726	46,121	32,605
Kagera	153,360	76,619	76,742	13,724	5,452	8,271	167,084	82,071	85,013
Mwanza	631,138	370,376	260,762	23,996	9,268	14,727	655,134	379,645	275,489
Mara	50,264	34,949	15,316	28,651	7,562	21,089	78,915	42,511	36,404
Manyara	13,580	10,506	3,074	22,080	10,631	11,449	35,660	21,137	14,523
Njombe	56,938	36,231	20,707	7,234	3,446	3,788	64,172	39,676	24,496
Katavi	0	0	0	3,647	1,342	2,305	3,647	1,342	2,305
Simiyu	5,886	4,872	1,014	9,146	3,867	5,279	15,031	8,738	6,293
Geita	0	0	0	11,443	7,304	4,139	11,443	7,304	4,139
<b>Total</b>	<b>10,319,945</b>	<b>5,767,229</b>	<b>4,552,716</b>	<b>616,850</b>	<b>261,575</b>	<b>355,275</b>	<b>10,936,795</b>	<b>6,028,804</b>	<b>4,907,992</b>

### 4.5.3 Average Manufacturing Value Added (MVA) per Establishment in Large and Small Establishments

Average manufacturing value added per establishment reflects the average amount of value added created by each establishment in each region as captured during the CIP 2013.

Table 4.9 shows that the national average of manufacturing value added per establishment amounted to TZS 101 million with higher value recorded in Morogoro (TZS 336 million), followed by Dar es Salaam with TZS 280 million. On the other hand, high MVA was recorded by large establishments (TZS 4,564 million) compared to small establishments with TZS 7 million. Moreover, big establishments (100+ workers) had the largest MVA per establishment amounting to TZS 20,586 million followed by medium establishments (10-99 workers) with TZS 831 million.

**Table 4.9: Average Manufacturing Value Added (MVA) per Establishment by Region and Establishment Size, Tanzania Mainland, CIP-2013**

					(TZS Million)
Region	Small Establishments (1-9)	Large Establishments (10+)			National Total**
		Medium (10-99)	Big (100+)	Total*	
Dodoma	9	321	5,846	564	16
Arusha	9	1,181	11,825	3,888	167
Kilimanjaro	6	1,650	24,549	4,603	134
Tanga	7	492	17,064	6,267	152
Morogoro	10	1,208	94,979	24,263	336
Pwani	7	202	1,923	649	16
Dar es Salaam	14	998	18,915	5,212	280
Lindi	5	185	0	185	7
Mtwara	2	232	11,320	4,230	31
Ruvuma	4	250	0	250	5
Iringa	4	325	9,253	3,024	40
Mbeya	6	279	30,077	3,518	65
Singida	9	473	0	473	17
Tabora	6	205	186	203	8
Rukwa	4	8,117	0	8,117	61
Kigoma	3	2,409	0	2,409	23
Shinyanga	16	534	0	534	28
Kagera	4	331	7,540	1,044	36
Mwanza	11	401	21,107	4,793	196
Mara	6	196	4,116	1,002	10
Manyara	5	151	0	151	6
Njombe	2	1,324	5,728	2,432	15
Katavi	11	0	0	0	11
Simiyu	7	117	0	117	8
Geita	5	0	0	0	5
<b>Total</b>	<b>7</b>	<b>831</b>	<b>20,586</b>	<b>4,564</b>	<b>101</b>

**Note:** \* Total obtained by average manufacturing value added by medium and big establishments  
 \*\* National Total obtained by average manufacturing value added by small and large establishments

Table 4.10 shows the top five region with the highest five MVA industrial activities among the top five regions with highest MVA, Morogoro was leading in the manufacture of food products with TZS 835,494 Million, followed by Dar es Salaam in the Manufacture of beverage and tobacco products with TZS 532,287 and TZS 313,520 Million respectively.

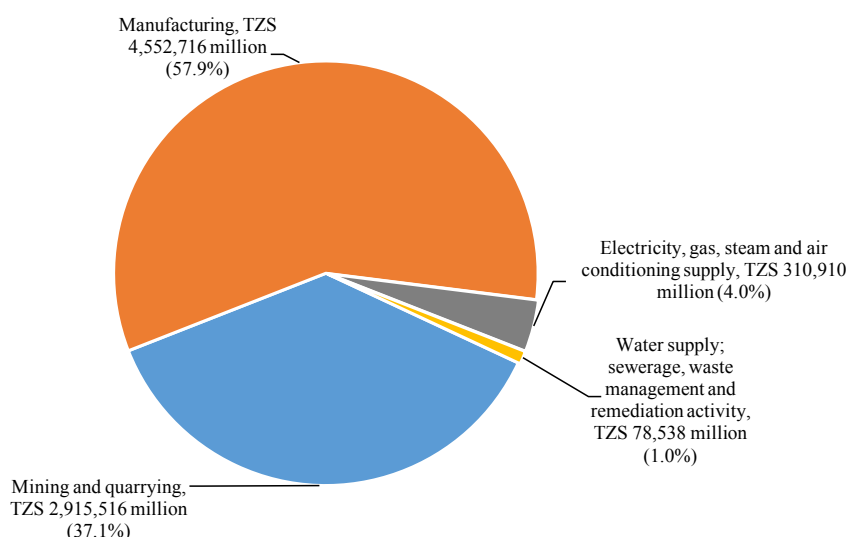
**Table 4.10: Manufacturing Value Added (MVA) by the Top Five Region with the Highest Five MVA industrial activities, Tanzania Mainland, CIP-2013**

ISIC Rev.4 Code	Industrial Activity	Regions				
		Dar es Salaam	Morogoro	Arusha	Mwanza	Tanga
10	Manufacture of food products	294,028	835,494	91,952	88,218	22,220
11	Manufacture of beverages	532,287	-	98,950	150,188	-
12	Manufacture of tobacco products	313,520	96,347	-	-	-
13	Manufacture of textiles	-	15,415	72,765	5,491	24,940
14	Manufacture of wearing apparel	-	6,882	-	-	-
16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	-	33,225	-	-	1,393
20	Manufacture of chemicals and chemical products	-	-	-	3,145	73,429
22	Manufacture of rubber and plastics products	173,465	-	-	-	-
23	Manufacture of other non-metallic mineral products	155,785	-	-	-	122,255
24	Manufacture of basic metals	-	-	7,876	-	-
26	Manufacture of computer, electronic and optical products	-	-	30,967	-	-
31	Manufacture of furniture	-	-	-	5,720	-
	<b>Total</b>	<b>1,469,086</b>	<b>987,364</b>	<b>302,510</b>	<b>252,761</b>	<b>244,238</b>

## 4.6 Value Added by Industrial Sub-Sector for Large Establishments

In large establishments, according to Figure 4.2, the results on value added by region show that manufacturing sub-sector contributed the largest proportion (57.9 percent) to the total MVA for large establishments; followed by mining and quarrying sub-sector with a contribution of 37.1 percent; electricity, gas, steam and air conditioning supply with 4.0 percent; and water supply; sewerage, waste management and remediation activity sub-sector with 1.0 percent of the total MVA.

**Figure 4.2: Value Added by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013**





A focus on electricity, gas, steam and air conditioning supply sub-sector (see Table 4.11) shows that Dar es Salaam region contributed the highest value added of TZS 200,088 (64.4 percent of the total sub-sector value added); followed by Arusha region with TZS 12,911 (4.2 percent); Tanga region with TZS 12,163 (3.9 percent of the total sub-sector value added). Results also show that Dar es Salaam was the leading region in the manufacturing sub-sector by contributing TZS 1,962,081 equivalent to 43.1 percent of the total sub-sector value added; followed by Morogoro region with TZS 991,710 (21.8 percent); and Arusha region with TZS 337,826 (7.4 percent). Mining and quarrying was the leading sub-sector in Mara region with TZS 984,951 (33.8 percent of the total sub-sector value added); followed by Shinyanga region with TZS 847,576 (29.1 percent); and Geita with TZS 832,891 (28.6 percent of the total sub-sector value added). Furthermore, Mtwara was the leading region in water supply; sewerage, waste management and remediation activity with a contribution of TZS 15,034 (19.1 percent); followed by Kilimanjaro with TZS 8,390 (10.7 percent of the sub-sector value added).

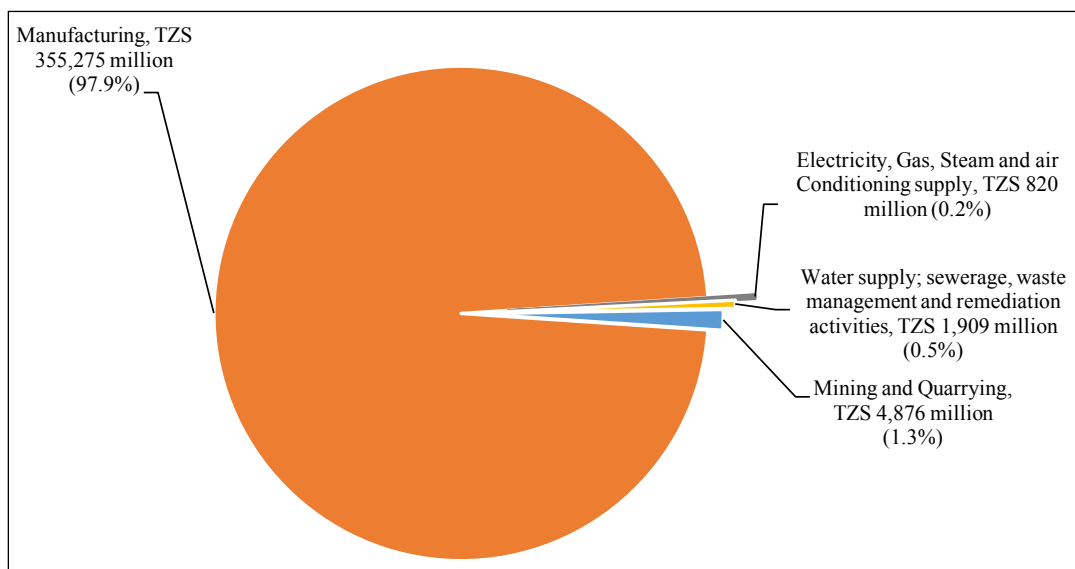
**Table 4.11: Value Added by Region and Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013**

Region	Industrial Sub-Sector								Total	
	Mining and quarrying		Manufacturing		Electricity, gas, steam and air conditioning supply		Water supply; sewerage, waste management and remediation activity			
	Value Added	Percent	Value Added	Percent	Value Added	Percent	Value Added	Percent	Value Added	Percent
Dodoma	-	-	12,818	0.3	3,458	1.1	5,123	6.5	21,399	0.3
Arusha	-	-	337,826	7.4	12,911	4.2	3,309	4.2	354,046	4.5
Kilimanjaro	4,686	0.2	220,075	4.8	5,533	1.8	8,390	10.7	238,685	3.0
Tanga	-	-	246,394	5.4	12,163	3.9	6,225	7.9	264,782	3.4
Morogoro	188	0.0	991,710	21.8	11,656	3.7	5,338	6.8	1,008,892	12.8
Pwani	1,784	0.1	13,613	0.3	7,378	2.4	-	-	22,775	0.3
Dar es Salaam	5,958	0.2	1,962,081	43.1	200,088	64.4	2,683	3.4	2,170,810	27.6
Lindi	-	-	1,130	0.0	1,529	0.5	358	0.5	3,017	0.0
Mtwara	167	0.0	28,208	0.6	922	0.3	15,034	19.1	44,331	0.6
Ruvuma	-	-	3,262	0.1	1,729	0.6	2,465	3.1	7,456	0.1
Iringa	1,543	0.1	88,241	1.9	3,458	1.1	5,453	6.9	98,694	1.3
Mbeya	105,973	3.6	167,931	3.7	11,551	3.7	6,167	7.9	291,624	3.7
Singida	3,473	0.1	13,138	0.3	1,088	0.3	1,237	1.6	18,936	0.2
Tabora	70,132	2.4	1,974	0.0	3,689	1.2	813	1.0	76,607	1.0
Rukwa	145	0.0	52,865	1.2	864	0.3	308	0.4	54,182	0.7
Kigoma	2,218	0.1	19,522	0.4	4,508	1.4	1,551	2.0	27,799	0.4
Shinyanga	847,576	29.1	14,315	0.3	11,067	3.6	4,631	5.9	877,589	11.2
Kagera	71	0.0	76,742	1.7	1,808	0.6	770	1.0	79,391	1.0
Mwanza	-	-	260,762	5.7	9,039	2.9	17	0.0	269,818	3.4
Mara	984,951	33.8	15,316	0.3	5,423	1.7	845	1.1	1,006,535	12.8
Manyara	53,760	1.8	3,074	0.1	1,048	0.3	7,044	9.0	64,926	0.8
Njombe	-	-	20,707	0.5	-	-	-	-	20,707	0.3
Katavi	-	-	-	-	-	-	226	0.3	226	0.0
Simiyu	-	-	1,014	0.0	-	-	511	0.7	1,525	0.0
Geita	832,891	28.6	-	-	-	-	38	0.0	832,929	10.6
<b>Total</b>	<b>2,915,516</b>	<b>100.0</b>	<b>4,552,716</b>	<b>100.0</b>	<b>310,910</b>	<b>100.0</b>	<b>78,538</b>	<b>100.0</b>	<b>7,857,680</b>	<b>100.0</b>
<b>Percent</b>	<b>37.1</b>		<b>57.9</b>		<b>4.0</b>		<b>1.0</b>		<b>100.0</b>	

## 4.7 Value Added by Industrial Sub-Sector for Small Establishments

According to Figure 4.3, the results for small establishments show that manufacturing sub-sector had the largest value added amounting to TZS 355,275 million (97.9 percent of the total value added); followed by mining and quarrying sub-sector with a contribution of TZS 4,876 million (1.3 percent); water supply, sewerage, waste management and remediation activity with TZS 1,909 million (0.5 percent); while electricity, gas, steam and air conditioning supply was the smallest sub-sector with a contribution of TZS 820 million (0.2 percent of the total value added)

**Figure 4.3: Value Added by Industrial Sub-sector for Small Establishments, Tanzania Mainland, CIP-2013**



Regional wise, (see Table 4.12) the results show that in the sub-sector of electricity, gas, steam and air conditioning supply, Morogoro region contributed the highest value added of TZS 158 million or 19.3 percent; followed by Pwani region with TZS 110 million or 13.4 percent; and Njombe region with TZS 107 million or 13.0 percent of the total sub-sector value added.

In manufacturing sub-sector, Dar es salaam region had the highest value added of TZS 97,422 million (27.4 percent of the total sub-sector value added); followed by Morogoro region with TZS 28,936 million (8.1 percent); Mara region with TZS 21,089 (5.9 percent); and Arusha region with TZS 18,865 million (5.3 percent of the total sub-sector value added).

In mining and quarrying sub-sector, Mara region had the highest value added of TZS 1,447 million (29.7 percent of the total sub-sector value added); followed by Shinyanga region with TZS 833 million (17.1 percent); Manyara region with TZS 557 million (11.4 percent); Lindi region with TZS 399 million (8.2 percent); Kilimanjaro region with TZS 337 million (6.9 percent); Tanga region with TZS 281 million (5.8 percent); and Tabora region with TZS 266 million (5.5 percent of the total sub-sector value added).

In water supply, sewerage, waste management and remediation activity sub-sector, Dar es Salaam region had the largest value added of TZS 630 million (33.0 percent of the total sub-sector's value added); followed by Dodoma region with TZS 435 million (22.8 percent); Morogoro region with TZS 201 million (10.5 percent); Arusha region with TZS 167 million (8.7 percent); Lindi region with TZS 129 million (6.7 percent); and Tanga region with TZS 102 million (5.3 percent of the total sub sector value added) (Table 4.12)

Table 4.12: Value Added by Region and Industrial Sub-Sector for Small Establishments, Tanzania Mainland, CIP-2013

Region	Industrial Sub-Sector								Total	
	Mining and quarrying		Manufacturing		Electricity, gas, steam and air conditioning supply		Water supply; sewerage, waste management and remediation activity			
	Value Added	Percent	Value Added	Percent	Value Added	Percent	Value Added	Percent	Value Added	Percent
Dodoma	0	0.0	15,848	4.5	5	0.7	435	22.8	16,289	4.5
Arusha	9	0.2	18,865	5.3	2	0.3	167	8.7	19,042	5.2
Kilimanjaro	337	6.9	9,809	2.8	0	0.0	52	2.7	10,198	2.8
Tanga	281	5.8	11,667	3.3	7	0.8	102	5.3	12,056	3.3
Morogoro	0	0.0	28,936	8.1	158	19.3	201	10.5	29,296	8.1
Pwani	0	0.0	10,017	2.8	110	13.4	8	0.4	10,135	2.8
Dar es Salaam	17	0.3	97,422	27.4	73	8.9	630	33.0	98,142	27.0
Lindi	399	8.2	4,308	1.2	21	2.5	129	6.7	4,856	1.3
Mtwara	206	4.2	2,257	0.6	0	0.0	51	2.7	2,515	0.7
Ruvuma	4	0.1	13,767	3.9	0	0.0	27	1.4	13,799	3.8
Iringa	55	1.1	9,797	2.8	64	7.8	14	0.7	9,931	2.7
Mbeya	23	0.5	16,697	4.7	74	9.1	0	0.0	16,794	4.6
Singida	158	3.2	14,435	4.1	15	1.8	44	2.3	14,652	4.0
Tabora	266	5.5	5,483	1.5	7	0.9	0	0.0	5,756	1.6
Rukwa	24	0.5	3,964	1.1	47	5.7	0	0.0	4,034	1.1
Kigoma	0	0.0	2,665	0.8	44	5.4	0	0.0	2,709	0.7
Shinyanga	833	17.1	18,290	5.1	67	8.1	9	0.5	19,199	5.3
Kagera	185	3.8	8,271	2.3	0	0.0	0	0.0	8,456	2.3
Mwanza	65	1.3	14,727	4.1	0	0.0	0	0.0	14,793	4.1
Mara	1,447	29.7	21,089	5.9	6	0.8	0	0.0	22,543	6.2
Manyara	557	11.4	11,449	3.2	5	0.6	21	1.1	12,033	3.3
Njombe	0	0.0	3,788	1.1	107	13.0	1	0.1	3,897	1.1
Katavi	0	0.0	2,305	0.6	6	0.8	0	0.0	2,311	0.6
Simiyu	10	0.2	5,279	1.5	0	0.0	17	0.9	5,306	1.5
Geita	0	0.0	4,139	1.2	0	0.0	0	0.0	4,139	1.1
Total	4,876	100.0	355,275	100.0	820	100.0	1,909	100.0	362,881	100.0

## 4.8 Share of Manufacturing Value Added (MVA) by Industrial Activity

Table 4.13 shows that large establishments with the highest value added were in the manufacture of food products with TZS 1,760,221 million (38.7 percent); followed by manufacture of beverages with TZS 1,019,260 million (22.4 percent); and manufacture of tobacco products with TZS 409,867 million (9.0 percent). Each of the remaining activities accounted for less than 9.0 percent of the total value added.

**Table 4.13: Value Added in Manufacturing by Industrial Activity for Large Establishments, Tanzania Mainland, CIP-2013**

(TZS Million)					
ISIC Rev.4 Code	Industrial Activity	Gross Output	Intermediate Consumption	Value Added	MVA (Percent)
10	Manufacture of food products	3,953,075	2,192,855	1,760,221	38.7
11	Manufacture of beverages	1,743,089	723,829	1,019,260	22.4
12	Manufacture of tobacco products	655,603	245,736	409,867	9.0
13	Manufacture of textiles	404,590	240,857	163,733	3.6
14	Manufacture of wearing apparel	24,619	14,570	10,050	0.2
15	Manufacture of leather and related products	55,042	41,077	13,965	0.3
16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	124,421	56,514	67,907	1.5
17	Manufacture of paper and paper products	96,703	80,384	16,319	0.4
18	Printing and reproduction of recorded media	177,532	108,057	69,475	1.5
19	Manufacture of coke and refined petroleum products	70,052	54,992	15,060	0.3
20	Manufacture of chemicals and chemical products	554,111	382,252	171,859	3.8
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations	60,170	40,590	19,580	0.4
22	Manufacture of rubber and plastics products	631,542	445,498	186,043	4.1
23	Manufacture of other non-metallic mineral products	759,228	452,242	306,985	6.7
24	Manufacture of basic metals	170,807	138,218	32,589	0.7
25	Manufacture of fabricated metal products, except machinery and equipment	115,917	79,713	36,204	0.8
26	Manufacture of computer, electronic and optical products	36,456	5,488	30,967	0.7
27	Manufacture of electrical equipment	102,967	80,652	22,315	0.5
28	Manufacture of machinery and equipment n.e.c.	10,393	6,145	4,248	0.1
29	Manufacture of motor vehicles, trailers and semi-trailers	38,856	22,634	16,222	0.4
30	Manufacture of other transport equipment	60,480	46,597	13,883	0.3
31	Manufacture of furniture	369,046	261,629	107,416	2.4
32	Other manufacturing	70,301	43,618	26,683	0.6
33	Repair and installation of machinery and equipment	34,946	3,081	31,864	0.7
	<b>Total</b>	<b>10,319,945</b>	<b>5,767,229</b>	<b>4,552,716</b>	<b>100.0</b>

Table 4.14 shows that small establishments, with, the highest value added were in the manufacture of food products with TZS 148,297 million (41.7 percent); followed by manufacture of wearing apparel with TZS 54,189 million (22.4 percent); manufacture of furniture with TZS 52,568 million (14.8 percent); and manufacture of fabricated metal products except machinery and equipment with TZS 36,360 million (10.2 percent). Each of the remaining activities, accounted for less than 10.0 percent of the total value added.

**Table 4.14: Value Added in Manufacturing by Industrial Activity for Small Establishments, Tanzania Mainland, CIP-2013**

(TZS Million)					
ISIC Rev.4 Code	Industrial Activity	Gross Output	Intermediate Consumption	Value Added	MVA (Percent)
10	Manufacture of food products	278,054	129,757	148,297	41.7
11	Manufacture of beverages	1,822	771	1,051	0.3
12	Manufacture of tobacco products	104	33	71	0.0
13	Manufacture of textiles	6,084	2,335	3,749	1.1
14	Manufacture of wearing apparel	76,725	22,536	54,189	15.3
15	Manufacture of leather and related products	2,425	986	1,439	0.4
16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	31,142	12,277	18,865	5.3
17	Manufacture of paper and paper products	185	84	101	0.0
18	Printing and reproduction of recorded media	6,808	3,318	3,490	1.0
20	Manufacture of chemicals and chemical products	1,670	711	959	0.3
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations	23	10	13	0.0
22	Manufacture of rubber and plastics products	1,180	590	591	0.2
23	Manufacture of other non-metallic mineral products	48,697	23,563	25,133	7.1
24	Manufacture of basic metals	109	48	61	0.0
25	Manufacture of fabricated metal products, except machinery and equipment	63,530	27,171	36,360	10.2
26	Manufacture of computer, electronic and optical products	97	68	29	0.0
27	Manufacture of electrical equipment	4,008	1,438	2,571	0.7
28	Manufacture of machinery and equipment n.e.c.	3,653	1,480	2,173	0.6
29	Manufacture of motor vehicles, trailers and semi-trailers	1,246	557	690	0.2
30	Manufacture of other transport equipment	586	321	265	0.1
31	Manufacture of furniture	83,571	31,004	52,568	14.8
32	Other manufacturing	4,493	2,301	2,191	0.6
33	Repair and installation of machinery and equipment	639	217	421	0.1
	<b>Total</b>	<b>616,850</b>	<b>261,575</b>	<b>355,275</b>	<b>100.0</b>

## Chapter 5

# Employment performance in the Industrial Sector

## 5.0 Introduction

This chapter discusses various characteristics of the industrial establishments in terms of employment according to number of persons engaged by sex, citizenship, skills and labour costs.

## 5.1 Number of Persons Engaged by Industrial Sub-Sector, Citizenship and Sex

This section describes the number of persons engaged in the industrial sector by citizenship and sex during the year 2013. It also gives the total number of persons engaged in the establishments; that is, working proprietors and partners, unpaid workers, managerial and professional staff, operatives and other employees.

### 5.1.1 Number of Persons Engaged by Industrial Sub-Sector, Citizenship and Sex in Large Establishments

Table 5.1 shows that a total of 138,887 persons were engaged in large establishments during 2013. Out of the total persons engaged, 135,006 (97.2 percent) were Tanzanians and 3,881 (2.8 percent) were foreigners; while 103,531 persons (74.5 percent) were males and 35,356 (25.5 percent) were females.

Furthermore, the results show that manufacturing was the leading sub-sector with 107,732 persons (77.6 percent of the large establishments' workers); followed by mining and quarrying (18,917; 13.6 percent), electricity, gas, steam and air conditioning supply (7,915; 5.7 percent) and water supply; sewerage, waste management and remediation activities (4,322; 3.1 percent).

The results also show that there was a total of 2,931 foreign workers in the manufacturing sub-sector out of which 2,666 (91.0 percent) were males and 265 (9.0 percent) were females; while in the mining and quarrying sub-sector, there was a total of 917 foreign workers; out of which, 897 (97.8 percent) were males and only 21 (2.3 percent) were females.

**Table 5.1: Number of Persons Engaged by Industrial Sub-Sector, Citizenship and Sex for Large Establishments, Tanzania Mainland, CIP-2013**

Industrial Sub-Sectors	Tanzanian			Foreigners			Total			Percent
	Male	Female	Total	Male	Female	Total	Male	Female	Total	
Mining and quarrying	16,805	1,194	18,000	897	21	917	17,702	1,215	18,917	13.6
Manufacturing	73,125	31,677	104,802	2,666	265	2,931	75,790	31,942	107,732	77.6
Electricity, gas, steam and air conditioning supply	6,689	1,225	7,913	2	0	2	6,691	1,225	7,915	5.7
Water supply; sewerage, waste management and remediation activities	3,318	973	4,291	30	1	31	3,348	974	4,322	3.1
<b>Total</b>	<b>99,937</b>	<b>35,069</b>	<b>135,006</b>	<b>3,594</b>	<b>287</b>	<b>3,881</b>	<b>103,531</b>	<b>35,356</b>	<b>138,887</b>	<b>100.0</b>
<b>Percent</b>	<b>97.2</b>			<b>2.8</b>			<b>100.0</b>			

Table 5.2 shows that manufacturing of food products was leading with 40,031 persons engaged out of whom Tanzanians were 39,169 and foreigners were 862, followed by manufacture of textile with 16,067 of whom Tanzanians were 15,679 and foreigner were 387 and manufacture of beverages were 6,859 of whom Tanzanians were 6,719 and foreigners were 139.

