



UNITED REPUBLIC OF TANZANIA

CENSUS OF INDUSTRIAL PRODUCTION 2013

TANZANIA MAINLAND METHODOLOGY





The United Republic of Tanzania

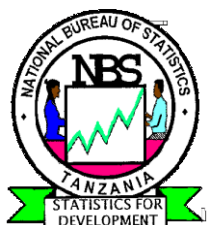
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Ministry of Industry, Trade and
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Confederation of Tanzania
Industries

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ABBREVIATIONS AND ACRONYMS

ASIP	Annual Survey of Industrial Production
GPS	Global Positioning System
POPC	President's Office, Planning Commission
JKT	Jeshi la Kujenga Taifa
TRA	Tanzania Revenue Authority
MDAs	Ministries Independent Departments and Agencies
CIPCF	Census of Industrial Production Control Form
BRELA	Business Registration and Licensing Agency
CBO	Community Based Organizations
CIP	Census of Industrial Production
CPC	Central Product Classification
CTI	Confederation of Tanzania Industries
CRE	Central Register of Establishments
EASTC	Eastern Africa Statistical Training Centre
FBO	Faith Based Organizations
GDP	Gross Domestic Product
ISIC	International Standard Industrial Classification
MITI	Ministry of Industry, Trade and Investment
NBS	National Bureau of Statistics
NGOs	Non-Governmental Organizations
NSSF	National Social Security Fund
PPF	Parastatal Pension Fund
PPI	Producer Price Index
RSM	Regional Statistical Manager
RTO	Regional Trade Officer
SIDO	Small Industries Development Organization
TOE	Training of Enumerators
TOT	Training of Trainers



TSMP	Tanzania Statistical Master Plan
UNIDO	United Nations Industrial Development Organization
VAT	Value Added Tax



FOREWORD

The Government of the United Republic of Tanzania through Tanzania Statistical Master Plan (TSMP) is working on the improvement of quality of statistics in the country. This involves putting in place suitable infrastructure for statistical production and up-dating of basic data from different households and establishment based surveys including the census of industrial production for which the Census of Industrial Production, 2013 (CIP, 2013) has been undertaken. Historically, 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. Moreover, it aims at providing bench-mark data for other subsequent surveys and analysis for planning, evidence-based policy formulation and decision making purposes on the sector.

The purpose of this report is to present in detail, the methods employed in conducting the Census, so as to assist the readers in the interpretation of the published results. This report is one of the series of reports produced for the CIP, 2013. Other reports are; the Summary Results Report, the Statistical Report, the Analytical Report, and the 2013 Directory of Industries for establishments which engaged 10 or more persons.

I would like to thank the CIP Management Team for the successful implementation of the Census of Industrial Production, 2013. The team is comprised of Mr. Morice Oyuke, Director of Economic Statistics; Ms. Joy Sawe, TSMP Coordinator; Mr. Valerian Tesha, the CIP Project Manager; and Mr. Fadhili Khalfani, the CIP Desk Officer. The management team from collaborating institutions included the late Dr. Abdallah Kigoda (the then Minister of Industry and Trade); Ms. Janeth Mbene, Deputy Minister for Industry and Trade; Ms. Elly Pallangyo, Acting Director of Industry Development (MIT); and Mr. Hussein Kamote, Director of Policy, Confederation of Tanzania Industries (CTI). I also thank the field enumerators, Regional Statistical Managers, Regional and District Commissioners, and Chief Executive Officers of different establishments in all regions of Tanzania Mainland for their effort made at different stages of the Census.



I am also grateful to the CIP Technical team and authors of this report, especially Mr. Willem Van den Andel, an International Consultant from UNIDO; and Mr. Sange Mbaruku, a National Consultant; for their advice and technical guidance. Other persons involved in producing this report are; Ms. Veronica C. Mwangoka, Mr. Philemon Mahimbo, Mr. James Mbongo, Mr. Childa Hamis, Ms. Elida Makenge, Mr. Julius Mwambeso, Mr. Valency Mutakyamirwa, Mr. Akida Mnyenyelwa, Mr. George Mockray, Mr. Zawadi Mamma, Mr. Arnold Fyataga, Mr. Rustus Bernard, Ms. Joycelin Rwehumbiza, Ms. Noela John, Mr. Cosmas Kapinga, Mr. Ramadhani Mbega, Mr. Albert Kapala, Ms. Maria Erasmus, Ms. Flaviana Nyasebwa, Ms. Milka Digha and Mr. Omari Mdoka. I also appreciate the Administrative Secretaries commitment in compiling this report.



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CHAPTER ONE

INTRODUCTION

1.1 Introduction

This report covers the following areas: the background of the census, its objectives, the scope and coverage, as well as the industrial sub-sectors which were mining and quarrying, manufacturing, electricity, gas, steam and air conditioning supply and water supply; sewerage, waste management and remediation activities supply. The chapter ends with a note on the mandate and the confidentiality in the process of data collection.

Statistical data and information are important in assessing performance, tracing patterns and establishing the contribution of the surveyed industrial sub-sectors. An industrial census is one among the various survey methods of obtaining statistical data and information. Industrial censuses are intended to collect, compile and analyse numerical information on types of industrial activities, types and volumes of commodities/products, employment and remuneration, intermediate consumption, income, inventories, expenditure on fixed assets and other related information. From this information, it is possible to assess the impact of economic policies on the sector and identify challenges of the industrial and other related sectors in the economy that need Government interventions.

1.2 Background

The Government of the United Republic of Tanzania through Tanzania Statistical Master Plan (TSMP), has been working on the improvement of the quality of statistics in the country by putting in place a better infrastructure of statistical production. This involves putting in place suitable infrastructure for statistical production and up-dating of basic data from different households and establishment based surveys including the census of industrial production for which the Census of Industrial Production, 2013 (CIP, 2013) has been undertaken.

The Census provides statistics on both formal and informal industrial establishments which will be used as bench-mark information for the improvement of the sector performance. The census results will be used to review the industrial sector's contribution to GDP, as well as the construction of Supply and Use tables. Moreover, the census results will help in assessing

changes in the structure and composition of the sector since the previous 1989 Industrial Census.

1.3 Objectives

The main objective of the Census of Industrial Production, 2013 was to collect information from individual establishments that will be useful in compilation of economic indicators necessary for planning and policy formulation of the industrial sector. Specifically, the census aimed at up-dating:

1. Information of the structure, composition and activities of the industrial sector in the economy;
2. The contribution of the industrial sector to GDP;
3. The list of commodities to be used to construct Index of Industrial Production (IIP), Producer Price Index (PPI) and National Accounts of Tanzania;
4. Information for evidence-based formulation of the sector policy;
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.

Furthermore, the CIP, 2013 provides statistical information that facilitates the current Government policy of development by devolution, as well as its initiative towards industrialization which needs disaggregated information to capture regional requirements.

1.4 Scope and Coverage

The Census of Industrial Production, 2013 used the International Standard Industrial Classification of All Industrial Activities (ISIC) Revision 4 to identify all economic activities under study. The Census covered all establishments that engaged 10 persons or more and a sample of establishments which engaged less than ten persons. It included establishments that were active in 2013 and engaged in activities falling under 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. Details of these four industrial sub-sectors are given in the next sub-sections.

1.4.1 Mining and quarrying

Mining and quarrying include the activities relating to extraction of minerals occurring naturally as solids (coal and ores), liquids (petroleum) or gases (natural gas). Extraction can be achieved by different methods such as under-ground or surface mining, well operation, seabed mining, etc. Also, included are supplementary activities aimed at preparing the crude materials for marketing, for example crushing and grinding, cleaning, drying, sorting, concentrating ores, liquefaction of natural gas and agglomeration of solid fuels. These operations are often carried out by the units that extract the resources and/or others that are located nearby.

It excludes the processing of the extracted materials, which also covers the bottling of natural spring and mineral waters at springs and wells or the crushing, grinding or otherwise treating certain earths, rocks and minerals not carried out in conjunction with mining and quarrying. It also excludes the usage of the extracted materials without further transformation for construction purposes, the collection, purification and distribution of water, separate site preparation activities for mining and geophysical, geological and seismic surveying activities.

1.4.2 Manufacturing

Manufacturing includes; the physical or chemical transformation of materials, substances, or components into new products, although this cannot be used as the single universal criterion for defining manufacturing. The materials, substances, or components transformed are raw materials that are products of agriculture, forestry, fishing, mining or quarrying as well as products of other manufacturing activities. Substantial alteration, renovation or reconstruction of goods is generally considered to be manufacturing.

Assembly of the component parts of manufactured products is considered as manufacturing. This includes the assembly of manufactured products from either self-produced or purchased components.

Specialized maintenance and repair of industrial, commercial and similar machinery and equipment is included in manufacturing. However, the repair of computers and personal and household goods and the repair of motor vehicles are not included in this section. The boundaries of manufacturing and other activities can be somewhat blurred. As a general rule,

the activities in the manufacturing section involve the transformation of materials into new products.

1.4.3 Electricity, gas, steam and air conditioning supply

Economic activities included under this section are the activities of providing electric power, natural gas, steam, hot water and the like through a permanent infrastructure (network) of lines, mains and pipes. The boundary of the network is not decisive, because it also includes the distribution of electricity, gas, steam, hot water and the like in industrial parks or residential buildings. This sub-sector therefore includes the operation of electric and gas utilities, which generate, control and distribute electrical power or gas; as well as the provision of steam and air-conditioning supply. However, the sub-sector excludes the operation of water and sewerage utilities, (typically long-distance) and transport of gas through pipelines.

1.4.4 Water supply; sewerage, waste management and remediation activities

This sub-sector includes activities related to the management (including collection, treatment and disposal) of various forms of waste, such as solid or non-solid industrial or household waste, as well as contaminated sites. The output of the waste or sewage treatment process can either be disposed-of or become an input into other production processes. Activities of water supply are also included in this sub-sector, since they are often carried out in connection with, or by, units engaged in the treatment of sewerage.

1.5 Mandate

The Industrial Census statistical information was collected in accordance with the requirement of the Statistics Act, 2002 (Act No. 1 of 2002). This is to ensure that the statistical data and information; being important in assessing performance, expected patterns are traced and scientific relationships are established. However, it was the duty of the enumerator to encourage the respondents to provide accurate statistical information as requested.

1.6 Confidentiality

The National Bureau of Statistics strictly maintains confidentiality in the process of data collection as clearly stipulated under the Statistics Act, 2002.

According to the Statistics Act, information collected from the Census is strictly confidential and is not to be disclosed to any person other than those who are involved in the survey.

CHAPTER TWO

CONCEPTS AND DEFINITIONS

The conceptual basis of the Census is extremely important. The Census of Industrial Production, 2013 used the internationally agreed concepts and definitions to enhance international comparability across countries and maintain consistency with the overall framework of economic statistics.

2.1 Industrial Activity

This means the four major divisions of the International Standard Industrial Classification (ISIC) Revision 4 of all Economic Activities, that is Mining and quarrying; Manufacturing; Electricity, gas, steam and air conditioning supply and Water supply; sewerage, waste management and remediation activities.

2.2 Statistical Unit

Statistical unit is an entity for which information is sought and for which statistics are ultimately compiled. The statistical unit in this Census is any establishment engaging at least one worker and performing an activity under any of the four mentioned industrial divisions/sub-sectors.

2.3 An Establishment

It is an economic unit, which engages at least one person, under a single control, in one or predominantly one kind of economic activity at a single location that is an individual firm, factory, workshop or mine. Due to different record keeping practices, it is not always possible to strictly follow the definition of an establishment as stated above. In some cases; the restrictions, especially on location, are relaxed. When restrictions are relaxed, they give rise to local, kind of activity and enterprise units.

2.4 Principal Activity / Main Activity of the Establishment

Refers to main economic activity of an economic entity that contributes most to the value added of the entity, or activity of which its value added exceeds that of any other activity of

the entity. (*Value added: is the measure of additional value created by a process of production in the economy for the reference period*).

2.5 Terms and Definitions Used in Data Collection

2.5.1 Full Name of the Establishment

This refers to the registered name of the business entity or the name under which the unit does business. For small units, which do not have business names, the name of the owner or one of the partners will do.

2.5.2 Physical Location of the Establishment

This is for capturing information on the physical location of the establishment. The information required include name of the region, district and ward with their respective codes. Other information includes village, sub-village/street and the plot number.

2.5.3 Contact Address of the Establishment

Provides the postal address with its respective town/city (e.g. P.O. Box 28, Kyela or for new addresses like National Bureau of Statistics, 18 Kivukoni Road, 11992 Dar es Salaam), office telephone number, mobile number, fax number, e-mail address and website.

2.5.4 Full Name of a Contact Person

Full name of a person, designation and telephone/mobile number. The person here refers to the officer who is expected to give different correspondence concerning the establishment and specifically for this census.

2.5.5 Type of the Establishment

There are three types of establishments as stated in the census questionnaire:

1. **Single establishment:** this refers to a single entity without branches.
2. **Head office (*own or controls other establishments*):** this refers to the establishments with more than one branch.
3. **A branch (*owned and controlled by head office*):** this category refers to the establishment which is a subsidiary and under the control of a Head Office.

2.5.6 Activity of the Establishment

Main activity of an industrial establishment: this is the registered activity or activity defined in the foundation regulation or document. If an establishment performs only one activity, this is its main activity. If an establishment performs several activities, the main activity is the one which has the highest share of output/value added.

Auxiliary activity of an industrial establishment: this refers to minor or less important kind of activities in terms of value added/output contribution as compared to the main activity.

2.5.7 Product(s) Manufactured

Product(s) manufactured refers to final product(s) produced by an industrial establishment that contributes the highest percentage of income compared to other products produced by the same establishment, for example a brewery company which produces beer as the main product. Other products refer to produced secondary products other than the main product(s).

2.5.8 Origin of Ownership

This is determined by the origin of shareholders whether they are national, foreign or joint venture.

2.5.9 Form of Ownership

This represents the status of ownership whether it is public, private or mixed.

1. **Public:** refers to Central Government Ministries, Government Executive Agencies; Local Government (city, municipal, town and district councils); Profit and Non- Profit making Parastatals; and Government Institutions and companies.
2. **Private:** refers to all establishments owned by individuals; Community Based Organizations (CBOs), Faith Based Organizations (FBOs) and Non-Governmental Organizations (NGOs).
3. **Mixed:** is where the ownership is both public and private.

2.5.10 Type of Legal Organization

Type of legal organization and classification of an establishment is as follows: -



1. **Sole proprietorship:** is an establishment owned by an individual/proprietor
2. **Partnership:** is an establishment whereby two or more individuals put their capital together, and set up a business and share the profits.
3. **Public:** is an establishment wholly owned by the Government.
4. **Parastatal:** is an establishment belonging to companies with some degree of autonomy, in which the Government has a controlling interest.
5. **Co-operative:** is an autonomous association formed and democratically directed by people who come together to meet common objectives.
6. **Private company limited by guarantee:** is a private business entity where the shares are held privately and with unlimited liabilities.
7. **Private company limited by shares:** is a private business entity where the shares are held privately and with limited liabilities
8. **Other:** refers to any legal organization not listed above

2.5.11 Source of Finance

Source of finance refers to the amount of total investments and operating capital at the beginning of the year the establishment started production. This involves the finance received from each of the listed categories. That is personal and relatives, loans from banks and other financial institutions, government and any other which has to be specified.

2.5.12 Persons Engaged

Refers to all persons/workers who, during a specified period, worked in or for the establishment including part time workers. It includes working proprietors and partners, unpaid family workers and employees (operatives, managerial and professional staff). It includes even those who during the specified period were temporarily absent from work, e.g. on sick leave, casual leave or annual leave. It excludes persons on military leave, pension and other forms of unlimited leave.

Working Proprietors and Partners

Persons who control the establishment and share in its profits i.e. those who own the establishment. It may be a single individual or many persons as in partnership. Working proprietors are those who are actually engaged in the work of the establishment. However, in

corporations, there are no working proprietors while the salaried directors are considered to be employees.

Unpaid Workers

Persons like members of religious institutions, prisoners, J.K.T. militia, family members and the like who work for at least 1/3 of the normal working time of the establishment. They work without regular pay or any agreed amount to be paid for the work done.

Employees

These are persons who, during a specified period, worked for an agreed amount of pay, either in cash or in kind, under the direction of the establishment. This includes managerial and professional staff, operatives and other employees.

Managerial and Professional Staff

This category includes administrative, technical and clerical personnel such as salaried managers and directors, clerks, typists and the like.

Operatives, Skilled

Operatives are persons who are directly engaged in the production or related activities of the establishment and who receive pay, in cash or in kind, at regular intervals. Therefore, skilled operatives are persons with specialized skills, for example persons engaged in fabricating, processing or assembling, fitters, packers, repairmen, record-keeping personnel, foremen and inspectors.

Operatives, Non-Skilled

Workers in this group perform routine tasks, either manually or using hand tools and appliances. The group includes such operatives as machine operators, cleaners, constructors, foremen and mining labourers, etc.

Other Employees

These are persons who do not fall in the above categories, i.e. watchmen.

2.5.13 Labour Costs

Are comprised of gross wages and salaries, overtime payments, reimbursement of travel expenses, payments in kind, employer's contributions to social security schemes, training expenses and other labour costs related to employees.

Gross Wages and Salaries Paid to Employees

This refers to payments made to workers (employees and part-time workers) as wages. The payments may be in cash or in kind. Wages and salaries in cash include all cash payments such as direct wages and salaries, overtime payments, bonuses, commission pay to sale personnel, gratuities, housing, transport, cost of living and family allowances when paid directly to the employee by the employer.

Overtime Payments

Extra payments for employees who worked after normal working hours.

Reimbursement of Travel Expenses

These are re-payment expenses to employees who used their own funds when transferred to other working stations.

Payments in Kind

These are benefits given to employees in forms other than cash, is the net cost to the employer of those goods and services (which are clearly and primarily of benefit to the employees as consumers) furnished to the employees free of charge or at markedly reduced cost. It includes food, beverages, tobacco, housing, clothing (not uniforms) and medical expenses. Payment in kind which are excluded are recreational facilities.

Employer's Contribution to Social Security Schemes

The item covers payments made by the employer on behalf of his/her employees with regard to social security schemes and pension funds. This includes contributions by the employer to National Social Security Fund (NSSF), Parastatal Pension Fund (PPF) and other funds of this nature organized by the establishment concerned.

Training Expenses

These include employer's costs for providing training.

Other Labour Costs

These include employer's expenses for providing services to employees not mentioned above, e.g. uniforms and welfare services, etc.