**Table 5.2: Number of Persons Engaged in Manufacturing Sub-sector by Citizenship and Sex for Small Establishments, Tanzania Mainland, CIP-2013**

ISIC Rev 4 Code	Industrial Activity	Tanzanians			Foreigners			Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
10	Manufacture of food products	28,290	10,879	39,169	781	80	862	29,071	10,960	40,031
11	Manufacture of beverages	4,853	1,867	6,719	117	22	139	4,970	1,889	6,859
12	Manufacture of tobacco products	3,346	1,690	5,036	24	1	25	3,370	1,691	5,061
13	Manufacture of textiles	9,081	6,598	15,679	335	52	387	9,417	6,650	16,067
14	Manufacture of wearing apparel	474	1,221	1,695	35	13	49	509	1,234	1,743
15	Manufacture of leather and related products	784	377	1,160	46	9	55	830	386	1,215
16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	3,029	639	3,668	97	4	101	3,127	643	3,769
17	Manufacture of paper and paper products	1,799	344	2,143	85	0	85	1,884	344	2,228
18	Printing and reproduction of recorded media	1,842	898	2,740	98	11	109	1,940	909	2,849
19	Manufacture of coke and refined petroleum products	191	21	212	31	0	31	222	21	243
20	Manufacture of chemicals and chemical products	3,470	2,718	6,188	191	1	192	3,661	2,719	6,380
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations	406	346	752	25	1	26	431	347	778
22	Manufacture of rubber and plastics products	2,932	1,073	4,005	216	22	238	3,148	1,095	4,243
23	Manufacture of other non-metallic mineral products	3,457	936	4,393	140	16	155	3,596	952	4,548
24	Manufacture of basic metals	2,003	66	2,069	105	0	105	2,108	66	2,174
25	Manufacture of fabricated metal products, except machinery and equipment	1,694	404	2,098	83	8	91	1,777	412	2,189
26	Manufacture of computer, electronic and optical products	92	13	105	10	0	10	102	13	115
27	Manufacture of electrical equipment	684	230	915	33	1	35	718	232	949
28	Manufacture of machinery and equipment n.e.c.	262	92	354	4	0	4	266	92	358



**Table 5.2: Number of Persons Engaged in Manufacturing Sub-sector by Citizenship and Sex for Small Establishments, Tanzania Mainland, CIP-2013 (continued)**

ISIC Rev 4 Code	Industrial Activity	Tanzanians			Foreigners			Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
29	Manufacture of motor vehicles, trailers and semi-trailers	988	256	1,244	23	6	28	1,011	261	1,272
30	Manufacture of other transport equipment	151	33	184	15	0	15	166	33	199
31	Manufacture of furniture	2,392	442	2,834	130	13	143	2,522	455	2,977
32	Other manufacturing	620	502	1,122	40	4	44	660	506	1,166
33	Repair and installation of machinery and equipment	283	33	316	1	0	1	284	33	317
	<b>Total</b>	<b>73,125</b>	<b>31,677</b>	<b>104,802</b>	<b>2,666</b>	<b>265</b>	<b>2,931</b>	<b>75,790</b>	<b>31,942</b>	<b>107,732</b>

### 5.1.2 Number of Persons Engaged by Industrial Sub-Sector, Citizenship and Sex for Small Establishments

Table 5.3 shows that a total of 125,336 persons were engaged in small industrial establishments. The majority of persons engaged were Tanzanians, (125,210; 99.9 percent); while 126 (0.1 percent) were foreigners.

Manufacturing was the leading sub-sector with 123,366 persons (98.4 percent) of the total persons engaged in the industrial sector, while mining and quarrying; water supply; sewerage, waste management and remediation activities; electricity, gas, steam and air conditioning supply sub-sectors, each accounted for less than 1.0 percent.

**Table 5.3: Number of Persons Engaged by Industrial Sub-Sector, Citizenship and Sex for Small Establishments, Tanzania Mainland, CIP-2013**

Industrial Sub-Sectors	Tanzanians			Foreigners			Total			Percent
	Male	Female	Total	Male	Female	Total	Male	Female	Total	
Mining and quarrying	760	230	989	0	0	0	760	230	989	0.8
Manufacturing	97,948	25,291	123,240	52	74	126	98,001	25,365	123,366	98.4
Electricity, gas, steam and air conditioning supply	310	25	335	0	0	0	310	25	335	0.3
Water supply; sewerage, waste management and remediation activities	436	209	646	0	0	0	436	209	646	0.5
<b>Total</b>	<b>99,455</b>	<b>25,755</b>	<b>125,210</b>	<b>52</b>	<b>74</b>	<b>126</b>	<b>99,507</b>	<b>25,829</b>	<b>125,336</b>	<b>100.0</b>
<b>Percent</b>	<b>99.9</b>			<b>0.1</b>			<b>100.0</b>			

Generally, employment by citizenship in both large establishments and small establishments shows that Tanzanians dominated the labour market by 99.9 percent compared to foreigners (0.1 percent). Also, male workers were more (79.6 percent) than female workers (20.4 percent).

Table 5.4 show that manufacture of food products was leading with 45,299 person engaged out of whom Tanzanians were 45,259 and foreigners were 40, followed by manufacture of wearing apparel with 28,795 of whom Tanzanian were 28,772 and foreigner were 23 and manufacture of furniture were 20,762 of whom Tanzanian were 20,733 and foreigners were 29.

**Table 5.4: Number of Persons Engaged in Manufacturing Sub sector by Citizenship and Sex for Small Establishments, Tanzania Mainland, CIP-2013**

ISIC Rev 4 Code	Industrial Activity	Tanzanian			Foreigner			Total Peron Engaged		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
10	Manufacture of food products	39,556	5,703	45,259	6	34	40	39,562	5,737	45,299
11	Manufacture of beverages	102	40	141	2	2	4	104	42	145
12	Manufacture of tobacco products	29	20	49	-	-	-	29	20	49
13	Manufacture of textiles	396	1,252	1,648	-	-	-	396	1,252	1,648
14	Manufacture of wearing apparel	12,451	16,321	28,772	8	15	23	12,459	16,336	28,795
15	Manufacture of leather and related products	429	81	510	-	-	-	429	81	510
16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	5,383	263	5,647	1	1	2	5,384	264	5,649
17	Manufacture of paper and paper products	25	-	25	-	-	-	25	-	25
18	Printing and reproduction of recorded media	364	123	487	1	2	3	365	125	490
20	Manufacture of chemicals and chemical products	179	86	265	-	-	-	179	86	265
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations	10	2	12	-	-	-	10	2	12
22	Manufacture of rubber and plastics products	79	20	99	-	-	-	79	20	99
23	Manufacture of other non-metallic mineral products	4,519	314	4,833	-	3	3	4,519	317	4,836
24	Manufacture of basic metals	19	1	20	-	-	-	19	1	20
25	Manufacture of fabricated metal products, except machinery and equipment	12,335	348	12,683	10	8	18	12,345	356	12,700
26	Manufacture of computer, electronic and optical products	8	1	9	-	-	-	8	1	9

**Table 5.4: Number of Persons Engaged in Manufacturing Sub sector by Citizenship and Sex for Small Establishments, Tanzania Mainland, CIP-2013 (continued)**

ISIC Rev 4 Code	Industrial Activity	Tanzanian			Foreigner			Total Peron Engaged		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
27	Manufacture of electrical equipment	684	107	791	-	-	-	684	107	791
28	Manufacture of machinery and equipment n.e.c.	346	22	367	-	-	-	346	22	367
29	Manufacture of motor vehicles, trailers and semi-trailers	111	8	119	-	-	-	111	8	119
30	Manufacture of other transport equipment	118	13	131	-	-	-	118	13	131
31	Manufacture of furniture	20,221	512	20,733	22	7	29	20,243	519	20,762
32	Other manufacturing	490	50	539	2	2	4	492	52	543
33	Repair and installation of machinery and equipment	96	5	101	-	-	-	96	5	101
	<b>Total</b>	<b>97,948</b>	<b>25,291</b>	<b>123,240</b>	<b>52</b>	<b>74</b>	<b>126</b>	<b>98,001</b>	<b>25,365</b>	<b>123,366</b>

### 5.1.3 Number of Persons Engaged by Industrial Sub-Sector and Sex

The results in Table 5.5 reveal that industrial sector has engaged a total of 264,223 persons with more males (203,038; 76.8 percent) than females (61,185; 23.2 percent). The largest number of male workers was in the mining and quarrying sub-sector with 18,462 males (92.7 percent) as compared to 1,445 female workers (7.3 percent of the total number of workers in the sub-sector).

In large industrial establishments, the results show that there was a total of 138,887 workers; out of which, 103,531 (74.5 percent) were males and 35,356 (25.5 percent) were females. The dominance of males was observed in mining and quarrying sub-sector with 17,702 persons (93.6 percent) compared to females with 1,215 persons (6.4 percent). The little engagement of females was noted in the manufacturing sub-sector with 31,942 female workers (29.6 percent) compared to 75,790 of male workers (70.4 percent of the total number of workers) in the sub-sector.

In small establishments, the results show that there was a total of 125,336 workers; out of whom, 99,507 (79.4 percent) were males and 25,829 (20.6 percent) were females. However, manufacturing sub-sector represented 98.5 percent of the total male workers and 98.2 percent of the total female workers in the total industrial sector.

**Table 5.5: Number of Persons Engaged by Industrial Sub-Sector and Sex, Tanzania Mainland, CIP-2013**

Industrial Sub-Sector	Male		Female		Total	
	Number	Percent	Number	Percent	Number	Percent
<b>Large Establishments</b>						
Mining and quarrying	17,702	93.6	1,215	6.4	18,917	100.0
Manufacturing	75,790	70.4	31,942	29.6	107,732	100.0
Electricity, gas, steam and air conditioning supply	6,691	84.5	1,225	15.5	7,916	100.0
Water supply; sewerage, waste management and remediation activities	3,348	77.5	974	22.5	4,322	100.0
<b>Total</b>	<b>103,531</b>	<b>74.5</b>	<b>35,356</b>	<b>25.5</b>	<b>138,887</b>	<b>100.0</b>

Table 5.5: Number of Persons Engaged by Industrial Sub-Sector and Sex, Tanzania Mainland, CIP-2013  
(continued)

Industrial Sub-Sector	Male		Female		Total	
	Number	Percent	Number	Percent	Number	Percent
<b>Small Establishments</b>						
Mining and quarrying	760	76.8	230	23.3	989	100.0
Manufacturing	98,001	79.4	25,365	20.6	123,366	100.0
Electricity, gas, steam and air conditioning supply	310	92.5	25	7.5	335	100.0
Water supply; sewerage, waste management and remediation activities	436	67.5	209	32.4	646	100.0
<b>Total</b>	<b>99,507</b>	<b>79.4</b>	<b>25,829</b>	<b>20.6</b>	<b>125,336</b>	<b>100.0</b>
<b>Total Establishments</b>						
Mining and quarrying	18,462	92.7	1,445	7.3	19,906	100.0
Manufacturing	173,791	75.2	57,307	24.8	231,098	100.0
Electricity, gas, steam and air conditioning supply	7,001	84.9	1,250	15.1	8,251	100.0
Water supply; sewerage, waste management and remediation activities	3,784	76.2	1,183	23.8	4,968	100.0
<b>Total</b>	<b>203,038</b>	<b>76.8</b>	<b>61,185</b>	<b>23.2</b>	<b>264,223</b>	<b>100.0</b>

## 5.2 Number of Employees by Industrial Sub-Sector

This section provides information on the number of employees in the four industrial sub-sectors. Employees are persons who during a specified period, they work for an agreed amount of pay, either in cash or in kind, under the direction of the establishment management. These include; managerial and professional staff, operatives and other employees.

The results from Table 5.6 show that in large establishments, the majority of employees were in the manufacturing sub-sector with 105,516 employees (77.4 percent); followed by mining and quarrying with 18,528 (13.6 percent); electricity, gas, steam and air conditioning supply with 7,916 (5.8 percent); and water supply; sewerage, waste management and remediation activity with 4,308 employees (3.2 percent of the total industrial sub-sector).

While in small establishments, out of the total 62,656 employees, the majority (61,372; 98.0 percent) were also in the manufacturing sub-sector; followed by mining and quarrying with 631 employees (1.0 percent); while each of the remaining sub-sectors accounted for less than 1.0 percent of the total employees.

Generally, manufacturing was the leading sub-sector with 166,888 employees (83.9 percent, followed by mining and quarrying with 19,159 (9.6 percent); electricity, gas, steam and air conditioning supply with 8,121 (4.1 percent); and water supply; sewerage, waste management and remediation activities with 4,756 employees (2.4 percent). The role of manufacturing in job creation among the industrial sub-sectors is extremely important, implying that any intervention targeting at un-employment should have its focus in this sub-sector.

Table 5.6: Number of Employees by Industrial Sub-Sector, Tanzania Mainland, CIP-2013

Industrial Sub-Sector	Managerial	Operatives	Other	Total	Percent
<b>Large Establishments</b>					
Mining and quarrying	1,096	17,220	212	18,528	13.6
Manufacturing	16,358	87,623	1,535	105,516	77.4
Electricity, gas, steam and air conditioning supply	992	6,853	71	7,916	5.8
Water supply; sewerage, waste management and remediation activities	1,424	2,781	103	4,308	3.2
<b>Total</b>	<b>19,870</b>	<b>114,477</b>	<b>1,921</b>	<b>136,268</b>	<b>100.0</b>
<b>Small Establishments</b>					
Mining and quarrying	55	564	12	631	1.0
Manufacturing	6,001	53,818	1,553	61,372	98.0
Electricity, gas, steam and air conditioning supply	19	182	4	205	0.3
Water supply; sewerage, waste management and remediation activities	60	387	1	448	0.7
<b>Total</b>	<b>6,135</b>	<b>54,951</b>	<b>1,570</b>	<b>62,656</b>	<b>100.0</b>
<b>Total Establishments</b>					
Mining and quarrying	1,151	17,784	224	19,159	9.6
Manufacturing	22,359	141,441	3,088	166,888	83.9
Electricity, gas, steam and air conditioning supply	1,011	7,035	75	8,121	4.1
Water supply; sewerage, waste management and remediation activities	1,484	3,168	104	4,756	2.4
<b>Total</b>	<b>26,005</b>	<b>169,428</b>	<b>3,491</b>	<b>198,924</b>	<b>100.0</b>

The results in Table 5.7 show that among manufacturing establishments with ten or more workers, operatives constituted a large number of employees in the manufacturing sub-sector (87,623), followed by managerial workers (16,358) and others constituted 1,535 workers. Results also show that the top three leading activities were; manufacture of food products engaged a large number of workers (38,862) of whom 32,449 were Operatives and 5,521 were managerial, followed by manufacture of textiles with 15,965 (of whom 15,116 were operatives and 824 were managerial) and manufacture of beverages with 6,808 workers.

Table 5.7: Number of Employees in Manufacturing Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013

ISIC Rev4 Code	Industrial Activity	Managerial	Operatives	Other	Total Employee
10	Manufacture of food products	5,521	32,449	892	38,862
11	Manufacture of beverages	1,417	5,345	46	6,808
12	Manufacture of tobacco products	729	4,310	21	5,061
13	Manufacture of textiles	824	15,116	25	15,965
14	Manufacture of wearing apparel	168	1,550	0	1,718
15	Manufacture of leather and related products	230	887	12	1,129

**Table 5.7: Number of Employees in Manufacturing Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013 (continued)**

ISIC Rev4 Code	Industrial Activity	Managerial	Operatives	Other	Total Employee
16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	591	2,918	161	3,671
17	Manufacture of paper and paper products	157	2,055	8	2,221
18	Printing and reproduction of recorded media	908	1,831	56	2,795
19	Manufacture of coke and refined petroleum products	72	169	0	241
20	Manufacture of chemicals and chemical products	1,538	4,698	1	6,237
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations	189	585	0	774
22	Manufacture of rubber and plastics products	732	3,487	0	4,219
23	Manufacture of other non-metallic mineral products	567	3,798	30	4,395
24	Manufacture of basic metals	298	1,846	4	2,148
25	Manufacture of fabricated metal products, except machinery and equipment	444	1,473	188	2,106
26	Manufacture of computer, electronic and optical products	9	96	3	108
27	Manufacture of electrical equipment	278	667	0	945
28	Manufacture of machinery and equipment n.e.c.	87	254	1	342
29	Manufacture of motor vehicles, trailers and semi-trailers	448	820	0	1,268
30	Manufacture of other transport equipment	104	93	0	197
31	Manufacture of furniture	687	2,142	5	2,834
32	Other manufacturing	343	730	82	1,155
33	Repair and installation of machinery and equipment	15	302	0	317
	<b>Total</b>	<b>16,358</b>	<b>87,623</b>	<b>1,535</b>	<b>105,517</b>

The results from Table 5.8 show that operatives constituted a large number of employees in manufacturing sub-sector (53,818) among manufacturing establishments with less than ten workers, followed by managerial workers (6,001) and others which constituted 1,553 workers. Results also show that the top three leading activities were; manufacturing of food products engaged a large number of workers with 25,002 (of whom 22,618 were operatives and 1,927 were managerial), followed by manufacture of furniture with 10,102 employees (of whom 8,629 were operatives and 1,158 were managerial) and manufacture of wearing apparel with 8,735 workers.

**Table 5.8: Number of Employees in Manufacturing Sub-Sector for Small Establishments, Tanzania Mainland, CIP-2013**

ISIC Rev 4 Code	Industrial Activity	Managerial	Operatives	Other	Total Employees
10	Manufacture of food products	1,927	22,618	456	25,002
11	Manufacture of beverages	27	84	0	111
12	Manufacture of tobacco products	0	43	0	43
13	Manufacture of textiles	115	552	18	684
14	Manufacture of wearing apparel	1,141	7,240	354	8,735
15	Manufacture of leather and related products	31	242	8	281

**Table 5.8: Number of Employees in Manufacturing Sub-Sector for Small Establishments, Tanzania Mainland, CIP-2013 (continued)**

ISIC Rev 4 Code	Industrial Activity	Managerial	Operatives	Other	Total Employees
16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	398	3,070	71	3,538
17	Manufacture of paper and paper products	5	16	0	21
18	Printing and reproduction of recorded media	57	295	3	355
20	Manufacture of chemicals and chemical products	22	163	6	192
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations	0	6	0	6
22	Manufacture of rubber and plastics products	0	63	3	66
23	Manufacture of other non-metallic mineral products	285	3,300	112	3,697
24	Manufacture of basic metals	2	14	0	16
25	Manufacture of fabricated metal products, except machinery and equipment	625	6,468	183	7,276
26	Manufacture of computer, electronic and optical products	5	3	0	8
27	Manufacture of electrical equipment	49	354	12	415
28	Manufacture of machinery and equipment n.e.c.	33	210	9	252
29	Manufacture of motor vehicles, trailers and semi-trailers	9	82	0	91
30	Manufacture of other transport equipment	4	57	0	62
31	Manufacture of furniture	1,158	8,629	314	10,102
32	Other manufacturing	98	252	3	353
33	Repair and installation of machinery and equipment	10	56	0	65
	<b>Total</b>	<b>6,001</b>	<b>53,818</b>	<b>1,553</b>	<b>61,372</b>

## 5.3 Number of Operatives by Employment Skills and Industrial Sub-Sector

This section provides information on the number of operatives by employment skills, whether skilled or non-skilled, in the four industrial sub-sectors. Skilled operatives are persons with specialized skills for example, persons engaged in fabricating, processing or assembling, fitters, packers, repairman, record-keeping personnel, foreman and inspectors. Non-skilled operatives are those persons who perform routine tasks, either manually or using hand tools and appliances. The group includes such occupations as machine operators, cleaners, instructors and mining labourers.

### 5.3.1 Skilled and Non-Skilled Operatives by Industrial Sub-Sector in Large Establishments

The results in Table 5.9 show that for large establishments, out of the total 114,477 operatives, 58,377 (51.0 percent) were skilled while 56,100 (49.0 percent) were non-skilled; meaning that the number of operatives in this employment size was almost equally distributed into skilled and non-skilled categories. The results also show that manufacturing sub-sector had the largest number of operatives (87,624; 76.5 percent); followed by mining and quarrying with 17,219 (15.0 percent); and electricity, gas, steam and air conditioning supply with 6,852 (6.0 percent). The sub-sector of water supply, sewerage, waste management and remediation activities had the least number of operatives (388; 0.3 percent).



### 5.3.2 Skilled and Non-Skilled Operatives by Industrial Sub-Sector in Small Establishments

In small establishments, out of the total 54,952 operatives, 17,891 (32.6 percent) were skilled while 32,060 operatives (67.4 percent) were non-skilled; meaning that the un-skilled operatives were about twice the skilled operatives in this employment size. The results also show that manufacturing sub-sector had the largest number of operatives (53,817; 97.9 percent); followed by mining and quarrying with 564 operatives (1.0 percent); and water supply, sewerage, waste management and remediation activities with 388 operatives (0.7 percent). The sub-sector of electricity, gas, steam and air conditioning had the smallest number of operatives (182; 0.3 percent).

With regard to total industrial sector, the results show that the sector employed more un-skilled operatives (95,160; 55.0 percent) than the skilled ones (76,891; 45.0 percent of the total number of operatives).

**Table 5.9: Number of Operatives by Employment Skill and Industrial Sub- Sector, Tanzania Mainland, CIP-2013**

Employment Skill	Industrial Sub-Sector								Total	
	Mining and quarrying		Manufacturing		Electricity, gas, steam and air conditioning supply		Water supply; sewerage, waste management and remediation activities			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Large Establishments										
Operatives-skilled	10,118	58.8	41,174	47.0	5,394	78.7	1,691	60.8	58,377	51.0
Operatives non-skilled	7,101	41.2	46,450	53.0	1,458	21.3	1,091	39.2	56,100	49.0
Total Operatives	17,219	100.0	87,624	100.0	6,852	100.0	2,782	100.0	114,477	100.0
Small Establishments										
Operatives-skilled	90	16.0	17,600	32.7	76	41.8	125	32.2	17,891	32.6
Operatives non-skilled	474	84.0	36,217	67.3	106	58.2	263	67.8	37,060	67.4
Total Operatives	564	100.0	53,817	100.0	182	100.0	388	100.0	54,951	100.0
Total Establishments										
Operatives-skilled	10,208	57.4	58,774	41.6	5,470	77.8	1,816	57.3	76,268	45.0
Operatives non-skilled	7,575	42.6	82,667	58.4	1,564	22.2	1,354	42.7	93,160	55.0
Total	17,783	100.0	141,441	100.0	7,034	100.0	3,170	100.0	169,428	100.0

## 5.4 Labour Costs

Labour costs comprise gross wages and salaries, over-time payments, reimbursement of travel expenses, payments in kind, employers' contribution to social security schemes (e.g. NSSF, PPF, etc.), training expenses to employees and other labour costs related to employees.

### 5.4.1 Labour Costs by Industrial Sub-Sector in Large Establishments

Table 5.10 reveals that the total labour costs for large establishments were TZS 1,307,622 million; out of which Wages and salaries accounted for the largest amount (TZS 761,558 million; 58.2 percent), followed by reimbursements of travel expenses amounting to TZS 180,939 million (13.8 percent);

payments in-kind of TZS 133,195 million (10.2 percent); and contribution to social security schemes of TZS 110,343 million (8.4 percent). Training expenses, amounted to TZS 27,907 million (2.1 percent of the total labour costs) and other labour costs were TZS 25,880 million (2.0 percent).

**Table 5.10: Total Labour Costs by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013**

Industrial Sub-Sector	Gross Wages and Salaries	Overtime Payments	Reimbursements	Payments in kind	Social Security Schemes	Training expenses	Other Labour Cost	Total Labour Cost
Mining and quarrying	102,372	3,882	162,094	46,052	48,710	15,848	1,212	380,171
Manufacturing	487,454	63,131	17,600	70,829	41,414	7,487	21,280	709,195
Electricity, gas, steam and air conditioning supply	150,301	43	266	12,377	17,807	3,664	1,916	186,374
Water supply; sewerage, waste management and remediation activities	21,432	743	979	3,938	2,411	907	1,472	31,882
<b>Total</b>	<b>761,558</b>	<b>67,800</b>	<b>180,939</b>	<b>133,195</b>	<b>110,343</b>	<b>27,907</b>	<b>25,880</b>	<b>1,307,622</b>
<b>Percent</b>	<b>58.2</b>	<b>5.2</b>	<b>13.8</b>	<b>10.2</b>	<b>8.4</b>	<b>2.1</b>	<b>2.0</b>	<b>100.0</b>

Table 5.11 shows that the average labour costs per large establishments were TZS 1,196 million; whereas electricity, gas, steam and air conditioning supply accounted for the largest average labour cost (TZS 7,168.2 million), followed by mining and quarrying with TZS 1,980.1 million and water supply; sewerage, waste management and remediation activities had the least average labour cost of TZS 403.6 million.

**Table 5.11: Average Labour Costs per Establishment by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013**

Industrial Sub-Sector	Wages and Salaries	Overtime Payments	Reimbursements	Payments in Kind	Social Security Schemes	Training Expenses	Other Expenses	Total Labour Cost
Mining and quarrying	487.5	18.5	771.9	219.3	232.0	75.5	5.8	1,810.3
Manufacturing	488.4	63.3	17.6	71.0	41.5	7.5	21.3	710.6
Electricity, gas, steam and air conditioning supply	5,566.7	1.6	9.8	458.4	659.5	135.7	70.9	6,902.7
Water supply; sewerage, waste management and remediation activities	246.3	8.5	11.3	45.3	27.7	10.4	16.9	366.5
<b>Total</b>	<b>576.1</b>	<b>51.3</b>	<b>136.9</b>	<b>100.8</b>	<b>83.5</b>	<b>21.1</b>	<b>19.6</b>	<b>989.1</b>

Figure 5.1 shows that manufacturing sub-sector had the highest proportion (54.2 percent) of the total labour costs; followed by mining and quarrying with 29.1 percent, electricity, gas, steam and air conditioning supply with 14.3 percent; and water supply; sewerage, waste management and remediation activities with 2.4 percent.

Figure 5.1: Labour Costs by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013

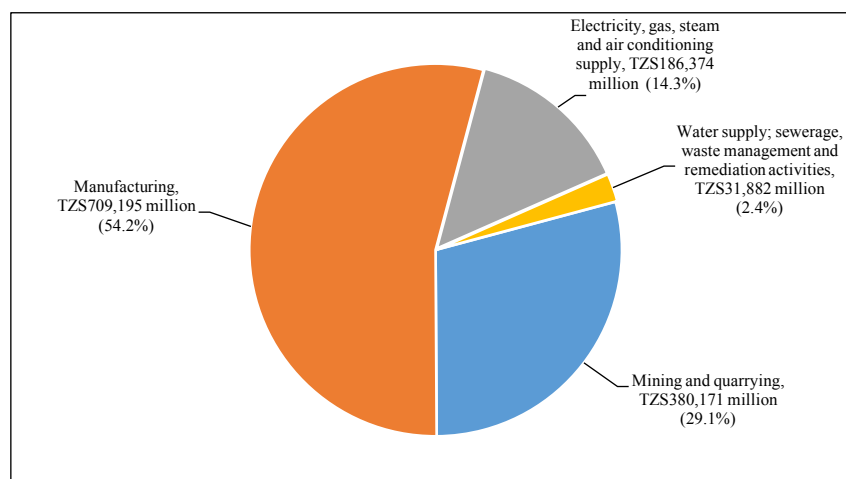


Table 5.12 shows that the total labour costs for large establishments in manufacturing sub-sector was TZS 709,195 million; out of which wages and salaries accounted for the largest amount of TZS 487,454 million, followed by other labour costs such as overtime payments, training expenses which amounted to TZS 91,898 million, and payment in kind of TZS 70,829 million.

Table 5.12: Total Labour Costs in Manufacturing Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013

ISIC Rev 4 Code	Industrial Activity	Wages and Salaries	Reimbursement	Payments in Kind	Social Security Schemes	Other Labour Costs	Total Labour Costs
10	Manufacture of food products	140,234	3,452	7,496	12,415	15,348	178,945
11	Manufacture of beverages	100,997	5,177	7,094	7,608	49,475	170,350
12	Manufacture of tobacco products	45,011	137	9,708	3,673	6,831	65,359
13	Manufacture of textiles	32,538	678	25,452	2,186	2,644	63,497
14	Manufacture of wearing apparel	4,171	43	933	599	797	6,542
15	Manufacture of leather and related products	2,324	39	107	139	64	2,673
16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	8,327	81	570	665	328	9,971
17	Manufacture of paper and paper products	8,018	885	533	510	1,067	11,012
18	Printing and reproduction of recorded media	15,265	837	1,885	1,849	884	20,720
19	Manufacture of coke and refined petroleum products	1,091	1	177	101	89	1,459
20	Manufacture of chemicals and chemical products	28,707	629	1,882	2,731	1,261	35,210
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations	3,829	125	807	284	460	5,505
22	Manufacture of rubber and plastics products	16,702	653	1,280	814	1,225	20,675

**Table 5.12: Total Labour Costs in Manufacturing Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013 (continued)**

ISIC Rev 4 Code	Industrial Activity	Wages and Salaries	Reimbursement	Payments in Kind	Social Security Schemes	Other Labour Costs	Total Labour Costs
23	Manufacture of other non-metallic mineral products	37,282	2,065	7,838	4,150	7,161	58,496
24	Manufacture of basic metals	4,558	317	379	442	483	6,179
25	Manufacture of fabricated metal products, except machinery and equipment	6,268	222	685	481	414	8,070
26	Manufacture of computer, electronic and optical products	2,862	19	192	0	452	3,526
27	Manufacture of electrical equipment	3,300	603	680	388	133	5,104
28	Manufacture of machinery and equipment n.e.c.	2,277	130	294	354	234	3,288
29	Manufacture of motor vehicles, trailers and semi-trailers	5,371	92	108	174	392	6,136
30	Manufacture of other transport equipment	1,513	0	867	125	114	2,619
31	Manufacture of furniture	12,269	1,320	1,344	1,126	1,109	17,167
32	Other manufacturing	2,775	85	167	179	841	4,047
33	Repair and installation of machinery and equipment	1,765	10	353	421	95	2,644
	<b>Total</b>	<b>487,454</b>	<b>17,600</b>	<b>70,829</b>	<b>41,414</b>	<b>91,898</b>	<b>709,195</b>

## 5.4.2 Labour Costs by Industrial Sub-Sector in Small Establishments

The results in Table 5.13 show that total labour costs in small establishments amounted to TZS 113,700 million; out of which wages and salaries accounted for TZS 82,746 million (72.8 percent); followed by payments in kind with TZS 29,745 million (26.2 percent); social security schemes with TZS 418 million (0.4 percent); and other labour costs of TZS 792 million (0.7 percent).

**Table 5.13: Total Labour Costs by Industrial Sub-Sector for Small Establishments, Tanzania Mainland, CIP-2013**

(TZS Million)					
Industrial Sub-Sector	Wages and Salaries	Social Security Schemes	Payments in Kind	Other Labour Costs	Total Labour Costs
Mining and quarrying	783	3	402	15	1,203
Manufacturing	81,308	406	29,169	752	111,635
Electricity, gas, steam and air conditioning supply	198	2	56	2	258
Water supply; sewerage, waste management and remediation activities	457	7	117	23	604
<b>Total</b>	<b>82,746</b>	<b>418</b>	<b>29,745</b>	<b>792</b>	<b>113,700</b>
<b>Percent</b>	<b>72.8</b>	<b>0.4</b>	<b>26.2</b>	<b>0.7</b>	<b>100.0</b>

Figure 5.2 show that manufacturing sub-sector had the largest contribution to the total industrial labour costs. It contributed TZS 113,700 million equivalent to 98.2 percent; followed by mining and quarrying with TZS 1,203 (1.1 percent); water supply, sewerage, waste management and remediation activities with TZS 604 million (0.5 percent); while the sub-sector of electricity, gas, steam and air conditioning supply had the smallest labour cost of TZS 198 million (0.2 percent).

Figure 5.2: Labour Cost by Industrial Sub-Sector for Small Establishments, Tanzania Mainland, CIP-2013

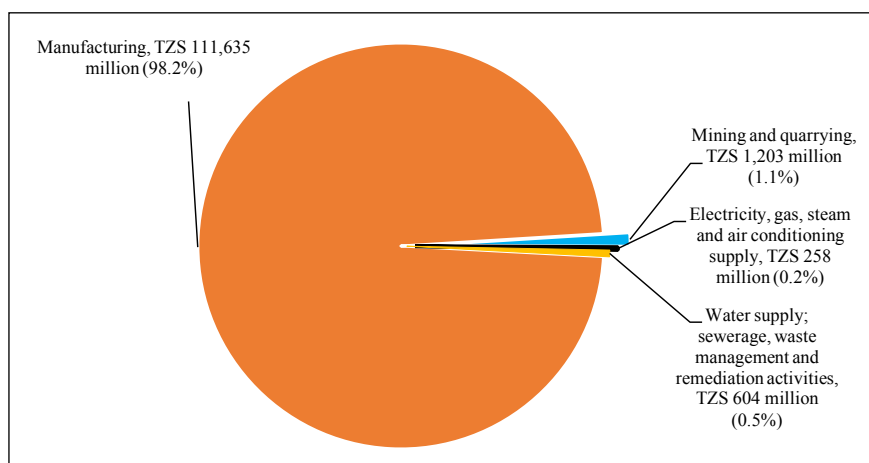


Table 5.14 indicates that the total labour costs in small establishments in manufacturing sub-sector amounted to TZS 111,635 million; out of which, wages and salaries accounted for TZS 81,308 million and payments in kind with TZS 29,169 million. On the other hand, manufacture of food products led with total labour cost amounting to TZS 34,876 million followed by manufacture of wearing apparel with TZS 21,125 million and manufacture of furniture amounting to TZS 20,628 million.

Table 5.14: Labour Costs in Manufacturing Industrial Sub-Sector for Small Establishments, Tanzania Mainland, CIP-2013

(TZS Million)						
ISIC Rev 4 Code	Industrial Activity	Wages and Salaries	Payments in Kind	Social Security Schemes	Other Expenses	Total Labour Costs
10	Manufacture of food products	24,790	9,549	152	385	34,876
11	Manufacture of beverages	140	66	3	0	209
12	Manufacture of tobacco products	40	1	0	0	41
13	Manufacture of textiles	1,221	603	0	4	1,828
14	Manufacture of wearing apparel	12,269	8,776	4	75	21,125
15	Manufacture of leather and related products	528	108	6	2	645
16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	4,952	1,330	16	48	6,345
17	Manufacture of paper and paper products	22	3	0	1	26
18	Printing and reproduction of recorded media	824	153	26	10	1,013
20	Manufacture of chemicals and chemical products	221	84	1	1	307
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations	1	4	0	0	5
22	Manufacture of rubber and plastics products	132	12	13	1	158
23	Manufacture of other non-metallic mineral products	7,062	452	11	32	7,556
24	Manufacture of basic metals	32	5	0	0	38
25	Manufacture of fabricated metal products, except machinery and equipment	11,018	2,788	20	55	13,882

Table 5.14: Labour Costs in Manufacturing Industrial Sub-Sector for Small Establishments, Tanzania Mainland, CIP-2013 (continued)

(TZS Million)						
ISIC Rev 4 Code	Industrial Activity	Wages and Salaries	Payments in Kind	Social Security Schemes	Other Expenses	Total Labour Costs
26	Manufacture of computer, electronic and optical products	25	0	2	1	28
27	Manufacture of electrical equipment	724	166	0	17	906
28	Manufacture of machinery and equipment n.e.c.	506	103	6	15	630
29	Manufacture of motor vehicles, trailers and semi-trailers	213	14	47	0	273
30	Manufacture of other transport equipment	73	38	1	1	112
31	Manufacture of furniture	15,715	4,747	67	99	20,628
32	Other manufacturing	663	145	32	5	846
33	Repair and installation of machinery and equipment	138	23	1	0	161
	<b>Total</b>	<b>81,308</b>	<b>29,169</b>	<b>406</b>	<b>752</b>	<b>111,635</b>

## Chapter 6

# Materials and Services Input Utilization

## 6.0 Introduction

This chapter analyses the use of materials in the industrial sector for the year 2013. Material input is described as a component of production, which is used in the production of different products. Materials input utilization covers costs of materials and supplies, energy, goods sold as purchased, costs incurred on industrial and non-industrial services and other costs.

## 6.1 Material Inputs

Material inputs that were used in the production include intermediate goods, energy, industrial services, non-industrial services and other inputs. Intermediate goods refer to the value of goods and services consumed as inputs in a production process, excluding fixed assets whose consumption is recorded as expenditure for fixed assets. Industrial services include contract and commission paid for the work done, cost of repairs and maintenance; and waste treatment costs. Non-industrial services include postage and other communication costs; rental of buildings, machinery, plant and equipment; storage and hire of transport; publicity and bank charges; consultancy and professional fees and other non-industrial service expenses that include other expenses not covered in the above list.

Table 6.1 shows that the total cost of inputs was TZS 10,323,121 million; the highest cost of inputs was that of materials and supplies purchased with TZS 5,811,205 million (56.3 percent); followed by Other expenses such as interest and dividends paid, income tax with TZS 1,769,122 million (17.1 percent) and energy with TZS 1,549,122 million (15.0 percent). Industrial Services accounted for the smallest share of establishments input cost of TZS 400,628 million (3.9 percent).

**Table 6.1: Cost of Material Inputs Used in Production by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013**

(TZS Million)						
Industrial Sub-Sector	Energy	Materials and Supplies Purchased	Industrial Services	Non - Industrial Services	Other Expenses	Total
Mining and quarrying	796,680	139,420	88,949	40,474	360,146	1,425,668
Manufacturing	582,738	4,601,609	220,070	592,155	1,246,216	7,242,788
Electricity, gas, steam and air conditioning supply	153,195	1,052,988	82,420	153,511	159,565	1,601,679
Water supply; sewerage, waste management and remediation activities	16,509	17,188	9,189	6,905	3,195	52,986
<b>Total</b>	<b>1,549,122</b>	<b>5,811,205</b>	<b>400,628</b>	<b>793,045</b>	<b>1,769,122</b>	<b>10,323,121</b>
<b>Percent</b>	<b>15.0</b>	<b>56.3</b>	<b>3.9</b>	<b>7.7</b>	<b>17.1</b>	<b>100.0</b>



Table 6.2 shows that in large establishments, the highest cost was that of local raw materials with an average of TZS 2,407 million, per establishments followed by imported raw materials with TZS 1,933 million and electricity, gas, steam and air conditioning supply had average of TZS 1,131 million.

The result also indicates that electricity, gas, steam and air conditioning supply had higher average production cost of raw material purchased locally with TZS 59,708 million, followed by manufacturing sub-sector with TZS 7,180 million and mining and quarrying sub-sector with TZS 6,396 million. On the other hand, water supply; sewerage, waste management and remediation activities sub-sector recorded the smallest average production cost of TZS 599 million.

**Table 6.2: Average Production Inputs Cost per Establishments by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CI- 2013**

(TZS Million)							
Industrial Sub-Sector	Raw Materials Imported	Raw Materials Local	Electricity, Water, Gas and Fuels Purchased	Industrial Services	Non Industrial Services	Other Expenses	Total Production Costs
Mining and quarrying	195	54	3,814	424	193	1,716	6,396
Manufacturing	2,506	2,109	529	216	593	1,226	7,180
Electricity, gas, steam and air conditioning supply	442	38,912	5,672	3,060	5,699	5,923	59,708
Water supply; sewerage, waste management and remediation activities	8	190	182	105	79	35	599
<b>Average total cost</b>	<b>1,933</b>	<b>2,407</b>	<b>1,131</b>	<b>299</b>	<b>600</b>	<b>1,321</b>	<b>7,691</b>

## 6.2 Energy Consumption

Tanzania has various sources of energy such as natural gas, biomass, hydro-power, geo-thermal, coal, solar and wind power. Energy consumed in the industrial sector is from hydro-power, natural gas, fuels, wood, coal, peat and others.

Table 6.3 shows that large establishments spent a total of TZS 1,495,501 million on utilities; out of which the mining and quarrying sub-sector spent TZS 799,327 million (53.4 percent); manufacturing spent TZS 527,445 million (35.3 percent); electricity, gas, steam and air conditioning supply spent TZS 152,793 million (10.2 percent); and water supply, sewerage, waste management and remediation activities spent TZS 15,935 (1.1 percent).

In addition, the results show that the largest amount of TZS 973,810 million (65.1 percent of the total cost of utilities) was spent on fuels for machines and vehicles mainly in the mining and quarrying sub-sector; followed by electricity at TZS 397,023 million (26.5 percent) which was largely consumed by the manufacturing sub-sector.

**Table 6.3: Utility Cost Structure by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013**

(TZS Million)							
Industrial Sub-Sector	Electricity	Water	Gas	Fuel for Machines and Vehicles	Wood, Coal and Peat	Other Fuels	Total
Mining and quarrying	110,618	1,864	144	681,785	811	4,105	799,327
Manufacturing	223,586	16,433	53,702	187,991	36,135	9,599	527,445
Electricity, gas, steam and air conditioning supply	51,387	5	2	101,400	-	-	152,793

**Table 6.3: Utility Cost Structure by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013 (continued)**

(TZS Million)							
Industrial Sub-Sector	Electricity	Water	Gas	Fuel for Machines and Vehicles	Wood, Coal and Peat	Other Fuels	Total
Water supply; sewerage, waste management and remediation activities	11,433	1,659	-	2,634	195	13	15,935
<b>Total</b>	<b>397,023</b>	<b>19,961</b>	<b>53,848</b>	<b>973,810</b>	<b>37,141</b>	<b>13,717</b>	<b>1,495,501</b>
<b>Percent</b>	<b>26.5</b>	<b>1.3</b>	<b>3.6</b>	<b>65.1</b>	<b>2.5</b>	<b>0.9</b>	<b>100.0</b>

## 6.3 Sources of Raw Materials

Sources of raw materials used by the establishments were both domestic and international markets. Raw materials are major inputs to the production process. They include un-processed products from agriculture and fisheries. They cover the cost incurred by establishments in the same condition as purchased without further processing or transformation.

Table 6.4 shows that manufacturing sub-sector was the largest consumer of the raw materials were from the international markets (imported) with TZS 2,501,431 million (97.9 percent of the total imported raw materials). The sub-sector was also the largest consumer of the local raw materials at TZS 2,105,250 million (66.2 percent of the total local raw materials).

Table 6.4 also shows that the total value of raw materials consumed by large establishments amounted to TZS 5,736,208 million; out of which, manufacturing sub-sector had the largest consumption of TZS 4,606,681 million (80.3 percent of the total raw materials consumed); followed by electricity, gas, steam and air conditioning supply with TZS 1,060,049 million (18.5 percent); mining and quarrying with TZS 52,138 million (0.9 percent); and water supply; sewerage, waste management and remediation activities sub-sector with TZS 17,339 million (0.3 percent).

**Table 6.4: Value of Raw Materials by Industrial Sub-Sector and Source for Large Establishments, Tanzania Mainland, CIP-2013**

(TZS Million)						
Industrial Sub-Sector	International		Local		Total	
	Value	Percent	Value	Percent	Value	Percent
Mining and quarrying	40,857	1.6	11,281	0.4	52,138	0.9
Manufacturing	2,501,431	97.9	2,105,250	66.2	4,606,681	80.3
Electricity, gas, steam and air conditioning supply	11,910	0.5	1,048,139	32.9	1,060,049	18.5
Water supply; sewerage, waste management and remediation activities	724	0.0	16,615	0.5	17,339	0.3
<b>Total</b>	<b>2,554,923</b>	<b>100.0</b>	<b>3,181,285</b>	<b>100.0</b>	<b>5,736,208</b>	<b>100.0</b>

In total, the local raw materials cost (TZS 3,181,285 million; 55.5 percent) more than the imported raw materials which cost TZS 2,554,923; (44.5 percent of the total raw materials consumed) (Figure 6.1).

**Figure 6.1: Sources of Raw Materials for Large Establishments, Tanzania Mainland, CIP-2013**

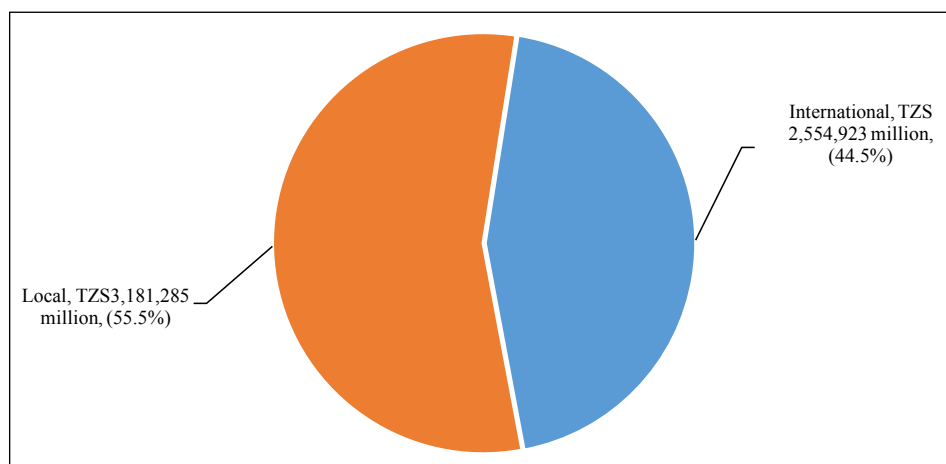


Table 6.5 shows that the imported raw materials for the manufacture of food products were most costly (TZS 934,216 million; 37.3 percent); followed by those for manufacture of rubber and plastics products (TZS 366,505; 14.7 percent) and materials for manufacture of chemicals and chemical products (TZS 290,850; 11.6 percent). The share of each of the remaining activities was less than 10 percent.

From the local or domestic market, the largest proportion of the raw materials was consumed by the manufacture of food products (TZS 914,325 million; 43.4 percent); followed by manufacture of beverages (TZS 345,664 million; 16.4 percent); and the manufacture of other non-metallic mineral products (TZS 119,054 million; 9.0 percent).

**Table 6.5: Cost of Raw Materials for the Manufacturing Activities for Large Establishments, Tanzania Mainland, CIP-2013**

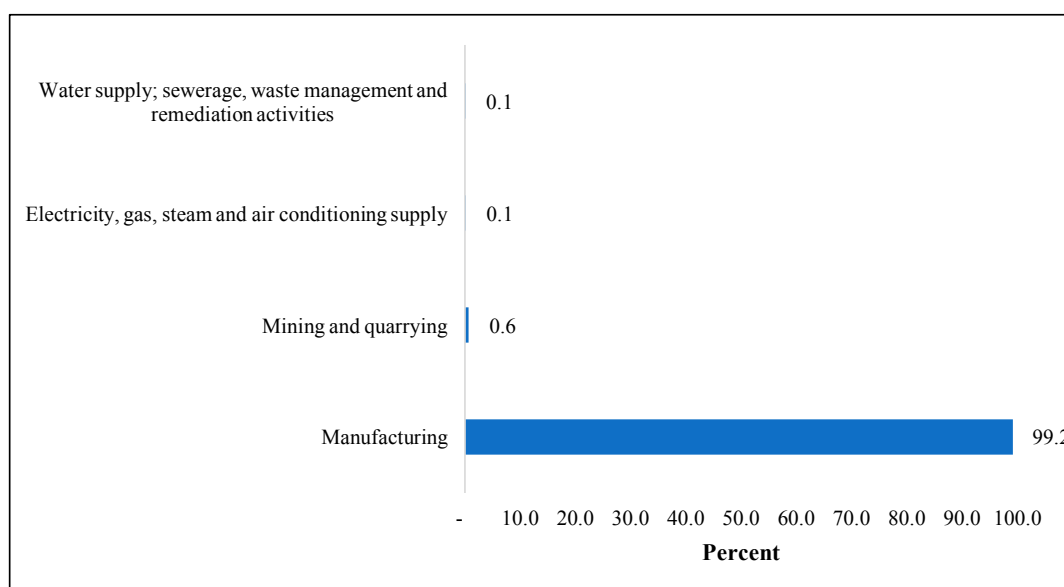
ISIC REV. 4 Code	Industrial Activity	Imports		Local		Total	
		Value	Percent	Value	Percent	Value	Percent
10	Manufacture of food products	934,216	37.3	914,325	43.4	1,848,541	40.1
11	Manufacture of beverages	140,846	5.6	345,664	16.4	486,510	10.6
12	Manufacture of tobacco products	38,448	1.5	149,599	7.1	188,046	4.1
13	Manufacture of textiles	116,161	4.6	88,048	4.2	204,209	4.4
14	Manufacture of wearing apparel	8,722	0.3	1,127	0.1	9,849	0.2
15	Manufacture of leather and related products	11,530	0.5	24,957	1.2	36,487	0.8
16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	2,696	0.1	19,700	0.9	22,397	0.5
17	Manufacture of paper and paper products	22,585	0.9	20,357	1.0	42,943	0.9
18	Printing and reproduction of recorded media	32,997	1.3	42,081	2.0	75,078	1.6
19	Manufacture of coke and refined petroleum products	36,855	1.5	14,712	0.7	51,568	1.1
20	Manufacture of chemicals and chemical products	290,850	11.6	40,010	1.9	330,860	7.2
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations	33,050	1.3	1,196	0.1	34,246	0.7

**Table 6.5: Cost of Raw Materials for the Manufacturing Activities for Large Establishments, Tanzania Mainland, CIP-2013 (continued)**

ISIC REV. 4 Code	Industrial Activity	Imports		Local		Total	
		Value	Percent	Value	Percent	Value	Percent
22	Manufacture of rubber and plastics products	366,505	14.7	48,446	2.3	414,951	9.0
23	Manufacture of other non-metallic mineral products	60,821	2.4	190,054	9.0	250,875	5.4
24	Manufacture of basic metals	49,335	2.0	62,438	3.0	111,773	2.4
25	Manufacture of fabricated metal products, except machinery and equipment	31,554	1.3	40,505	1.9	72,059	1.6
26	Manufacture of computer, electronic and optical products	4,290	0.2	0	0.0	4,290	0.1
27	Manufacture of electrical equipment	61,079	2.4	12,357	0.6	73,436	1.6
28	Manufacture of machinery and equipment n.e.c.	1,157	0.0	4,236	0.2	5,393	0.1
29	Manufacture of motor vehicles, trailers and semi-trailers	7,601	0.3	13,371	0.6	20,972	0.5
30	Manufacture of other transport equipment	38,320	1.5	501	0.0	38,821	0.8
31	Manufacture of furniture	202,467	8.1	40,723	1.9	243,190	5.3
32	Other manufacturing	9,345	0.4	29,189	1.4	38,534	0.8
33	Repair and installation of machinery and equipment	0	0.0	1,651	0.1	1,651	0.0
	<b>Total</b>	<b>2,501,431</b>	<b>100.0</b>	<b>2,105,250</b>	<b>100.0</b>	<b>4,606,681</b>	<b>100.0</b>

Figure 6.2 shows in percentages the cost of raw materials consumed by small establishments in the four industrial sub-sectors. The results show that manufacturing sub-sector had the largest share of the total cost of raw materials consumed (99.2 percent); while the share of each of the remaining sub-sectors was less than 1.0 percent of the total cost of raw materials.

**Figure 6.2: Percentage of Cost of Raw Materials by Industrial Sub-Sector for Small Establishments, Tanzania Mainland, CIP 2013**



## 6.4 Industrial Services

Industrial services cover costs for services of an industrial nature rendered to the establishment by other establishments. They include contract and commission paid for the work done, cost of repairs and maintenance and waste treatments costs; maintenance, repair, and operations involving fixing any sort of mechanical or electrical device.

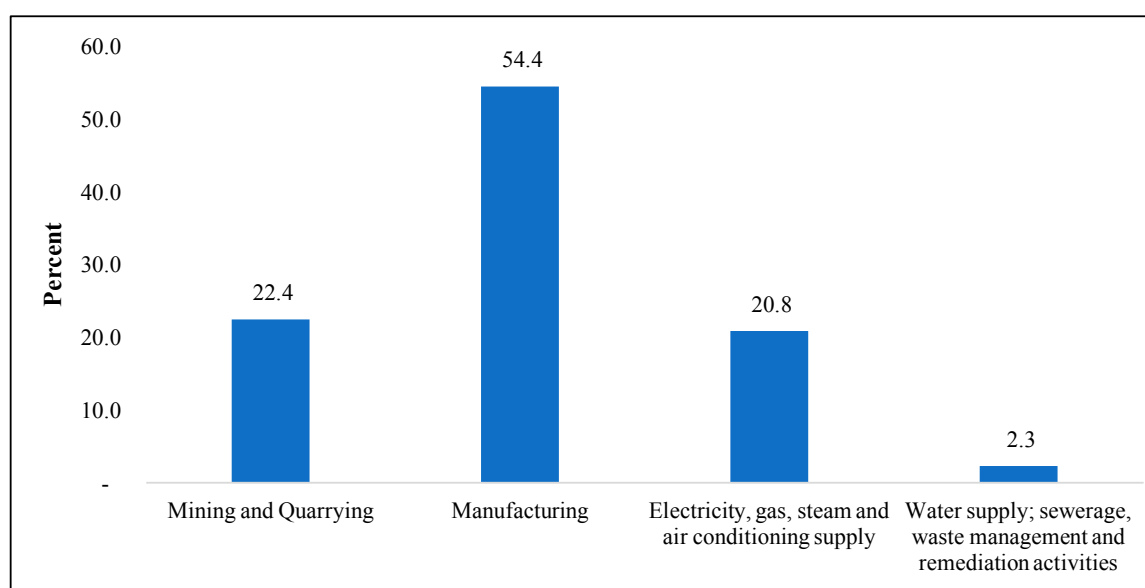
Table 6.6 covers costs of industrial services in large establishments. The results show that the total cost of industrial services was TZS 395,794 million; out of which the cost for repairs and maintenance was TZS 190,777 million (48.2 percent of the total cost for industrial services); followed by contract and commission with TZS 48,898 million (12.4 percent) and waste treatment facilities with TZS 17,668 million (4.5 percent). Other industrial services such as packaging, soil excavation, clearing and forwarding cost TZS 138,451 million (35.0 percent of the total cost of industrial services).

**Table 6.6: Cost of Industrial Services Consumed by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013**

(TZS Million)					
Industrial Sub-Sector	Contract and commission	Repairs and maintenance	Waste treatment	Other	Total
Mining and Quarrying	27,436	18,730	11,329	31,361	88,855
Manufacturing	18,865	156,399	6,098	34,025	215,387
Electricity, gas, steam and air conditioning supply	927	9,884	2	71,601	82,413
Water supply; sewerage, waste management and remediation activities	1,671	5,764	239	1,465	9,139
<b>Total</b>	<b>48,898</b>	<b>190,777</b>	<b>17,668</b>	<b>138,451</b>	<b>395,794</b>
<b>Percent</b>	<b>12.4</b>	<b>48.2</b>	<b>4.5</b>	<b>35.0</b>	<b>100.0</b>

Figure 6.3 shows industrial services consumed by industrial sub-sector whereby manufacturing was the leading sub-sector with 54.4 percent; followed by mining and quarrying with 22.4 percent; electricity, gas, steam and air conditioning supply with 20.8 percent; and water supply; sewerage, waste management and remediation activities with 2.3 percent.