2.5.14 Electricity, Water and Fuels Consumed

This category covers cost of energy consumed by the establishment during the reference year; it gives the unit, quantity and value of each kind of energy consumed.

2.5.15 Goods Purchased

These are goods purchased for use by the establishment and other purposes.

2.5.16 Cost of Goods Sold as Purchased

Includes the purchased value of goods that are shipped without any transformation i.e, in the same condition as purchased. This item covers goods sold in the same form as purchased i.e, without further processing or transformation.

2.5.17 Raw Materials and Components Consumed

This item includes all goods delivered to the control of the establishment and owned by the establishment or the enterprise to which the establishment belongs. Goods are considered received at the time they are entered in the inventory account of the establishment. However, goods received from abroad should be considered received even if the legal title may not have passed. Goods are valued at purchaser's prices which are delivered values at the establishment inclusive of purchase price, transport charges, value of packing materials charged, taxes and duties except deductible Value Added Taxes (VAT).

The items include all the materials that enter directly into the goods produced including raw materials and fabricated parts and components. Also, included are auxiliary materials consumed during the production process for example; fuel, lubricants, polishes, small tools and appliances, office supplies, etc. Goods received by the establishment from other establishments of the same enterprise are valued as if they were purchased.

2.5.18 Utilization of Production Capacity

This item measures actual production against installed production capacity of the plant. Capacity utilization percentage is computed from value of actual productions and installed capacities. (VAT and Excise Duties are not included).

2.5.19 Sales from Production

Quantities and values of main products and by-products produced and sold are indicated product-wise. Value of other products including fixed assets produced by the establishment for its own use are also included in the category of others. Sales have been valued at producer prices, i.e. at the establishment prices charged to the customer (ex-factory price).

They include 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. Price rebates, discounts, indirect taxes, duty drawback and allowances on returned goods allowed to the customer are deducted.

2.5.20 Income from Industrial Services

It covers receipts for services of an industrial nature rendered to others for example; contract or commission work done for other establishments on their materials, construction, repair and maintenance work or on other establishments' machinery and equipment, installation work and research and development work of an industrial nature.

The value reported is the total cost charged including the amount charged for materials supplied by the establishment.

Receipts from Contract done for Others on their Materials

Contract work consists of the processing, transformation or assembly of materials supplied by the unit which ordered the work.

Receipts from Repair and Installation Work done for Others

It is the amount charged for work done on commission, sub-contract work, repair and maintenance.

Other Receipts

These are incomes from other industrial services apart from the above listed ones together with their receipts.

2.5.21 Income from Non-Industrial Services

These are incomes from services which are not directly related to production provided by the establishment to the external clients in exchange for fees.

Rents Received

These are payments received for the use of establishment's fixed assets such as hiring out plant, machinery, buildings and other assets.

Receipts from Transport Services Rendered to Others

The amount received by an establishment as a result of rendering transport services to others.

Sales of Goods Sold as Purchased The amount received from the sale of assets sold in the same form as purchased i.e, without further processing or transformation.

Receipts from Warehousing Services

Amount paid to the establishment for warehousing services rendered to others.

Other Non-Industrial Services

Includes all other revenues received by the establishment but not mentioned above, e.g. from operation of employee facilities like canteens.

2.5.22 Other Income

Interests and Dividends Received

Amount received by the establishment on loan granted to others and profit received from all types of shares held by the establishment.

Insurance Premiums Received

Amount received by the establishment from clients for taking care of risks on unforeseen business losses.

Subsidies Received

These are current unrequited payments that government units, including non-resident government units, make to enterprises on the basis of the levels of their production activities or the qualities or values of the goods or services that they produce, sell or import.

2.5.23 Value of Inventories

Materials, Supplies and Fuels

This item includes the value of stocks of all materials, parts and components that are used in the product formation; fuels; and other consumable supplies. Materials owned by the establishment, but held by others for processing are included, whereas; materials owned by others, but held by the establishment for processing are excluded.

Work in Progress

This item refers to the value of all materials which have been partially processed but are not usually sold without further processing. Work in progress of own- construction of fixed assets is excluded.

Finished Goods

This includes all goods made by the establishment, which have been sold or are ready for sale.

Goods Purchased for Re-Sale

This item covers the value of any stocks of goods that the establishment has bought with the intention of re-selling in the same form, i.e. without further processing or transformation. They are commonly known as trade goods.

2.5.24 Value of Fixed Assets

Land

Land refers to all land used for buildings, sheds, etc. and within the premises of the establishment where the economic activity is carried out.

Buildings and Other Construction Works

This category also includes factories, offices and warehouses; elevators and other equipment, which form part of the buildings as well as any land improvements.

Transport Equipment

All transport equipment used by the establishment are included here. These involve motor vehicles, tractors, etc.

Machinery and Other Equipment

This item includes all industrial machinery and other equipment such as construction machinery, cranes, fork-lift equipment and the like; power generating machines; computers and other data-processing equipment; metal-working machinery; mining machinery; office machines, furniture; and similar machinery and equipment and major renovations and alterations to these, data-base peripherals, software etc.

Other Fixed Assets

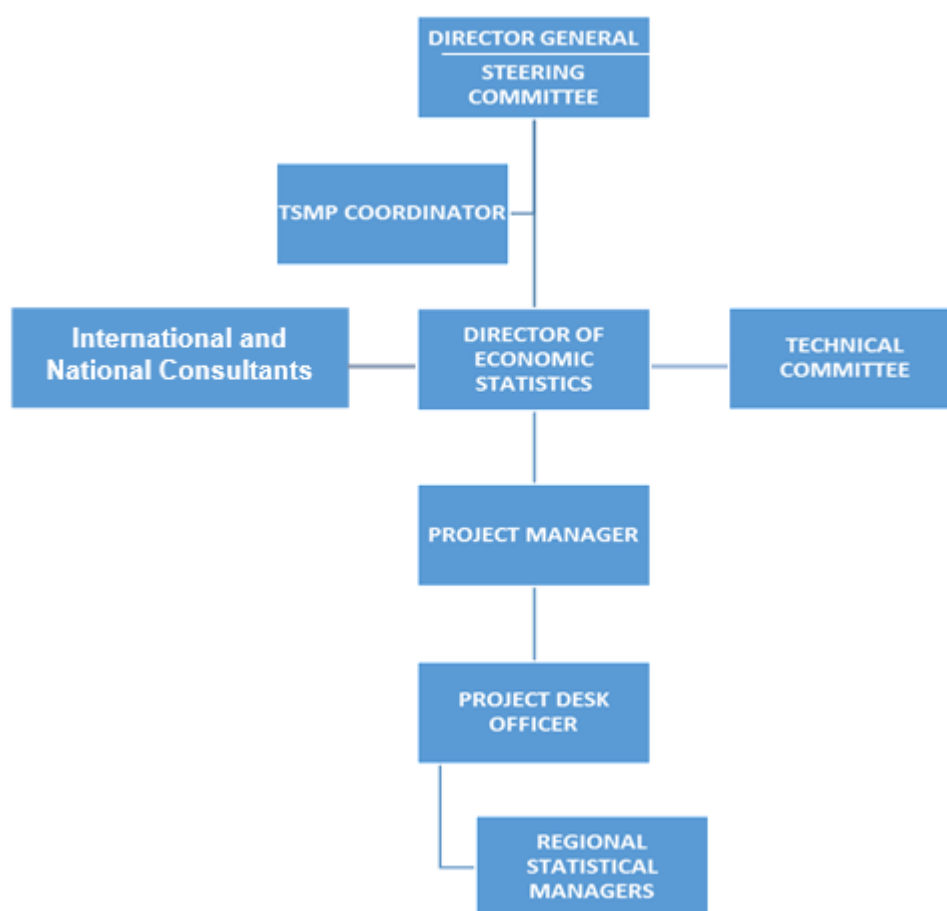
All other fixed assets not included above such as library and laboratory apparatus are included under this item.

CHAPTER THREE

INDUSTRIAL CENSUS ORGANISATION STRUCTURE

The Census is a complex under-taking which needs a better and well-coordinated framework. Execution of the census was administered by the census committees namely; the Steering Committee and the Technical Committee or the Census Planning and Implementation Group. The responsibility of each committee is explained here-under:

Figure 1: Industrial Census Organisation Structure



3.1 The Steering Committee

The Steering Committee was composed of representatives from major stakeholders including the National Bureau of Statistics; Ministry of Industry, Trade and Investment and other sector ministries responsible for Finance, Planning, Energy and Water. The representatives were the senior members of staff of the respective institutions.

The Committee was chaired by the Director General of the National Bureau of Statistics or the Permanent Secretary of the Ministry of Industry, Trade and Investment. The Committee, among other things, was responsible for considering and approving proposals referred to it by the Technical Committee.

3.2 The Technical Committee

The Technical Committee was comprised of staff from major stakeholders as in the case of Steering Committee. The committee was chaired by the Director of Economic Statistics or the Director of Industry Development, Ministry of Industry, Trade and Investment. The committee was responsible for planning and implementation of Census activities.

Other responsibilities of the committee included preparation of enumeration plan, supervision, quality control, data processing, analysis and preparation of the dissemination plan. The CIP team under the supervision of quality assurance specialist was given the task of developing Census instruments. These instruments were then discussed and approved by the Technical Committee.

3.3 Regional Statistical Managers (RSMs) and Regional Trade Officers (RTOs)

The Regional Statistical Managers and Regional Trade Officers were responsible for coordination, supervision and implementation of the Census activities in their respective regions.

3.4 National and International Consultants

During the implementation of the CIP 2013, NBS hired two consultants, a National Consultant and a UNIDO International Consultant. The consultants' main duties were to provide guidelines and advice on technical aspects of the Census of Industrial Production, 2013 as stipulated in their terms of reference.

CHAPTER FOUR

LISTING OF INDUSTRIAL ESTABLISHMENTS

4.1 Listing Instruments

This chapter gives an account of the instruments used by enumerators during the listing exercise. The instruments used were an introduction letter to the establishments, a listing form, a list of establishments and an instructions manual for enumerators and supervisors.

4.1.1 Introduction Letter to Establishments

After locating the establishment and meeting with local government leaders, the enumerator was supposed to present the introduction letter which explained in detail the Census objectives. The letter was written and signed by the Permanent Secretary, Ministry of Industry and Trade (MIT).

4.1.2 Listing Form

The information to be filled in the Listing Form included full name of the establishment; mailing address; physical location of the establishment; type of establishment; type of ownership; nationality of owner(s); main activity of the establishment; and number of persons engaged.

4.1.3 Instructions Manual for Enumerators and Supervisors

The manual contained guidelines or instructions on how to carry out the listing exercise. Also, ISIC Revision 4 was attached in the manual. In case an enumerator or a supervisor needed clarification of any question or census procedure, he or she was to consult the instructions manual.

4.1.4 List of Establishments

Each enumerator was given a list of establishments to work on in his/her area of work e.g. ward/district/region. The list shown the location and address of each establishment.

4.2 Pre-Test of the Listing Instruments

The Pre-Test of the Listing Instruments started on 27th December, 2013 and was completed on 10th January, 2014. This period included three days of training, seven days of field enumeration and five days of report writing.

The exercise involved the Quality Control Group, Supervisors, Geographical Information System (GIS) specialist, Information Technology (IT) specialist and temporary field staff. Pwani Region was selected for the Pre-Test exercise, specifically in Mkuranga District Council and Kibaha Town Council. Maili Moja Ward of Kibaha District Council was selected purposively to represent pure urban wards while Mkuranga Ward of Mkuranga District Council was selected purposively to represent mixed wards.

4.2.1 The Objectives of the Pre-Test

The main objective of the Pre-Test was to test the clarity of the listing form which was used as a questionnaire. Specifically, the Pre-Test aimed at testing the technique to be employed in the listing of industrial establishments. This was done with respect to estimating the time needed to fill in the questionnaire per establishment, the suitability of questionnaire contents, and determining the percentage of new establishments versus the existing ones. In addition to that, collect information on the possibility of using GPS to locate industrial establishments.

4.2.2 Field Work Testing Activities

Seven days were set for the field work in each area starting from 30th December, 2013 to 5th January, 2014. Day one was spent on practical of reading GPS to locate establishments' coordinates, also meetings with representatives of the Local Government (district and ward officials). However, letters introducing the pre-testing exercise to the Pwani regional leaders were sent in advance.

A team of twenty-two (22) people was involved in the Pre-Test exercise. The training of supervisors and enumerators was conducted for three days Regional Statistical Manager's office, Kibaha from 27th to 29th December, 2013. The contents included in the training were the objectives of the pre-test exercise, data collection techniques (up-dating and listing of new establishments), discussions on the listing questionnaire in detail (question by question) including translation into Kiswahili language, GPS reading (theoretical and practical) and scope and coverage of the Census of Industrial Production, 2013 (according to ISIC Rev.4).

4.3 Training of Trainers (TOT) for the Listing Exercise

The TOT took place in Morogoro from 12th to 18th March, 2014 whereby; Statisticians from the National Bureau of Statistics (NBS), Ministry of Industry and Trade (MIT), Small Industrial Development Organization (SIDO) and the Confederation of Tanzanian Industries (CTI) were trained in order to train the enumerators.

Participants used the first two days of the training to modify and adapt the main census instruments that were previously prepared by the secretariat in December, 2013. The CIP instruments include; the Instructions Manual, the Listing Form, ISIC Rev.4 (English and Kiswahili versions), List of industrial establishments as well as names and codes of regions, districts and wards.

4.4 Recruitment and Training of Enumerators

4.4.1 Recruitment of Enumerators

A total of 180 enumerators were recruited to work for 60 days for the listing exercise. During the recruitment of enumerators, preference was given to those enumerators who had enough experience in collecting data and information through establishment-based surveys, particularly, the Annual Survey of Industrial Production (ASIP).

4.4.2 Training

This training took place from 24 March to 01 April, 2014 in Morogoro whereby, a total of 180 enumerators were recruited and trained for the survey activities. Trainers were a team of statisticians who had attended training of trainers. It also included 25 Regional Statistical Managers from all the regions and 25 statisticians from the Head Offices i.e. NBS, MIT, President's Office-Planning Commission (POPC), Ministry of Finance, Ministry of Water, Ministry of Energy and Minerals, Business Registration and Licensing Agency (BRELA), SIDO and CTI. During the training, census instruments and the mode of conduct during the listing exercise were discussed intensively.

4.5 Listing and Up-dating of the Census Frame

4.5.1 Development of the Census Frame

Before carrying out the listing exercise, the provisional Census Frame was established by updating the current list of establishments from the NBS Central Register of Establishments (CRE) and the Tanzania Revenue Authority (TRA). The census frame included Micro, Small, Medium and Large establishments. The two sources were used to construct the 2013 Industrial Census Frame which had a list of all establishments with permanent premises, registered and had Business Licenses from any of the recognized Authorities like; TRA, Local Authorities/Town Councils and others. The provisional census frame was verified and up-dated during the listing exercise.

4.5.2 The Listing Exercise

The listing exercise which involved 180 enumerators commenced on 8th April, 2014 and was completed within 60 days. The exercise was done in all the regions except Dar es Salaam region where the same exercise started on 14 April 2014. It was closely supervised with the aim of ensuring better quality of the work. Supervision was done by Regional Statistical Managers (RSMs), team of statisticians from National Bureau of Statistics (NBS), Ministry of Industry and Trade, SIDO, BRELA and other institutions.

Considering the duration of 60 days for the listing exercise, it was estimated that an average of 19 wards were to be listed by one enumerator. The information captured from the listed establishments consisted of; the name of each establishment, the location, the type of industrial activity, the number of persons engaged, and the turnover.

4.6 Data Processing for the Listed Establishments

4.6.1 Questionnaire Handling

The procedure of questionnaire handling involved receiving the questionnaires and checking manually the batch number of each booklet within the respective region, and verifying the number of establishments in each booklet. Moreover, a receiving control form was kept to track the inflow of questionnaires from the field. Only one person was assigned to handle this task. All the filled-in listing forms were handled with care and properly arranged.

4.6.2 Manual Editing and Coding

The process of manual editing and coding started in August, 2014. A team of experienced personnel was prepared and well trained to manage this task. The team received training before and during the editing process.

Major tasks of editors, among others, included:

- a. To check if all the questionnaires were received;
- b. To check the completeness of each questionnaire and edit / impute it if necessary;
- c. To allocate appropriate ISIC codes, Regional, District and Ward codes; and
- d. To recheck the 'other' categories and collapse them into their identified categories if necessary.

4.6.3 Data Processing

The process of data entry began shortly after editing and coding of the listing forms. It was carried out in August, 2014. A data capturing programme was developed using the Census and Survey Processing (CSPRO) statistical package. The programme allows a number of logical flows and checks the validity of data being entered, hence minimizing the number of errors.

The data entry staff had to under-go orientations for several days to equip them with necessary skills and techniques necessary for efficiently handling the task. During data entry, the computer programmers continued with the re-editing of data entry applications where necessary, and up-dated the batch edit application ready for the on-the-screen data editing task. At the end of every week, data capture and necessary back-ups were carried out.

4.6.4 Data Editing

Data cleaning and validation were performed by experienced data processing personnel. Computer edit applications were developed using CSPro for data editing. The editing/cleaning of the CIP listing data started after data entry.

The following were the major errors detected during the data editing exercise:

1. Wrongly filled-in questionnaires from the field;
2. Partially edited questionnaires in the office;
3. Minor typing errors of data by data entry staff;
4. Some wards were wrongly coded; and
5. Wrongly coded activities against the International Standard Industrial Classification (ISIC) Revision 4.

A computer error list and validation program was developed using CSPro which assisted to locate errors/omissions in the listing form. Validation guidelines were set to ensure, among others:

1. All codes for activity, Region, District, and Ward codes subject of training were valid;
2. All establishments which answered Q4 (Type of ownership of the establishment) code 3 (*A branch of an establishment of a large enterprise*) were supposed to provide names and addresses of their enterprises respectively.

4.6.5 Tabulations

CSPro, SPSS, MS Word and MS Excel software were extensively used for running the frequencies, checking of data and tabulations of various types. These frequency tables assisted to a great extent to locate extra errors that were accidentally over-looked in the previous stages. All unusual results spotted were corrected during this stage.

During the data processing for the listed establishments, all the errors were cross-checked on the original listing form and changes were made where necessary.

CHAPTER FIVE

CENSUS INSTRUMENTS, SAMPLING PROCEDURE AND TRAINING OF CENSUS PERSONNEL FOR MAIN DATA COLLECTION

5.1 Design of Census Instruments

Designing of the instruments is a key activity in any survey undertaking. The instruments used in the CIP, 2013 include: detailed questionnaire (English and Kiswahili versions); short questionnaire (English and Kiswahili versions); introduction letter; acknowledgement form of receipt of the questionnaire; enumerator's check list form for visits or calls; instructions manual for enumerators; instructions manual for supervisors and list of the sampled establishments with addresses and locations by district.

5.1.1 Detailed Questionnaire

The detailed questionnaire was designed to collect information from establishments engaging ten and more (10+) persons. Key sections of the detailed questionnaire or information in the detailed questionnaire were establishment's description, employment, labour costs, production costs/intermediate consumption, output/income, value of inventories or stocks, value of fixed assets and other related information. **(See Appendix 9 for the English version).**

5.1.2 Short Questionnaire

The short questionnaire was designed to collect information from establishments that engaged one to nine (1-9) persons. Key sections in the short questionnaire include establishment's description, employment, labour costs, production costs, output/income, value of inventories or stocks, expenditure on fixed assets and other information. **(see Appendix 8 for the English version)**

5.1.3 Instructions Manual for Enumerators and Supervisors

The CIP Instructions Manual was designed so as to provide all instructions for the Census data collection. If the enumerator or supervisor needed clarification of any question or Census procedures, he or she had to refer to the instructions manual.



5.1.4 Introduction Letter to Establishments

The introduction letter was designed so as to help the respondent to understand the whole exercise of the CIP. The letter explained in detail the Census of Industrial Production, 2013 objectives, the mandate of data collection under the Statistics Act 2002 and the Confidentiality of the collected information. The letter was written and signed by the Permanent Secretary, Ministry of Industry and Trade (MIT).

5.1.5 Acknowledgement Form for the Receipt of the Questionnaire

The acknowledgement form for the receipt of the questionnaire was designed for establishments and was left with the establishment for filling-in the required information (**see Appendix 5 for the English version**). The establishment had to fill-in correct and complete information, and the enumerator had to collect the filled-in form on the agreed date. This was the commitment between the enumerator and the one who received the questionnaire on behalf of the establishment

5.1.6 Enumerator's Check-list Form for Visits or Calls

The Check-list Form was mainly designed so as to help the supervisor to cross-check the appointments given to enumerators by the respondents (**see Appendix 6 for the English version**). Since the respondent was requested and agreed to fill in the questionnaire, the enumerator was required to fill in the check-list form and submit it to his or her supervisor for reference and follow-ups.

5.1.7 Control Forms

Control Forms (**see Appendix 7 for the English version**). were designed for the purpose of dispatching CIP materials. There were three forms;

- a. Dispatch of CIP materials from Headquarters to the RSM (CIPCF-1),
- b. Dispatch of CIP materials from RSM to the enumerator (CIPCF-2) and
- c. Confirmation of Headquarters receipt of CIP materials from RSM (CIPCF-3).

5.1.8 List of Sampled Establishments

The list shows the location and address of each establishment. Each enumerator was given the list of sampled establishments to be covered in his/her area of work e.g. district or region.



5.2 Pilot Survey for the Census

Pilot Survey for the Census was conducted in Dar es Salaam, Tanga and Mbeya regions on 10th November, 2014 aiming at testing the level of census organization. Prior to the pilot survey, training of enumerators and supervisors was undertaken.

5.3 Objectives of the Pilot Survey

The aim of conducting a pilot survey was to test data collection tools and efficiency of the data collection operation. Specifically, the pilot survey aimed at testing the techniques to be employed in the main census with regard to the following aspects; survey plan, workload and time spent to administer the questionnaire, capability of enumerators to handle questionnaires, sampling procedure to be employed, suitability of census instruments, editing specifications, enumeration procedure, data processing methodology, quality control specifications, tabulation plan and other survey logistics. Eventually, the findings from the pilot survey were used to improve proceedings of the main Census.

5.4 Sample Design for the Pilot Survey

5.4.1 Structure of the Sample and the Sampling Procedure

Classification Standards

The Pilot Survey used the International Standard Industrial Classification (ISIC) Revision 4 of All Economic Activities in its operations.

Statistical Unit

The basic unit of enquiry for the pilot survey was an establishment defined as an economic unit or part of an enterprise, that is situated at a single location; and in which only a single product activity is carried out, or in which the principal productive activity accounts for most of the value added.

Consideration of the Sample Design by Geographical Coverage

The Pilot Survey was carried out in Dar es Salaam, Tanga and Mbeya regions where the number of establishments which operated in 2013 according to the listing exercise was 6,525 for Dar es Salaam; 1,418 for Tanga and 2,566 for Mbeya. More than 6,000 (92.0 percent) establishments in Dar es Salaam engaged less than 10 persons, 1,314 (93.0 percent) in Tanga and 2,502 (98.0 percent) establishments in



Mbeya. The large establishments engaging ten or more persons were 488 (8 percent) for Dar es Salaam region, 104 (7.0 percent) for Tanga region and 64 (2.0 percent) for Mbeya region.

5.5 Sampling Procedures for the Pilot Survey

Sampling Frame

The sampling frame used for the pilot survey was based on the establishments which operated in 2013 according to the CIP. Listing Frame established in April 2014 for all regions of Tanzania Mainland.

Stratification of the Sample

Two levels of stratification were followed in designing the pilot sample:

1. **Certainty or take-all stratum:** whereby, all establishments with ten or more (10+) persons engaged were selected purposively for the long questionnaire. A sample of 45 establishments engaging ten persons or more was drawn for Dar es Salaam region; 20 sampled establishments for Tanga region and 20 sampled establishments for Mbeya region.
2. **Sampled stratum:** for all establishments with one to nine (1-9) persons engaged, a random sampling procedure was used by taking at least two units for each 3-digit group of ISIC so as to give representative estimates of different industrial characteristics for each region. A sample of 98 establishments was drawn for Dar es Salaam region, 41 sampled establishments for Tanga region and 51 sampled establishments for Mbeya region out of which, eight (8) establishments in Dar es Salaam, one (1) in Tanga and eleven (11) in Mbeya region were reserved for replacement.

Equation Used to Determine Sample Size

The pilot sample size (n) was calculated using the following equation:

$$n = \left[\frac{1}{N} + \frac{N-1}{N} \frac{1}{PQ} \left(\frac{k}{Z_{1-\frac{\alpha}{2}}} \right)^2 \right]^{-1}$$

Where by:

N = Population size



P = Population proportions

$$Q = 1 - P$$

k = Desired level of precision (i.e. 5.0 percent)

$Z_{1-\frac{\alpha}{2}}$ = Value of the normal standard coordinate for a desired level of confidence (1 – alpha)

Sample Size

The three regions namely; Dar es Salaam, Tanga and Mbeya had a frame of 10,509 establishments out of which, 275 establishments were sampled. The take-all stratum sampled 85 establishments engaging ten or more persons while the sampled stratum had 190 establishments engaging one to nine persons. Tables 1 and 2 below summarise the frame and sample allocation to the two strata.

Table 1: Sample Allocation to Regions in the Sampled and Take All Strata During the Pilot Survey, Tanzania Mainland, CIP-2013

Region Name	Population (N)	Sampled Stratum (n)	Take-all Stratum
Dar es Salaam	6,525	98	45
Tanga	1,418	41	20
Mbeya	2,566	51	20
Total	10,509	190	85

5.5.1 Sampling Weight and Estimation

Weight Calculation

During calculation of the estimations for survey indicators, it is necessary to compute weights of the establishments. The weight of an establishment is the mathematical inverse of the probability of choosing it. After data editing, all establishments are weighted to substitute the non-response and the over coverage. Also, it is useful to obtain total population from the sample surveyed establishments.

Variance Calculation

Variance is the change from one unit to another, it depends on:

1. The sample size;
2. The actual variance for all the population units; and
3. The sample design.



The variances for a number of variables are calculated using SPSS program. The factors calculated include:

1. Estimate;
2. Standard error;
3. Coefficient of variance (CV) = $cv_{(\bar{y})} = \frac{se_{(\bar{y})} \times 100\%}{\bar{y}}$;
4. 95% confidence interval = $\bar{y} \pm t \times se(\bar{y})$; and
5. Design Effect (DEFF).

Non-Sampling Errors

Several measures were taken to minimize the effects of such errors. The interviewers, editors and coders went through intensive training and were told to consult instructions manual when faced with any problem at field and data entry stages as follows;

1. **At Field Work Stage:** errors may result from cases of non-response as well as in the implementation of the survey. In this pilot survey, errors might occur because of:
 - The special situation of the questionnaire itself which depends on estimates (e.g., number of persons/workers, wages, salaries etc.).
 - Diverse sources (e.g., interviewers, respondents etc.).
2. **At Data Entry Stage:** the data entry program was designed in a way that it allowed for error detection and correction. This applies particularly to logical errors that might not be discovered prior to data entry. A consistency check was also performed to ensure accuracy after data entry.

5.5.2 Field Work for the Pilot Survey

The Pilot Survey involved a total of seventeen (17) enumerators of which nine (9) were in Dar es Salaam region, four (4) in Mbeya region and four (4) in Tanga region. The survey was done on a sample basis for the establishments engaging 1 to 9 persons, and for the establishments engaging 10 persons or more. A total of 85 establishments, engaging 10 persons or more, were surveyed; while a total of 190 establishments, engaging 1 to 9 persons, were surveyed in all the three regions.

Each enumerator was assigned to collect data from five establishments engaging ten or more (10+) persons using detailed questionnaire and ten establishments engaging one to nine (1-9) persons by using short questionnaire.



5.5.3 Major Findings from the Pilot Survey

The following are Major Findings from the Pilot Survey:

- It was observed that the level of understanding both short and detailed questions was fairly high, and the respondents did not find any difficulty in answering the questions. Generally, all the surveyed areas were highly sensitized by the Regional Statistical Managers and Regional Trade Officers.
- That, the detailed questionnaire took an average of 6 days to be completed while the short questionnaire took an average of one day.
- Majority of the visited establishments welcomed the census and cooperated well with the enumerators; large establishments were more familiar with the CIP compared to small establishments as these required more time to explain the purpose of the survey to the respondent.

5.6 Review of Census Instruments

The objective of the exercise was to review CIP instruments for data collection, to evaluate field test including problems encountered during the pilot survey and to recommend amendments/changes where necessary for smooth running of the Census.

5.7 Sample Design for the Main Data Collection

5.7.1 Sampling Frame

The 2013 Census of Industrial Production consisted of two stages. In the first stage, all industrial establishments were listed; by location, activity and employment size. This list formed the sampling frame used for the second stage of the census. The listing exercise was conducted in April 2014. It therefore included establishments that were started in the first months of 2014, these had to be excluded from the sample frame. The sampling frame therefore included all establishments which operated in 2013.



Stratification of the Sample

The Census of Industrial Production, 2013 was stratified on the basis of the desired details of the published outputs, by region, ISIC activity and employment size. The three characteristics have been coded and formed the basis for the single-stage sample design. The number of establishments/enterprises found in each stratum determines its allocation to the census part or the sampling part of the survey.

Two levels of stratification were used in the design:

1. **Certainty or Take-all Stratum:** This includes all establishments with ten or more persons/workers, but also many smaller establishments in regions where less than a hundred of the same activity were found.
2. **Sampled Stratum:** This includes all establishments in the selected areas with either one to four (1-4) or five to nine (5-9) workers, where 80 or more establishments were found in the same activity. A Systematic Sampling Procedure with a random start was used, taking about 50 units in the selected employment size class for different activities. Most of these were concentrated in four groups of ISIC, namely: Grain Milling, Tailoring, Welding and Furniture. The selected number is large enough to give representative estimates for these four (4) industrial activities in each region and employment size classes.

5.7.2 Sample Size

The sample size for the Census of Industrial Production, 2013 was 13,619 establishments. Making assumptions on the distribution, variance and various other characteristics of the sampling universe, it was possible to derive optimum sampling fractions and sample sizes for the census given constraints determined by the desired quality of the results. In practice, using a fixed (minimum) sample size for the sampled strata gives similar results. For the CIP, an optimal sample of about 50 establishments in a stratum was taken.

Table 2: Number of Establishments Selected by Industrial Activity and Employment Size Class, Tanzania Mainland, CIP-2013

ISIC Rev.4 Code	Industrial Activity	Employment Size Classes							
		1-4	5-9	10-19	20-49	50-99	100-499	500+	Total
1061	Grain milling	1,250	377	148	60	10	3	2	1,850
1410	Tailoring	1,231	549	64	10	1	2	1	1,858
2511	Welding	987	394	58	15	0	2	0	1,456
3100	Furniture	1,140	764	165	42	11	6	1	2,129
Other ISIC groups		3,753	1,142	626	435	168	165	37	6,326
All		8,361	3,226	1,061	562	190	178	41	13,619

It may be observed that, the recommended sample size of about 50 establishments includes a number of establishments which were not found when the census was undertaken. These are establishments which have been closed between the listing and the census enumeration period. On average, for the small (1-9) establishments, this was about 15 percent of the total number, which means that, 42 establishments had to be sampled. This reduced sample size remains large enough to maintain high-quality estimates and there was no need to replace the units which were not found.

5.7.3 Sample Selection

A single-stage sample design was used. Sampling was done systematically with a random start. The sampling fraction was calculated by dividing the total number of establishments/enterprises in the strata by 50 and rounding the resulting value up-wards. This ensures that all values in the set have a chance to be selected. Of course, the sampling fraction is an integer, but the raising factor, in principle the inverse of the sampling fraction, is calculated as the actual number of units in the sample divided by the total number of establishments in the strata. The formulas are:

$$SamplingFraction_{r,a,e} = \left(\frac{N}{50} + 0.99 \right)_{r,a,e} \quad \text{and}$$

$$Raising Factor_{r,a,e} = \left(\frac{N}{n} \right)_{r,a,e}$$

Where:

N = number of units in strata r, a, e



n = number of units in the sample in strata r, a, e

r = region

a = activity

e = employment size class

There were seven (7) employment size classes, 25 regions and 116 ISIC Rev.4 activities in Tanzania Mainland. In theory, there can be 20,300 strata ($7 * 25 * 116$) but in fact, there were only about one tenth (1,922 strata). Out of these, sampling was carried out in 94, that is, in 4.9 percent of the strata. Establishments in the other strata were all in the list for enumeration. The information is given in Table 3 (See appendix 1 for the regional codes which are used in the table).

Even within the two smallest employment size classes, the sampling activity is highly concentrated in four activities across the country and seven other activities, mainly in Dar es Salaam. The vast majority of the sampled strata are within the smallest employment class, but even there, they make-up only a small share of the total, at about one-eighth. In the only other employment size group where sampling was carried out, only 1.5 percent of the existing strata were falling in this group, all others were taken in full, as was the case for all other employment size groups.

As can be expected, sampling was mostly used in Dar es Salaam, where 14 strata were sampled, or about 15.0 percent of the total. This was also the share of the establishments recorded in Dar es Salaam region.

Table 3: Overview of Sampling of Strata and Establishments, Tanzania Mainland, CIP-2013

Employment size classes (Workers)	Size Class Code	Number of strata	Number of sampled strata	Percent sampled	Total all establishments	Sampled establishments	Complete enumeration	Sample	Total enumerated
< 5	1	632	86	13.6	38,014	33,800	4,214	4,254	8,361
5 to 9	2	456	4	0.9	3,674	791	2,883	244	3,226
10 to 19	3	329	0	0.0	1,068	0	1,068	0	1,061
20 to 49	4	235	0	0.0	563	0	563	0	562
50 – 99	5	126	0	0.0	190	0	190	0	190
100 – 499	6	110	0	0.0	179	0	179	0	178
500 +	7	34	0	0.0	40	0	40	0	41
Total		1,922	90	4.7	43,728	34,591	9,137	4,498	13,619

5.7.4 Sampling Weight and Estimation

Weight Calculation

It is necessary, when calculating the estimations of the census indicators, to calculate the weights of the establishments. These weights consist of two parts. The first part is the raising factor. This is a design feature and is the mathematical inverse of the sampling fraction. The second part is the adjustment for non-response. This is because the establishment was closed after the listing was conducted and therefore no information could be obtained any more. Some units were not cooperating while others had moved to a different, but unknown, location.

$$\text{Sampling Fraction} = \frac{\text{Number of establishments in the sample}}{\text{Number of establishments in the frame}}$$

$$\text{Raising Fraction} = \frac{1}{\text{Sampling Fraction}}$$

The grossing factors are the ratio between the total employment in the strata (the employment size class for an activity within a region) divided by the employment of the responding units in the same strata. Grossing factors are calculated for all strata where non-response occurs, be they were sampled or fully enumerated.

$$\text{Grossing Factor} = \frac{\text{Total employment in the strata}}{\text{Employment of the responding units in the same strata}}$$

During the field work, a number of establishments were found that were not captured during the listing stage of the census, but were in existence. Most of those fell into the group of large establishments and these have been enumerated. They were added to the data-base as self-representing units, with both the raising and grossing factors set to 1.