**Figure 6.3: Percentage of the Value of Industrial Services Consumed by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013**



## 6.5 Non-Industrial Services

These are services which are not directly related to production and are received by the establishment from external clients.

Table 6.7 gives the cost of various non-industrial services consumed by large establishments. The results show that the total amount paid for non-industrial services was TZS 793,045 million; out of which, storage and hire of transport accounted for TZS 173,865 million (21.9 percent); followed by publicity and bank charges with TZS 119,925 (15.1 percent); and consultancy and other professional fees with TZS 82,889 million (10.5 percent). Other non-industrial services accounted TZS 342,693 million (43.2 percent of the total cost of non-industrial services).

On the other hand, manufacturing sub-sector had the largest amount of TZS 592,155 million (74.7 percent of the total cost of non-industrial services); followed by electricity, gas, steam and air conditioning supply with TZS 153,511 million (19.4 percent); while the remaining sub-sectors consumed 6.0 percent.

**Table 6.7: Cost of Non-Industrial Services by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013**

(TZS Million)						
Industrial Sub-Sector	Industrial Sub-Sector				Total	Percent
	Mining and quarrying	Manufacturing	Electricity, gas, steam and air conditioning supply	Water supply; sewerage, waste management and remediation activities		
Postage and Other Communication	769	20,114	4,123	904	25,910	3.3
Rental of Buildings, Machinery, Plant and Equipment	1,009	46,104	329	322	47,764	6.0
Storage and Hire of Transport	1,779	171,824	-	263	173,865	21.9
Publicity and Bank Charges	2,429	110,579	6,450	467	119,925	15.1
Consultancy and Other Professional Fees	3,058	61,573	16,790	1,468	82,889	10.5
Other	31,431	181,961	125,819	3,481	342,693	43.2
<b>Total</b>	<b>40,474</b>	<b>592,155</b>	<b>153,511</b>	<b>6,905</b>	<b>793,045</b>	<b>100.0</b>
<b>Percent</b>	<b>5.1</b>	<b>74.7</b>	<b>19.4</b>	<b>0.9</b>	<b>100.0</b>	

## 6.6 Other Expenses

These are expenses for services not mentioned above. Table 6.8 shows costs incurred by large establishments with regard to payment of interests and dividends, insurance, income tax, net value added tax, other taxes on production and other expenses. Interest and dividend payments had the highest cost (TZS 537,162 million; 30.8 percent); followed by value added tax with TZS 414,895 million (23.8 percent); and income tax with TZS 240,487 million (13.8 percent of the total cost of other expenses). The remaining expenses accounted for TZS 553,665 million (31.7 percent of the total cost of other expenses).

Table 6.8: Other Expenses by Type for Large Establishments, Tanzania Mainland, CIP-2013

(TZS Million)		
Type of Other Expenses	Value	Percent
Interests and dividends paid excluding bank charges	537,162	30.8
Insurance paid	59,503	3.4
Income tax	240,487	13.8
Net value-added tax paid	414,895	23.8
Other taxes on production	133,020	7.6
Other	361,142	20.7
<b>Total</b>	<b>1,746,208</b>	<b>100.0</b>



## Chapter 7

# Value of inventories and expenditure on fixed assets

## 7.0 Introduction

Chapter seven presents value of inventories and expenditure on fixed assets in the industrial sector during the year 2013. It aims at analyzing the changes in stocks as well as values of stocks and assets during the reference period.

## 7.1 Importance of Inventories

Inventories are stocks of goods (merchandise, raw materials, finished and unfinished products) held by firms to meet temporary or unexpected fluctuations in production or sale and work in progress. They are considered liquid assets because they can easily be converted into cash. Inventories of finished products are very important in meeting un-expected increase in customer demand and in avoiding loss of sale; while inventories of raw materials help in stabilizing production in the event of supply disruption. Inventories represent a large portion of assets and, as such, form an important part of the balance sheet and therefore, it is crucial for investors to understand how inventories are valued.

## 7.2 Value of Stocks for Large Establishments

Table 7.1 presents values of stocks held by large industrial establishments at the beginning and at the end of the reference period. At the beginning of the year, materials and supplies had the largest proportion (70.7 percent) of all the industrial stock., followed by finished products (16.1 percent) and semi-finished products (13.2 percent). At the end of the year, the results show that materials and supplies had the largest proportion (69.0 percent), followed by finished products (19.1 percent) and semi-finished products (11.9 percent).

Generally, materials and supplies constituted the largest shares of the total industrial sector stocks, both at the beginning and at the end of the reference year. For example, at the of beginning of the year their share was 100.0 percent for electricity, gas, steam and air conditioning supply, 72.7 percent for mining and quarrying and 69.0 percent for manufacturing at the beginning of the year. While at the end of the year, the share of materials and supplies was 99.0 percent for electricity, gas, steam and air conditioning supply sub-sector, 73.0 percent for mining and quarrying and 67.4 percent for manufacturing.

**Table 7.1: Value and Percentage of Stocks by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013**

Industrial Sub-Sector	At the beginning				At the end			
	Materials and Supplies	Semi-Finished Products	Finished Products	Total	Materials and Supplies	Semi-Finished Products	Finished Products	Total
<b>Value (TZS Million)</b>								
Mining and quarrying	674,413	182,542	70,153	927,108	588,235	137,411	80,676	806,322
Manufacturing	876,029	88,036	305,251	1,269,316	1,050,469	107,840	400,555	1,558,864
Electricity, gas, steam and air conditioning supply	92,552	-	-	92,552	99,937	1,001	-	100,938

**Table 7.1: Value and Percentage of Stocks by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013 (continued)**

Industrial Sub-Sector	At the beginning				At the end			
	Materials and Supplies	Semi-Finished Products	Finished Products	Total	Materials and Supplies	Semi-Finished Products	Finished Products	Total
Water supply; sewerage, waste management and remediation activities	5,930	36,273	913	43,116	6,304	54,157	1,957	62,417
<b>Total</b>	<b>1,648,924</b>	<b>306,852</b>	<b>376,316</b>	<b>2,332,092</b>	<b>1,744,944</b>	<b>300,409</b>	<b>483,188</b>	<b>2,528,541</b>
<b>Percent</b>								
Mining and quarrying	72.7	19.7	7.6	100	73	17	10	100
Manufacturing	69	6.9	24	100	67.4	6.9	25.7	100
Electricity, gas, steam and air conditioning supply	100	-	-	100	99	1	-	100
Water supply; sewerage, waste management and remediation activities	13.8	84.1	2.1	100	10.1	86.8	3.1	100
<b>Total</b>	<b>70.7</b>	<b>13.2</b>	<b>16.1</b>	<b>100</b>	<b>69</b>	<b>11.9</b>	<b>19.1</b>	<b>100</b>

## 7.3 Value of Stocks for Small Establishments

Table 7.2 presents value of stocks held by small establishments at the beginning and at the end of the reference period. Results show that total stocks held at the beginning was TZS 62,801 million and that held at the end of the year was TZS 98,170 million. In each case, materials and supplies constituted the largest share; with TZS 49,689 million (79.1 percent) at the beginning and TZS 76,433 Million (77.9 percent) at the end of the reference period. A similar situation was also observed across all the four industrial sub-sectors.

**Table 7.2: Value and Percentage of Stocks by Industrial Sub-Sector for Small Establishments, Tanzania Mainland, CIP-2013**

Industrial Sub-Sector	At the beginning			At the end		
	Materials and Supplies	Finished Products	Total	Materials and Supplies	Finished Products	Total
<b>Value (TZS Million)</b>						
Mining and quarrying	1,106	101	1,207	1,429	209	1,638
Manufacturing	47,745	12,978	60,723	74,063	21,472	95,535
Electricity, gas, steam and air conditioning supply	583	10	593	619	15	634
Water supply; sewerage, waste management and remediation activities	255	23	278	322	40	362
<b>Total</b>	<b>49,689</b>	<b>13,112</b>	<b>62,801</b>	<b>76,433</b>	<b>21,737</b>	<b>98,170</b>
<b>Percent</b>						
Mining and quarrying	91.6	8.4	100.0	87.2	12.8	100.0
Manufacturing	78.6	21.4	100.0	77.5	22.5	100.0

**Table 7.2: Value and Percentage of Stocks by Industrial Sub-Sector for Small Establishments, Tanzania Mainland, CIP-2013 (continued)**

Industrial Sub-Sector	At the beginning			At the end		
	Materials and Supplies	Finished Products	Total	Materials and Supplies	Finished Products	Total
Electricity, gas, steam and air conditioning supply	98.3	1.7	100.0	97.6	2.4	100.0
Water supply; sewerage, waste management and remediation activities	91.7	8.3	100.0	89.0	11.0	100.0
<b>Total</b>	<b>79.1</b>	<b>20.9</b>	<b>100.0</b>	<b>77.9</b>	<b>22.1</b>	<b>100.0</b>

## 7.4 Value of Fixed Assets

Fixed asset, also known as a non-current asset or as property, plant, and equipment, is a term used in accounting for assets and property which cannot easily be converted into cash. Fixed assets are initially recorded as assets, and are subject to the following general types of accounting transactions: periodic depreciation (for tangible assets) or amortization (for intangible assets), impairment write-downs (if the value of an asset falls below its net book value) and disposition (once assets are disposed off). A fixed asset appears in the financial records at its net book value, which is its cost at the beginning of the accounting period, plus additions, less disposals, less depreciation, during the accounting period.

Table 7.3 presents value of fixed assets at the beginning of the reference year in large establishments. The results show that the sub-sector of electricity, gas; steam and air conditioning supply had the largest amount (TZS 54,241,640 million; 86.6 percent); followed by manufacturing (TZS 4,803,968 million; 7.7 percent); and mining and quarrying with TZS 3,217,463 million (5.1 percent of the total industrial sector investment at the end of the reference year).

**Table 7.3: Value of Fixed Assets at the Beginning of 2013 by Industrial Sub-Sector and Type of Asset for Large Establishments, Tanzania Mainland, CIP-2013**

(TZS Million)					
Assets	Industrial Sub-Sector				Total
	Mining and quarrying	Manufacturing	Electricity, gas, steam and air conditioning supply	Water supply; sewerage, waste management and remediation activities	
Land improvements	225,662	245,679	5,388,176	33,124	5,892,642
Buildings and structures	822,973	1,301,561	47,125,387	74,385	49,324,306
Transport equipment	148,820	303,310	95,005	13,417	560,552
Machinery and equipment	1,536,906	2,485,382	1,593,306	101,270	5,716,863
Computer and other data Processing equipment	-107,885	77,388	39,748	1,845	11,096
Other	590,987	390,648	18	144,435	1,126,088
<b>Total</b>	<b>3,217,463</b>	<b>4,803,968</b>	<b>54,241,640</b>	<b>368,476</b>	<b>62,631,547</b>
<b>Percent</b>	<b>5.1</b>	<b>7.7</b>	<b>86.6</b>	<b>0.6</b>	<b>100.0</b>

Table 7.4 shows that in large establishments, total value of fixed assets at the end of the year was TZS 63,220,390 million, out of which, the sub-sector of electricity, gas; steam and air conditioning supply had the largest share (TZS 54,241,646 million; 85.8 percent), followed by manufacturing (TZS 4,804,307million; 7.6 percent), mining and quarrying (TZS 3,805,649 million; 6.0 percent) and

water supply; sewerage, waste management and remediation activities with TZS 368,789 million (0.6 percent).

However, electricity, gas, steam and air conditioning supply sub-sector invested largely in buildings and structures with TZS 47,125,387 million (86.8 percent of the total investment) at the end of the year.

**Table 7.4: Value of Fixed Assets at the End of 2013 by Industrial Sub-Sector and Type of Asset for Large Establishments, Tanzania Mainland, CIP-2013**

(TZS Million)					
Assets	Industrial Sub-Sector				Total
	Mining and quarrying	Manufacturing	Electricity, gas, steam and air conditioning supply	Water supply; sewerage, waste management and remediation activities	
Land improvement	225,662	245,719	5,388,176	33,124	5,892,682
Buildings and structures	822,973	1,301,569	47,125,387	74,465	49,324,394
Transport equipment	148,820	303,562	95,005	13,417	560,804
Machinery and equipment	1,537,037	2,485,408	1,593,306	101,270	5,717,021
Computer and other data processing equipment	18,845	77,388	39,754	1,852	137,839
Other	1,052,312	390,660	18	144,661	1,587,651
<b>Total</b>	<b>3,805,649</b>	<b>4,804,307</b>	<b>54,241,646</b>	<b>368,789</b>	<b>63,220,391</b>
<b>Percent</b>	<b>6.0</b>	<b>7.6</b>	<b>85.8</b>	<b>0.6</b>	<b>100.0</b>

Table 7.5 presents value of Machinery and equipment at the end of the reference year for medium and big establishments. The results show that investment on machinery and equipment for big establishments amounted to TZS 5,717,021 million (84.2 percent) compared to medium establishments (15.8 percent). Big establishments dealing with mining and quarrying had the majority of investments in machinery and equipment with 98.8 percent within the sub-sector, followed by establishments of the same size dealing with manufacturing with 82.2 percent within the sub-sector.

**Table 7.5: Value of Machinery and Equipment at the End of 2013 by Industrial Sub-Sector and Employment Size for Large Establishments, Tanzania Mainland, CIP-2013**

(TZS Million)						
Industrial Sub Sector	Medium (10-99 Workers)		Big (100+ Workers)		Total	
	Value	Percent	Value	Percent	Value	Percent
Mining and quarrying	18,340	1.2	1,518,697	98.8	1,537,037	100.0
Manufacturing	441,767	17.8	2,043,641	82.2	2,485,408	100.0
Electricity, gas, steam and air conditioning supply	378,065	23.7	1,215,241	76.3	1,593,306	100.0
Water supply; sewerage, waste management and remediation activities	62,415	61.6	38,855	38.4	101,270	100.0
<b>Total</b>	<b>900,587</b>	<b>15.8</b>	<b>4,816,434</b>	<b>84.2</b>	<b>5,717,021</b>	<b>100.0</b>

Figure 7.1 shows that investment in fixed assets for manufacturing large establishments was mainly allocated to machinery and equipment (51.7 percent), followed by buildings and structures with 27.1 percent. On the other hand, low level of investment was allocated to computer and other data processing equipment with 1.6 percent.

**Figure 7.1: Percentage of Value of fixed Asset at the End of 2013 by Manufacturing Sub-Sector by Type of Asset, for Large Establishments, Tanzania Mainland, CIP-2013**

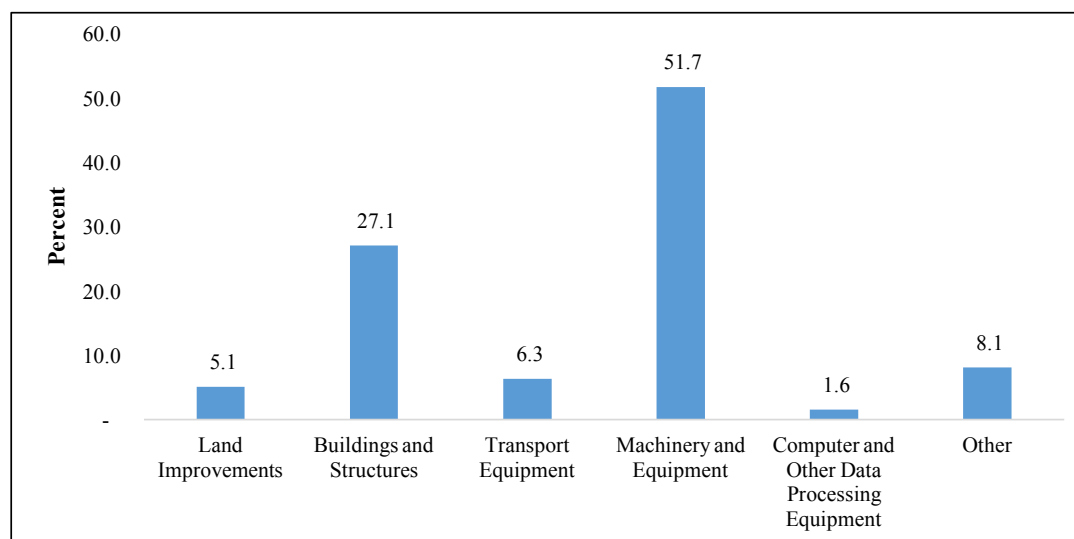


Table 7.6 presents percentage distribution of expenditure on fixed assets by industrial sub-sector and type for large establishments. The results show that in the mining and quarrying sub-sector, the share of machinery and other equipment was 42.9 percent at the beginning and 40.4 percent at the end. Likewise, in manufacturing sub-sector, the same distribution is observed; whereby machinery and other equipment had the largest share (53.1 percent) at the beginning and the largest share (51.7 percent) at the end.

In electricity, gas, steam and air conditioning supply sub-sector, the major fixed asset (86.3 percent) was in buildings and structures at the beginning and 86.9 percent at the end of the reference year.

Furthermore, the results show that in each sub-sector, the use of computer and other data processing equipment in relation to production activities was still minimal as observed in mining and quarrying with 2.5 percent at the beginning and 0.5 percent at the end of the reference year. In manufacturing, value at the beginning was 1.5 percent and 1.6 percent at the end; in electricity, gas, steam and air conditioning supply value was 0.1 percent at the beginning and 0.1 percent at the end; while water supply; sewerage, waste management and remediation activities had 0.6 percent value at the beginning and 0.5 percent at the end of the reference year.

**Table 7.6: Percentage Distribution of Expenditure on Fixed Assets by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013**

(Percent)						
Industrial Sub-Sector	Value at the Beginning	Additions		Disposal	Depreciation	Net Value at the End
		Purchased	Own Production			
Mining and quarrying						
Land	4.3	0.7	0.0	0.0	0.6	5.9
Buildings and structures	28.4	7.8	7.5	38.1	33.6	21.6
Transport equipment	2.8	13.3	0.0	0.4	2.8	3.9
Machinery and equipment	42.9	18.9	0.0	43.0	35.9	40.4
Computer and other data processing equipment	2.5	4.1	0.0	14.5	0.2	0.5
Others	19.0	55.2	92.5	4.0	26.9	27.7
Total	100.0	100.0	100.0	100.0	100.0	100.0

**Table 7.6: Percentage Distribution of Expenditure on Fixed Assets by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013 (continued)**

(Percent)						
Industrial Sub-Sector	Value at the Beginning	Additions		Disposal	Depreciation	Net Value at the End
		Purchased	Own Production			
Land	4.9	2.9	0.0	4.1	0.5	5.1
Buildings and structures	25.3	20.0	23.6	3.2	9.7	27.1
Transport equipment	7.0	8.8	5.1	10.0	13.4	6.3
Machinery and equipment	53.1	49.4	59.2	54.0	57.8	51.7
Computer and other data processing equipment	1.5	2.6	0.2	2.5	1.7	1.6
Others	8.3	16.3	12.0	26.3	16.8	8.1
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>Electricity, gas, steam and air conditioning supply</b>						
Land	9.9	0.0	0.0	0.0	0.0	9.9
Buildings and structures	86.3	2.3	0.0	0.0	3.3	86.9
Transport equipment	0.2	2.7	0.0	4.3	1.9	0.2
Machinery and equipment	3.5	94.9	100	95.7	93.1	2.9
Computer and other data processing equipment	0.1	0.0	0.0	0.0	1.6	0.1
Others	0.0	0.1	0.0	0.0	0.0	0.0
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>Water supply; sewerage, waste management and remediation activities</b>						
Land	7.7	2.3	0.0	0.0	0.0	9.0
Buildings and structures	18.3	30.9	23.4	78.2	7.1	20.2
Transport equipment	4.3	3.1	0.0	8.4	7.8	3.6
Machinery and equipment	33.9	21.2	67.3	10.6	69.5	27.5
Computer and other data processing equipment	0.6	1.9	1.7	2.7	1.1	0.5
Others	35.3	40.6	7.6	0.0	14.5	39.2
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

## 7.5 Depreciation of Fixed Assets

Depreciation is the expense generated by the use of an asset. It is the wear and tear of an asset in the historical value owing to usage. The rate of depreciation depends on many factors such as useful life, whether the company owns or leases the property, the type of possession, when it was purchased and other factors. Depreciation is usually spread over the economically useful life of an asset because it is regarded as the cost of an asset absorbed over its useful life. Invariably, the depreciation expense is charged against the revenue generated with the use of the asset.

Tables 7.6 above shows how industrial firms have been depreciating their fixed assets. Values on depreciations were the highest in Machinery and equipment in all the four industrial sub-sectors; whereby, mining and quarrying had 35.9 percent; manufacturing (57.8 percent); electricity, gas, steam and air conditioning supply (93.1 percent); and water supply; sewerage, waste management and remediation activities (69.5 percent).

It is worth noting here that not all fixed assets depreciate in value year-over-year. For example, land may often increase in value depending on local real-estate conditions. This is observed in all the sub-sectors whereby depreciated value of land is less than one percent.

## Chapter 8

# Business Environment

### 8.0 Introduction

This chapter presents business environment of industrial sector in Tanzania Mainland for the year 2013. It focuses on establishments' registration, membership to business organizations, tenure of the occupied buildings and quality management issues. Others are; environmental management plans, investment plans, HIV/AIDS and major challenges facing the sector. The notion of business environment as presented in this report reflects a number of factors which are contextual to the nature of the economy of Tanzania. These factors, among others are stakeholders' interests, level of economic development, legal and policy frameworks.

### 8.1 Establishment Membership in Umbrella Organizations

Membership in umbrella organizations is a term which refers to membership of an industrial establishments in an organization that allows establishments to subscribe, therefore requiring them to pay a membership fee or "subscription" in order to benefit from the advantages of collectivity. In Tanzania there are umbrella organizations in which establishments have subscribed; these include Confederation of Tanzania Industry (CTI), Tanzania Chamber of Commerce, Industry and Agriculture (TCCIA), Association of Tanzania Employers (ATE), Dar es Salaam Stock Exchange (DSE) and Tanzania Chamber of Mineral and Energy (TCME). Organization membership typically has a particular purpose which involves connecting businesses and is often done not for profit.

The 2013 CIP results in Table 8.1 show that among the membership business support and private sector organizations, CTI had the largest number of members (306; 23.1 percent of the total establishments); followed by TCCIA (267; 20.2 percent); ATE (210; 15.9 percent); TCME (48; 3.6 percent); and DSE had the smallest proportion of members (29; 2.2 percent). Other membership such as SIDO and EWURA ranked third with 18.7 percent. The majority of establishments did not belong to any membership organization. The establishments that are not members of the umbrella organizations do not have opportunity of representing their interests and concerns because they miss the effective coalitions and alliances with other business communities as well as business linkages.

**Table 8.1: Large Establishments Membership of Organizations by Industrial Sub-Sector, Tanzania Mainland, CIP-2013**

							(Number)
Industrial Sub-Sector	CTI	TCCIA	ATE	DSE	TCME	Other	Total Establishments
Mining and Quarrying	14	15	12	4	33	124	210
Manufacturing	284	239	183	24	11	85	998
Electricity, Gas, Steam and air Conditioning supply	8	9	6	1	2	2	27
Water supply; sewerage, waste management and remediation activities	0	4	9	0	2	36	87
<b>Total</b>	<b>306</b>	<b>267</b>	<b>210</b>	<b>29</b>	<b>48</b>	<b>247</b>	<b>1,322</b>
<b>Percent</b>	<b>23.1</b>	<b>20.2</b>	<b>15.9</b>	<b>2.2</b>	<b>3.6</b>	<b>18.7</b>	<b>100.0</b>



## 8.2 Establishments' Awareness

Awareness is the state or ability to perceive, to feel, or to be conscious of events, objects or sensory patterns. More broadly, it is the state or quality of being aware of something. It contributes to enhance the understanding of awareness through mediated communication. (Annual Survey of Industrial Production - ASIP, 2008).

The census sought information on large establishments that were not members of any organization whether they were aware of the services or functions offered by membership organizations such as collective bargaining, public private partnerships and registration facilitation. Results in Table 8.2 show that 44.6 percent of establishments indicated to be aware of the services and functions of TCCIA; followed by CTI with 40.9 percent; ATE (39.9 percent); DSE (25.0 percent); and TCME (19.3 percent).

Table 8.2 shows that manufacturing sub-sector had the largest number of establishments that were aware of the services provided in each of the five mentioned institutions (CTI, ATE, TCCIA, DSE and TCME). The sub-sector results show that TCCIA was the leading organization with 48.9 percent; followed by CTI with 47.7 percent; ATE with 46.2 percent; DSE with 26.8 percent; TCME with 14.2 percent. Other organizations had a total of 11.3 percent of the sub-sector.

**Table 8.2: Large Establishments Awareness of Services/Functions of Umbrella Organizations by Industrial Sub-Sector Tanzania Mainland, CIP-2013**

Industrial Activity	CTI	ATE	TCCIA	DSE	TCME	Other	Total	
							Number	Percent
Mining and Quarrying	18.6	14.3	26.7	18.6	43.3	64.3	210	100.0
Manufacturing	47.7	46.2	48.9	26.8	14.2	11.3	998	100.0
Electricity, Gas, Steam and air Conditioning supply	25.9	37.0	51.9	22.2	11.1	11.1	27	100.0
Water supply; sewerage, waste management and remediation activities	21.8	31.0	36.8	21.8	21.8	42.5	87	100.0
<b>Total</b>	<b>40.9</b>	<b>39.9</b>	<b>44.6</b>	<b>25.0</b>	<b>19.3</b>	<b>21.8</b>	<b>1,322</b>	<b>100.0</b>

## 8.3 Registration of Establishments

In Tanzania Mainland, registration of an establishment is obligatory whether composed of individuals or bodies corporate or any combination of both.) According to the National Industries Licensing and Registration Act CAP 46 R.E 2002, no person shall establish any industry unless he or she has obtained a certificate of registration in respect of the industry.

### 8.3.1 The Registration Status of the Establishments

Results in Table 8.3 show that among the large establishments, out of the total 1,103 respondents, 964 (87.4 percent) were licensed and 139 (12.6 percent) were not licensed by Government Authorities; while among the small establishments, out of the total 11,745 respondents, 3,545 (30.2 percent) were licensed, and 8,200 (69.8 percent) were not licensed.

**Table 8.3: Registration of Establishments by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013**

Industrial Sub-Sector	(Number)			
	Registered Large Establishments		Registered Small Establishments	
	Yes	No	Yes	No
Mining and Quarrying	178	15	70	106
Manufacturing	710	95	3,437	7,892
Electricity, Gas, Steam and air Conditioning supply	18	8	16	95
Water supply; sewerage, waste management and remediation activity	58	21	22	107
<b>Total</b>	<b>964</b>	<b>139</b>	<b>3,545</b>	<b>8,200</b>

**Note:** This Table involves multiple responses

### 8.3.2 Reasons in the Non-Registration, Large Establishments

Table 8.4 shows frequency distribution of the reasons in large establishments which were not registered. According to CIP 2013, 41.0 percent reported complicated bureaucratic procedures as the main reason for not having been registered; 36.7 percent reported financial problems; 30.9 percent were due to too small business and 7.9 percent of respondents reported that they did not see the need to register. Other reasons had a total 22.3 percent of the respondents.