Table 4: Calculation of Raising Factors for Sampled Strata, Tanzania Mainland, CIP-2013

Region	Employment size class	ISIC Rev.4	Number of establishments in sample	Number of establishments in frame	Sampling fraction	Raising factor
1	1	1040	44	197	0.223	4.477
1	1	1061	50	736	0.068	14.720
1	1	1410	54	378	0.143	7.000
1	1	2511	57	138	0.413	2.421
1	1	3100	50	101	0.495	2.020
2	1	1061	49	1019	0.048	20.796
2	1	1410	47	395	0.119	8.404
2	1	2511	50	196	0.255	3.920
2	1	3100	48	224	0.214	4.667
3	1	1061	51	623	0.082	12.216
3	1	1410	51	339	0.150	6.647
3	1	2511	51	193	0.264	3.784
3	1	3100	57	196	0.291	3.439
4	1	1061	50	781	0.064	15.620
4	1	1410	47	353	0.133	7.511
4	1	3100	57	231	0.247	4.053
5	1	1061	48	1446	0.033	30.125
5	1	1410	49	615	0.080	12.551
5	1	2511	52	256	0.203	4.923
5	1	3100	48	447	0.107	9.313
5	2	3100	41	90	0.456	2.195
6	1	1061	52	241	0.216	4.635
6	1	1410	48	405	0.119	8.438
6	1	2395	39	138	0.283	3.538
6	1	2511	57	170	0.335	2.982
6	1	3100	51	188	0.271	3.686
7	1	1061	53	256	0.207	4.830
7	1	1392	51	337	0.151	6.608
7	1	1410	50	2634	0.019	52.680
7	1	1610	55	131	0.420	2.382
7	1	1622	59	141	0.418	2.390
7	1	2395	54	292	0.185	5.407
7	1	2511	48	904	0.053	18.833
7	1	3100	51	1010	0.050	19.804
7	2	1410	55	117	0.470	2.127
7	2	2395	46	161	0.286	3.500
7	2	2511	55	189	0.291	3.436
7	2	3100	47	201	0.234	4.277
8	1	1061	54	315	0.171	5.833
8	1	1410	54	118	0.458	2.185
8	1	3100	42	142	0.296	3.381
9	1	1061	49	675	0.073	13.776



Region	Employment size class	ISIC Rev.4	Number of establishments in sample	Number of establishments in frame	Sampling fraction	Raising factor
9	1	1410	48	165	0.291	3.438
10	1	1061	49	2033	0.024	41.490
10	1	1410	49	433	0.113	8.837
10	1	3100	49	681	0.072	13.898
11	1	1061	49	1079	0.045	22.020
11	1	1410	50	511	0.098	10.220
11	1	2511	38	97	0.392	2.553
11	1	3100	48	424	0.113	8.833
12	1	1040	47	107	0.439	2.277
12	1	1061	49	1221	0.040	24.918
12	1	1410	48	509	0.094	10.604
12	1	1610	43	150	0.287	3.488
12	1	2511	49	192	0.255	3.918
12	1	3100	48	396	0.121	8.250
13	1	1061	50	872	0.057	17.440
13	1	1410	51	291	0.175	5.706
13	1	3100	52	178	0.292	3.423
14	1	1061	49	542	0.090	11.061
14	1	1410	54	193	0.280	3.574
15	1	1061	49	415	0.118	8.469
15	1	1410	48	237	0.203	4.938
15	1	3100	44	94	0.468	2.136
16	1	1061	50	181	0.276	3.620
16	1	1410	53	480	0.110	9.057
17	1	1061	48	274	0.175	5.708
17	1	1410	53	418	0.127	7.887
18	1	1061	47	431	0.109	9.170
18	1	1410	51	933	0.055	18.294
18	1	2511	45	123	0.366	2.733
18	1	3100	48	436	0.110	9.083
19	1	1061	48	556	0.086	11.583
19	1	1410	52	573	0.091	11.019
20	1	1061	50	1536	0.033	30.720
20	1	1410	49	1249	0.039	25.490
20	1	2511	61	162	0.377	2.656
20	1	3100	50	282	0.177	5.640
21	1	1061	50	1209	0.041	24.180
21	1	1410	49	467	0.105	9.531
21	1	2511	54	130	0.415	2.407
21	1	3100	47	157	0.299	3.340
22	1	1061	50	691	0.072	13.820
22	1	1410	48	420	0.114	8.750
22	1	3100	53	297	0.178	5.604
23	1	1061	59	143	0.413	2.424



Region	Employment size class	ISIC Rev.4	Number of establishments in sample	Number of establishments in frame	Sampling fraction	Raising factor
24	1	1061	45	212	0.212	4.711
24	1	1410	54	332	0.163	6.148
25	1	1061	52	400	0.130	7.692
25	1	1410	50	395	0.127	7.900

5.8 Standard Errors and Variance

In section 2.4 it is mentioned that the census covered all establishments that engaged ten persons or more (10+) and for some regions and activities a sample of establishments which engaged less than ten (1-9) persons. The sampled establishments were concentrated in the following four industrial activities: grain milling, tailoring, carpentry, and welding, and mostly in the smallest employment size group (1 to 4 workers). The strata (zone, activity and employment size) that were selected for sampling had at least 100 establishments of which forty or more were selected. This number of observations in a strata should provide accurate estimates for the total population.

In a sample survey, it is assumed that the selected units represent the population. This is generally not entirely true and the information derived from the sample will differ somewhat from that of the total population. The more homogeneous the establishments in a strata are, and the larger the sample, the closer the sample mean and its distribution will resemble those of the total population. The simplest method to present the difference between the sample and the population is to calculate the **standard error of the mean** (SEM). This is the standard deviation of the sample-mean's estimate of a population mean. Mathematically, this is represented as¹:

The SEM is usually estimated as the sample estimate of the population standard deviation (sample standard deviation) divided by the square root of the sample size:

$$SE_{\bar{x}} = \frac{s}{\sqrt{n}}$$

where

- s is the sample standard deviation (i.e., the sample-based estimate of the standard deviation of the population), and
- n is the size (number of observations) of the sample.

¹ See Wikipedia (topic: *Standard error*) for a more detailed discussion on this subject.

This estimate may be compared with the formula for the true standard deviation of the sample mean:

$$SD_x = \frac{\sigma}{\sqrt{n}}$$

where

σ is the standard deviation of the population.

The variance is the expected value of the squared deviation of a random variable from its mean, and it measures how far a set of (random) numbers are spread out from their mean. The variance is the square of the standard deviation, σ^2 .

The *standard error* of the sample mean should not be confused with the *standard deviation* of the sample. The standard error is an estimate of how far the sample mean is likely to be from the population mean. The standard deviation is a measure of the degree to which individuals within the sample differ from the sample mean. The standard error of the mean of the sample will tend to zero with increasing sample size, because the estimate of the population mean will improve. The standard deviation of the sample will tend to approximate the population standard deviation as the sample size increases.

The CIP design is a mixture of complete enumeration and sampling. There are 1922 strata in the CIP of which 90 (that is, 4.7 percent) were subjected to sampling. All others were fully enumerated. In the smallest employment size group (1 to 4 workers), sampling took place in about one-seventh of the strata and in the next group in only 4 out of 452 strata. All other strata were fully enumerated. As average sample sizes were about 50 and 60 respectively for the two size classes, the standard errors of the mean will be small. It may also be noted that the census is not a multi-stage sample survey whereby a (large) proportion of the strata is not covered but rather a full-coverage survey at the first stage and sampling for a small proportion of the strata at the second stage only. This results in the absence of a “Design Effect” in the calculation of the standard deviations of the results.

5.9 Training of Trainers (TOT) for the Main Data Collection

The training involved participants from different Government and Private Institutions experienced in the collection of industrial statistics. The trainers came from National Bureau of Statistics (NBS),



Ministry of Industries Trade (MIT), Small Industries Development Organization (SIDO), Confederation of Tanzania Industries (CTI) and Business Registration and Licensing Agency (BRELA).

The trainers were taught about the objectives of the Census, the scope and coverage, the authority to collect the data, the confidentiality aspect, sampling design, data collection process, survey instruments to be used, general concepts and definitions used, interview techniques and procedures to follow.

5.10 Recruitment of Census Staff

The process started by advertising the various positions. Advertisement required the applicant to be competent and experienced in data collection with minimum education qualification of Form IV. For those who did data collection with NBS on Annual Survey of Industrial Production, Quarterly Survey of Industrial Production and Business Surveys, were considered to have an added advantage. The short listed applicants were contacted and they performed both written and oral interviews. In the process of recruiting the temporary staff, about 620 applied for the position and only 200 competent applicants were selected to execute data collection.

5.11 Training of Regional Supervisors and Field Enumerators

The training of regional supervisors and enumerators was conducted at the Eastern Africa Statistical Training Centre (EASTC), Changanyikeni, Dar es Salaam. The training included class presentations, mock interviews, field practice and tests. Theoretical and practical training lasted for 14 days of which, one day was for discussions on field work operation. All contents and flow of questions from the two questionnaires (short and long) were thoroughly discussed. Concepts and definitions pertaining to CIP were also discussed, together with financial statements and enumerators as well as supervisors ethics. After extensive training, enumerators and supervisors were tested to ascertain their levels of comprehension. The results revealed that most of the participants had satisfactorily acquired enough knowledge to execute the CIP data collection.

CHAPTER SIX

FIELD WORK ORGANIZATION AND MAIN DATA COLLECTION

6.1 Documents and Materials Used During Data Collection

The documents and materials used during data collection exercise were; the structured questionnaires (short and long) and the enumerators/supervisors instructions manual. Other documents and materials used include:

1. Bags;
2. Pencils;
3. Blue pens;
4. Sharpeners;
5. Erasers;
6. Note-books and writing boards;
7. List of the selected establishments;
8. Copies of the introduction letter to establishments;
9. Control Forms;
10. Enumerators' Check-list Form for visits/calls;
11. ISIC Rev.4, English and Kiswahili versions;
12. CPC Ver.2.1 English version
13. Region, District and Ward names and codes; and
14. Information Education and Communication (IEC) materials (e.g. posters, stickers, fliers, etc.).

6.2 Data Collection Operation

The actual field work took four (4) months and involved 200 enumerators and 50 supervisors. The distribution of enumerators was based on the work load in each region. Besides, enumerators were responsible for the enumeration of both small and large establishments supervised by Regional



Statistical Managers in their respective regions. During the data collection process, there was a Quality Control Group which involved senior government officials from the National Bureau of Statistics and the Ministry of Industry and Trade.

The main task of the Quality Control Group was to eliminate mistakes made in the pre-enumeration, enumeration and post enumeration stages of the data collection. The census used direct interview techniques. In case the respondent requested to retain a questionnaire for any genuine reasons, the enumerator was required to fill in the acknowledgement form indicating the appointment date for interview or collection of the completed questionnaire.

The enumerator distributed questionnaires and introduction letters to the establishments with known addresses obtained from the Census Directory/List of Establishments. The enumerators were supposed to introduce themselves and provide basic instructions to every respondent on how to fill in the questionnaires. However, it was advisable that the enumerator and the respondent work together to fill in the questionnaire.

6.3 Field Supervision

Field supervisors were responsible for the day-to-day enumeration activities so as to ensure better quality of the collected data. The process involved two groups of 50 supervisors; the first group comprised the Regional Statistical Managers (RSMs) and Regional Trade Officers (RTOs) in collaboration with members from NBS Head Office. Regional Statistical Managers were supposed to prepare administrative arrangements to smoothen the execution of data collection and were required to ensure that each enumerator performed his/her assigned duties as provided in the instructions manual.

The second group of field supervisors was responsible for Quality Control measures and it comprised senior officials from the National Bureau of Statistics, Ministry of Industry and Trade, SIDO, CTI, BRELA, Development Partners and other Government Institutions.

In general, the field supervision team had the responsibility of performing the following activities:

1. Preparing and reviewing the work-plan including working schedules, distribution of establishments to enumerators;
2. Ensuring that each enumerator is familiar with the locations of his/her assigned establishments a few days before the interview and assisting the enumerators in solving problems in locating the establishments;



3. Ensuring that each enumerator has all the necessary materials as listed in the Instructions Manual for Enumerators;
4. Satisfying himself or herself that, enumerators understood their assignments and their respective time-tables are well prepared and adhered to;
5. Keeping in contact with the enumerators to assess their performance and provide additional guidance where necessary;
6. Liaising with community leaders and where necessary higher authorities in case of problems which are beyond his/her capacity;
7. Being prepared to solve any problem that may arise during enumeration such as short-fall of materials, replacement of an enumerator when one falls sick, etc.;
8. Checking, correcting and collecting the completed questionnaires;
9. Using Control Forms effectively for quality control checks and movement of census documents; and
10. Briefing each other on daily basis, submitting weekly written report to the Project Desk Officer and preparing any other progress reports as required.

CHAPTER SEVEN

DATA PROCESSING AND HANDLING

Data processing was carried out in six major stages namely; questionnaire reception, manual editing and coding of the questionnaires, data entry, data cleaning and validation, accuracy and consistency checks and tabulations,

The activity involved two types of questionnaires namely; The Short Questionnaire, which was administered in the sampled small (1-9) establishments and the Long/Detailed Questionnaire, which was administered in all-large (10+) establishments.

7.1 Questionnaire Reception

The filled-in questionnaires reception started mid-June, 2015 since the data collection had begun in early March, 2015. A special procedure was set for receiving the questionnaires from the field. The first stage of the procedure included questionnaire reception and manual checking of the batch number. Receiving log for all regions was kept to track the inflow of questionnaires from the field. Two officers were assigned to handle this task. All questionnaires were systematically arranged by questionnaire type (long questionnaires or short questionnaires) followed by processing of the received questionnaires.

7.2 Manual Editing and Coding

The process of manual editing and coding started at the end of June, 2015. A team of ten (10) data editors was formed from the selected temporary data entrants. The team received training at various levels before and during the execution of the tasks.

Editing and coding of the questionnaires were manually done following the already prepared regional, district, ward and employment size codes. Activities (main and auxiliary) of the establishments were according to International Standard Industrial Classification (ISIC) Revision 4 and CPC codes for raw materials and components consumed.

Major tasks of the CIP questionnaire editors, among others, included:

1. To verify if all the completed questionnaires from Regional Statistical Offices were received at NBS Head Office;



2. To check completeness of each questionnaire and edit/impute sub-totals for each of the following sections: employment and remuneration, income, inventory of working capital, production costs/intermediate consumption and capital expenditure if necessary;
3. Check the accuracy of ISIC, CPC regional, district and size codes as well as establishment numbers;
4. To re-check the 'other' categories and collapse them into appropriate categories if necessary; and
5. Reconciliation of the filled in data with their respective attached Financial Accounts/Balance Sheets.

7.3 Data Entry

The process of data entry was simultaneously done with that of editing and coding. It was carried out from end of June, 2015 to October, 2015. Data capturing programme was developed using the Census and Survey Processing (CSPRO) statistical package. This package allows a number of logical flows and checking for the validity of data being entered; therefore, it reduces the number of errors.

The data entry staff had to under-go orientations for seven days to equip them with necessary skills and techniques of efficiently handling the task. The data capturing process started in mid-June 2015 by capturing both short and long questionnaires. There were short intervals of breaks in between the tasks that allowed the data entry staff to rest so as to allow data editors to catch-up with data entry staff. During all these stages, the computer programmers continued with re-editing the data entry application where necessary, and updated the batch edit application ready for the on-the-screen data editing task.

7.4 Data Cleaning and Validation

Data cleaning and validation was performed by the experienced data processing personnel. A powerful computer edit programme was developed using CSPRO software. The census results were produced after completion of data cleaning for both long and short questionnaires.

The following were some of the major errors detected during the data editing exercise:

1. Some District and Ward codes were not correct as some of the enumerators interchanged the codes during data collection;



2. Some enumerators wrongly coded the International Standard Industrial Classification (ISIC) Revision 4. This was solved during the data editing process;
3. Some establishments were not operating during the year 2013, but they filled in the questionnaires using 2014 information. Such establishments were cancelled from the list of establishments that operated in 2013;
4. Some of the collected questionnaires appeared more than once, meaning that the same establishments were interviewed more than once, the situation was solved through communicating with the respective Regional Statistical Managers (RSMs); and
5. In a few cases, enumerators failed to round-up thousands (“000”) Shillings. As a result, some establishments appeared to have huge amounts of either incomes or expenditures. Such cases were addressed and solved through communication with contact persons of the respective establishments.

A computer error list and validation program, which was developed using CSPro, assisted in locating errors/omissions in a questionnaire. In addition, editing specifications were developed to simplify the editing process. The editing specifications also accommodated Estimation Procedures developed on the basis of Annual and Quarterly Surveys of Industrial Production.

7.5 Accuracy and Consistency Checks

The following are some of the accuracy and consistency checks that were carried-out during the data processing exercise in order to ensure that the quality of collected data is improved.

Checks Activity

1. Modify duplicate batch/sheet numbers by:
 - a. Deleting the duplicate records for the same establishment; and
 - b. Assigning different batch/sheet number for one of the two duplicates.
2. Zero output but employment reported.
 The data-set contained 77 records with zero output but with workers.
 This excludes the establishments reported closed. All questionnaires were checked and appropriate action was taken:
 - a. The questionnaires were edited and assigned output to the establishment; or
 - b. The establishment was coded as non-respondent.
3. After the corrections listed above had been carried out, the following range-checks were



performed:

- a. Gross output per worker was evaluated then, the necessary edits (but not the imputations) were carried out;
- b. Intermediate consumption per worker was evaluated then again, the necessary edits (but not the imputations) were carried out; and
- c. The process was repeated for value added per worker and again, the edits (but not the imputations) were carried out.

4. First: Gross Output (GO) edits

1. Before the calculations for round 1 started, all the non-responses were excluded (including those closed in 2013);
2. For all establishments where the field GO-Round Excel was blank, the total gross output (GO) and the total number of workers (W) were calculated, separately for Small (S) and Large (L) establishment using the standard definition of $S \leq 9$ and $L \geq 10$ workers;
3. Average Gross Output per worker (GO/W) for the S and L units was Calculated;
4. The ranges as $\text{Max} = \text{Average} * \text{Multiplier}$ and $\text{Min} = \text{Average}/\text{Multiplier}$ were calculated whereby, averages were calculated in step 2 and multiplier is set to **100**;
 - a. GO/W was checked in the database against Max and Min values; and
 - b. GO, number of workers and average GO/W for the S and L units were calculated.
5. The ranges as $\text{Max} = \text{Average} * \text{Multiplier}$ and $\text{Min} = \text{Average}/\text{Multiplier}$ were calculated, whereby averages are calculated in step 5 of round 1 and multiplier is set to **50**;
 - a. The GO/W was checked in the data-base against Max and Min values;
 - b. GO, number of workers and average GO/W for the S and L units were calculated;
6. Calculate the ranges as $\text{Max} = \text{Average} * \text{Multiplier}$ and $\text{Min} = \text{Average}/\text{Multiplier}$ whereby averages are calculated in step 3 of round 4 and multiplier is set to **10**;
 - a. The GO /W was checked in the data-base against Max and Min values; and



- b. GO, number of workers and average GO/W for the S and L units were calculated.

The main purpose of this examination was to find out if there were common reasons for the errors. It was not possible to describe how to look for such errors other than to check for patterns. Annual reports were used as reference for some key variables.

The edits involved changes to GO, the number of workers as well as the IC and other variables. They were done so that any changes affected IC are in the database for the next edits.

7. IC: Editing of this item followed the same steps as done in Check 4.
8. VA: Editing of this item followed the same steps as done in Check 4.

Generally, all establishments which fell outside the two boundaries (minimum and maximum) were marked as outliers in the region of Low and High. The, guidelines also centred on establishments with negative Value Added, with higher Labour Costs than their respective Value Added and those with less Wages/Salaries per employee than the specified minimum wages/salaries per employee activity wise.

7.6 Main Areas of Estimation

Some establishments did not provide full information/data as requested in the questionnaire; for example: (i) number of workers were recorded without their wages or salaries, (ii) expenditure on electricity, water, gas, diesel and other energy components had their amounts/values recorded without their respective quantities, (iii) types and values of raw materials were recorded without their respective quantities, (iv) types and values of the produced products were recorded without their respective quantities and (v) values of some fixed assets e.g land and buildings were combined. The missing information/data was estimated using the laid down Editing Specifications as shown in Section.

7.7 Editing Specifications

Descriptions	Correct <input checked="" type="checkbox"/>	Dirrectives [→]
Establishment Identification number.	Each Establishment should have one Identification number . <i>Example – 07-01-012-3284-07</i>	If two establishments have same Identification Number → One establishment should be removed, this excercise should be done by the data editor together with the supervisor.
Regional Code.	In this section, the Regional code must be filled in. <i>Example: Regional code for Dar</i>	If the Regional code is not provided → Go to section 1.2 which provides the region in



Descriptions	Correct <input checked="" type="checkbox"/>	Dirrectives [→]
	<i>es Salaam – 07</i>	which the establishmet is located.
District Code	In this section, the District code must be filled in. <i>Example: District code for Kinondoni – 01</i>	If the District code is not provided → 1.2 Go to section 1.2 which provides the district in which the establishment is located.
Ward Code	In this section, the Ward code must be filled in. <i>Example: Ward code for Magomeni – 01</i>	If the Ward code is not provided → Go to section 1.2 which provides the ward in which the establishment is located.
Employment size	In Detailed Questionnaire, employment size code number is supposed to be three (3) or above: <i>Q1 Employment size ≥ 3</i>	Suppose employment size code number is less than three (3) in detailed Questionnaire, (<i>Q1 Employment size < 3</i>) → change the available information in the Detailed Questionnaire to short Questionnaire, (<i>Q1 to Q2</i>). Note: Before you change Detailed Questionnaire to Short Questionnaire, check the list of Establishments in (ASIP). If the establishment is within the ASIP list, then the editor is not supposed to change.
Employment size	In short Questionnaire, employment size code is supposed to be two (2) or less: <i>Q2 Employment size ≤ 2</i>	Suppose employment size in Short Questionnaire is more than two (2) (<i>Q2 employment size > 2</i>) → <i>communicate with your supervisor for more clarification.</i>
1.1 Full name of the establishment	In this section, Full name of the establishment should be provided. <i>Example: Baraka Tailoring</i>	If section 1.1 is not filled in → check establishment sample and then fill in the name of the establishment, or <i>communicate with supervisor for more clarification.</i>
1.2 Region	In the section of Region , it is compulsory to fill in the region in which the establishment is located.	If the section is not filled in → <i>communicate with your supervisor for more clarification.</i>
1.2 District	In the section of District , it is compulsory to fill in the District in which the establishment is located.	If this section is not filled in → <i>communicate with your supervisor for more clarification.</i>
1.2 Ward	In the section of Ward it is compulsory to fill in the ward in which the establishment is located.	If this section is not filled in → <i>communicate with your supervisor for more clarification.</i>
1.5 Type of Establishment	Information on section 1.5 should relate to the one from the listing excercise and information on Census.	If this section is not filled in → <i>communicate with your supervisor for more clarification.</i>
1.61 Main Activity	Information on section 1.61 should relate the one from the listing excercise and information on Census.	If this section is not filled in → <i>communicate with your supervisor for more clarification.</i>
1.62 Other Activity	Information on section 1.62 should relate to one from from the listing excercise and information on Census.	If this section is not filled in → <i>communicate with your supervisor for more clarification.</i>
Section 1.8 and 1.9		
1.8 If ownership = 1 ^(National)	1.9 = 1 ^(Public) , 2 ^(private) , 3 ^(Mixed)	Any can be provided as an answer
1.8 If ownership = 2 ^(Foreign)	1.9 = 2 ^(private) and 3 ^(mixed)	If 1.9 = 1 ^(Public) , → check the accuracy of the information and then change section 1.8. <i>Communicate with your supervisor for more clarification.</i>
1.8 If ownship = 3 ^(partnership)	1.9 = 1 ^(Public) , 2 ^(Private) and 3 ^(mixed)	Any can be provided as answers
Section 1.9 and 1.10		
1.9 If ownship = 1 ^(public)	1.10 = 2 ^(Partnership) , 3 ^(Public) , 4 ^(Parastatal) , 5 ^(Cooperative)	If 1.10 = 1, 6, 7 → <i>communicate with supervisor for more clarification.</i>
1.9 If ownship = 2 ^(Private)	1.10 = 1 ^(Sole proprietorship) , 2 ^(Partneship) ,	If 1.10 = 3, 4 → <i>communicate with</i>



Descriptions	Correct <input checked="" type="checkbox"/>	Dirrectives [→]
	5 ^(Cooperative) , 6 ^(company...) , 7 ^(company...)	<i>supervisor for more clarification.</i>
1.9 If ownship = 3 ^(Public and Private)	1.10 = 2 ^(Partneship) na 5 ^(cooperative)	If 1.10 = 1, 3, 4, 6, 7 → <i>communicate with your supervisor for more clarification.</i>
Section 1.10 and 2.2		
1.10 If = 1 ^(Sole proprietorship)	Total of section 2.21 and 2.22 is supposed to be 0, 1, 2 ($2.21+2.22 = 0, 1, 2$)	If in section 2.2 total of working proprietors and partners is more than two → take those who exceed to section 2.23 and 2.24 with consideration to their Sex. <i>In case of any confusion communicate with your supervisor for more clarification.</i>
If in short Questionnaire $2.33+2.34 > 9$	Total persons engaged are supposed to be nine (9) or less. ($2.33+2.34 \leq 9$)	If total persons engaged is more than nine (9); ($2.33+2.34 > 9$) → <i>communicate with your supervisor for more clarification.</i>
If in detail Questionnaire $2.33+2.34 < 10$	Total persons engaged are supposed to be ten (10) or more. ($2.33+2.34 \geq 10$)	If total persons engaged is less than ten (10); ($2.33+2.34 < 10$) → change the information from the Detail questionnaire to Short questionnaire as explained in employment size.
Section 3.11 and 2.25, 2.26...		
If 3.11/2.25+2.26...	In Short Questionnaire; Gross wages and salaries paid to employees should range from 60,000/= to 80,000/= ($3.11/(2.25+2.26+2.27+2.28+2.29+2.30)$)	If is less than 60,000 → <i>communicate with your supervisor for more clarification.</i>
If 3.11/2.25+2.26...	In Detailed Questionnaire; Gross wages and salaries paid to employees should range from 120,000/= to 150,000/= ($3.11/(2.25+2.26+2.27+2.28+2.29+2.30)$)	If it is less than 120,000 → <i>communicate with your supervisor for more clarification.</i>
3.18 Total labour costs	In Detailed Questionnaire; information on labour costs must be filled in.	If 3.18 is not filled in → check question 2.25 to 2.30 if it is not filled in <i>communicate with your supervisor for more clarification.</i>
3.15 Total labour costs	In Short Questionnaire; information on labour costs must be filled in.	If 3.15 it is not filled in → check question 2.25 to 2.30 if is not filled in, <i>communicate with your supervisor for more clarification.</i>
2.31 and 2.32 Other (specify)	In this section, other employees must be filled in by mentioning them	If this section is not filled in → <i>communicate with your supervisor for more clarification.</i>
If 4.101 <i>is not filled in</i> (Quantity)	Section 4.101 quantity of electricity used should be filled in.	If this section is not filled in → take the Value divide by 311.00 ; ($value/311.00$) then fill in the answer.
If 4.102 <i>is not filled in</i> (Quantity)	Section 4.102 f quantity of water used should be filled in.	If this section is not filled in → take Value divide by official price of water for the respective region
If 4.104 Quantity <i>is not shown</i>	Section 4.104 quantity of diesel used should be filled.	If this section is not filled in → take Value divide by official price of diesel for the respective region
If 4.107 Quantity <i>is not shown</i>	Section 4.104 quantity of petrol used should be filled.	If this section is not filled in → take Value divide by official price of petrol for the respective region
Section 4.21, 5.421 and 6.5		
If 4.21 is filled	Sections 5.421 and 6.5 should also be filled in	If section 4.21 is filled in and 5.421 not filled in → take 1.25 multiply with 4.21 put the answer to section 5.421
If 4.21 and 6.5 are filled	Section 5.421 should also be filled in	If section 5.421 is not filled in → take 4.21 minus 6.5 multiply by 1.25 put the answer to section 5.421 ($4.21-6.5*1.25$) ► 5.421



Descriptions	Correct <input checked="" type="checkbox"/>	Dirrectives [→]
If 4.31 is filled	Section on raw material is related to 5.3	Suppose 4.31 raw materials is not related to those in section 5.3 → check section 1.61 and 1.62 to know the main activity of the establishment. If the raw material section is filled in then, check the accuracy of the provided CPC.
4.31 If filled “ Imported ”	4.32 should be answered	If not answered → <i>communicate with your supervisor for more clarification.</i>
4.31 If filled “ Local ”	4.32 is not supposed to be answered	If section 4.32 is filled in → change 4.31 from “local” to imported. Do this is after you have ascertained with the type of raw materials used. <i>In case of any confusion, communicate with your supervisor for more clarification.</i>
Section 4.31, 5.3 and 5.411		
4.31 and 5.3 not filled in	Sections 4.31 and 5.3 are supposed to be filled in	If 4.31 and 5.3 are not filled in → check section 5.411 if it is filled in. If it is not filled in, then <i>communicate with your supervisor for more clarification.</i>
5.2 If production Capacity $\geq 100\%$	5.1 Production Capacity < 100%	5.1 If (%) > 100 take “ Actual Production divide by Installed Capacity ” then, record if capacity utilization obtained is < 100 otherwise communicate with your supervisor for more clarification
5.2 Production Capacity	5.2 must be filled in if 5.1 is answered	If 5.2 is not filled in → <i>then communicate with your supervisor for more clarification</i>
5.21 Reasons for capacity under utilization	5.21 This section must be filled in if 5.213 is answered	If 5.21 is not filled in → <i>then communicate with your supervisor for more clarification.</i>
5.3	This section must be filled in	If not filled in → check if other sections related to the income of the establishment have been filled in. <i>If not, then communicate with your supervisor for more clarification.</i>
6.5 Goods purchased for re-sale (trade goods)		If 4.3 is not filled in → 6.5 (Value at the Beginning is not supposed to be greater than Value at the End)
6.1 Raw materials and supplies		If raw materials and supplies have been purchased during the year then, there must be a relationship (at the beginning and at the end of the year) of the materials
7.1 on land and 7.2 on buildings (if all were added together)		If 7.1 and 7.2 have been combined → 7.1 should be (10%) and 7.2 (90%)
8.81 Plant Technology		The listed machines total percentage is supposed to be 100%. If not <i>then, communicate with your supervisor for more clarification.</i>

7.8 Tabulations

Tabulations were done using the CSpro statistical package for data capture and then converted to Ms Access, Ms Excel and finally to Ms Word. The frequency tables assisted to a great extent in locating extra errors that were accidentally over-looked in the previous stages. All unusual errors spotted were corrected during this process.

The tabulation plan for the CIP -2013 tables followed that of the 2012 Annual Survey of Industrial Production (ASIP). A total of 71 tables were produced.



CHAPTER EIGHT

PREPARATION AND DISSEMINATION OF CENSUS REPORTS

This chapter describes the preparation of various reports, stakeholders' involvement and the dissemination of the Census of Industrial Production, 2013 reports. In this census, five (5) reports will be published and disseminated to various stakeholders and the public in general. The publication of the reports will enable users to access the industrial data and information. The results (data and information) are in aggregate form for the purpose of confidentiality.

8.1 Preparation of Industrial Census Reports

The five reports planned to be produced include; the Technical/Methodology Report, the Summary Report, the Analytical Report, the Statistical Report and the Directory Industries (10⁺ establishments).

8.1.1 The Methodology Report

This report describes all the processes and procedures used during the implementation of the 2013 Census of Industrial Production. It shows all the stages and processes implemented in the preparation of the Census from the beginning to the final stage. The report enables users /stakeholders to understand the methodological aspects used i.e. administration aspect, concepts and definitions, scope and coverage, data collection, data processing, data analysis, data presentation and dissemination.

8.1.2 The Summary Report

This report provides a short descriptive analysis and related tables of key variables and indicators. The information will be presented in form of tables, figures and maps with short explanations.

8.1.3 The Analytical Report

The 2013 CIP Analytical Report gives the interpretation of the quantitative data gathered from the census. The report contains relevant and up-dated industrial data so as to understand industrial sector's contribution to the economy, as well as at providing bench-mark data for other subsequent surveys and analysis for planning, evidence-based policy formulation and decision making for the industrial sector.



8.1.4 The Statistical Report

The report presents detailed statistical tables of the results categorised by; industrial activities, size of establishments, ownership of establishments, geographical distribution and several other characteristics. The report also includes executive summary from the tables of results.

8.1.5 The Directory of Industries (10⁺ establishments)

This is the list of large (10+) industrial establishments. It covers the following components; full name of each establishment, location, contact information, size of establishment and industrial activity. Note that the directory of small establishments, those with (1-9) persons, will be available in electronic format. Users are therefore advised to get the information through the NBS website: www.nbs.go.tz.

8.2 Stakeholders Involvement in the Industrial Census Operation

The preparation of the Census reports involved various stakeholders including private sector (CTI), development partners (UNIDO and World Bank) and the public sector (MITI, MoW, MEM, MoFP, NBS and SIDO). The stakeholders were involved at different stages of the census preparation. They were involved in technical committees, preparation of Census instruments, training, workshops, data collection, data processing, data analysis etc. The involvement of various stakeholders in the preparation of the Census reports created a sense of ownership and better understanding of the level of industrialization of the country.

8.3 Dissemination of the Census Reports

The Census reports have been planned to be disseminated through different channels of communication including workshops and seminars, websites, hard and electronic copies.

CHAPTER NINE

QUALITY CONTROL PROCEDURES

The quality control procedures aimed at solving the problem of poor data quality in all stages of the CIP implementation. The approach required that each process must pass through certain quality assurance. Therefore, the main purpose of effecting quality control measures was to eliminate mistakes and errors made during the pre-enumeration, enumeration and post enumeration stages of data collection. Quality control mechanisms were implemented with the purpose of minimizing errors caused by the enumerators, respondents, measurements and Census instruments among others.

9.1 Establishment of National Technical Committee

The Census of Industrial production 2013, was implemented by the National Bureau of Statistics in collaboration with the Ministry of Industry, Trade and Investment and other key stakeholders like the UNIDO, CTI and SIDO. These institutions worked closely with NBS at all stages of planning and execution of the Census.

9.2 Census Errors

However well a census is designed, the data produced will inevitably contain some errors. Errors can occur at virtually every stage of the Census process including; the preparation of materials, during the listing of establishments, data collection and processing. Like in other censuses and surveys, the following are the types of errors observed during the CIP operations.

9.2.1 Types of Errors

During execution of the Census, the following are types of errors that were experienced:

1. **Coverage errors**, occurred when an establishment was wrongly located or incorrectly included in the census list/frame;
2. **Non-response errors**, during the Census exercise, some of the establishments failed to provide the required information within a targeted time frame, this happened due to either the sampled establishment purposely refused to fill in the questionnaire or the person authorizing the filling-in of the questionnaire was not available for the whole period of the Census. This situation was more common among the large (10+) establishments; and



3. **Response errors**, this was occurred from inaccurate responses during the interview process. In general, such errors could result from a number of circumstances. For the 2013 CIP, the main causes for such errors were incorrect recording of responses and inability of respondents to provide correct and accurate answers.

9.2.2 Strategies for Error Minimization

1. In order to minimize errors, the CIP questionnaires were designed in such a way that the questions were in a flow that did not confuse both the interviewer and the respondent. An instructions manual for both enumerators and supervisors was another important tool prepared to provide guidance for data collection. Each question in the questionnaire was properly elaborated to ensure that correct information was collected from the establishment.
2. All the census instruments were pilot-tested to observe if they met the desired quality and standards. The pilot test aimed at ensuring consistency, logical flow of questions and appropriateness of the census manuals and other tools.

9.3 Recruitment of Field Staff

The NBS Human Resources Department was responsible for the recruitment of field staff. The following minimum qualifications were required: a degree in Statistics, Mathematics, Economics or other degrees or diplomas with bias in accounting and professions that are mathematics oriented from any institution recognized by the government. Those with secondary education (form IV and VI) ought to have credits in mathematics at O-Level and working experience in establishment-based surveys.

9.4 Training of Trainers (TOT)

This type of training involved senior officials from MDAs with a wide experience in establishment surveys. The trainees were experienced staff from NBS and the Ministry of Industry, Trade and Investment. The trainees later became trainers of supervisors and enumerators.

9.5 Training of Supervisors and Enumerators

The training for supervisors and enumerators was very crucial for the success of the Census. The training centred more on objectives and procedures of the Census of Industrial Production, 2013 to ensure quality of data collection. It enabled them to understand survey instruments, including instructions manuals, questionnaire contents and various forms used during the field work and post



enumeration activities. It also enabled supervisors to have detailed knowledge on the responsibilities over their respective enumerators whom they were to supervise.

9.6 Class and Field Practical

During the Training of Trainers (ToT) and Training of Supervisors and Enumerators, there were classroom exercises which aimed at assessing trainees' ability to understand the questionnaire contents. The class practicals involved mock interviews, filling of questionnaires, reading statements of accounts and extracting the appropriate figures from the statements to the questionnaires.

The field practicals were conducted in Kinondoni Municipality. The exercise involved large establishments that were purposively selected for the training. Several teams were organized and each one was given two establishments for the field practical.

9.6.1 Field Supervision by both Regional and National Supervisors

Supervision was one of the core activities in the process of data collection. It aimed at minimizing errors and ultimately producing quality statistics.

RSM, RTO and one supervisor from NBS Head Office were responsible for the supervision at regional level.

The following are some of the key aspects observed during the supervision;

1. Consistency in filling-in the questionnaires, checking if skipping patterns were followed properly;
2. Accuracy of data and related questions; and
3. If units of measurement for all the recorded products were correct.

9.7 Manual Editing

In order to ensure that errors were minimized, manual editing of questionnaires was one of the vital procedures that were undertaken at regional level and at NBS Head Office. This was done after the completion of data collection.



Editors checked correctness of the provided answers and units of measurement in each question. The following are the key aspects which were considered for quality control:

1. All questionnaires were properly handled and managed;
2. Necessary changes particularly codes, measurements and answers were up-dated; and
3. Questionnaires distributed to each data entry staff were recorded for easy follow up on performance of each data entry staff.