**Table 8.4: Number and Percentage of Un- Licensed Large Establishments by Industrial Sub-Sector and Reasons for Not Having a Licenses, Tanzania Mainland, CIP-2013**

Industrial Sub-Sector	Financial Problems		Complicated Bureaucratic Procedures		Too Small Business		Does not See the Need		Other		Total Establishments
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number
Mining and quarrying	11	21.6	7	12.3	9	20.9	3	27.3	2	6.5	15
Manufacturing	30	58.8	42	73.7	28	65.1	5	45.5	21	67.7	95
Electricity, gas, steam and air conditioning supply	3	5.9	4	7	2	4.7	1	9.1	0	0	8
Water supply; sewerage, waste management and remediation activities	7	13.7	4	7	4	9.3	2	18.2	8	25.8	21
<b>Total</b>	<b>51</b>	<b>100.0</b>	<b>57</b>	<b>100.0</b>	<b>43</b>	<b>100.0</b>	<b>11</b>	<b>100.0</b>	<b>31</b>	<b>100.0</b>	<b>139</b>
<b>Percent</b>	<b>36.7</b>		<b>41.0</b>		<b>30.9</b>		<b>7.9</b>		<b>22.3</b>		<b>100.0</b>

**Note:** This Table involves multiple responses

### 8.3.3 Reasons for the Non-Registration, Small Establishments

Table 8.5 shows frequency distribution of the reasons in small establishment not registered. The results show that 75.1 percent of respondents stated too small business as major reason for not being registered, followed by financial problems with 59.8 percent, complicated bureaucratic procedures with 20.9 percent; while 7.2 percent did not see the need to be registered.

**Table 8.5: Reasons for the Un-Registered for Small Establishments by Industrial Sub-Sector, Tanzania Mainland, CIP-2013**

Industrial Activity	Financial Problems	Complicated Bureaucratic Procedures	Too Small Business	Does not See the Need	(Percent)	
					Other	Total
Mining and Quarrying	50.0	18.9	59.4	17.0	17.0	100.0
Manufacturing	60.4	21.0	75.8	7.0	8.6	100.0
Electricity, Gas, Steam and air Conditioning supply	50.5	21.1	73.7	10.5	14.7	100.0
Water supply; sewerage, waste management and remediation activities	33.6	15.0	38.3	7.5	32.7	100.0
<b>Total</b>	<b>59.8</b>	<b>20.9</b>	<b>75.1</b>	<b>7.2</b>	<b>9.1</b>	<b>100.0</b>

## 8.4 Tenure of the Occupied Buildings

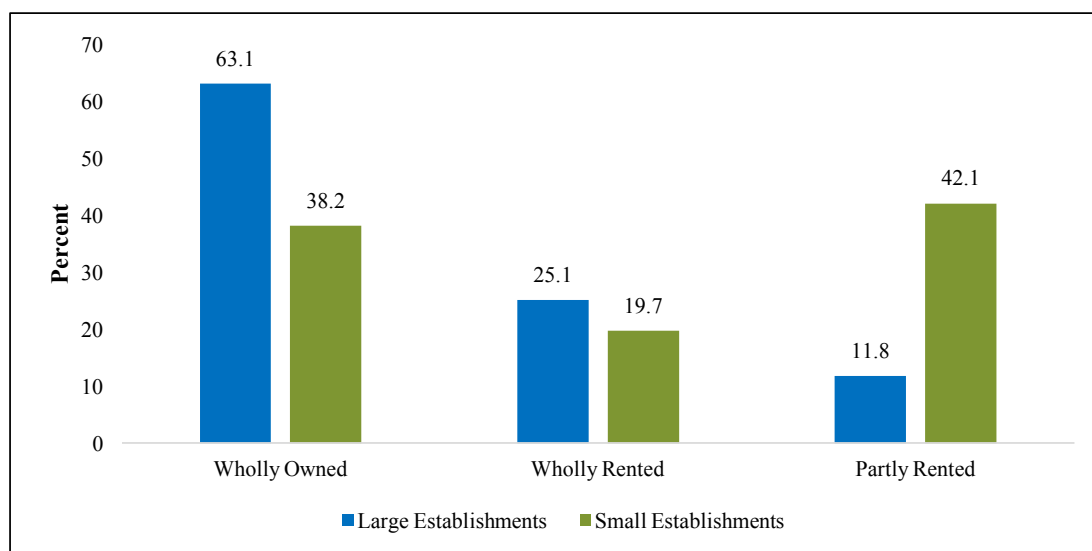
Tenure describes any rights to use the land. If an establishment has the use of it, it is the tenant and it has a tenure. If it has absolute rights to the use of land, this is described as free-hold. Usually, if it is a free-hold property, it means the establishment owns the building(s) and has a free-hold over the land. If someone else owns the free-hold and charges the establishment a rent, that is called a lease-hold. A lease-hold property is usually the one where the establishments owns the building(s) but it pays ground rent to someone else for the land. Subject to certain conditions, it usually acquires a right to buy the free-hold.

Housing tenure is a term used by experts to determine the type of ownership an individual or group of people have in any type of residential real estate. Some of the most frequently used types of housing tenure are owner occupancy and tenancy (ASIP, 2008).

Figure 8.1 presents information on the pattern of establishments ownership of the buildings used for industrial activities. Results show that 63.1 percent of the large establishments' buildings were Wholly owned, 25.1 percent were Wholly rented; and 11.8 percent were Partly rented.

However, the results in Figure 8.1 show percentage distribution of the Tenure of buildings owned by small establishment; whereby, 42.1 percent of the establishments' buildings were partly rented; followed by wholly owned 38.2 percent; and wholly rented with 19.7 percent.

**Figure 8.1: Percentage Distribution of Large and Small Establishments by Tenure of Buildings Owned, Tanzania Mainland, CIP-2013**



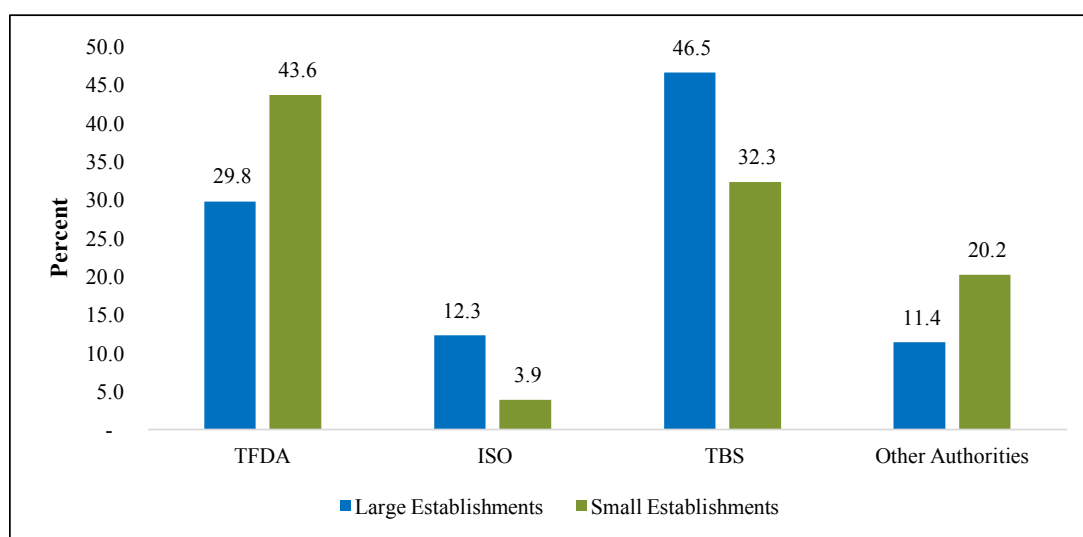
## 8.5 Products Quality Certification

Following liberalization of the economy where private sector plays important roles in the economy, the government established a number of Regulatory Authorities to regulate the market economy so as to avoid any distortions which could be associated with the market. Some of the Regulatory Authorities which were established include; Tanzania Food and Drugs Authority (TFDA), Government Chemist Laboratory Agency (GCLA), Tanzania Atomic Energy Commission (TAEC), Energy and Water Utilities Regulatory Authority (EWURA), Surface and Marine Transport Regulatory Authority (SUMATRA) and Tanzania Bureau of Standards (TBS). These authorities were established to ensure products that enter the market are of preferred standard in order to safeguard consumers' health and a fair market competition.

Figure 8.2 shows that in large establishments' products, about one third (46.5 percent) of the respondents were certified by TBS; followed by TFDA with 29.8 percent; ISO (12.3 percent); while Other Authorities had 11.4 percent.

Results further reveal that low levels of products certification were realized among establishments with less than ten workers, whereby 1.3 percent was certified by TFDA, 1.0 percent by TBS; and only 0.1 percent was certified by ISO (International Organization for Standardization). Other authorities certified a total of 0.6 percent of the responses.

**Figure 8.2: Percentage Distribution of Respondents based on Certification of the Products, Tanzania Mainland, CIP-2013**



**Note:** This Table involves multiple responses

The specified results in Table 8.6 show that 46.5 percent of responses in establishments with ten or more workers indicated to be registered with TBS while 29.8 percent were registered by TFDA and 12.3 percent were registered by ISO. Additionally, TBS was found to be more common within manufacturing sub-sector (48.8 percent of responses)

Results further indicate that in considering the industrial sector as a whole registration by TFDA was more prominent in establishments with less than ten workers (43.6 percent of responses) followed by TBS with 32.3 percent. Results also show that electricity, gas, steam and air conditioning supply had the largest proportion of responses registered by TBS with 50.0 percent.

**Table 8.6: Distribution of Respondents on Product Certification by Industrial Sub-Sector, Tanzania Mainland, CIP-2013**

(Percent)										
Industrial Sub-sector	Large Establishments					Small Establishments				
	TFDA	ISO	TBS	Other Authorities	Total	TFDA	ISO	TBS	Other Authorities	Total
Mining and Quarrying	20.4	18.5	29.6	31.5	100.0	37.1	2.9	28.6	31.4	100.0
Manufacturing	32.5	11.8	48.8	6.9	100.0	44.5	3.8	32.9	18.8	100.0
Electricity, Gas, Steam and air Conditioning supply	20.0	13.3	40.0	26.7	100.0	-	37.5	50.0	12.5	100.0
Water supply; sewerage, waste management and remediation activities	10.6	12.9	36.5	40.0	100.0	31.8	-	13.6	54.5	100.0
<b>Total</b>	<b>29.8</b>	<b>12.3</b>	<b>46.5</b>	<b>11.4</b>	<b>100.0</b>	<b>43.6</b>	<b>3.9</b>	<b>32.3</b>	<b>20.2</b>	<b>100.0</b>

**Note:** This Table involves multiple responses

Table 8.7 shows that most of manufacturing large establishments certified their products through TBS (48.8 percent), followed by TFDA with 32.5 percent, whereas small establishments certified their products through TFDA (44.5 percent) followed by TBS with 32.9 percent.

Results further indicate that establishments dealing with manufacture of food products, for both large and small establishments certified their products through TFDA with 195 responses (48.9 percent) and 542 responses (69.1 percent) respectively, followed by TBS with 143 responses (35.8 percent) and 122 responses (15.6 percent) respectively.

**Table 8.7: Distribution of Responses on Product Certification by Manufacturing Activities, Tanzania Mainland, CIP-2013**

ISIC Rev. 4 Code	Industrial Activity	Large establishments					Small Establishments				
		TFDA	ISO	TBS	Other Authorities	Total Responses	TFDA	ISO	TBS	Other Authorities	Total Responses
10	Manufacture of food products	195	29	143	32	399	542	25	122	95	784
11	Manufacture of beverages	43	14	44	3	104	13	1	8	2	24
12	Manufacture of tobacco products	1	1	2	0	4	0	0	0	1	1
13	Manufacture of textiles	1	4	13	1	19	1	3	15	2	21
14	Manufacture of wearing apparel	0	3	3	0	6	3	3	68	7	81
15	Manufacture of leather and related products	0	1	8	1	10	2	0	4	2	8

**Table 8.7: Distribution of Responses on Product Certification by Manufacturing Activities, Tanzania Mainland, CIP-2013 (continued)**

ISIC Rev. 4 Code	Industrial Activity	Large establishments					Small Establishments				
		TFDA	ISO	TBS	Other Authorities	Total Responses	TFDA	ISO	TBS	Other Authorities	Total Responses
16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	0	2	5	5	12	10	3	36	39	88
17	Manufacture of paper and paper products	0	0	7	0	7	0	0	1	0	1
18	Printing and reproduction of recorded media	2	2	18	1	23	0	0	5	2	7
19	Manufacture of coke and refined petroleum products	0	1	2	0	3	10	2	10	1	23
20	Manufacture of chemicals and chemical products	14	8	28	3	53	0	0	0	0	0
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations	5	2	3	1	11	0	0	0	1	1
22	Manufacture of rubber and plastics products	3	9	31	1	44	0	0	1	0	1
23	Manufacture of other non-metallic mineral products	1	7	23	6	37	1	1	30	18	50
24	Manufacture of basic metals	0	3	13	0	16	0	0	0	1	1
25	Manufacture of fabricated metal products, except machinery and equipment	1	4	17	0	22	4	10	75	19	108
26	Manufacture of computer, electronic and optical products	0	1	1	0	2	0	0	1	0	1
27	Manufacture of electrical equipment	0	2	8	0	10	0	0	3	1	4

Table 8.7: Distribution of Responses on Product Certification by Manufacturing Activities, Tanzania Mainland, CIP-2013 (continued)

ISIC Rev. 4 Code	Industrial Activity	Large establishments					Small Establishments				
		TFDA	ISO	TBS	Other Authorities	Total Responses	TFDA	ISO	TBS	Other Authorities	Total Responses
28	Manufacture of machinery and equipment n.e.c.	0	1	2	1	4	1	0	3	3	7
29	Manufacture of motor vehicles, trailers and semi-trailers	0	1	4	0	5	0	0	2	4	6
30	Manufacture of other transport equipment	0	1	2	0	3	0	1	6	1	8
31	Manufacture of furniture	2	1	18	1	22	2	1	43	40	86
32	Other manufacturing	2	1	9	1	13	0	1	1	10	12
33	Repair and installation of machinery and equipment	0	0	1	0	1	0	0	2	0	2
	<b>Total</b>	<b>270</b>	<b>98</b>	<b>405</b>	<b>57</b>	<b>830</b>	<b>589</b>	<b>51</b>	<b>436</b>	<b>249</b>	<b>1325</b>
	<b>Percent</b>	<b>32.5</b>	<b>11.8</b>	<b>48.8</b>	<b>6.9</b>	<b>100.0</b>	<b>44.5</b>	<b>3.8</b>	<b>32.9</b>	<b>18.8</b>	<b>100.0</b>

## 8.6 Quality Control of Raw Materials

Quality Control can simply be defined as a maintenance of quality at a level that satisfies the customer and economical to the producer or seller. This definition could apply to almost any procedure involving the quality control of inputs and finished products. However, quality control usually means something more formal, based on written agreed procedures or specifications which are designed to reduce mistakes.

Table 8.8 shows that high proportion of large establishments, under-took raw materials quality control measures as compared to small establishments. The results show that 71.0 percent of large establishments reported to have a scheme of controlling the quality of raw materials while 37.6 percent of the small establishments had that tendency. In general, small establishments had the largest proportion of establishments (62.4 percent) that did not care on issues of raw materials quality control compared to large establishments with 29.0 percent.

Table 8.8: Distribution of Respondents on Quality Control of Raw Materials by Industrial Sub-Sector, Size of Establishments and Type of Response, Tanzania Mainland, CIP-2013

(Number)						
Industrial Sub-Sector	Large Establishments			Small Establishments		
	Controlled	Not Controlled	Total	Controlled	Not Controlled	Total
Mining and quarrying	105	88	193	43	133	176
Manufacturing	595	210	805	4,288	7,041	11,329
Electricity, gas, steam and air conditioning supply	21	5	26	44	67	111
Water supply; sewerage, waste management and remediation activities	62	17	79	38	91	129
<b>Total</b>	<b>783</b>	<b>320</b>	<b>1,103</b>	<b>4,413</b>	<b>7,332</b>	<b>11,745</b>
<b>Percent</b>	<b>71.0</b>	<b>29.0</b>	<b>100.0</b>	<b>37.6</b>	<b>62.4</b>	<b>100.0</b>

Note: This Table involves multiple responses



## 8.7 Laboratory Ownership

Table 8.9 presents laboratory ownership in large establishments by industrial sub-sector. According to the 2013 CIP results the majority (69.7 percent) of the establishments were operating without laboratories; while 30.3 percent owned laboratories. Manufacturing sub-sector had the largest proportion (82.6 percent) with laboratories; followed by water supply, sewerage, waste management and remediation activities (8.4 percent). Electricity, Gas, Steam and air conditioning supply had the smallest number of establishments with laboratories (1.5 percent). Although, manufacturing sub-sector had the largest proportion with laboratories still, had the largest proportion with no laboratories (68.8 percent).

**Table 8.9: Distribution of Large Establishments by Industrial Sub-Sector and Laboratories Ownership, Tanzania Mainland, CIP-2013**

Industrial Sub-Sector	Owned		Did Not Own		Total
	Number	Percent	Number	Percent	Number
Mining and quarrying	25	7.5	168	21.8	193
Manufacturing	276	82.6	529	68.8	805
Electricity, gas, steam and air conditioning supply	5	1.5	21	2.7	26
Water supply; sewerage, waste management and remediation activities	28	8.4	51	6.6	79
<b>Total</b>	<b>334</b>	<b>100.0</b>	<b>769</b>	<b>100.0</b>	<b>1,103</b>
<b>Percent</b>	<b>30.3</b>		<b>69.7</b>		<b>100.0</b>

**Note:** This Table involves multiple responses

Table 8.10 shows that 65.7 percent of the establishments in manufacturing industrial activity were operating without laboratory while 34.3 percent were operating with laboratory. On the other hand, out of 264 establishments in manufacturing of food, 61.4 percent were operating without laboratory and 38.6 were operating with laboratory, followed by manufacture of other non-metallic mineral products with 73 establishments whereby 19.2 percent operated with laboratory and 80.2 operated without laboratory. Manufacture of computer, electronic and optical products shows that only one percent operated without laboratory.

**Table 8.10: Distribution of Large Manufacturing Establishments by Laboratory Ownership and Industrial Activity, Tanzania Mainland CIP-2013**

ISIC Rev. 4 code	Industrial Activity	Owned Laboratory		Did Not Own Laboratory		Total	
		Number	Percent	Number	Percent	Number	Percent
10	Manufacture of food products	102	38.6	162	61.4	264	100.0
11	Manufacture of beverages	41	87.2	6	12.8	47	100.0
12	Manufacture of tobacco products	4	100.0	0	0.0	4	100.0
13	Manufacture of textiles	15	55.6	12	44.4	27	100.0
14	Manufacture of wearing apparel	2	15.4	11	84.6	13	100.0
15	Manufacture of leather and related products	3	20.0	12	80.0	15	100.0
16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	3	6.0	47	94.0	50	100.0
17	Manufacture of paper and paper products	5	41.7	7	58.3	12	100.0

**Table 8.10: Distribution of Large Manufacturing Establishments by Laboratory Ownership and Industrial Activity, Tanzania Mainland CIP-2013 (continued)**

ISIC Rev. 4 code	Industrial Activity	Owned Laboratory		Did Not Own Laboratory		Total	
		Number	Percent	Number	Percent	Number	Percent
18	Printing and reproduction of recorded media	5	10.9	41	89.1	46	100.0
19	Manufacture of coke and refined petroleum products	2	66.7	1	33.3	3	100.0
20	Manufacture of chemicals and chemical products	23	63.9	13	36.1	36	100.0
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations	5	100.0	0	0.0	5	100.0
22	Manufacture of rubber and plastics products	20	48.8	21	51.2	41	100.0
23	Manufacture of other non-metallic mineral products	14	19.2	59	80.8	73	100.0
24	Manufacture of basic metals	8	61.5	5	38.5	13	100.0
25	Manufacture of fabricated metal products, except machinery and equipment	5	10.9	41	89.1	46	100.0
26	Manufacture of computer, electronic and optical products	-	-	1	100.0	1	100.0
27	Manufacture of electrical equipment	6	66.7	3	33.3	9	100.0
28	Manufacture of machinery and equipment n.e.c.	-	-	13	100.0	13	100.0
29	Manufacture of motor vehicles, trailers and semi-trailers	3	27.3	8	72.7	11	100.0
30	Manufacture of other transport equipment	1	50.0	1	50.0	2	100.0
31	Manufacture of furniture	6	10.5	51	89.5	57	100.0
32	Other manufacturing	2	15.4	11	84.6	13	100.0
33	Repair and installation of machinery and equipment	1	25.0	3	75.0	4	100.0
	<b>Total</b>	<b>276</b>	<b>34.3</b>	<b>529</b>	<b>65.7</b>	<b>805</b>	<b>100.0</b>

## 8.8 Quality Management System

It is a system by which an organization aims at reducing and eventually eliminating non-conformity to specifications, standards, and customer expectations in the most cost effective and efficient manner.

Figure 8.3 shows that 51.0 percent of the large establishments had the quality management system while 49.0 percent did not have.

**Figure 8.3: Percentage Distribution of Large Establishments by Status of Quality Management System, Tanzania Mainland, CIP-2013**

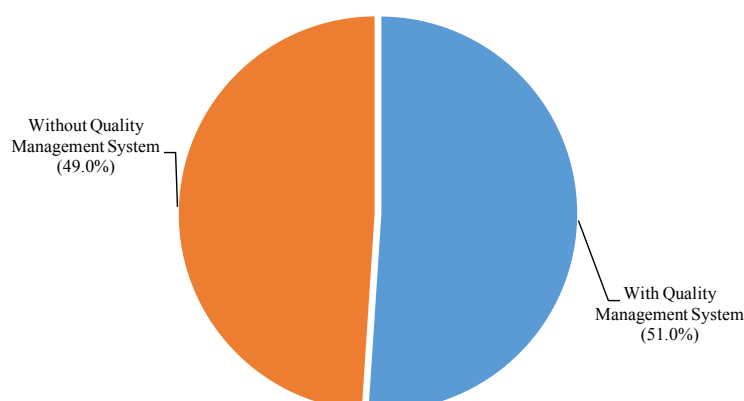


Table 8.11 shows that 51.0 percent of establishments with ten or more workers indicated to own the quality management system. Higher proportions of ownership of this system was realized among establishments dealing with water supply; sewerage, waste management and remediation activities with 67.1 percent, followed by manufacturing with 58.6 percent and electricity, gas, steam and air conditioning supply with 38.5 percent.

However, the substantial proportion of establishments operated without quality management system (49.0 percent), the situation was worse within mining and quarrying sub-sector whereby 85.5 percent of responses did not have quality management system.

**Table 8.11: Percentage Distribution of Large Establishments by Industrial Sub-Sector and Status of Quality Management System, Tanzania Mainland, CIP-2013**

Industrial Sub-Sector	With Quality Management System		Without Quality Management System		Total	
	Number	Percent	Number	Percent	Number	Percent
Mining and quarrying	28	14.5	165	85.5	193	100.0
Manufacturing	472	58.6	333	41.4	805	100.0
Electricity, gas, steam and air conditioning supply	10	38.5	16	61.5	26	100.0
Water supply; sewerage, waste management and remediation activities	53	67.1	26	32.9	79	100.0
<b>Total</b>	<b>563</b>	<b>51.0</b>	<b>540</b>	<b>49.0</b>	<b>1103</b>	<b>100.0</b>

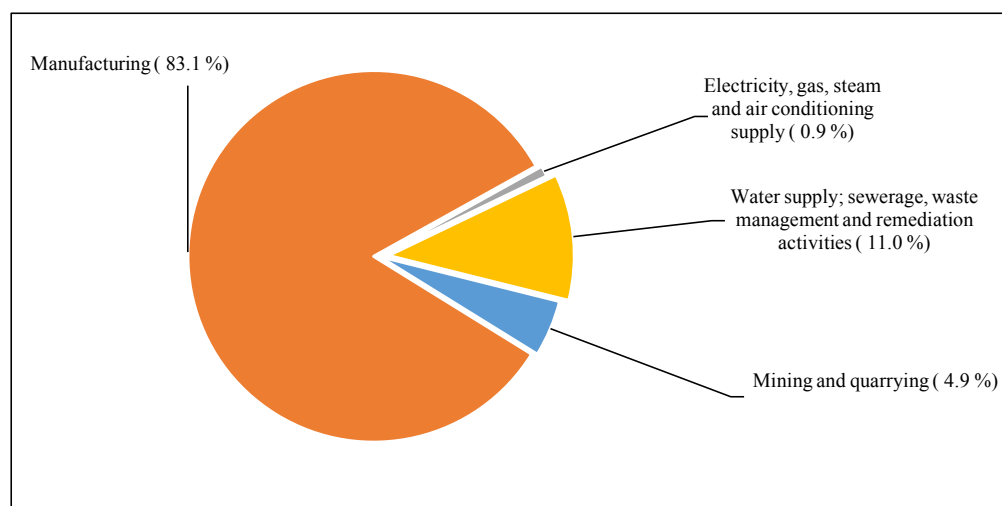
**Note:** This Table involves multiple responses

## 8.9 Quality Control Staff

Quality control staff are employed in industrial establishments to make sure that products meet standards of quality and safety. They do so by measuring quality and weighing products, examining samples and testing the products. This is to make sure that everything from raw materials to finished products meets quality and safety standards. All industrial production processes require elements of quality control and all inspection and testing are carried out to specified products according to requirements that have been agreed upon.

Figure 8.4 shows the distribution of quality control staff by industrial sub-sector in which manufacturing was the leading sub-sector (83.1 percent); followed by water supply, sewerage, waste management and remediation activities (11.0 percent). The remaining sub-sectors contributed less than 6.0 percent.

**Figure 8.4: Distribution of Quality Control Staff by Industrial Sub-Sector, Tanzania Mainland, CIP-2013**



## 8.10 Marketing Access and Media

Marketing plays a very important role in expanding market share of the products; it addresses prices, products and promotion issues important in disposing commodities to the market. One of the most important elements of industrial competitiveness is the capacity of industries to capture the export market for different industrial products. However, most of the establishments revealed to have a very low capacity to move into the export market.

Table 8.12 shows that out of 1,103 large establishments, 889 (80.7 percent) marketed their products domestically; 175 establishments (15.9 percent) in both domestic and international markets; and 38 establishments (3.4 percent) marketed their products in international markets only

**Table 8.12: Number of Large Establishments by Industrial Sub-Sector and Type of Marketing for Finished Products, Tanzania Mainland, CIP-2013**

(Number)				
Industrial Sub-Sector	Domestically	Internationally	Both Domestically and Internationally	Total
Mining and quarrying	173	8	12	193
Manufacturing	615	29	161	805
Electricity, gas, steam and air conditioning supply	26	0	0	26
Water supply; sewerage, waste management and remediation activities	76	1	2	79
<b>Total</b>	<b>890</b>	<b>38</b>	<b>175</b>	<b>1103</b>
<b>Percent</b>	<b>80.7</b>	<b>3.4</b>	<b>15.9</b>	<b>100.0</b>

Table 8.13 further indicates that 76.4 percent of establishments with ten or more workers sold their products in the domestic market, 20 percent sold to both domestic and international markets and 3.6 percent sold their product to international market only. Moreover, out of 264 establishments dealing with manufacturing of food products, 73.1 percent sold their products domestically and 23.1 percent in both domestic and international market.