9.8 Activities at RSM Office

The RSM Offices coordinated all data collection activities in their respective regions. The RSM Office received materials from NBS Head Office and distributed them to enumerators.

In order to ensure proper management of the materials, the CIP Secretariat at NBS developed Quality Control Forms which were used to track-down movements of all CIP materials. These included; CIPCF 1 for dispatching CIP Materials from NBS to RSM Office, CIPCF 2 for dispatching CIP materials from RSM Office to supervisor/enumerator and CIPCF 3 for dispatching CIP materials from RSM Office to NBS Head Office.

When the CIP materials were distributed to enumerators, the enumerators filled-in the enumerators' check-list. In case the detailed questionnaire for large establishments was left to the respondent for filling-in then, the respondent was supposed to fill-in the Acknowledgement Form. After receiving the questionnaires from respondents then enumerator had to check the correctness of the questionnaire before submitting them to his/her supervisor who later edited them for submission to the respective RSM. The RSM's first task was to edit them manually and then up-date the file containing the list of all establishments and thereafter, submitted to the NBS Head Office.

9.9 Quality Control and Data Processing

This stage aimed at minimizing possible errors that were not accounted for at RSM Offices. It included the following key actions:

1. Receiving questionnaires from the Regions and making sure that they were properly filled in;
2. Under-taking consistency checks of questionnaires according to the provided editing specifications; and



3. Entering data by competent data entry staff so as to minimize risks of entering wrong information.



CHAPTER TEN

COST OF THE CENSUS OF INDUSTRIAL PRODUCTION, 2013

10.1 Cost of the Census of Industrial Production, 2013

The cost of CIP-2013 covers a period of three financial years from 2013/14 to 2015/16. It includes the following activities: administrative arrangements, listing and identification of establishments, preparation of Census instruments, Pre-Test survey, Pilot survey, data collection, data processing for both Pilot and Census, data analysis, report writing, printing of final publications and dissemination of the results. Tables 5, 6 and 7 below show the summary break down of activities with the budgeted amounts for the periods of 2013/14, 2014/15 and 2015/16 respectively. The Government of the United Republic of Tanzania through the Tanzania Statistical Master Plan (TSMP) funded the Census.

10.2 Census Budget

Table 7 below shows summary break down of the budget for the 2013/14, 2014/15 and 2015/16 financial years.

Table 5: Summary Budget for 2013/14 Financial Year, Tanzania Mainland, CIP-2013

Description	Amount (TZS.)
Administrative Arrangements	
Photocopying & Printing	1,000,000
Telephone/Fax, internet, Identity Cards etc	18,000,000
Office Consumables (Pens, Pencils, Erasers, Exercise books, Clear bags	3,000,000
Car Hire (for field supervision)	33,000,000
Consultancy	39,000,000
Telephone (Air time expenses)	8,000,000
Consultative Technical Committee Meetings	31,000,000
Listing and Identification of Establishments	
Preparation of Census Listing Forms	41,975,000
Training of listers	226,525,000
Listing of Establishments exercise	1,810,980,000
Data processing of listing forms	107,300,000
Report writing (Census Directories)	85,900,000
Sample Design and preparation of Census instruments	51,300,000
Publicity for main Census	18,000,000
Testing of Census Instruments	129,450,000
TOTAL BUDGET FOR 2013/14	2,604,430,000



Table 6: Summary Budget for 2014/15 Financial Year, Tanzania Mainland, CIP-2013

Description	Amount (TZS)
Administrative arrangements	115,000,000
Technical committee meetings	22,000,000
Data processing of Listing Forms	96,175,000
Report writing (Census Directories) and sample design	91,275,000
Publicity	50,000,000
Finalising Census Instruments	62,390,000
Testing Census Instruments	113,985,400
Review of Census Instruments	66,050,000
Training of Trainers (TOT)	62,635,000
Training of Enumerators and Regional Supervisors	427,510,000
Printing of Census Instruments	101,000,000
Data collection exercise	1,672,400,000
Data processing	135,825,000
TOTAL BUDGET FOR 2013/14	3,016,245,400

Table 7: Summary Budget for 2015/16 Financial Year, Tanzania Mainland, CIP-2013

Description	Amount (TZS)
Administrative arrangements	116,976,000
Consultative Technical committee meetings	11,000,000
Data processing	319,165,000
Methodology Report Writing	112,450,000
Directories of Industries Report Writing	55,660,000
Statistical Report writing	89,500,000
Analytical Report writing	113,450,000
Summary Report writing	67,150,000
Printing of Reports	101,000,000
National Dissemination/Seminar	26,000,000
Total Budget for 2015/16	1,012,351,000
Total Budget for Census of Industrial Production, 2013	6,633,026,400

CHAPTER ELEVEN

CENSUS CHALLENGES, RECOMMENDATIONS AND WAY FORWARD

11.1 Challenges

1. According to UN Recommendations on industrial statistics, the I Census of Industrial Production, 2013 should have been done in 1999 (14 years before) but it was not conducted due to lack of financial resources.
2. The Census work-plan was affected during the listing of establishments by the delay of funds disbursement; hence, has affected the time frame for the Census operation. According to the work-plan, the CIP-2013 was scheduled to start in June 2014 and end in July 2015, unfortunately, delay in the release of funds affected the work-plan and therefore, the Census was completed in June, 2016
3. Failure to locate some establishments especially those engaging 1–9 persons (most of them changed their locations), which resulted into non-responses and estimation of non-respondents.
4. The allocated time for data collection was not sufficient enough for some regions with many large establishments (engaging 10 or more persons). More time was needed to fill in the questionnaires using Balance Sheets. This also increased the number of call-backs.
5. Some of the establishment owners were not aware of the CIP-2013 and of information confidentiality, which led to hesitation in co-operating with the enumerators. This was due to wrong perception related to tax collection strategy of the Tanzania Revenue Authority. Enumerators took more time to educate the respondents on objectives of the Census and confidentiality of their information.
6. It was very difficult to estimate some variables, for example income and inventory, due to memory lapse particularly of the small (1-9) establishments which do not keep books of accounts. This was resolved by doing tactical probing of the respondents in order to get best estimates of income and expenditure.



7. Some of the local leaders did not co-operate fully during the listing and data collection exercises, as there was no incentive provided to them.

11.2 Recommendations

It is recommended that:

1. Adequate funds be allocated and timely released in order to avoid unnecessary delays in CIP execution.
2. Data collection supervision guidelines be followed strictly so as to avoid common mistakes.
3. More emphasis be put on thoroughly checking some key variables such as total labour costs, number of persons engaged, intermediate consumption, gross output and value added to ensure that the collected information is correct and consistent. The time between the listing exercise and the main census be relatively short because small establishments have a tendency of shifting from one place to another anytime.
4. Regions with many large (10+) establishments be given enough time and reasonable number of enumerators for the field work, so as to ensure comparable time for data collection exercise across regions.
5. More publicity involving radios, televisions, newspaper, brochures and flyers be done prior to the census. This is expected to increase awareness to the owners of the establishments about the exercise in general and hence, increasing compliance on data requests.
6. Enumerators be more conversant with probing respondents on how to get best estimates in case the books of accounts are not readily available.
7. Incentives to local leaders, such as allowances, be allocated for smooth and timely completion of data collection activities.

11.3 Way Forward

In conformity with Tanzania's 2025 Development Vision, Sustainable Development Goal 9 of promoting inclusive and sustainable industrialization and fostering innovation, through significantly raising industry's share of employment and gross domestic product by 2030, and in conformity with



Africa's 2063 Agenda, as well as the next foreseen Industrial Census, 2023, the proposed Way Forward is as follows:

1. Industrial Census Planning and Budgeting processes to be done during the inter-censal years, stage by stage and year by year, by allocating a certain percent of NBS total budget for the 2023 Census to cater for needed orientation programmes, administrative processes, equipment and instruments, as well as adequately training industrial statisticians.
2. NBS to liaise quarterly with the MITI, TRA, CTI, TPSF and BRELA in order to track the development of the registration and establishment of industrial activities. Records of such liaisons could establish a listing of industrial establishments. This list can serve as a permanent sampling frame, but which is annually updated. It could be developed into an electronic Register of Industrial Establishments as an input to the Central Register of Establishments (CRE) at NBS. In this way regularity of Quarterly and Annual Surveys of Industrial Production would be ensured.
3. Create a long-term MoU between NBS and SIDO on facilitating 'Big Data' collection, from daily administrative records, of informal micro and small industrial enterprises.
4. RSM's, in cooperation with RAS's countrywide, to arrange and conduct annually a 'Regional Industrial Statistics Awareness Campaign', using multi-media and targeting every industrial sub-sector, to ensure compliant participation of industrial stakeholders during quarterly and annual surveys as well as censuses of industrial production.
5. NBS to establish a permanent Industrial Census and Surveys' Technical Committee to take care of the technical and administrative processes and matters for all Censuses and Surveys, whether small- or large-scale.
6. The Communication, Dissemination and Marketing Section of NBS to organize regularly dissemination and broadcasting of Industrial Statistics reports, based on thematic and sectoral categories, in a mode and language which have an impact intended to change the mindset of target groups, concerning the use of statistics for industrialization.

APPENDIXES

Appendix 1: Regional Codes used in the Census of Industrial Production, 2013

Region Name	Region Code
Dodoma	01
Arusha	02
Kilimanjaro	03
Tanga	04
Morogoro	05
Pwani	06
Dar es Salaam	07
Lindi	08
Mtwara	09
Ruvuma	10
Iringa	11
Mbeya	12
Singida	13
Tabora	14
Rukwa	15
Kigoma	16
Shinyanga	17
Kagera	18
Mwanza	19
Mara	20
Manyara	21
Njombe	22
Katavi	23
Simiyu	24
Geita	25



Appendix 2: Persons Involved at National level in the Census of Industrial Production, 2013

Principal Investigator

Dr. Albina Chuwa

Project Coordinator

Morrice Oyuke

Project Managers

Valerian Tesha

Joy Sawe

Desk Officers

Fadhili Khalfani

Julius Mwambeso

Trainers

Valerian Tesha

Joy Sawe

Julius Mwambeso

Veronica Mwangoka

Akida Mnyenyerwa

Childa Hamisi

Fransisca Zimamoto

Navalonge Mnyombe

Johari Masengi

Fadhili Khalfani

Meksesius Kalinga

Margreth Jacob

Margreth Warioba

Philemon Mahimbo

Chabo Mkoko

Fred Matola

James Mbongo

Senior Supervisors

Donata Mwita

Cosmas Kapinga

Robert J. Mwasenga

Diana Kimario

Athumani Said Amri

Moses Swebe

Ellykeado Ngonyani

Yusuph Omari

Elienea Mnguruta

Milka Digha

Arnold Fyataka

Christopher Mgifi

Nickson Matembo

Emmanuel Lucas

Upendo Solomon

Estaroda Mwanga

Aneth Msuya

William Babu

Christopher Sabuni

Lilian Simbo

Bupe Lugano

Athmani Amri

Morrice Oyuke

Ephraim Kwesigabo

Stanley Mahembe

Aldegunda Komba

Gloria Binamungu

Elly Pallagyo

Peter Ndunguru

Hussein Kamote

Emilian Kalugendo

Mathew Chimtembo

Zawadi Mamma

Maimuna Gama



Appendix 3: Persons Involved at a Regional level in the Data Collection of CIP 2013

Dodoma Region

Frank Mwakitabu
Mariam Suleiman
Ahmad Toufiq
Wignus Mwangosi
Amandi Isuja
Janeth Morrice

Arusha Region

Atuganile Mwaipungu
Itika Mwakilembe
Robert Chamba
James Mwangoka
Joshua Mwayombo
Lucas Kiringo
Samwel Mbise
Auson Bishanga
Anna Mabogo
Herman Kipuyo

Kilimanjaro Region

Magreth Kazoka
Peter Mwandri
Herieth Alfred
Godluck Minja
Josephat Minde
Perpetua Senkoro

Tanga Region

Frank Mhando
Thomas Lukindo
Anna Nyangus
Mariam Salimu
Halima Mussa
Masudi Masudi

Morogoro Region

Augustino Mathew
Novatus Alphonse
Sehewa Ndahani
Sixbert Tillya
Benjamin Fifi

Pwani Region

Eline Anselim
Kassim Ramadhani
John Josephat
Benjamini Tesha
Regani Emmanuel

Dar es Salaam Region

Aneth Kashebo
Anna Mtui
Avestina Kagashani
Chrispin Nyalusi
Dagubert Kayombo
David Machibya
Habili Kazimoto
Humphrey Chimtembo
Khalifa Waziri
Leah Ubwe
Mokwe Kisigiro
Nkundwe Tenende
Robert Christian
Rukia Chuma
Sarah Mwakajumba
Seko Zimba
Shida Iddi
Stephano Mtocho
Student Mtolela
Zawadi Msangi
Eva Kwavava
Specioza Laurent
Zenobia Ishika
Andrew Surumbu

Dar es Salaam Region (cont'd)

Julieth Ndendya
Ericky Paul
John Eugene
John Msigwa
Lambert Shauri
Ligobatus Mtangile
Boniface John
Nabwike Mwaipyana
Nassor Soma
Nguya Rashid
Furahisha Nzaligo
Reginald Nyaki
Rehema Ikamba
Sosthenes Nyarongo
Theresia Sagamilwa
Veronica Munishi
Witness Kajuna
Hatibu Hamisi
Jasper Kazoka
Fanuel Mamu
Muharami Kassimu
Amos Herbeth
William Sanga
Ahmadi Badi
Benjamini Sinienga
Philemon Lwehabula
Flora Hayola
Thomas Lema
Tumainiely Octavian
Robert Mgaza

Lindi Region

Mohamed Mahadh
Deogratius Kakomekome
Beatrice Lyimo
Undule Mwakafwila
Deodatus Kasigazi
Betord Matembo



Appendix 3 (ctd): Persons Involved in the Data Collection of 2013 Census of Industrial Production

Mtwara Region

Peter Idana
Beatrice William
Boaz Ayubu
Alphonse Ndedya
Selemani Fadhili

Tabora Region

Vicent Mussa
Modest Machibya
Cosmas Mwanga
Anthony Alfred
Zalfati Mohamedi

Kagera Region

Stella Augustine
Denice Kwesigabo
Pancras Kamala
Hassan Hussein
Eradius Omery

Ruvuma Region

Alto Chowo
Lucy Sindato
Antony Haule
Emmanuel Fedson
Rakhima Mganga
Mahmoud Kigoda

Kigoma Region

Bidangwa Buguru
Alex Ntegeye
Rashidi Bakila
Joseph Kipanta
Abdulrahim Simba

Mwanza/Geita Region

Frank Ritte
James Masasi
Cyriacus Lweyendeza
Tubeti Mayebe
Emiliana Maziku
Khadija Kirenge
Anande Nyiti

Iringa/Njombe Regions

William Mhehe
Tulalava Mwangwa
Rhoda Kifuka
Rasoul Suleiman
Philemon Kayora
Said Kambutu
Aidah Frisch

Shinyanga/Simiyu Regions

Robert Mulazi
Christopher Omgani
Milton Ruzemvya
Joseph Asser
Vaileth George
Angela Francis
David Marcus

Mara Region

Elizaberth John Tuppa
Emmanuel Moses
Juma Stephen
Rashidi Mganga
Stella Simeon

Mbeya Region

Esmaeli Naftali
Uswege Mwakalebela
Deus Michael
Frank Lyimo
Grace Nyambo
Nasra Halid
Justine Mwakajila
Paul Mwaisemba
Thomas Dennis
Meruth Nkinda

Rukwa/Katavi Regions

Jiles Chipeta
Thobias Mgala
Kaunda Mbamba
Henry Malogo
Ally Likusi

Manyara Region

Athuman Zonga
Shahibu Qhoba
Neema Maimu
Vitus Dionizy
Pius Donati

Singida Region

Godwin Asel
Allan Nestory
Elmanz Rashid
Anord Lunkulatile
Ally Zuberi



Appendix 4: Listing Form

LISTING FORM FOR CENSUS OF INDUSTRIAL PRODUCTION, 2013

This information is collected under the Statistical Act No.1 of 2002

THIS INFORMATION IS STRICTLY CONFIDENTIAL AND IS TO BE USED FOR STATISTICAL PURPOSES ONLY.

BATCH NO:

SHEET NO:

ESTABLISHMENTS DESCRIPTION

1. Full name of establishment:
2. Mailing address: P.O. Box Town/City:
3. Physical location of establishment:
- Region: Village:
- District: Street/Sub-village:
- Ward: Plot No:
- Tel: Mobile:
- Fax No: E-mail:

4. Type of establishment:

1. A stand-alone establishment without branches
2. The headquarters of establishments with more than one branch
3. A branch of an establishment of a large enterprise

If the box in Q.4 is marked 3, please provide name and address of a large enterprise

Name :

P.O. Box: Town/City:

Tel: Mobile:

Fax No : E-mail:

5. Type of ownership of the establishment:

1. Public 2. Private 3. Cooperative 4. Mixed (both Public and Private)

6. Nationality of owner(s) of the establishment

1. Domestic 2. Foreign 3. Mixed

7. When did this establishment start its operation?

Year: Month:

8. Did you operate in 2013?

1. Yes 2. No

9. Do you maintain books of accounts?

1. Yes 2. No

10. Activity of the establishment:

Main Activity (describe): **For official Use only**

ISIC CODE

11. Number of persons engaged in the establishment:

Male
Female
Total

12. Total Turnover in 2013, in Tshs.:

13. Is the establishment registered with any government authority?

1. Yes 2. No

If Yes, please mention



Appendix 5: Acknowledgement Form of Receipt of the Questionnaire



United Republic of Tanzania

CENSUS OF INDUSTRIAL PRODUCTION, 2013 TANZANIA MAINLAND

Acknowledgement of receipt of the questionnaire (To be filled in duplicate)

Name of Establishment	
Name of Receiving Person at the Establishment	
Title	
Telephone Number (s)	
Signature, Date & Stamp	
Interviewer	
Date of collection of questionnaire and attached financial statements	

Thank you for receiving and accepting to fill-in the *form*.