**Table 8.13: Number of Large Manufacturing Establishments by Industrial Activity and Type of Marketing of for Finished Products, Tanzania Mainland, CIP-2013**

ISIC REV 4 Code	Industrial Activity	Domestically		Internationally		Both Domestically and Internationally		Total	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
10	Manufacture of food products	193	73.1	10	3.8	61	23.1	264	100.0
11	Manufacture of beverages	40	85.1	0	0.0	7	14.9	47	100.0
12	Manufacture of tobacco products	0	0.0	1	25.0	3	75.0	4	100.0
13	Manufacture of textiles	14	51.9	2	7.4	11	40.7	27	100.0
14	Manufacture of wearing apparel	11	84.6	1	7.7	1	7.7	13	100.0
15	Manufacture of leather and related products	10	66.7	2	13.3	3	20.0	15	100.0

**Table 8.13: Number of Large Manufacturing Establishments by Industrial Activity and Type of Marketing of for Finished Products, Tanzania Mainland, CIP-2013 (continued)**

ISIC REV 4 Code	Industrial Activity	Domestically		Internationally		Both Domestically and Internationally		Total	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	38	76.0	8	16.0	4	8.0	50	100.0
17	Manufacture of paper and paper products	8	66.7	0	0.0	4	33.3	12	100.0
18	Printing and reproduction of recorded media	38	82.6	0	0.0	8	17.4	46	100.0
19	Manufacture of coke and refined petroleum products	0	0.0	0	0.0	3	100.0	3	100.0
20	Manufacture of chemicals and chemical products	22	61.1	2	5.6	12	33.3	36	100.0
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations	3	60.0	0	0.0	2	40.0	5	100.0
22	Manufacture of rubber and plastics products	28	68.3	1	2.4	12	29.3	41	100.0
23	Manufacture of other non-metallic mineral products	63	86.3	0	0.0	10	13.7	73	100.0
24	Manufacture of basic metals	9	69.2	0	0.0	4	30.8	13	100.0
25	Manufacture of fabricated metal products, except machinery and equipment	43	93.5	1	2.2	2	4.3	46	100.0
26	Manufacture of computer, electronic and optical products	0	0.0	0	0.0	1	100.0	1	100.0
27	Manufacture of electrical equipment	8	88.9	0	0.0	1	11.1	9	100.0
28	Manufacture of machinery and equipment n.e.c.	9	69.2	1	7.7	3	23.1	13	100.0
29	Manufacture of motor vehicles, trailers and semi-trailers	9	81.8	0	0.0	2	18.2	11	100.0

**Table 8.13: Number of Large Manufacturing Establishments by Industrial Activity and Type of Marketing of for Finished Products, Tanzania Mainland, CIP-2013 (continued)**

ISIC REV 4 Code	Industrial Activity	Domestically		Internationally		Both Domestically and Internationally		Total	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
30	Manufacture of other transport equipment	2	100.0	0	0.0	0	0.0	2	100.0
31	Manufacture of furniture	54	94.7	0	0.0	3	5.3	57	100.0
32	Other manufacturing	9	69.2	0	0.0	4	30.8	13	100.0
33	Repair and installation of machinery and equipment	4	100.0	0	0.0	0	0.0	4	100.0
	<b>Total</b>	<b>615</b>	<b>76.4</b>	<b>29</b>	<b>3.6</b>	<b>161</b>	<b>20.0</b>	<b>805</b>	<b>100.0</b>

Among the reasons for the low performance of the establishments to access international markets were inadequate supply capacity, limited promotion, inadequate trade negotiation skills and market access, low compliance to the market standards, inadequate capacity to exploit preferential trade agreements and inability to meet delivery.

Table 8.14 shows that inadequate supply capacity was recorded as the major barrier (19.9 percent) for expanding the establishments' exports; followed by limited promotion (15.3 percent); inadequate trade negotiation skills and market access (12.5 percent); low compliance to the market standards (11.9 percent); inadequate capacity to exploit preferential trade agreements and inability to meet delivery time both of them scoring 10.5 percent and Stringent Sanitary and Phytosanitary (SPS) rules with 3.0 percent.

Sub-sector wise, the inadequate supply capacity was the leading barrier for expanding exports in manufacturing (20.9 percent); electricity, gas, steam and air conditioning supply (25.7 percent); and water supply; sewerage, waste management and remediation activities (22.6 percent). In mining and quarrying sub-sector, main barriers for expanding exports were; the inadequate trade negotiation skills and market access (22.1 percent); and the inadequate supply capacity (13.7 percent).

**Table 8.14: Number of Responses on Barriers to Expand Exports by Industrial Sub-Sector for Large**

Barriers	Industrial Sub-Sector				Total	Percent
	Mining and quarrying	Manufacturing	Electricity, gas, steam and air conditioning supply	Water supply; sewerage, waste management and remediation activities		
Inadequate supply capacity	78	493	19	52	642	19.9
Stringent Sanitary and Phytosanitary (SPS) Rules	8	78	2	8	96	3.0
Low compliance to the market standards	60	291	8	25	384	11.9
Inability to meet quality standards	57	199	9	33	298	9.2
Inadequate capacity to exploit preferential trade agreements	67	253	5	16	341	10.5
Inability to meet delivery time	60	242	7	32	341	10.5
Limited promotion	58	401	10	26	495	15.3
Inadequate trade negotiation skills and market access	126	246	9	22	403	12.5
Other	57	156	5	16	234	7.2
<b>Total</b>	<b>571</b>	<b>2359</b>	<b>74</b>	<b>230</b>	<b>3,234</b>	<b>100</b>

**Note:** This Table involves multiple responses

In manufacturing sub-sector, results show that inadequate supply capacity was the major barrier (20.9 percent); followed by limited promotion (17.0 percent); low compliance to the market standards (12.3 percent); inadequate capacity to exploit preferential trade agreements (10.7 percent); and inability to meet delivery time (10.3 percent). Other barriers; each accounted for less than 10.0 percent (See Table 8.15).

**Table 8.15: Percentage Distribution of Responses on Barriers to Expand Exports for Manufacturing Sub-sector for Large Establishments, Tanzania Mainland, CIP-2013**

Barriers	Percent
Inadequate supply capacity	20.9
Stringent Sanitary and Phytosanitary (SPS) Rules	3.3
Low compliance to the market standards	12.3
Inability to meet quality standards	8.4
Inadequate capacity to exploit preferential trade agreements	10.7
Inability to meet delivery time	10.3
Limited promotion	17.0
Inadequate trade negotiation skills and market access	10.4
Other	6.6
<b>Total</b>	<b>100.0</b>

Among the media for export markets, direct export was the major medium for exports which accounted for 64.3 percent; followed by selling through other intermediaries (20.2 percent); selling through parent enterprise (10.8 percent) and selling through other media (4.7 percent). Selling through other media may include indirect exports through local agents. However, most of the establishments preferred direct exports because it is easier to manage and is more profitable than other media (Figure 8.5).

**Figure 8.5: Distribution of Responses on Major Media for Product Exports for Large Establishments, Tanzania Mainland, CIP-2013**

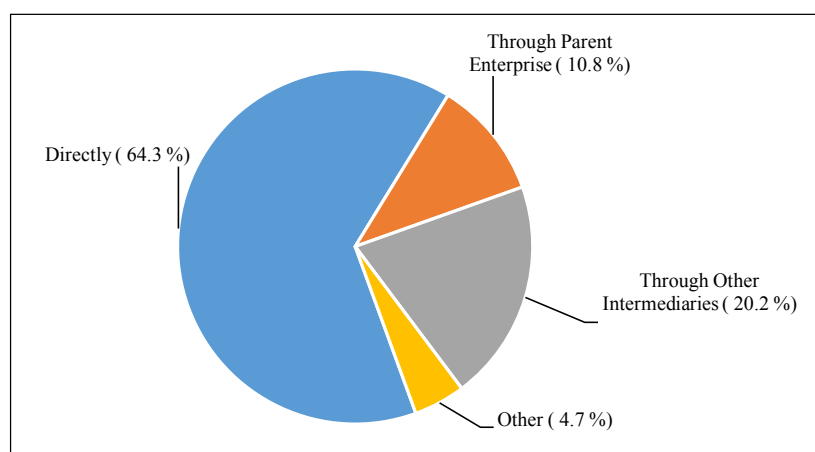


Table 8.16 below shows that both regional and international trade agreements were important in most of the industrial establishments. The majority (42.1 percent) of the establishments stated that regional trade agreements were very important; followed by establishments that reported important (33.7 percent); while 24.2 percent reported not important. On the other hand, for those establishments which exported their products through international trade agreements, the highest proportion (38.7 percent) reported important; followed by very important (35.1 percent); and not important (26.2 percent).

In addition, establishments under mining and quarrying and manufacturing sub-sectors showed comparably more preference for the trade agreements than the other two industrial sub-sectors; i.e, electricity, gas, steam and air conditioning supply; and water supply; sewerage, waste management and remediation activities. This can be supported by the fact that the latter two industrial sub-sectors do not access international markets.



**Table 8.16: Number of Responses by Industrial Sub-Sector by Type and Importance of Trade Agreements for Large Establishments, Tanzania Mainland, CIP-2013**

Industrial Sub-sector	Regional Trade Agreements				International Trade Agreements			
	Very Important	Important	Not Important	Total	Very Important	Important	Not Important	Total
Mining and quarrying	89	64	40	193	81	81	31	193
Manufacturing	339	280	186	805	280	310	215	805
Electricity, gas, steam and air conditioning supply	8	9	9	26	6	12	8	26
Water supply; Sewerage, waste management and remediation activities	28	19	32	79	20	24	35	79
<b>Total</b>	<b>464</b>	<b>372</b>	<b>267</b>	<b>1103</b>	<b>387</b>	<b>427</b>	<b>289</b>	<b>1103</b>
<b>Percent</b>	<b>42.1</b>	<b>33.7</b>	<b>24.2</b>	<b>100.0</b>	<b>35.1</b>	<b>38.7</b>	<b>26.2</b>	<b>100.0</b>

**Note:** International trade agreements are legal instruments binding international organizations like WTO, IFC etc, as well as between regional trading blocs

Regional trade agreements are legal instruments binding member countries in regional economic co-operation like SADC, EAC, ECOWAS, BRICS etc.

## 8.11 Main Sources of Water

Table 8.17 highlights main sources of water for large establishments. The results show that under-ground water was the main source of water (42.3 percent); followed by public network (35.2 percent); and river (6.6 percent). Other sources accounted for a total of 6.0 percent. Results further show that under-ground water was the main source of water in the mining and quarrying sub-sector with 69.9 percent; followed by river (7.3 percent); and public network (6.2 percent).

In the manufacturing sub-sector, public network was the main source of water used for production (43.1 percent); followed by under-ground water (37.1 percent); while in electricity, gas, steam and air conditioning supply activities, the main source of water was from public network (76.9 percent); followed by river source with 11.5 percent. In water supply; sewerage, waste management and remediation activities, the main source of water was the underground water with 40.5 percent; followed by river source with 25.3 percent; and public network (11.4 percent).

**Table 8.17: Percentage Distribution of Responses by Main Sources of Water and Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013**

(Percent)							
Industrial Sub-sector	Public Network	River	Underground Water	Other	Not Applicable	Number of Responses	Total
Mining and quarrying	6.2	7.3	69.9	9.8	6.7	193	100.0
Manufacturing	43.1	4.5	37.1	4.2	11.1	805	100.0
Electricity, gas, steam and air conditioning supply	76.9	11.5	3.8	3.8	3.8	26	100.0
Water supply; sewerage, waste management and remediation activities	11.4	25.3	40.5	15.2	7.6	79	100.0
<b>Total</b>	<b>35.2</b>	<b>6.6</b>	<b>42.3</b>	<b>6.0</b>	<b>9.9</b>	<b>1,103</b>	<b>100.0</b>

Table 8.18 highlights the main sources of water used by establishments with less than ten workers. The results show that public network was the main source of water (18.1 percent); followed by underground water (14.3 percent); and river (5.3 percent). Other sources accounted for a total of 2.2 percent. Moreover, results show that underground water was the mostly used in water supply; sewerage, waste management and remediation activities and mining and quarrying sub-sectors with 66.7 percent and 40.9 percent respectively.

**Table 8.18: Percentage Distribution of Responses by Main Sources of Water and Industrial Sub-Sector for Small Establishments, Tanzania Mainland, CIP-2013**

Industrial Sub-sector							(Percent)
	Public Network	River	Underground Water	Other	Not applicable	Number of Responses	Total
Mining and quarrying	5.1	9.1	40.9	9.1	35.8	176	100.0
Manufacturing	18.4	5.1	13.2	2.1	61.3	11,329	100.0
Electricity, gas, steam and air conditioning supply	10.8	24.3	27.0	2.7	35.1	111	100.0
Water supply; sewerage, waste management and remediation activities	9.3	8.5	66.7	0.8	14.7	129	100.0
<b>Total</b>	<b>18.1</b>	<b>5.3</b>	<b>14.3</b>	<b>2.2</b>	<b>60.1</b>	<b>11,745</b>	<b>100.0</b>

## 8.12 Environmental Management Plan

Environmental management plan is among the key aspects that ensure environmental sustainability and quality of the area does not deteriorate due to the operations of the establishment. During the 2013 Industrial Census, it was noted that a substantial number of the establishments did not have environmental management plans. This has significance in the implication of establishments' commitment of preserving the environments under which they operate. The call to preserve the environment cannot be attained deliberately by some of the establishments, as their key objective is usually on maximization of profits from their activities, this is because environmental preservation programmes involving business firms are costly.

Table 8.19 shows that 68.4 percent of the large establishments reported to have the environmental management plan; while 31.6 percent did not have. This is a substantial proportion of establishments without environmental management plan but, it should not be under-estimated as it may have a bearing impact on environmental sustainability. Furthermore, results show that the largest proportion of establishments with environmental management plan was found in water supply; sewerage, waste management and remediation activities (75.9 percent); followed by manufacturing sub-sector (69.7 percent); electricity, gas, steam and air conditioning supply (61.5 percent); and mining and quarrying (60.6 percent).

However, with regards to establishments without Environmental Management Plan, mining and quarrying sub-sector had the largest proportion (39.4 percent); followed by electricity, gas, steam and air conditioning supply (38.5 percent); manufacturing (30.3 percent); and water supply, sewerage, waste management and remediation activities (24.1 percent).

**Table 8.19: Number of Responses on Existence of Environmental Management Plans by Industrial Sub- Sector for Large Establishments, Tanzania Mainland, CIP-2013**

Industrial Sub-Sector	With Environmental Management Plan		Without Environmental Management Plan		Total	
	Number	Percent	Number	Percent	Number	Percent
Mining and quarrying	117	60.6	76	39.4	193	100.0
Manufacturing	561	69.7	244	30.3	805	100.0
Electricity, gas, steam and air conditioning supply	16	61.5	10	38.5	26	100.0
Water supply; sewerage, waste management and remediation activities	60	75.9	19	24.1	79	100.0
<b>Total</b>	<b>754</b>	<b>68.4</b>	<b>349</b>	<b>31.6</b>	<b>1103</b>	<b>100.0</b>

## 8.13 Waste Management Facilities

Wastes are by-products of human activities which tend to increase with rapid urbanization, increased industrial activities, improved living standards and changing consumption patterns. Management of increasing amounts of wastes has become a major challenge in many cities in developing countries. If wastes are properly used, they can be valuable resources; but if not effectively managed, they can result in serious adverse impacts on environment and public health. Waste management is therefore a critical component of urban sanitation and it is also among the most important resource intensive services to be seriously considered by respective authorities.

Wastes management was one of the key issues considered in the Census of Industrial Production, 2013. Establishments were asked whether they had in place waste management facilities to dispose their waste products which come out as the result of the production process.

Table 8.20 shows that 64.7 percent of large establishments had waste management facilities, while 35.3 percent were operating without waste management facilities. Manufacturing sub-sector had the largest proportion of establishments with waste management facilities (69.3 percent), followed by electricity, gas, steam and air conditioning supply (61.5 percent), mining and quarrying (58.0 percent); while water supply; sewerage, waste management and remediation activities had the smallest proportion of establishments with these facilities (35.4 percent).

**Table 8.20: Number of Responses on Waste Management Facilities by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013**

Industrial Sub-Sector	With Treatment Facility		Without Treatment Facility		Total	
	Number	Percent	Number	Percent	Number	Percent
Mining and quarrying	112	58.0	81	42.0	193	100.0
Manufacturing	558	69.3	247	30.7	805	100.0
Electricity, gas, steam and air conditioning supply	16	61.5	10	38.5	26	100.0
Water supply; sewerage, waste management and remediation activities	28	35.4	51	64.6	79	100.0
<b>Total</b>	<b>714</b>	<b>64.7</b>	<b>389</b>	<b>35.3</b>	<b>1,103</b>	<b>100.0</b>

## 8.14 Environmental Impact Assessment (EIA)

Environmental Impact Assessment (EIA) is the term used for the assessment of environmental consequences (positive or negative) of a plan, policy and project programme prior to the decision to move forward with the proposed action. The International Association for Impact Assessment (IAIA) defines an environmental impact assessment as “the process of identifying, predicting, evaluating and mitigating the bio-physical, social, and other relevant effects of development proposals prior to major decisions being taken and commitments made”. EIAs are unique in that they do not require adherence to a pre-determined environmental outcome, but rather, they require decision makers to account for environmental values in their decisions and to justify those decisions in the light of the detailed environmental studies and public comments on the potential environmental impacts. For the project programme to be environmentally qualified, the respective establishments must receive an environmental impact assessment certificate from respective authorities.

Table 8.21 shows number of large establishments with or without certificates of Environmental Impact Assessment (EIA). It shows that out of 1,103 respondents, 312 (28.3 percent) owned EIA certificate; while 791 respondents (71.7 percent) did not own the certificate.

In establishments with EIA certificate, manufacturing sub-sector had the largest proportion (253 respondents; 81.1 percent); followed by mining and quarrying (32 respondents; 10.3 percent); water supply, sewerage, waste management and remediation activities (17 respondents; 5.4 percent); while electricity, gas, steam and air conditioning supply had the smallest proportion (10 respondents; 3.2 percent) with EIA certificate.

In establishments without EIA certificate, manufacturing sub-sector had also the largest proportion (552 respondents; 69.8 percent); followed by mining and quarrying (161 respondents; 20.4 percent); water supply, sewerage, waste management and remediation activities (62 respondents; 7.8 percent); while electricity, gas, steam and air conditioning supply had the smallest number of establishments with laboratories (16 respondents; 2.0 percent).

**Table 8.21: Number of Responses on Certificate of Environmental Impact Assessment by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013**

Industrial Sub-Sector	With EIA		Without EIA		Total	
	Number	Percent	Number	Percent	Number	Percent
Mining and quarrying	32	16.6	161	83.4	193	100.0
Manufacturing	253	31.4	552	68.6	805	100.0
Electricity, gas, steam and air conditioning supply	10	38.5	16	61.5	26	100.0
Water supply; sewerage, waste management and remediation activities	17	21.5	62	78.5	79	100.0
<b>Total</b>	<b>312</b>	<b>28.3</b>	<b>791</b>	<b>71.7</b>	<b>1,103</b>	<b>100.0</b>

## 8.15 Types of Plant Technology

Plant technology describes the kind of machine technology the establishment is using in the production process; this can either be manual, semi-automatic or fully-automated.

Manual machine is the kind of a machine that all the operations in the production process are done manually, while semi-automatic machine involves both manual and automatic. Fully-automated plant is the one in which all the operations in the production process are fully conducted by the machines.

Table 8.22 shows that 39.7 percent of the large establishments were manually operated; 45.8 percent were semi-automatic; and 13.4 percent were fully automated. The remaining 1.1 percent used other technologies.

Sub-sector wise, 47.8 percent of the establishments in the mining and quarrying sub-sector were using manual technology; followed by semi-automatic technology (44.7 percent); while 7.1 percent were fully-automated. The remaining 0.3 percent was operated by other technologies. In manufacturing sub-sector, 46.4 percent of the establishments were using semi-automatic technology; followed by manual technology (38.4 percent); while 14.7 percent were fully automated. The remaining 0.6 percent used other technologies.

In electricity, gas, steam and air conditioning supply sub-sector, the same proportion of 27.3 percent was used in both Manual and Semi-automatic technologies; followed by Fully-automated (9.1 percent); while the remaining 36.4 percent utilized other technologies. The Semi- automatic technology was the most common technology used in the water supply, sewerage, waste management and remediation activities (43.9 percent); followed by manual technology (30.5 percent) and fully automated (19.5 percent). The remaining 6.1 percent used other technologies.

**Table 8.22: Current Plant Technology by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013**

(Percent)					
Industrial Sub-Sector	Manual	Semi-Automatic	Fully - Automated	Other	Total
Mining and quarrying	47.8	44.7	7.1	0.3	100.0
Manufacturing	38.4	46.4	14.7	0.6	100.0
Electricity, gas, steam and air conditioning supply	27.3	27.3	9.1	36.4	100.0
Water supply; sewerage, waste management and remediation activities	30.5	43.9	19.5	6.1	100.0
<b>Total</b>	<b>39.7</b>	<b>45.8</b>	<b>13.4</b>	<b>1.1</b>	<b>100.0</b>

## 8.16 Sources of Current Plant Technology

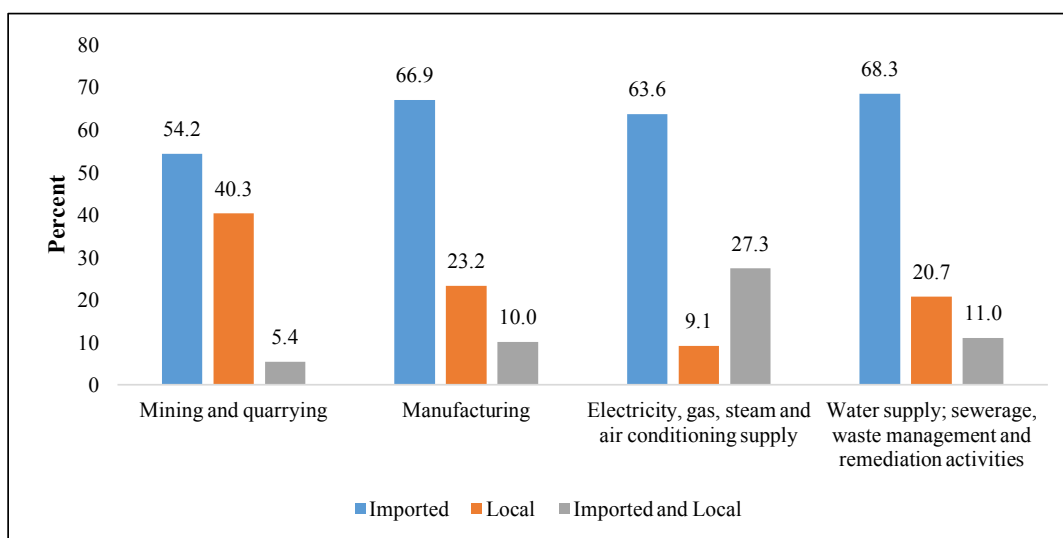
Figure 8.6 shows that in large establishments, water supply; sewerage, waste management and remediation activities was the leading sub-sector in importing plants for production, (68.3 percent), followed by manufacturing (66.9 percent), electricity, gas, steam and air conditioning supply (63.6 percent), and mining and quarrying (54.2 percent).

For the locally acquired plants and machinery, mining and quarrying was the leading sub-sector (40.3 percent), followed by manufacturing (23.2 percent), water supply, sewerage, waste management and remediation activities (20.7 percent); and electricity, gas, steam and air conditioning supply (9.1 percent).

For the mixed source (imported and local), electricity, gas, steam and air conditioning supply was the leading sub-sector (27.3 percent), followed by water supply, sewerage, waste management and remediation activities (11.0 percent), electricity, gas, steam and air conditioning supply (10.0 percent), and mining and quarrying (5.4 percent).

The results therefore reveal that most of the plants and machinery in all the four industrial sub-sectors were imported, implying that most of the plants technologies were not available in the local markets.

**Figure 8.6: Percentage of Responses on Plant Sources by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013**



Results in Table 8.23 reveal that the majority of large establishments dealing with mining and quarrying (54.2 percent) imported their technology, followed by locally manufactured (40.3 percent). Mining of metal ores activities were proportionately the largest technology importers (63.6 percent), followed by other mining and quarrying with 53.3 percent.

Similarly, most of the establishments in manufacturing sub-sector imported their technology (66.9 percent of responses), followed by locally manufactured technology (23.2 percent). Proportionately, manufacture of rubber and plastic products were the largest importers of technology with 88.7 percent followed by manufacture of basic metals with 88.2 percent

**Table 8.23: Responses on Plant Sources by Industrial Activity for Large Establishments, Tanzania Mainland, CIP-2013**

ISIC Rev. 4 Code	Industrial Activity	Imported		Local		Both		Total	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
05	Mining of coal and lignite	0	0.0	1	100.0	0	0.0	1	100.0
07	Mining of metal ores	21	63.6	9	27.3	3	9.1	33	100.0
08	Other mining and quarrying	139	53.3	109	41.8	13	5.0	261	100.0
B	Mining and Quarrying	160	54.2	119	40.3	16	5.4	295	100.0
10	Manufacture of food products	235	67.9	80	23.1	31	9.0	346	100.0
11	Manufacture of beverages	51	69.9	15	20.5	7	9.6	73	100.0
12	Manufacture of tobacco products	6	85.7	0	0.0	1	14.3	7	100.0
13	Manufacture of textiles	29	74.4	7	17.9	3	7.7	39	100.0
14	Manufacture of wearing apparel	10	62.5	3	18.8	3	18.8	16	100.0
15	Manufacture of leather and related products	14	77.8	3	16.7	1	5.6	18	100.0
16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	29	48.3	22	36.7	9	15.0	60	100.0

Table 8.23: Responses on Plant Sources by Industrial Activity for Large Establishments, Tanzania Mainland, CIP-2013 (continued)

ISIC Rev. 4 Code	Industrial Activity	Imported		Local		Both		Total	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
17	Manufacture of paper and paper products	16	84.2	2	10.5	1	5.3	19	100.0
18	Printing and reproduction of recorded media	53	84.1	5	7.9	5	7.9	63	100.0
19	Manufacture of coke and refined petroleum products	3	60.0	2	40.0	0	0.0	5	100.0
20	Manufacture of chemicals and chemical products	39	70.9	10	18.2	6	10.9	55	100.0
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations	6	66.7	0	0.0	3	33.3	9	100.0
22	Manufacture of rubber and plastics products	47	88.7	4	7.5	2	3.8	53	100.0
23	Manufacture of other non-metallic mineral products	36	43.4	37	44.6	10	12.0	83	100.0
24	Manufacture of basic metals	15	88.2	2	11.8	0	0.0	17	100.0
25	Manufacture of fabricated metal products, except machinery and equipment	34	59.6	16	28.1	7	12.3	57	100.0
26	Manufacture of computer, electronic and optical products	0	0.0	1	33.3	2	66.7	3	100.0
27	Manufacture of electrical equipment	7	63.6	3	27.3	1	9.1	11	100.0
28	Manufacture of machinery and equipment n.e.c.	11	61.1	6	33.3	1	5.6	18	100.0
29	Manufacture of motor vehicles, trailers and semi-trailers	12	85.7	2	14.3	0	0.0	14	100.0
30	Manufacture of other transport equipment	2	50.0	0	0.0	2	50.0	4	100.0
31	Manufacture of furniture	44	57.1	22	28.6	11	14.3	77	100.0
32	Other manufacturing	16	72.7	6	27.3	0	0.0	22	100.0
33	Repair and installation of machinery and equipment	3	60.0	1	20.0	1	20.0	5	100.0
<b>C</b>	<b>Manufacturing</b>	<b>718</b>	<b>66.9</b>	<b>249</b>	<b>23.2</b>	<b>107</b>	<b>10.0</b>	<b>1,074</b>	<b>100.0</b>

## 8.17 Machine Life Span

Life span of a machine or plant is the period over which an asset (machine or plant) is expected to be usable, with normal repairs and maintenance. The life span of a machine or plant is usually expressed in number of years, it is usually less than the asset's physical life and is the period over which the asset's depreciation charge reaches its maximum point.

Table 8.24 shows plants and machinery life spans in large establishments. The results show that 29.9 percent of the responses from different industrial sector establishments indicated that the life span of their plants and machinery was 21 years and above; followed by those ranging from 6-10 years (22.3 percent); 11-15 years (18.2 percent); 16-20 years (15.3 percent); and 1-5 years (14.3 percent). However, manufacturing sub-sector had the largest number of responses (990; 92.2 percent) across the life-span between 6 years and above while, mining and quarrying sub-sector had the largest number of responses (108; 36.6 percent) for the plants and machinery in the life-span between 1-5 years.



**Table 8.24: Number of Responses on Plant Life Span by Industrial Sub-Sector for Large Establishments, Tanzania Mainland, CIP-2013**

Industrial Sub-Sector	(Number)					
	Life Span (Years)					
	1-5	6-10	11-15	16-20	21+	Total
Mining and quarrying	108	86	43	29	29	295
Manufacturing	84	224	205	181	380	1,074
Electricity, gas, steam and air conditioning supply	4	0	2	2	3	11
Water supply; sewerage, waste management and remediation activities	13	16	16	12	25	82
<b>Total</b>	<b>209</b>	<b>326</b>	<b>266</b>	<b>224</b>	<b>437</b>	<b>1,462</b>
<b>Percent</b>	<b>14.3</b>	<b>22.3</b>	<b>18.2</b>	<b>15.3</b>	<b>29.9</b>	<b>100.0</b>

## 8.18 Information Technology Infrastructure

According to the National Information and Communications Technologies Policy of 2003, the Information Technology (IT) embraces the use of computers, telecommunications and office systems technologies for the collection, processing, storing, packaging and dissemination of information.

Table 8.25 presents technology infrastructures used by large establishments. The results show that mobile phones are used by majority of establishments (92.9 percent), followed by the use of computer (65.2 percent) and both telephone system and internet (55.4 percent) each. On the other hand, results reveal the least use of extranet technology (8.1 percent).

**Table 8.25: Number of Responses on Information Technology Infrastructure by Type of Infrastructure and Status of Use for Large Establishments, Tanzania Mainland, CIP-2013**

Type of Infrastructure	In Use		Not in Use		Total	
	Number	Percent	Number	Percent	Number	Percent
Computer	719	65.2	384	34.8	1103	100.0
Telephone System	611	55.4	492	44.6	1103	100.0
Mobile Phones	1,025	92.9	78	7.1	1103	100.0
Website	408	37.0	695	63.0	1103	100.0
Local Area Network	392	35.5	711	64.5	1103	100.0
Intranet	219	19.9	884	80.1	1103	100.0
Extranet	89	8.1	1,014	91.9	1103	100.0
Internet	611	55.4	492	44.6	1103	100.0
CCTV	275	25.0	827	75.0	1102	100.0

## 8.19 Internet Connectivity

Internet connection enables establishments to be connected to the internet by using fixed line, mobile modem, wireless, fibre connection and satellite. Once connected to the internet, users can access internet services, such as e-mails and the world wide web. Internet service providers (ISPs) offer internet access through various technologies that offer a wide range of data signaling rates.

Table 8.26 shows that there were low levels of internet use among large establishments whereby 47.4 percent of the establishments used mobile modem, followed by wireless (Wimax) with 31.1 percent and fixed line with 27.9 percent. Furthermore, the analysis indicates that the largest proportion of establishments (92.6 percent) did not use satellite (VSAT) and more than 50.0 percent of the establishments did not use other types of internet connectivity services.

Table 8.26: Type of Internet Connectivity for Large Establishments, Tanzania Mainland, CIP-2013

Type of Connectivity	With Connectivity		Without Connectivity		Total	
	Number	Percent	Number	Percent	Number	Percent
Fixed Line	307	27.9	795	72.1	1102	100.0
Wireless (Wimax)	343	31.1	759	68.9	1102	100.0
Satellite (VSAT)	82	7.4	1,020	92.6	1102	100.0
Mobile Modem	522	47.4	580	52.6	1102	100.0
Fibre Connection	116	10.5	986	89.5	1102	100.0
Other	31	2.8	1,071	97.2	1102	100.0

## 8.20 Usage of Information Technology and ICT

Table 8.27 shows how the use of modern technology and ICT by large establishments, affected their activities positively, negatively or neutrally in the various areas associated with industrial production. The results show that most of the production areas were affected positively by the use of modern technology and ICT with a significant effect in communication (74.5 percent) followed by sales (65.4 percent) and actual production with 59.6 percent.

Table 8.27: Number and Percentage of Responses on Effects of Usage of Modern Technology and ICT by Area of Production for Large Establishments, Tanzania Mainland, CIP-2013

Area of Production	Positive		Negative		Neutral		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Employment	568	51.5	292	26.5	243	22.0	1103	100.0
Actual Production	657	59.6	215	19.5	231	20.9	1103	100.0
Sales	721	65.4	194	17.6	188	17.0	1103	100.0
Communication	822	74.5	157	14.2	124	11.2	1103	100.0
Record Management	653	59.2	210	19.0	240	21.8	1103	100.0
Transaction Time	610	55.3	231	20.9	262	23.8	1103	100.0
Business Cost	539	48.9	269	24.4	295	26.7	1103	100.0
Keeping Pace with Competitors	513	46.5	275	24.9	315	28.6	1103	100.0
Other	89	8.1	757	68.8	255	23.2	1101	100.0

## 8.21 Usage of Electronic Business

Electronic business (e-business) is the application of information and communication technology (ICT) to support all business activities. In CIP 2013, e-business analysis is based on placing and receiving orders of goods and services, purchase and selling of goods or services, taxes and salary payments and other statutory deductions of the income of the establishments and of the individual employees.

Table 8.28 presents the distribution of respondents based on the usage of e-business. The study shows that majority (81.1 percent) of the large establishments did not use e-business technology in salary payments; followed by statutory deduction with 79.1 percent and selling of goods and services with 75.7 percent. On the other hand, 39.6 percent of the establishments were using e-business technology in receiving orders for goods and services while 38.5 percent used e-business technology in placing orders for goods and services.

**Table 8.28: Number and Percentage of Responses on Usage of E-Business Technology by Business Activity for Large Establishments, Tanzania Mainland, CIP-2013**

E-Business Activity	User		Not User		Total	
	Number	Percent	Number	Percent	Number	Percent
Place orders for goods and services	425	38.5	678	61.5	1103	100.0
Receiving orders for goods and services	437	39.6	666	60.4	1103	100.0
Purchase of goods and services	343	31.1	760	68.9	1103	100.0
Selling of goods and services	268	24.3	835	75.7	1103	100.0
Pay taxes	322	29.2	781	70.8	1103	100.0
Statutory deduction	230	20.9	873	79.1	1103	100.0
Salary Payments	209	18.9	894	81.1	1103	100.0

## 8.22 Investment Plan

Investment plan refers to allocation of funds into the proper investment portfolios based on the investor's future goals, time horizon, and priorities. This also takes into account safety of the investments as well as liquidity and levels of return. Ideally, proper investment planning will allow the firm's funds to produce the expected rewards over time. Establishment's investment plans are by themselves the tools and means of achieving the set targets by an establishment in a given period of time. The plan dictates the path through which a given firm would take, such as expanding operations or moving along the technological ladder.

CIP 2013 results show that out of 1,103 large establishments 829 respondents (75.2 percent) had investment plans; while 274 (24.8 percent) had no investment plans.

Figure 8.7 shows that among those with investment plans, manufacturing was the leading sub-sector (71.7 percent); followed by mining and quarrying (18.3 percent); water supply, sewerage, waste management and remediation activities (7.7 percent); while electricity, gas, steam and air conditioning supply sub-sector had the smallest proportion (2.3 percent) of the establishments with investment plans.

**Figure 8.7: Percentage Distribution of Large Establishments with Investment Plan by Industrial Sub-Sector, Tanzania Mainland, CIP-2013**

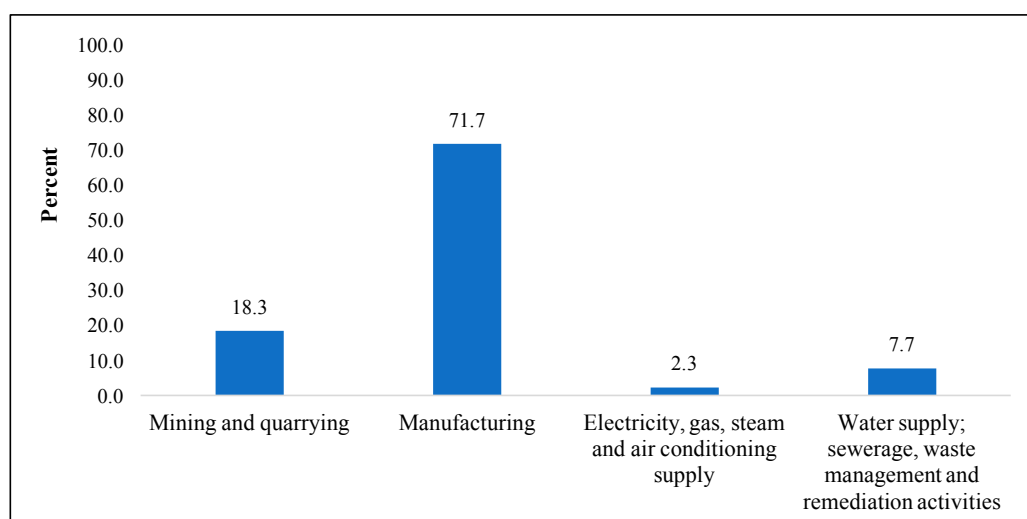


Table 8.29 show that among the 829 respondents that had investment plans, 73.3 percent had a plan to replace old machinery, 87.1 percent planned to expand production capacity and 78.9 percent planned to up-grade their technology. Moreover, results show that manufacturing sub-sector had the largest proportion in each of the three investment plans: in replacement of old machinery (50.4 percent); in expanding production capacity (61.5 percent); and in technology up-grading (56.2 percent). The remaining sub-sectors each had less than 20.0 percent in each of the respective three investment plans.

**Table 8.29: Percentage Investment Plans by Industrial Sub-Sector for Large Establishments Tanzania Mainland, CIP-2013**

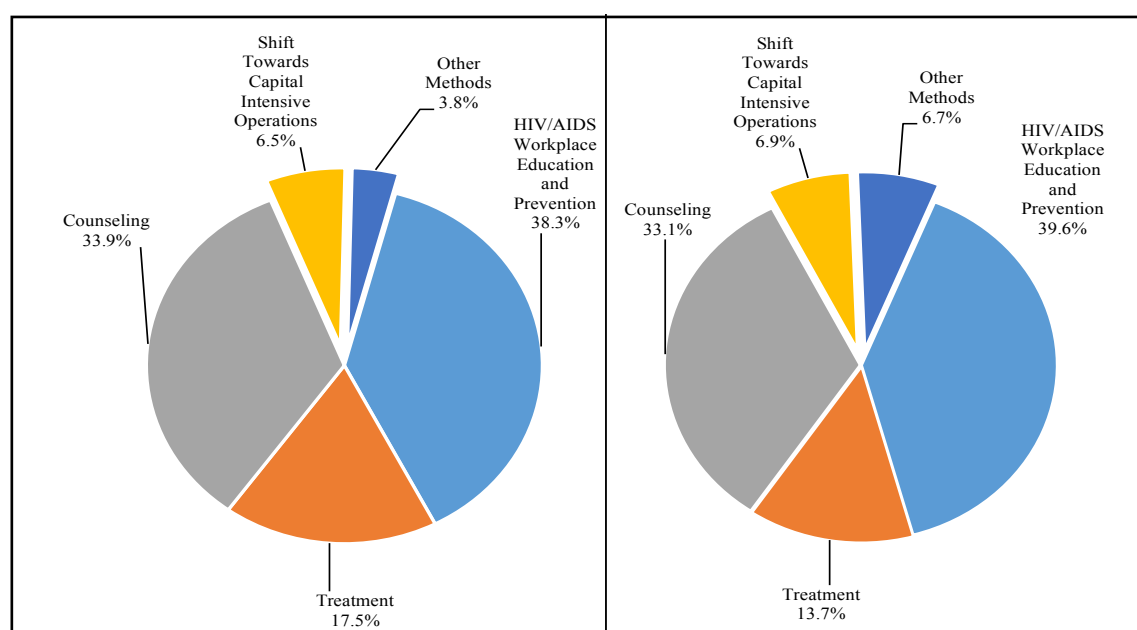
Industrial Sub-Sector	Replacement of Old Machinery	Percent	Expanding Production Capacity	Percent	Technology Upgrading	Percent
Mining and quarrying	139	16.8	135	16.3	131	15.8
Manufacturing	418	50.4	510	61.5	466	56.2
Electricity, gas, steam and air conditioning supply	11	1.3	18	2.2	14	1.7
Water supply; sewerage, waste management and remediation activities	40	4.8	59	7.1	43	5.2
<b>Total</b>	<b>829</b>	<b>100.0</b>	<b>829</b>	<b>100.0</b>	<b>829</b>	<b>100.0</b>

## 8.23 HIV/AIDS in Manufacturing Sub-Sector

Since the manufacturing sub-sector has the largest proportion of human capital, the impact of HIV/AIDS particularly on the young employees' productivity cannot be ignored because it has negative consequences on the economy of the country. Therefore, the negative effects of HIV/AIDS in the productive sector cannot be over-emphasized. It has substantially reduced production and productivity of the establishments by under-mining the firms' productive human resources. Because of this critical problem, firms were faced with the task of finding out ways to protect their operations which mostly depended on human capital. In response to this, establishments decided on different measures and methods to ensure their survival in the market.

Figure 8.8 shows the distribution of methods opted by both large establishments and small establishments to reduce HIV/AIDS vulnerability. In both scenarios, the largest proportion (38.3 percent) of the large establishments and 39.6 percent of the small establishments indicated that provision of education and preventive measures on HIV/AIDS would reduce this problem at work place. Counseling would be the second important means for reducing HIV/AIDS vulnerability in which, 33.9 percent of large establishments and 33.1 percent of small establishments reported this means. The method of shift towards capital intensive operation was considered to be the last means by both large establishments (6.5 percent) and small establishments (6.9 percent).

**Figure 8.8: Percentage Distribution of Large and Small Establishments by Method for Reducing HIV/AIDS Vulnerability, Tanzania Mainland, CIP-2013**



## 8.24 Major Challenges Faced by Industrial Sector in Tanzania

The CIP 2013 has identified a number of challenges facing the industrial sector in Tanzania, articulating the degree by which each sub sector is affected. These challenges, if not dealt with, affect the performance of industrial sector and thus reducing its competitiveness in both domestic and international market.

Table 8.30 shows responses about challenges facing large establishments in the industrial sub-sectors as captured in the CIP 2013. Among those challenges, high cost of production was the leading one, across all industrial sub-sectors responses whereby mining and quarrying had 17.3 percent, manufacturing 15.0 percent, water supply; sewerage, waste management and remediation 13.5 percent and electricity, gas, steam and air conditioning supply 10.3 percent.

Furthermore, the analysis indicates that manufacturing sub-sector was also highly affected by foreign currency fluctuations (8.7 percent), followed by shortage of raw materials and unfair competition with 8.0 percent each.

The analysis also shows that responses about challenges, facing small establishments in the industrial sub-sectors. Among those challenges, high cost of production was the leading one across all industrial sub-sectors; mining and quarrying (10.9 percent), manufacturing (11.8 percent), water supply; sewerage, waste management and remediation (14.9 percent) and electricity, gas, steam and air conditioning supply (15.5 percent). More details on the affected manufacturing activities by the challenges are shown in the attached Annexes 4 and 5.

**Table 8.30: Percentage Distribution of Responses on Major Challenges Faced by Industrial Sub-Sector for Large and Small Establishments, Tanzania Mainland, CIP-2013**

Challenge					(Percent)			
	Large Establishments				Small Establishments			
	Mining and quarrying	Manufacturing	Electricity, gas, steam and air conditioning supply	Water supply; sewerage, waste management and remediation activities	Mining and quarrying	Manufacturing	Electricity, gas, steam and air conditioning supply	Water supply; sewerage, waste management and remediation activities
High cost of production	17.3	15.0	10.3	13.5	10.9	11.8	15.5	14.9
Inadequate technology	9.2	5.4	9.3	9.3	9.8	8.2	10.6	10.4
Inadequate physical infrastructure	14.6	7.3	8.4	10.9	9.1	5.8	8.1	9.8
Complicated administrative procedures	2.0	3.4	5.6	1.6	1.9	3.1	1.4	4.1
Shortage of qualified labour	8.1	5.5	5.6	9.3	6.1	3.1	5.7	5.5
Foreign currency fluctuations	2.1	8.7	6.5	4.0	2.2	1.3	0.7	1.2
Insufficient production capacity	4.9	4.2	6.5	10.7	7.9	6.7	8.6	9.4
Shortage of raw materials	6.8	8.0	5.6	4.7	4.0	7.5	4.6	3.7
Taxes	2.7	5.9	2.8	1.9	5.2	4.5	0.2	1.2
Insufficient demand	1.5	5.0	4.7	2.6	5.6	7.3	5.6	3.7

Table 8.30: Percentage Distribution of Responses on Major Challenges Faced by Industrial Sub-Sector for Large and Small Establishments, Tanzania Mainland, CIP-2013 (continued)

					(Percent)			
Challenge	Large Establishments				Small Establishments			
	Mining and quarrying	Manufacturing	Electricity, gas, steam and air conditioning supply	Water supply; sewerage, waste management and remediation activities	Mining and quarrying	Manufacturing	Electricity, gas, steam and air conditioning supply	Water supply; sewerage, waste management and remediation activities
Unfair competition	2.3	8.0	4.7	1.6	4.5	5.4	3.2	2.5
Infant Private Sector with weak support	3.6	4.9	3.7	1.9	5.7	7.9	9.3	5.7
Environmental challenges	4.3	4.3	3.7	10.2	7.2	6.3	6.3	8.4
HIV/AIDS pandemic	2.6	1.6	5.6	3.3	3.2	1.9	1.2	1.6
Uncertain economic environment	3.8	6.6	3.7	4.2	7.0	8.5	8.3	5.7
Inadequate financial services	5.6	4.3	7.5	6.5	5.0	5.9	6.1	4.5
Others	8.6	2.0	5.6	4.0	4.6	4.9	4.7	7.6
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

## 9.0 Introduction

Chapter nine covers conclusions about the major findings and facts based on statistical analysis, as well as recommendations that address the major challenges facing the industrial sector.

The main objective of the CIP 2013 was to get data and information from industrial establishments that will be useful to provide economic variables and indicators necessary for planning and policy formulation for the industrial sector.

The CIP 2013 findings address the following limitations of the reported statistics that have been realized during the survey exercise. The limitations faced by the enumerators were:

- (i) Respondents hiding information;
- (ii) Respondents under-stating information related to industrial outputs and
- (iii) Respondents over-stating input information. Another limitation was not providing full information particularly by the small establishments (2.0 percent). For that reason, the missing data was estimated on the basis of national estimation procedures/techniques.

## 9.1 Main Findings

The following are some of the major findings and facts based on the statistical analysis.

### 9.1.1 Single Establishments Dominated the Industrial Sector

Analysis shows that among the small establishments, 98.3 percent were single establishments and 81.8 percent of large establishments were single establishments. This means that the industrial sector is dominated by single and independent production entities.

In the case of sub-sectors, mining and quarrying and manufacturing were largely dominated by single establishments. On the other hand, majority of the establishments in electricity, gas steam and air conditioning supply and water supply, sewerage, waste management and remediation sub-sectors were public enterprises with some establishments being branches of other establishments, while a few were single establishments.

### 9.1.2 Manufacturing Sub-Sector Dominates Tanzania Industrial Sector

The 2013 CIP revealed that out of the 49,243 surveyed establishments, 48,474 (98.4 percent) were engaged in manufacturing sub-sector. Most of the manufacturing activities such as manufacture of food products, beverages, tobacco, textile and wood products depended much on raw materials from agricultural sector; implying that there are opportunities in agricultural sector to produce more for feeding the local manufacturing industries adequately.

### 9.1.3 Establishments Ownership

It was noted that most of the small and large establishments' industrial sub-sectors specifically in mining and quarrying and manufacturing, were under private ownership. The results show that 99.8 percent of small establishments were privately owned, while 0.2 percent were publicly owned. A similar situation was observed in large establishments whereby, 86.6 percent were privately owned; while 11.4 percent were publicly owned; and only 2.0 percent had a mixed ownership (private and public).



### **9.1.4 Capacity Underutilization**

The findings show that most of the establishments operated under their respective installed capacities. Reasons for the underutilization were mainly insufficient power supply (18.3 percent), insufficient domestic demand (11.1 percent) and poor transport facilities/high transport cost (7.5 percent). In general, manufacturing sub-sector was mostly affected by insufficient power supply, competition from imports, high transport cost and high cost of credit. It is evident that reliable power supply, fair competition, transport and credit facilities are among the contributors to high industrial productivity; hence, the Government needs to implement a policy which enhances industrial infrastructure, credit facilities and control of illegal trade for the industrial development in the country.

### **9.1.5 Employment Opportunity in Industrial Sector**

Industrial sector is very crucial in creating employment opportunities in Tanzania. During the year 2013, industrial sector created 264,223 employment opportunities; out of which, 125,336 (47.4 percent) were in small industries and 138,887 (52.6 percent) were in large industries. There is therefore a need for the Government to create conducive infrastructure for industrial development to enhance creation of more employment opportunities in this sector.

### **9.1.6 Cost of Inputs**

The findings reveal that most of the industrial establishments in Tanzania Mainland spend more on raw materials (56.3 percent). The highest costs on materials and supplies were due to importation of raw materials such as products of agriculture, horticulture and market gardening, fish and other fishing products, meat, fruit, vegetables, oils and fats, basic chemicals, etc. therefore, there is a need of exploring these opportunities by putting more effort specifically on import substitution industries of raw materials.

### **9.1.7 Value of Inventory**

The value of inventory held by large establishments was TZS 2,332,092 million at the beginning of the reference year and TZS 2,528,541 million at the end of the same year. Furthermore, the results show that materials and supplies accounted for the largest proportion of inventories at the beginning (70.0 percent) as well as at the end (69.0 percent) of the reference year. Presumably, such a large amount of materials may be associated with unavailability of market, insufficient power supply and unfair competition leading to low production. In order to avert such a situation, policy makers should pay attention to power supply, marketability of the locally produced goods by expanding the domestic market and protecting the same against the imports.

### **9.1.8 Value of Fixed Assets**

Investment on fixed assets is a key factor to the industrial development. The CIP 2013 results show that total value of fixed assets was TZS 63,220,391 million at the beginning of the reference year out of which, 85.8 percent was the share of electricity, gas, steam and air conditioning supply; while 14.2 percent of the total value on fixed assets was the share of the remaining three sub-sectors.

### **9.1.9 Membership to Business Associations**

In 2013, the number of establishments that subscribed to business support associations was very small as compared to those who did not subscribe. This implies that most of the establishments were non-subscribers as they did not subscribe to any association membership but they still benefitted as association members. Among the surveyed establishments, 23.1 percent of responses indicated to be members of CTI, 20.2 percent were members of TCCIA and other membership organization such as SIDO and EWURA accounted for 18.7 percent of responses. On the other hand, among establishments that did not belong to any organization, 44.6 percent indicated to be aware of the services and functions of TCCIA while 40.9 percent were aware of CTI services and functions. Generally, there is a need to put more emphasis on the importance of being a member of any business association.

### **9.1.10 Registration of Establishments**

Registration of an establishment is important for business development as it facilitates easy access to credit and finances for industrial up-grading and simplifies the Government co-ordination such as tax collection. The findings show that out of 12,848 respondents, 4,509 (35.1 percent) were registered while 8,339 (64.9 percent) were not registered.

### **9.1.11 Reasons for Non-Registration**

Among the reasons listed for the non-registration of large establishments were complicated bureaucratic procedures ranked first with 41.0 percent; followed by financial problems with 36.7 percent; too small business (30.9 percent); does not see the need to register (7.9 percent); and other reasons accounted for 22.3 percent.

Among the small establishments, the reasons were; too small business ranked first with 75.1 percent as the main reason for not being registered; followed by financial problems (59.8percent); complicated bureaucratic procedures (20.9 percent); and does not see the need to register (7.2 percent); and other reasons (9.1 percent).

### **9.1.12 Ownership of Premises Used by Establishments**

Information on ownership of the building(s) used by large establishments show that 63.1 percent were wholly owned. On the other hand, the largest proportion (42.1 percent) of the buildings used by small establishments were partly rented. More burdens of premise rentals were found in small establishments.

### **9.1.13 Quality Certification of Industrial Products**

CIP 2013 results show that large proportion (46.5 percent) of large establishments certified their products through TBS; followed by TFDA (29.8 percent), ISO (12.3 percent). Other authorities accounted for 11.4 percent.

For small establishments 43.6 percent were certified by TFDA; and 32.3 percent were certified by TBS. The remaining authorities certified 24.1 percent.

### **9.1.14 Low Accessibility to International Markets**

The CIP 2013 results identified low accessibility to international markets for the industrial products. The results show that only 3.4 percent of the products were sold to international markets; while 80.7 percent were sold in domestic markets. Despite that 15.9 percent were sold in both domestic and international markets. Among the reasons for the low performance of the establishments to access international markets were; inadequate supply, limited promotion, inadequate trade negotiation skills and market access, low compliance to the market standards, inadequate capacity to exploit preferential trade agreements and inability to meet delivery.

## **9.2 Major Challenges to Manufacturers in Tanzania Mainland**

The Tanzania industrial sector faces several challenges; these challenges have been documented in various studies (ASIP, 2008; Wangwe and Rweyemamu, 2004). The 2013 CIP results confirm the existence of various challenges, one of them being the high cost of production which was the major challenge to all large establishments dealing with mining and quarrying (17.3 percent of the responses) compared to others.

## 10.0 Introduction

The 2013 Census of Industrial Production captured major data and information reflecting the status of the industrial sector in Tanzania. Four industrial sub-sectors were covered, namely mining and quarrying, manufacturing, electricity, gas, steam and air conditioning supply and water supply; sewerage, waste management and remediation activities. Data collected covered production, trade, and other related costs such as labour, material goods, plants/machinery and energy among others.

The goal of this policy implication chapter is to highlight the important measures targeting specific interventions needed to improve performance of the industrial sector. The measures were drawn from the analysis of the findings, particularly in those areas where performance of the sector was not satisfactory.

## 10.1 Employment Performance

Results from the industrial census revealed that industrial sector engaged a total of 264,223 persons out of whom, 203,038 (76.8 percent) were males and 61,185 (23.2 percent) were females.