Note: *This page should be filled-in by the person who is receiving the questionnaire on behalf of the entity at the time of delivery by the interviewer. After it is signed the interviewer should retain the original copy of this form.*

Appendix 6: Enumerator's Checklist Form for Visits or Calls



CENSUS OF INDUSTRIAL PRODUCTION, 2013 TANZANIA MAINLAND DATA COLLECTION EXERCISE ENUMERATOR'S CHECKLIST FOR VISITS OR CALLS

Complete in full for each visit or call, and show to your Supervisor

A: BACKGROUND INFORMATION:	
1. Enumerator (name):	2. Date of visit:
3. Name of Establishment visited or called:	
4. Person(s) met or called [name(s) and position(s)]:	
5. Address (including street name):	6. Tel:
	7. E-mail:
8. Activity Category (tick one only): <input type="checkbox"/> Mining and Quarrying <input type="checkbox"/> Manufacturing <input type="checkbox"/> Electricity, gas, steam and air conditioning supply <input type="checkbox"/> Water supply; sewerage, waste management and remediation activities	
B. INFORMATION FOR FOLLOW-UP	
9. Did the respondent agree to comply? Yes <input type="checkbox"/> No <input type="checkbox"/> <i>If no, please give reasons, so CIP Technical Committee can follow-up:</i>	
10. Did you hand over the Questionnaire? Yes <input type="checkbox"/> No <input type="checkbox"/> <i>If no, what were the reasons for not doing so?</i>	
11. Did you explain the Questionnaire in detail? Yes <input type="checkbox"/> No <input type="checkbox"/> <i>If no, you will need to phone to ask if respondent is experiencing problems.</i>	
12. Agree on date for completion or return <i>You need to agree on the date, as this is necessary for follow-up: Give date here:</i>	
13. Please indicate mode agreed for returning the completed Questionnaire: <input type="checkbox"/> Enumerator collect <input type="checkbox"/> By courier <input type="checkbox"/> By post <input type="checkbox"/> By fax <input type="checkbox"/> By e-mail <i>If the agreed date of completion is not yet, please indicate the next appointments:</i> Second Third	
Name of the person receiving completed questionnaire.....	



Control Form

CENSUS OF INDUSTRIAL PRODUCTION, 2013

TANZANIA MAINLAND

Dispatch of CIP Materials from Headquarter to the RSM

...../...../2015

Region

Name of PMU

Signature

Date

S/NO	Item	Unit	Quantity
1.	Detailed Questionnaires-English version	Number	
2.	Detailed Questionnaires-Kiswahili version	Number	
3.	Short Questionnaires-English version	Number	
4.	Short Questionnaires-Kiswahili version	Number	
5.	Enumerator's Instruction Manual	Number	
6.	Supervisor's Instruction Manual	Number	
7.	List of Selected Establishments	Number	
8.	Copies of Introduction Letters	Number	
9.	Note Books	Number	
10.	Writing Boards	Number	
11.	Bags	Number	
12.	Pens	Number	
13.	Calculators	Number	
14.	ISIC Revision 4 Booklet	Number	
15.	CPC Revision 2.1 Booklet	Number	
16.	Quality Control Guidelines	Number	

Fill-in three copies: Headquarters-Original; RSM-1st copy and 2nd copy to Supervisor**NB:** The Original copy to be submitted to the Headquarters for recording purposes

.....

.....

...../...../2015

Name of RSM

Signature

Date



Control Form
CENSUS OF INDUSTRIAL PRODUCTION, 2013
TANZANIA MAINLAND
Dispatch of CIP Materials from RSM to the Supervisor/Enumerator

S/NO	Item	Unit	Quantity
1.	Detailed Questionnaires-English version	Number	
2.	Detailed Questionnaires-Kiswahili version	Number	
3.	Short Questionnaires-English version	Number	
4.	Short Questionnaires-Kiswahili version	Number	
5.	Enumerator's Instruction Manual	Number	
6.	List of Selected Establishments	Number	
7.	Copies of Introduction Letters	Number	
8.	Note Books	Number	
9.	Writing Board	Number	
10.	Bag	Number	
11.	Pens	Number	
12.	Calculator	Number	
13.	ISIC Revision 4 Booklet	Number	
14.	CPC Revision 2.1 Booklet	Number	

Fill-in three copies: Headquarters-Original; RSM-1st copy and 2nd copy to Enumerator

NB: The Original copy to be submitted to the Headquarters for recording purposes

.....

Name of Enumerator

.....

Signature

....../....../2015

Date

Control Form

CENSUS OF INDUSTRIAL PRODUCTION, 2013

TANZANIA MAINLAND

Confirmation of HQ Receipt of CIP Materials from RSM

S/NO	Item	Unit	Quantity
1.	Completed Questionnaires		
	Detailed Questionnaires-English version	Number	
	Detailed Questionnaires-Kiswahili version	Number	
	Short Questionnaires-English version	Number	
	Short Questionnaires-Kiswahili version	Number	
2.	Unused Questionnaires		
	Detailed Questionnaires-English version	Number	
	Detailed Questionnaires-Kiswahili version	Number	
	Short Questionnaires-English version	Number	
	Short Questionnaires-Kiswahili version	Number	
3.	List of Establishments by Response Status	Number	
4.	Filled in Control Forms	Number	
5.	Enumerator's Checklist	Number	

Fill three copies: Headquarters-Original; RSM-1st copy and 2nd copy to HQ officer

NB: The Original copy to be submitted to the Headquarters for recording purposes

.....

....../....../2015

Name of HQ Officer

Signature

Date



Appendix 8: Short Questionnaire

CONFIDENTIAL

CIP – 13 – Q2



Establishment No.

--	--	--	--	--	--

THE UNITED REPUBLIC OF TANZANIA

To:

.....
.....
.....

Region Code

District Code

Ward Code

Employment Size

(For office use only)

CENSUS OF INDUSTRIAL PRODUCTION, 2013 TANZANIA MAINLAND

SHORT QUESTIONNAIRE

Dear Sir/Madam,

This Census is conducted in accordance with the Statistics Act 2002. According to the Act, all information supplied in this return shall be **STRICTLY CONFIDENTIAL**. The information will be used for statistical purposes only.

Thanking you for your co-operation.

Yours truly

.....

REGIONAL STATISTICAL MANAGER

Mobile no:.....

P. O. Box:

Signature & Stamp:

Date:



SECTION I: ESTABLISHMENT DESCRIPTION (*Information to be filled in capital letters*)

1.1 Full name of the Establishment:

2.1 Physical location of the Establishment:

Region: Village /Street:

District: Hamlet/Sub-street:

Ward: Plot No:

3.1 Contact address of the Establishment:

P. O. Box: Street/Road: Post Code:

Town/City: Tel:

Mobile: Fax No:

E-mail: Website:

4.1 Full name of contact person:

Designation: Tel./Mobile:.....

5.1 Type of the Establishment: (*Please write the correct number in the provided box*)

1. Single establishment
2. Head Office (owns or controls other Establishments)
3. A branch (owned and controlled by head office)

--

If the box is marked 3, please provide name and telephone number of the head office

Name: Tel/Mob:.....

6.1 Activities of the Establishment:

(For office use only)

ISIC Rev.4 Code

1.61 Main Activity.....

--	--	--	--

.....

1.62 Auxiliary Activity.....

--	--	--	--

.....



7.1 Product(s) Manufactured:

- 1.71 Main product
- 1.72 Other product (s) (1)
- (2)
- (3)

8.1 Origin of Ownership (*Please write the correct number in the box provided*)

1. National
2. Foreign
3. Joint *If 3, please indicate % capital share of National(s):*
.....

9.1 Form of Ownership (*Please write the correct number in the box provided*)

1. Public
2. Private
3. Mixed *If 3, please indicate % share of Public:*

10.1 Type of Legal Organization: (*Please write the correct number in the provided box*)

Sole proprietorship	1	Cooperative	5
Partnership	2	Private company limited by guarantee	6
Public	3	Private company limited by shares	7
Parastatal	4	Other (specify).....	8

11.1 Source of Finance (*Total investments and working capital during commencement*):

1. Personal and relatives
2. Loans from banks and other financial institutions
3. Government
4. Other (*Specify*).....

Amount "000" TZS

12.1 Year the Establishment Started Operation.....

--	--	--	--

13.1 Period to which data in this questionnaire refers

From: Month.....Year **To:** Month Year



SECTION II: EMPLOYMENT DURING THE REFERENCE PERIOD

2.1 Number of persons engaged including part time workers

Number of persons engaged as at	Code	Tanzanian	Foreigner	Sex
30 th June, 2013	2.11			Males
	2.12			Females
31 st December, 2013	2.13			Males
	2.14			Females

2.2 Average number of persons engaged including part time workers

Category	Code	Tanzanian	Foreigner	Sex
Working proprietors and partners (<i>Active owners of the legal entity</i>)	2.21			Males
	2.22			Females
Unpaid workers (<i>Members of religious institutions, family members, prisoners, J.K.T and the like</i>)	2.23			Males
	2.24			Females
Employees:				
Managerial and professional staff (<i>Managerial, technical, clerical and other office workers etc</i>)	2.25			Males
	2.26			Females
Operatives -skilled (<i>Foremen, machine operators, fitters, casual and manual workers</i>)	2.27			Males
	2.28			Females
Operatives -non skilled (<i>Foremen, machine operators, fitters, casual and manual workers</i>)	2.29			Males
	2.30			Females
Other (specify)	2.31			Males
	2.32			Females
Total Persons Engaged	(2.21+2.23+2.25+2.27+2.29+2.31)	2.33		Males
	(2.22+2.24+2.26+2.28+2.30+2.32)	2.34		Females
Number of out-sourced workers paid by sub-contractors as at 31 st December 2013	2.35			Males
	2.36			Females



SECTION III: LABOUR COSTS DURING THE REFERENCE PERIOD

3.1 Labour Costs

Description	Code	Amount in “000” TZS
Gross wages and salaries paid to employees (<i>including bonus and gratuities</i>)	3.11	
Payments in kind, eg. medical, food, transport, housing cost, drink, fuel etc	3.12	
Employer's contribution to Social Security Schemes (e.g. <i>NSSF, PPF</i>)	3.13	
Other labour costs (<i>Specify</i>).....	3.14	
Total Labour Costs	3.15	

SECTION IV: PRODUCTION COST DURING THE REFERENCE PERIOD

4.1 Cost of production and other expenses

Description	Code	Amount in “000” TZS
Raw materials	4.11	
Other materials and supplies	4.12	
Fuels used	4.13	
Goods purchased for resale (trade goods)	4.14	
Services purchased	4.15	
All taxes paid	4.16	
All other expenses	4.17	
Total	4.18	



SECTION V: INCOME OF THE ESTABLISHMENT

5.1 Income of the Establishment

Description	Code	Amount in “000” TZS
Sales from own products and by-products	5.11	
Sales of goods bought and sold without further processing (trade goods)	5.12	
Receipts for services rendered to others	5.13	
All other receipts	5.14	
Subsidies received	5.15	
Total	5.16	

SECTION VI: VALUE OF THE INVENTORIES

Description	Code	Amount in “000” TZS	
		Opening balance	Closing balance
Materials and supplies (raw materials, chemicals, etc.)	6.1		
Finished products, goods purchased for re- sale, fuels and others	6.2		
Total	6.3		



SECTION VII: EXPENDITURE ON FIXED ASSETS

Description	Code	Amount in “000” TZS
Land	7.1	
Buildings and other construction works	7.2	
Machinery and other equipment	7.3	
Others, (<i>specify</i>).....	7.4	
Additions to fixed assets (7.1 + 7.2 + 7.3 + 7.4)	7.5	
Disposal of fixed assets	7.6	
Total annual depreciation	7.7	

SECTION VIII: OTHER INFORMATION

8.1 Registration

8.2 Does the establishment have any license? (*Please write the correct number in the box provided*)

Yes 1
 No 2 → *If No, go to 8.4*

8.3 If yes, fill in the table below

<i>Date issued</i>	<i>License number</i>	<i>Issuing Authority</i>	<i>Type of license</i>
E.g 02/08/2005	41527893	<i>Ministry of Industry and Trade</i>	<i>Business license</i>



8.4 If No, why? *(Please write the correct number in the box provided)*

Reason	Code	Yes	No	Response
Financial problems	8.131	1	2	
Complicated bureaucratic procedures	8.132	1	2	
Too small business	8.133	1	2	
Does not see the need	8.134	1	2	
Other, <i>(Specify)</i>	8.135	1	2	

8.2 Tenure

2.5.76 Tenure of buildings occupied for own business *(Please write the correct number in the provided box)*

Wholly owned	1	<input type="text"/>
Wholly rented	2	
Partly rented	3	

8.3 Quality management

2.5.76 Are your products certified by: *(Please write the correct number in the table provided)*

Description	Code	Yes	No	Response
Tanzania Food and Drugs Authority (TFDA)	8.311	1	2	
International Organization for Standardization (ISO)	8.312	1	2	
Tanzania Bureau of Standards (TBS)	8.313	1	2	
Other Authority <i>(specify)</i>	8.314	1	2	

2.5.76 Is the quality of raw materials purchased controlled? *(Please write the correct number in the box provided)*

Yes	1	<input type="text"/>
No	2	



8.4 Main Source of Water (*Please write the correct number in the box provided*)

- Public network 1
 River 2
 Underground water 3
 Other, (*specify*)..... 4
 Not applicable 5

8.5 HIV/AIDS (*Please write the correct number in the box provided*)

8.51 Does your establishment have HIV/AIDS work place packages?

- Yes 1
 No 2

8.52 What are the methods that you think will reduce industrial sector vulnerability to HIV/AIDS? (*Please write the correct number in the box provided*)

Methods	Code	Yes	No	Response
HIV/AIDS workplace education and prevention	8.521	1	2	
Treatment	8.522	1	2	
Counseling	8.523	1	2	
Shift towards capital intensive operations	8.524	1	2	
Other, (<i>Specify</i>).....	8.525	1	2	



8.6 Challenges

8.61 Major challenges facing the establishment (*Circle as appropriate, multiple answers are allowed*)

High cost of production	1
Inadequate technology	2
Inadequate physical infrastructure (roads, water, etc.)	3
Complicated administrative procedures	4
Shortage of qualified labour	5
Foreign currency fluctuations	6
Insufficient production capacity	7
Shortage of raw materials	8
Taxes (<i>Specify</i>).....	9
Insufficient demand	10
Unfair competition	11
Infant private sector with weak support	12
Environmental challenges	13
HIV/AIDS pandemic	14
Uncertain economic environment	15
Inadequate financial services	16
Other (<i>please specify</i>)	17



SECTION IX: DECLARATION AND SIGNATURE

I HEREBY DECLARE that the information filled in this questionnaire is complete and correct to the best of my knowledge.

Name:

Designation: Mobile number:

Official Stamp: Date:

FOR OFFICE USE ONLY

Name of Enumerator: Signature:

Number of visits made: Date:

Name of Supervisor: Signature: Date:

Name of data editor: Signature: Date:

Name of data entry staff: Signature: Date:



Appendix 9: Detailed questionnaire

CONFIDENTIAL



THE UNITED REPUBLIC OF TANZANIA

Establishment No. **CIP – 13 – Q1**

--	--	--	--	--	--

To:

.....
.....
.....
.....

Region Code

District Code

Ward Code

Employment Size

(For office use only)

CENSUS OF INDUSTRIAL PRODUCTION, 2013 TANZANIA MAINLAND

DETAILED QUESTIONNAIRE

Dear Sir/Madam,

This Census is conducted in accordance with the Statistics Act 2002. According to the Act, all information supplied in this return shall be **STRICTLY CONFIDENTIAL**. The information will be used for statistical purposes only. You are kindly required to complete this Questionnaire and return it to the Regional Statistical Manager together with a copy of your Financial Statements. The figures should be taken from the accounts of the establishment for the accounting year covering larger part of the reference year. If precise figures are not available, please give your best estimates.

Thanking you for co-operation.

Yours truly,

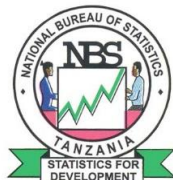
.....
REGIONAL STATISTICAL MANAGER

Mobile no:

P. O. Box:

Signature & Stamp:

Date:



SECTION I: ESTABLISHMENT DESCRIPTION (*Information to be filled in capital letters*)

1.1 Full name of the Establishment:

1.2 Physical location of the Establishment:

Region: Village/Street:

District: Hamlet/Sub-Street:

Ward: Plot No:

1.3 Contact address of the Establishment:

P. O. Box: Street/Road: Post Code:

Town/City: Tel:

Mobile: Fax No:

E-mail: Website:

1.4 Full name of contact person:

Designation: Tel. /Mobile:

1.5 Type of the Establishment: (*Please write the correct number in the box provided*)

1. Single Establishment
2. Head Office (owns or controls other Establishments)
3. A branch (owned and controlled by head office)

--

If the box is marked 3, please provide name and telephone number of the Head Office

Name: Tel./Mob:.....