Gender wise, in large establishments, females accounted for less than one third (25.5 percent) of the persons engaged while males accounted for 74.5 percent. Policy makers should therefore create an enabling environment to attract involvement of females in this sector. Furthermore, the results show that 2.8 percent of the persons engaged were foreigners and 97.2 percent were nationals. The foreign participation in the labour force should not be ignored; as long as efforts are taken to ensure that the employed foreigners possess skills that are not available in the domestic market.

Likewise, in small establishments, females accounted for less than a third (20.6 percent) of the workers while males accounted for 79.4 percent.

In order to improve productivity of the industrial sector, it is recommended that the Government and line players need to; finalize and implement the relevant policies to enhance private sector organization capacity and its participation in the development of industrial activities. It is also recommended that more emphasis should be placed on helping small establishments to grow and to graduate to large establishments. This is because they have a high contribution to employment creation and promote labour intensive types of light manufacturing, such as agro-processing, textiles, leather and leather products.

## 10.2 Skilled and Non-Skilled Operatives

The performance of industrial sector highly depends on involvement of well trained and qualified operatives. These are directly and physically engaged in the production process.

The results show that large establishments had a significant proportion of non-skilled operatives (49.0 percent), while 67.4 percent of the workers in small establishments were also non skilled operatives.

To improve the quality of the establishments' products as well as productivity, it is important to have well trained/skilled operatives. The Government and other key players need to initiate tailor made courses to impart skills required at workplace. It is also important for the education and training institutions to conduct needs assessment for the establishments before conducting training courses. The training institutions should also be capacitated in order to produce graduates that are well equipped with required skills.

## 10.3 Labour Costs

The results show that a total of TZS 1,307,622 million were spent by large establishments as labour cost while small establishments spent TZS 113,700 million as labour cost. The average, labour cost per worker per annum in large establishments was about TZS 9.4 million while in small establishments the average labour cost was TZS 0.9 million per worker per annum. As observed, the average labour cost per worker in large establishments was more than ten times that of small establishments. The low labour cost per worker in small establishments could be due to low productivity. The Government and other stakeholders should therefore create a conducive environment for small establishments to become more productive and hence more profitable.

## 10.4 Promotion of Membership to Business Support and Private Sector Associations

According to CIP results, a considerable number of establishments were aware of the functions and activities of the Umbrella Associations. The most known association was TCCIA with 44.6 percent of the responses; followed by CTI with 40.9 percent; ATE with 39.9 percent; DSE with 25.0 percent; and TCME with 19.3 percent of the total establishments.

Although, establishments were aware of the functions and activities of Umbrella Associations, the membership levels were low. Membership in large establishments recorded the largest proportion in CTI with 23.1 percent of responses; followed by TCCIA (20.4 percent), ATE (15.9 percent), TCME (3.6 percent) DSE (2.2 percent) and other membership organizations such as SIDO and EWURA with 18.7 percent.

Umbrella Associations play a vital role in economic development, by creating net-works among the members and serving as a platform for sharing of knowledge and experience. They also facilitate the sharing of business intelligence, safe-guard interests of the establishments and support the development efforts of the public sector. For effective and efficient mechanism to support and monitor activities of the firms, Umbrella Associations are indispensable, therefore, each establishment should be encouraged to join these associations.

## 10.5 Promotion of Establishments Registration to Legal Authorities

The largest proportion (64.9 percent) of the total industrial sector establishments were operating without being registered by any Government authority while 35.1 percent were registered.

This observation was almost the same to small establishments where the largest proportion (69.8 percent) were operating without registration while 30.2 percent were registered. On the contrary, in large establishments, registration had the largest proportion (87.4 percent) and 12.6 percent were not registered.

The main reasons for the low levels of registration in small establishments included; complicated and bureaucratic procedures, financial problems and business being too small.

In terms of advantages in the registration, the analysis has shown that the following advantages were common:

- Registered establishments have the advantage of having legal recognition that helps in securing financial support, accessing fiscal relief and other services provided by the public sector.
- Registration helps in acquiring and managing of important information and data which are used in the economic planning and policy formulation.
- It helps the Government to collect revenue in the form of taxes and other fees more efficiently.

In order to promote the registration of establishments, more publicity by the Government should be given about simplification of registration procedures. In addition to simplifying the procedures, rationalization of payments of fees and levies should be made affordable to establishments. Such measures will increase compliance to the registration of businesses and will reduce the current large number of businesses which operate informally.

## 10.6 Quality Control of Raw Materials and Products

Quality control of raw materials and products (particularly the imported) in the country is implemented by various regulatory authorities and institutions for example; TBS, TFDA and ISO. The industrial census results revealed that (71.0 percent) of the large establishments had quality controlled of their raw materials, while 29.0 percent did not. It is further noted that 37.6 percent of the small establishments had controlled of their raw materials, and the majority (62.4 percent) did not. It should be borne in mind that;

- Controlled quality of both raw materials and products has a bearing on determining the competitiveness of the products in both local and international markets;
- Quality control guarantees values of the products and therefore ensuring trust between the consumers and producers; and
- It helps to minimize the reoccurrence for both fake and poor quality products in the domestic market.

As noted from the CIP 2013 data, more emphasis of the authorities in quality control of products and raw materials targeted only large establishments. The regulatory authorities and other institutions should also put more emphasis in helping small establishments to produce products of high quality, by observing the laid down standards. The small establishments should be trained and guided on how to produce high quality products, as the majority of them don't have the required knowledge and skills. This will enable small establishments to grow and become competitive in the markets.

## 10.7 Laboratories and Quality Control Staff

The industrial census results show that 69.7 percent of large establishments were operating their industrial activities without laboratories. Raw-material and product testing are crucial activities in ensuring quality and safety of the products.

For the country to produce high quality products, it requires a relatively large number of establishments with accredited laboratories. The Government and other stakeholders should put more emphasis on having laboratories and other related facilities in each of the establishments.

### 10.8 Access to International Markets

The 2013 industrial census revealed that most (80.6 percent) of large establishments sold their products in the domestic market, and 15.9 percent sold their products to both domestic and international markets whereas 3.5 percent sold their products only to international market. This reflects lack of competitiveness of the products in the international market.

This necessitates the need of having a clear strategy to assist domestic establishments to produce quality products for export. The Government and the Umbrella Associations also needs to introduce awareness campaigns for establishments to understand the marketing strategies and tactics in order to accessing regional and international markets.

## 10.9 Water Supply Demand

Water is an important input in the production process. The results show that under-ground water was the main source (42.3 percent) of water used by large establishments. However, majority of the establishments were faced with a challenge of inadequate water supply. This problem has been caused by various factors including; inadequate water sources and dilapidated water infrastructures and limited public investment in water supply. It is recommended that;

- Measures be taken to increase public water network that would cater for industrial production demand; and
- Establishments be sensitized to invest in technology that allows water recycling to maximize water usage.

## 10.10 Promotion of Environmental Management Mechanisms

The CIP results revealed that a large number of establishments (31.6 percent) did not have environmental management plan. It is also noted that despite not having the plan, many establishments (68.4 percent), specifically from manufacturing sub-sector, had the waste management facilities for treatment of waste generated during the production process. However, the majority (39.4 percent) of the establishments from mining and quarrying, water supply, electricity and gas sub-sectors were operating without waste management facilities. Therefore, it is recommended that;

- The National Environmental Management Council (NEMC) should be capacitated to monitor and effectively supervise all the environmental matters relating to the industrial sector;
- NEMC should have a clear strategy to create awareness among all its stakeholders, as the majority of them did not have enough environmental conservation and management plans; and
- NEMC has to demand from the establishments to carry out Environmental Impact Assessment (EIA) and provide them with certificates.

## 10.11 Promotion of Plant Technology for the Manufactured Products

The majority of the establishments covered in the census confirmed the use of manual (39.7 percent) or semi-manual (45.8 percent) plant technologies in their production processes. This observation justifies the reasons as to why the products produced were less competitive in the market due to possible high cost of production. One example can be drawn from the mining and quarrying sub-sector in which, 47.8 percent of the large establishments were using manual machines in its production process. Therefore:

- The Government should formulate technology oriented policies to ensure the industrial sector practices technology-intensive production; and
- This should go hand in hand with the transformation of the Tanzanian domestic production system, the increasing emergence of medium size enterprises and domestic supply chains, towards sustained industrial competitiveness.

## 10.12 Promotion of Information Technology Infrastructure

Information technology is a very important component of industrialization programme for any country. According to CIP 2013 results, the proportion of large establishments using information technology and related services was quite high; whereby, 92.9 percent of the responses indicated the usage of mobile phones, computer (65.2 percent) and Telephone system (55.4 percent). However, Internet use was small (19.9 percent); and other information technology infrastructures like Extranet, CCTV and Local area network were not effectively used. Hence;

By way of recommendation, it is suggested that the Government should take measures to ensure that the ICT policy is integrated in the implementation of both economic and industry related programmes.

## 10.13 HIV and AIDS in Manufacturing Sub-Sector.

HIV and AIDS reduces production and productivity of the establishments by under-mining productive human resources. Large and small establishments had different methods to prevent and control HIV and AIDS. According to industrial census results, the most common methods used by large and small establishments were; provision of education and preventive measures (38.3 percent in large and 39.6 percent in small establishments); followed by counseling and treatment (33.9 percent in large and 33.1 percent in small establishments). This problem is still affecting the industrial sector and therefore, the government needs to direct businesses to implement national strategies and programmes for preventing and controlling HIV and AIDS at work place including increasing awareness campaign and reducing discrimination and stigmatization among the workers with HIV and AIDS.



## 10.14 High Cost of Production

The industrial sector is faced with several challenges, and one of these challenges, as CIP 2013 results have shown, is the high cost of production as the leading challenge across all industrial sub-sectors. A significant proportion of the establishments facing this problem is found in the mining and quarrying: 17.3 percent for large establishments and 10.9 percent for small establishments. Since the cost of production determines prices of the produced goods and the availability of the reliable market, it is necessary for the Government and other stakeholders to create an enabling environment to reduce the costs of production so as to make the products competitive in both domestic and international markets.

## 10.15 Main Sources of Energy Used-

This report as shown fuel for machines and vehicles was the leading type of energy whose cost of use amounted to TZS 973,810 million (65.1 percent of the total energy cost). This largest consumption of fuel was for the running of machines and vehicles in the mining and quarrying sub-sector. Electricity was the second energy consumed costing TZS 397,023 million (26.5 percent) in the same activity of mining of non-ferrous metal ores. The analysis indicates that the consumption of fuels for machines and vehicles increased from 24.9 percent (ASIP, 2008) to 65.1 percentage (CIP, 2013); while the consumption of electricity decreased from 61.9 percent (ASIP, 2008) to 26.5 percent (CIP, 2013) for large establishments.

In the light of the above observations, the following are suggested as recommendation for the way forward:

- In order to guarantee industrial prosperity in Tanzania, measures should be taken to increase the number of major sources of energy and its distribution. Other cheap sources such as solar and wind should be considered seriously; and
- To implement successfully, the recommendation given above, research and development of appropriate technology should highly be deployed to ascertain the new sources of energy other than the traditional ones, which have proved incapable of meeting the current energy demand.

## 10.16 Status of Domestic Raw Materials

Manufacturing sub-sector recorded 66.2 percent of the raw material as imports. However, importing much of the raw material implies losing a significant amount of foreign currency/money, a situation that would hamper macro-economic stability of the country.

In view of this, the Government should promote the production of raw materials and intermediate goods in the domestic market so as to strengthen the forward and backward linkages of the establishments operating in the economy.



# List of Annexes

**Annex 1: Average Manufacturing Value Added (MVA) per Establishment by Region and Establishment Size, Tanzania Mainland, CIP-2013**

Region	Small Establishments (1-9)			Large Establishments (10+)										Total		
	Medium Establishments (10-99)			Big Establishments (100+)			Total Large Establishments (10+)									
	Number of establishments	MVA	MVA per establishment	Number of establishments	MVA	MVA per establishment	Number of establishments	MVA	MVA per establishment	Number of establishments	MVA	MVA per establishment	Number of establishments	MVA	MVA per establishment	
Dodoma	1,786	15,848	9	22	6,972	321	1	5,846	5,846	23	12,818	564	1,809	28,667	16	
Arusha	2,051	18,865	9	65	76,506	1,181	22	261,320	11,825	87	337,826	3,888	2,138	356,691	167	
Kilimanjaro	1,670	9,809	6	42	68,685	1,650	6	151,390	24,549	48	220,075	4,603	1,718	229,884	134	
Tanga	1,656	11,667	7	26	12,603	492	14	233,790	17,064	39	246,394	6,267	1,695	258,061	152	
Morogoro	2,995	28,936	10	31	37,244	1,208	10	954,466	94,979	41	991,710	24,263	3,036	1,020,646	336	
Pwani	1,435	10,017	7	16	3,147	202	5	10,467	1,923	21	13,613	649	1,456	23,630	16	
Dares Salaam	6,992	97,422	14	288	287,361	998	89	1,674,720	18,915	376	1,962,081	5,212	7,368	2,059,503	280	
Lindi	814	4,308	5	6	1,130	185	0	0	0	6	1,130	185	820	5,437	7	
Mtwara	976	2,257	2	4	991	232	2	27,216	11,320	7	28,208	4,230	983	30,465	31	
Ruvuma	3,454	13,767	4	13	3,262	250	0	0	0	13	3,262	250	3,467	17,030	5	
Iringa	2,452	9,797	4	20	6,618	325	9	81,622	9,253	29	88,241	3,024	2,481	98,038	40	
Mbeya	2,772	16,697	6	43	11,867	279	5	156,064	30,077	48	167,931	3,518	2,820	184,628	65	
Singida	1,596	14,435	9	28	13,138	473	0	0	0	28	13,138	473	1,624	27,573	17	
Tabora	935	5,483	6	9	1,788	205	1	186	186	10	1,974	203	945	7,457	8	

# Annex 1: Average Manufacturing Value Added (MVA) per Establishment by Region and Establishment Size, Tanzania Mainland, CIP-2013 (continued)

Region	Small Establishments (1-9)			Large Establishments (10+)										Total			
	Medium Establishments (10-99)			Big Establishments (100+)			Total Large Establishments (10+)										
	Number of establishments	MVA	MVA per establishment	Number of establishments	MVA	MVA per establishment	Number of establishments	MVA	MVA per establishment	Number of establishments	MVA	MVA per establishment	Number of establishments	MVA	MVA per establishment		
Rukwa	927	3,964	4	7	52,865	8,117	0	0	0	7	52,865	8,117	933	56,829	61		
Kigoma	939	2,665	3	8	19,522	2,409	0	0	0	8	19,522	2,409	947	22,187	23		
Shinyanga	1,148	18,290	16	27	14,315	534	0	0	0	27	14,315	534	1,174	32,605	28		
Kagera	2,312	8,271	4	66	21,900	331	7	54,841	7,540	74	76,742	1,044	2,385	85,013	36		
Mwanza	1,353	14,727	11	43	17,196	401	12	243,566	21,107	54	260,762	4,793	1,407	275,489	196		
Mara	3,488	21,089	6	12	2,380	196	3	12,935	4,116	15	15,316	1,002	3,504	36,404	10		
Manyara	2,217	11,449	5	20	3,074	151	0	0	0	20	3,074	151	2,237	14,523	6		
Njombe	1,652	3,788	2	6	8,437	1,324	2	12,270	5,728	9	20,707	2,432	1,661	24,496	15		
Katavi	219	2,305	11	0	0	0	0	0	0	0	0	0	219	2,305	11		
Simiyu	746	5,279	7	9	1,014	117	0	0	0	9	1,014	117	755	6,293	8		
Geita	891	4,139	5	0	0	0	0	0	0	0	0	0	891	4,139	5		
Total	47,476	355,275	7	809	672,016	831	189	3,880,700	20,586	998	4,552,716	4,564	48,474	4,907,992	101		

## Annex 2: Reasons for Capacity Under-Utilization, CIP 2013 (High) for Large Establishments, Tanzania Mainland, CIP-2013

Reasons	Industrial Sub-Sector			
	Mining and quarrying	Manufacturing	Electricity, gas, steam and air conditioning supply	Water supply; sewerage, waste management and remediation activities
Insufficient domestic demand	9	197	2	6
Shortage of domestic inputs	11	101	0	5
Shortage of imported inputs	3	26	0	4
Old plant machinery and equipment	29	49	0	20
Plant maintenance problems due to lack of spare parts	38	67	1	9
Plant maintenance problems due to shortage of skilled labour	13	53	0	10
High cost of credits	11	113	0	10
Inadequate access to financial services	18	86	0	14
Insufficient power supply	65	270	1	18
Insufficient water supply	35	51	1	13
Competition from imports	5	137	0	2
Loss of product due to strikes/stoppages	3	18	0	6
Un-competitiveness of exports	3	46	0	1
Poor transport facilities/high transport cost	26	108	0	11
Inability to grant credits to customers	12	57	0	8
Counterfeits	3	53	0	2
Others	29	43	0	4
<b>Total</b>	<b>313</b>	<b>1,475</b>	<b>5</b>	<b>143</b>

### Annex 3: Reasons for Capacity Under-Utilization, CIP 2013 (Moderate) for Large Establishments, Tanzania Mainland, CIP-2013

Reasons	Industrial Sub-Sector			
	Mining and quarrying	Manufacturing	Electricity, gas, steam and air conditioning supply	Water supply; sewerage, waste management and remediation activities
Insufficient domestic demand	15	166	0	11
Shortage of domestic inputs	20	152	0	7
Shortage of imported inputs	10	71	0	1
Old plant machinery and equipment	33	94	0	13
Plant maintenance problems due to lack of spare parts	42	110	1	13
Plant maintenance problems due to shortage of skilled labour	21	110	0	12
High cost of credits	14	93	0	7
Inadequate access to financial services	21	106	0	10
Insufficient power supply	24	172	1	18
Insufficient water supply	21	118	0	11
Competition from imports	12	99	0	2
Loss of product due to strikes/stoppages	4	33	0	6
Un-competitiveness of exports	3	43	0	1
Poor transport facilities/high transport cost	28	112	1	9
Inability to grant credits to customers	9	72	0	4
Counterfeits	9	36	0	3
Others	2	16	0	0
<b>Total</b>	<b>288</b>	<b>1,603</b>	<b>3</b>	<b>128</b>

#### Annex 4: Reasons for Capacity Under-Utilization, CIP 2013 (Low) for Large Establishments, Tanzania Mainland, CIP-2013

Reasons	Industrial Sub-Sector			
	Mining and quarrying	Manufacturing	Electricity, gas, steam and air conditioning supply	Water supply; sewerage, waste management and remediation activities
Insufficient domestic demand	7	104	0	8
Shortage of domestic inputs	15	90	0	11
Shortage of imported inputs	10	86	0	10
Old plant machinery and equipment	26	122	0	10
Plant maintenance problems due to lack of spare parts	26	116	0	21
Plant maintenance problems due to shortage of skilled labour	26	96	0	13
High cost of credits	6	71	1	7
Inadequate access to financial services	12	90	1	9
Insufficient power supply	9	76	0	10
Insufficient water supply	14	92	0	7
Competition from imports	4	95	0	5
Loss of product due to strikes/stoppages	10	69	0	5
Un-competitiveness of exports	9	61	0	3
Poor transport facilities/high transport cost	6	102	0	12
Inability to grant credits to customers	10	77	0	8
Counterfeits	5	70	0	8
Others	1	3	0	2
<b>Total</b>	<b>196</b>	<b>1,420</b>	<b>2</b>	<b>149</b>

## Annex 5: Number of Responses on Challenges faced by Industrial Activities of the Manufacturing for Large Establishments, Tanzania Mainland, CIP-2013

ISIC Rev.4	Industrial Activities	Challenges																
		High cost of production	Inadequate technology	equate physical infrastructure	Complicated administrative procedures	Shortage of qualified labour	Foreign currency fluctuations	Insufficient production capacity	Shortage of raw materials	Taxes	Insufficient demand	Unfair competition	Infant Private Sector with weak support	Environmental challenges	HIV/AIDS pandemic	Uncertain economic environment	Inadequate financial services	Others
10	Manufacture of food products	211	80	116	58	80	106	68	124	88	71	107	87	72	24	109	62	42
11	Manufacture of beverages	41	10	18	6	13	28	10	12	16	8	26	10	10	7	15	9	1
12	Manufacture of tobacco products	4	0	1	1	1	1	0	0	2	2	0	0	1	0	2	0	0
13	Manufacture of textiles	22	8	15	3	7	13	5	11	6	11	9	6	8	2	7	6	2
14	Manufacture of wearing apparel	7	5	7	3	4	6	3	6	6	2	9	6	4	2	8	4	2
15	Manufacture of leather and related products	13	6	3	2	3	8	4	8	6	3	4	2	0	1	3	3	1
16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	38	11	22	5	8	14	15	34	10	12	12	10	9	4	11	12	7
17	Manufacture of paper and paper products	11	4	3	2	3	6	3	3	6	3	4	5	0	1	5	1	2
18	Printing and reproduction of recorded media	37	14	17	8	18	29	7	21	16	15	20	10	9	5	14	11	1
19	Manufacture of coke and refined petroleum products	3	0	1	1	1	1	0	2	1	0	2	0	0	0	0	0	0
20	Manufacture of chemicals and chemical products	26	8	13	10	13	20	9	15	11	7	13	11	6	2	10	8	3
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations	3	0	2	1	1	4	0	0	2	1	4	0	0	0	0	1	1
22	Manufacture of rubber and plastics products	36	10	10	5	12	29	2	8	7	8	16	6	6	1	12	5	4
23	Manufacture of other non-metallic mineral products	52	30	33	15	16	26	14	23	24	27	33	17	27	6	29	24	4

## Annex 5: Number of Responses on Challenges faced by Industrial Activities of the Manufacturing for Large Establishments, Tanzania Mainland, CIP-2013 (continued)

ISIC Rev.4	Industrial Activities	Challenges																
		High cost of production	Inadequate technology	equate physical infrastructure	Complicated administrative procedures	Shortage of qualified labour	Foreign currency fluctuations	Insufficient production capacity	Shortage of raw materials	Taxes	Insufficient demand	Unfair competition	Infant Private Sector with weak support	Environmental challenges	HIV/AIDS pandemic	Uncertain economic environment	Inadequate financial services	Others
24	Manufacture of basic metals	10	0	5	1	6	9	2	9	4	4	5	4	3	1	4	2	1
25	Manufacture of fabricated metal products, except machinery and equipment	39	12	12	6	13	21	10	21	13	9	24	10	9	2	16	15	2
26	Manufacture of computer, electronic and optical products	1	0	1	0	0	1	1	0	0	0	1	0	0	0	1	0	0
27	Manufacture of electrical equipment	9	0	1	1	1	4	1	2	2	0	4	1	1	0	1	0	0
28	Manufacture of machinery and equipment i.e.	10	10	1	4	7	5	10	9	3	4	4	2	2	1	5	3	0
29	Manufacture of motor vehicles, trailers and semi-trailers	10	2	3	0	5	7	1	2	2	3	4	1	1	0	3	1	0
30	Manufacture of other transport equipment	2	0	0	0	0	2	0	1	0	0	1	0	0	1	0	1	0
31	Manufacture of furniture	44	17	23	12	16	20	11	25	18	22	33	18	13	10	26	13	11
32	Other manufacturing	8	1	5	3	5	9	2	3	6	1	5	2	1	0	2	1	2
33	Repair and installation of machinery and equipment	3	2	0	0	1	1	0	1	1	0	1	1	0	0	0	1	1



## Annex 6: Number of Responses on Challenges Faced by Industrial Activities of the Manufacturing Sub-Sector for Small Establishments, Tanzania Mainland, CIP-2013

ISIC Rev 4 Code	Industrial Activities	Challenges																
		High cost of production	Inadequate technology	equate physical infrastructure	Complicated administrative procedures	Shortage of qualified labour	Foreign currency fluctuations	Insufficient production capacity	Shortage of raw materials	Taxes	Insufficient demand	Unfair competition	Infant Private Sector with weak support	Environmental challenges	HIV/AIDS pandemic	Uncertain economic environment	Inadequate financial services	Others
10	Manufacture of food products	1708	1027	1019	411	379	179	892	1076	697	923	835	1026	927	279	1228	834	823
11	Manufacture of beverages	16	13	11	9	6	4	9	7	9	9	15	9	11	2	11	12	7
12	Manufacture of tobacco products	5	5	5	0	4	0	4	3	0	1	0	3	1	0	2	4	0
13	Manufacture of textiles	232	139	69	51	41	20	135	117	98	157	104	155	121	29	154	86	69
14	Manufacture of wearing apparel	961	831	494	235	295	104	706	629	416	804	497	797	673	195	932	655	378
15	Manufacture of leather and related products	101	83	29	21	28	10	56	66	38	70	35	66	37	11	54	41	38
16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	849	564	389	253	198	59	454	585	380	489	373	538	429	121	575	340	346
17	Manufacture of paper and paper products	4	2	3	2	1	2	3	3	2	2	1	4	1	1	2	2	1
18	Printing and reproduction of recorded media	82	53	30	21	26	22	42	31	36	37	55	59	26	9	28	23	32
20	Manufacture of chemicals and chemical products	32	21	11	12	12	13	19	24	19	16	13	24	10	6	20	19	9
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations	0	1	0	0	1	0	0	0	1	2	1	1	0	0	1	0	0
22	Manufacture of rubber and plastics products	13	7	5	2	4	3	8	6	3	10	3	8	6	2	6	2	3
23	Manufacture of other non-metallic mineral products	383	211	225	69	78	54	167	137	119	218	169	210	139	40	215	135	146
24	Manufacture of basic metals	4	3	1	1	1	2	2	2	3	2	0	3	1	0	1	1	0

## Annex 6: Number of Responses on Challenges Faced by Industrial Activities of the Manufacturing Sub-Sector for Small Establishments, Tanzania Mainland, CIP-2013 (continued)

ISIC Rev 4 Code	Industrial Activities	Challenges																
		High cost of production	Inadequate technology	Inadequate physical infrastructure	Complicated administrative procedures	Shortage of qualified labour	Foreign currency fluctuations	Insufficient production capacity	Shortage of raw materials	Taxes	Insufficient demand	Unfair competition	Infant Private Sector with weak support	Environmental challenges	HIV/AIDS pandemic	Uncertain economic environment	Inadequate financial services	Others
25	Manufacture of fabricated metal products, except machinery and equipment	1069	758	444	272	317	131	530	588	365	624	463	712	512	188	729	549	444
26	Manufacture of computer, electronic and optical products	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
27	Manufacture of electrical equipment	146	102	41	21	39	12	81	95	16	83	43	94	83	18	71	67	36
28	Manufacture of machinery and equipment n.e.c.	57	39	19	10	15	7	30	26	22	26	22	34	23	9	23	25	17
29	Manufacture of motor vehicles, trailers and semi-trailers	11	10	4	1	4	2	4	5	5	6	4	7	5	1	8	2	7
30	Manufacture of other transport equipment	22	15	9	3	6	1	16	14	9	11	1	13	11	2	19	12	9
31	Manufacture of furniture	1250	957	603	417	368	103	788	981	413	832	557	868	735	218	924	698	512
32	Other manufacturing	73	40	17	26	18	17	42	61	34	38	33	43	19	12	40	25	38
33	Repair and installation of machinery and equipment	12	5	7	4	4	0	7	11	5	9	5	9	9	1	8	5	4

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Rashidi Mganga  
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## **Manyara Region**

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Shahibu Qhoba  
Neema Maimu  
Vitus Dionizy  
Pius Donati

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