1.6 Activities of the Establishment:

(For office use only)

ISIC Rev.4 Code

1.61 Main Activity.....

--	--	--	--

1.62 Auxiliary Activity.....

--	--	--	--

1.7 Product(s) Manufactured:

1.71 Main Product

1.72 Other product (s) (1)

(2)

(3)



1.8 Origin of Ownership (Please write the correct number in the box provided)

1. National
2. Foreign
3. Joint

If 3, please indicate % capital share of National(s):

1.9 Form of Ownership (Please write the correct number in the box provided)

1. Public
2. Private
3. Mixed

If 3, please indicate % capital share of Public:

1.10 Type of Legal Organization: (Please write the correct number in the box provided)

Sole proprietorship	1	Cooperative	5
Partnership	2	Private company limited by guarantee	6
Public	3	Private company limited by shares	7
Parastatal	4	Other (<i>specify</i>).....	8

1.11 Source of Finance (Total investments and working capital during commencement):

1. Personal and relatives
2. Loans from banks and other financial institutions
3. Government
4. Other (*Specify*).....

Amount “000” TZS

1.12 Year the Establishment Started Operation:

--	--	--	--

1.13 Period to which data in this questionnaire refers

From: Month..... Year

To: Month Year



SECTION II: EMPLOYMENT DURING THE REFERENCE PERIOD

2.1 Number of persons engaged including part time workers

Number of persons engaged as at	Code	Tanzanian	Foreigner	Sex
30 th June, 2013	2.11			Males
	2.12			Females
31 st December, 2013	2.13			Males
	2.14			Females

2.2 Average number of persons engaged including part time workers

Category	Code	Tanzanian	Foreigner	Sex
Working proprietors and partners (<i>Active owners of the legal entity</i>)	2.21			Males
	2.22			Females
Unpaid workers (<i>Members of religious institutions, family members, prisoners, J.K.T and the like</i>)	2.23			Males
	2.24			Females
Employees:				
Managerial and professional staff (<i>Managerial, technical, clerical and other office workers, etc.</i>)	2.25			Males
	2.26			Females
Operatives -skilled (<i>Foremen, machine operators, fitters, casual and manual workers</i>)	2.27			Males
	2.28			Females
Operatives -non skilled (<i>Foremen, machine operators, fitters, casual and manual workers</i>)	2.29			Males
	2.30			Females
Other (<i>specify</i>)	2.31			Males
	2.32			Females
Total Persons Engaged	(2.21+2.23+2.25+2.27+2.29+2.31)	2.33		Males
	(2.22+2.24+2.26+2.28+2.30+2.32)	2.34		Females
Number of out-sourced workers paid by sub-contractors as at 31 st December 2013	2.35			Males
	2.36			Females



SECTION III: LABOUR COSTS DURING THE REFERENCE PERIOD

3.1 Labour Costs

Description	Code	Amount in “000” TZS
Gross wages and salaries paid to employees (<i>including bonus and gratuities</i>)	3.11	
Overtime payments	3.12	
Reimbursement of travel expenses	3.13	
Payments in kind (<i>Medical, food, transport, housing cost, fuel etc.</i>)	3.14	
Employer's contribution to Social Security Schemes (e.g. <i>NSSF, PPF</i>)	3.15	
Training expenses	3.16	
Other labour costs (<i>Specify</i>).....	3.17	
Total Labour Costs	3.18	

SECTION IV: PRODUCTION COSTS DURING THE REFERENCE PERIOD (*Please exclude VAT*)

4.1 Electricity, water, gas and fuels purchased

Description	Code	Unit measure	Quantity	Value “000” TZS
Electricity	4.101			
Water	4.102			
Gas	4.103			
Fuel for machines and vehicles				
Diesel	4.104			
Heavy Furnace Oil (HFO)	4.105			
Lubricating oil	4.106			
Motor gasoline (Petrol)	4.107			
Grease	4.108			
Other gas oil	4.109			
Wood, coal and peat				
Wood	4.110			
Coal	4.111			
Peat	4.112			
Other fuels (<i>Specify</i>).....	4.113			
Total	4.114			



4.2 Goods purchased

Description	Code	Value “000” TZS
Goods purchased for resale (trade goods)	4.21	

4.3 Raw materials and components

4.31 Raw materials and components purchased

CPC Code (for office use only)	Description	Unit Measure	Imported		Local	
			Quantity	Value “000” TZS.	Quantity	Value “000” TZS
	Other (including stationery and spare parts)					
	Total					

If no material imported in Qn. 4.31, GO TO Qn. 4.4

4.32 Reasons for importation (Please write the correct number in the table provided)

Reasons	Code	Yes	No	Response
Transport	4.321	1	2	
Quality	4.322	1	2	
Availability	4.323	1	2	
Price	4.324	1	2	
Proximity	4.325	1	2	
Other (Specify).....	4.326	1	2	

4.4 Services consumed

4.41 Industrial services

Description	Code	Amount “000” TZS
Contract and commission paid for work done on your materials	4.411	
Cost of repairs and maintenance work	4.412	
Waste treatment costs	4.413	
Other (Specify).....	4.414	
Total	4.415	



4.42 Non-industrial services

Description	Code	Amount “000” TZS
Postage and other communication costs	4.421	
Rental of buildings, machinery, plant and equipment	4.422	
Storage and hire of transport	4.423	
Publicity and bank charges	4.424	
Consultancy and other professional fees (legal, fiscal, accountancy, etc.)	4.425	
Other (<i>Specify</i>).....	4.426	
Total	4.427	

4.5 Other expenses

Description	Code	Amount “000” TZS
Interests and dividends paid excluding bank charges	4.51	
Insurance paid	4.52	
Income tax	4.53	
Net value-added tax paid	4.54	
Other taxes on production e.g., rates, licenses, road tax	4.55	
Other (<i>Specify</i>).....	4.56	
Total	4.57	

SECTION V: OUTPUT (*Please exclude VAT and Excise Duty*)

5.1 Utilization of Production Capacity

CPC Code (for office use)	Product Description	Unit	Installed Capacity	Actual Production	Capacity Utilization (%)



- 5.2 If you are experiencing capacity under-utilization, what might be the reasons among the following: (*Rank the most important reason for under-utilization of capacity using scale 1 – 4. Where: 1 – High, 2- Moderate, 3 – Low and 4 – Not Applicable*)

Reasons	Code	Ranking
Insufficient domestic demand	5. 201	
Shortage of domestic inputs	5. 202	
Shortage of imported inputs	5. 203	
Old (Obsolete) plant/machinery and equipment	5. 204	
Plant maintenance problems due to lack of spare parts	5. 205	
Plant maintenance problems due to shortage of skilled labour	5.206	
High cost of credits	5.207	
Inadequate access to financial services	5.208	
Insufficient power supply	5.209	
Insufficient water supply	5.210	
Competition from imports	5.211	
Loss of products due to strikes/ stoppages etc.	5.212	
Un-competitiveness of exports	5.213	
Poor transport facilities/high transport cost	5.214	
Inability to grant credits to customers	5.215	
Counterfeits	5.216	
Others (<i>Specify</i>).....	5.217	

- 5.21 If reason for capacity underutilization is due to un-competitiveness in exports (code 5.213) is 1 or 2 or 3, please specify the reasons. (*Rank the most important reason for un-competitiveness in exports using scale 1 – 4. Where: 1 – High, 2- Moderate, 3 – Low and 4 – Not Applicable*).

Reasons	Code	Ranking
High cost of materials	5.2101	
High cost of fuel	5.2102	
High cost of electricity	5.2103	
High cost of labour	5.2104	
Poor quality of products	5.2105	



5.3 Sales from production

CPC Code <i>(for office use only)</i>	Description	Unit	Exported		Locally sold	
			Quantity	Value “000” TZS	Quantity	Value “000” TZS
	Other (<i>Specify</i>)....					
Total						

If No goods were exported in **Qn. 5.3**, go to **Qn. 5.4**

5.31 Major countries of export

Code	Country	Country Code	Percentage (%)
5.311			
5.312			
5.313			
5.314			

5.4 Income from services

5.41 Industrial services

Description	Code	Amount “000” TZS
Receipts from contracts done for others on their materials	5.411	
Receipts from repair and installation work done for others	5.412	
Other (<i>Specify</i>).....	5.413	
Total	5.414	

5.42 Non-industrial services

Description	Code	Amount “000” TZS.
Sales of goods sold as purchased (trade goods)	5.421	
Rents received	5.422	
Receipts from transport services rendered to others	5.423	
Value of sold assets	5.424	
Receipts from warehousing services	5.425	
Other (<i>Specify</i>).....	5.426	
Total	5.427	



5.5 Other receipts

Description	Code	Amount “000” TZS
Interests and dividends received	5.51	
Insurance premiums received	5.52	
Subsidies received	5.53	
Other (<i>Specify</i>).....	5.54	
Total	5.55	

SECTION VI: VALUE OF INVENTORIES

Description	Code	Value in “000” TZS	
		Opening balance	Closing balance
Materials and supplies (raw materials, chemicals, etc.)	6.1		
Fuel	6.2		
Work in progress (semi-finished products)	6.3		
Finished products	6.4		
Goods purchased for resale (trade goods)	6.5		
Total	6.6		

SECTION VII: VALUE OF FIXED ASSETS (Value in “000” TZS)

Type	Code	Value at the beginning	Additions		Disposals	Depreciation charge during the year	Net Value at the end
			Purchased	Own production			
Land	7.1						
Buildings and other construction works	7.2						
Transport equipment	7.3						
Machinery and other equipment	7.4						
Computer and other data processing equipment	7.5						
Others.....	7.6						
.....							
Total	7.7						



SECTION VIII: OTHER INFORMATION

8.1 Membership

8.11 Is the establishment a member of any association? *(Please write the correct number in the box provided)*

Yes 1

No 2 → *If No, go to Qn. 8.13*

8.12 If Yes, please indicate *(Please write the correct number in the provided table)*

Description	Code	Yes	No	Response
Confederation of Tanzania Industries (CTI)	8.121	1	2	
Tanzania Chamber of Commerce, Industry and Agriculture (TCCIA)	8.122	1	2	
Association of Tanzania Employers (ATE)	8.123	1	2	
Dar es Salaam Stock Exchange (DSE)	8.124	1	2	
Tanzania Chamber of Minerals and Energy (TCME)	8.125	1	2	
Other, <i>(Specify)</i>	8.126	1	2	

8.13 Awareness of services/functions provided *(Please write the correct number in the table provided)*

Description	Code	Aware	Not aware	Response
Confederation of Tanzania Industries (CTI)	8.131	1	2	
Tanzania Chamber of Commerce, Industry and Agriculture (TCCIA)	8.132	1	2	
Association of Tanzania Employers (ATE)	8.133	1	2	
Dar es Salaam Stock Exchange (DSE)	8.134	1	2	
Tanzania Chamber of Minerals and Energy (TCME)	8.135	1	2	
Other, <i>(Specify)</i>	8.136	1	2	

8.2 Registration

8.21 Does the establishment have any license? *(Please write the correct number in the box provided)*

Yes 1

No 2 → *If No, go to 8.23*



8.22 If Yes, fill in the table below

Date issued	License number	Issuing Authority	Type of license
<i>E.g 02/08/2005</i>	<i>41527893</i>	<i>Ministry of Industry and Trade</i>	<i>Business license</i>

8.23 If No, why? (Please write the correct number in the box provided)

Reason	Code	Yes	No	Response
Financial problems	8.231	1	2	
Complicated bureaucratic procedures	8.232	1	2	
Too small business	8.233	1	2	
Does not see the need	8.234	1	2	
Other, (<i>Specify</i>).....	8.235	1	2	

8.3 Tenure

8.31 Tenure of buildings occupied for own business (Please write the correct number in the box provided)

Wholly owned 1
 Wholly rented 2
 Partly rented 3

8.32 Total area occupied for establishment buildings and surroundings excluding plantations:

Floor..... *Sq. m.* *Land*..... *Sq. m.*

8.4 Quality management

8.41 Are your products certified by: (Please write the correct number in the table provided)

Description	Code	Yes	No	Response
Tanzania Food and Drugs Authority (TFDA)	8.411	1	2	
International Organization for Standardization (ISO)	8.412	1	2	
Tanzania Bureau of Standards (TBS)	8.413	1	2	
Other authority (<i>specify</i>)	8.414	1	2	



8.42 Is the quality of raw materials purchased controlled? *(Please write the correct number in the box provided)*

Yes 1
No 2

8.43 Does the establishment have a laboratory? *(Please write the correct number in the box provided)*

Yes 1
No 2

8.44 Does the establishment have quality management system? (Please write the correct number in the box provided)

Yes 1
No 2

8.45 Total number of Quality Control staff

--	--

8.5 Marketing

8.51 Marketing for the produced products *(Please write the correct number in the box provided)*

Domestic only 1 —————→ *If 1, go to Qn. 8.53*
International only 2
Both Domestic and International 3

8.52 Major Media for Export *(For exporting establishments only Qns. 8.52 – 8.54)*

Directly 1
Through parent enterprise 2
Through other intermediaries 3
Other (Specify)..... 4



8.53 Importance of trade agreements

8.54 Regional Trade Agreements (*Please write the correct number in the box provided (e.g. COMESA, EAC, SADC, etc)*)

Very important	1
Important	2
Not important	3

8.55 International Trade Agreements (*Please write the correct number in the box provided (e.g. W.T.O.)*)

Very important	1
Important	2
Not important	3

8.54 What do you consider the main three important barriers to expanding your exports?
(*Please write three correct number in the boxes provided*)

Inadequate supply capacity	1
Stringent Sanitary and Phytosanitary (SPS) Rules	2
Low compliance to the market standards	3
Inability to meet quality standards	4
Inadequate capacity to exploit preferential trade agreements	5
Inability to meet delivery time	6
Limited promotion	7
Inadequate trade negotiation skills and market access	8
Other, (<i>Specify</i>).....	9

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8.6 Main Source of Water (*Please write the correct number in the box provided*)

Public network	1
River	2
Underground water	3
Other, (<i>specify</i>).....	4
Not applicable	5



8.7 Environmental Management

8.71 Is there any Environmental Management Plan? *(Please write the correct number in the box provided)*

Yes 1
No 2

8.72 Does the Establishment have Treatment Facilities for Wastes? *(Please write the correct number in the box provided)*

Yes 1
No 2

8.721 If Yes, mention method of treatment

Method of treatment	Code	Yes	No	Response
Recycling	8.7211	1	2	
Incineration	8.7212	1	2	
Landfill	8.7213	1	2	
Composition	8.7214	1	2	
Municipal facilities	8.7215	1	2	
Other (specify).....	8.7216	1	2	

8.73 Does the establishment have a Certificate of Environmental Impact Assessment (EIA) /Audit? *(Please write the correct number in the box provided)*

Yes 1
No 2

8.8 Plant technology

8.81 Current Plant Technology status

Type of machinery	Percentage (%)	Source*	Average age	Expected average lifespan of the equipment
Manual				
Semi-automatic				
Fully-automated				
Others (specify).....				

* Please indicate by writing the number of the correct answer where: 1- Imported, 2- Local, 3-Both.



8.9 Investment Plan

8.91 Does the establishment have any Investment Plan? *(Please write the correct number in the box provided)*

Yes 1
No 2

8.911 If Yes, please indicate whether for: *(Please write the correct number in the box provided)*

Investment Plan	Code	Yes	No	Response
Replacement of old machinery	8.9111	1	2	
Expanding production capacity	8.9112	1	2	
Technology upgrading	8.9113	1	2	

8.10 HIV/AIDS

8.101 Does your establishment have HIV/AIDS work place packages? *(Please write the correct number in the provided box)*

Yes 1
No 2

8.102 What are the methods that you think will reduce industrial sector vulnerability to HIV/AIDS? *(Please write the correct number in the provided box)*

Methods	Code	Yes	No	Response
HIV/AIDS workplace education and prevention	8.1021	1	2	
Treatment	8.1022	1	2	
Counseling	8.1023	1	2	
Shift towards capital intensive operations	8.1024	1	2	
Other, <i>(Specify)</i>	8.1025	1	2	



8.11 Information technology infrastructure and related services

8.111 Does your establishment use the following? *(Please write the correct number in the table provided)*

Infrastructure	Code	Yes	No	Response
Computer	8.1111	1	2	
Telephone system	8.1112	1	2	
Mobile phones	8.1113	1	2	
Website	8.1114	1	2	
Local Area Network	8.1115	1	2	
Intranet	8.1116	1	2	
Extranet	8.1117	1	2	
Internet	8.1118	1	2	
CCTV	8.1119	1	2	

8.112 What type of Internet Connectivity does your business use? *(Please write the correct number in the table provided)*

Description	Code	Yes	No	Response
Fixed line	8.1121	1	2	
Wireless (Wimax)	8.1122	1	2	
Satellite (VSA T)	8.1123	1	2	
Mobile Modem	8.1124	1	2	
Fibre connection	8.1125	1	2	
Other, <i>(Specify)</i>	8.1126	1	2	

8.113 How has the use of Modern Technology and ICT affected the following? *(Please write the correct number in the table provided)*

Description	Code	Positive	Negative	Neutral	Response
Employment	8.1131	1	2	3	
Production	8.1132	1	2	3	
Sales	8.1133	1	2	3	
Communication	8.1134	1	2	3	
Record management	8.1135	1	2	3	
Transaction time	8.1136	1	2	3	
Business cost	8.1137	1	2	3	
Keeping pace with competitors	8.1138	1	2	3	
Others <i>(Specify)</i>	8.1139	1	2	3	



8.114 Does the Establishment use e–business in the following (*Please write the correct number in the table provided*)

Description	Code	Yes	No	Response
Place orders for goods and services	8.1141	1	2	
Receiving orders for goods and services	8.1142	1	2	
Purchase of goods and services (<i>at purchaser's prices</i>)	8.1143	1	2	
Selling of goods and services (<i>exclude VAT</i>)	8.1144	1	2	
Pay taxes	8.1145	1	2	
Statutory deduction (<i>e.g. NHIF, NSSF, PSPF etc.</i>)	8.1146	1	2	
Salaries	8.1147	1	2	

8.12 Challenges

8.121 Major challenges facing the establishment (*Circle as appropriate, multiple answers are allowed*)

High cost of production	1
Inadequate technology	2
Inadequate physical infrastructure (roads, water, etc.)	3
Complicated administrative procedures	4
Shortage of qualified labour	5
Foreign currency fluctuations	6
Insufficient production capacity	7
Shortage of raw materials	8
Taxes (<i>Specify</i>).....	9
Insufficient demand	10
Unfair competition	11
Infant Private Sector with weak support	12
Environmental challenges	13
HIV/AIDS pandemic	14
Uncertain economic environment	15
Inadequate financial services	16
Other, please specify.....	17

8.122 If there is a shortage of qualified labour, mention the exact skills which are lacking in Tanzania.

- (1)..... (2).....
 (3)..... (4).....
 (5)..... (6).....



SECTION IX: DECLARATION AND SIGNATURE

I HEREBY DECLARE that the information filled in this questionnaire is complete and correct to the best of my knowledge.

Name:

Designation..... Mobile number:

Official Stamp..... Date:

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Name of Enumerator: Signature:

Number of visits made: Date:

Name of Supervisor: Signature: Date:

Name of data editor: Signature: Date:

Name of data entry staff: Signature: Date:



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MAIN STATISTICS - FOR EDITING PURPOSES	Number
A. NO. OF EMPLOYEES TOTAL [Total (2.33+2.34)-Total (2.21+2.22)-Total (2.23+2.24)]	
	Value in “000” TZS.
B. GROSS OUTPUT (G.O) = B1 +B2 + B3	
B1: Value of goods produced [Total 5.3 (export + local) + 5.53 + Total 7.7(Additions - own prod.)] + 6.3(Clos. -Open) + 6.4 (Clo.-Open)	
B2: <i>Receipts from services rendered Industrial services (Total of 5.41)</i>	
B3: <i>Non-industrial services</i> [5.42- 4.21 + 6.5 (Clos. - Open.)]	
C. INTERMEDIATE CONSUMPTION = C1 + C2 + C3 + C4	
C1: Electricity, water and fuels consumed (Total 4.1)	
C2: Raw materials and supplies consumed [Total 4.3(imported + local) - 6.1 (closing -Opening)]	
Services consumed	
C3: <i>Industrial services</i> (Total 4.41)	
C4: <i>Non-industrial services</i> (Total 4.42)	
D. VALUE ADDED (V.A) (B - C)	
<i>Please check V.A/G.O (%)</i> $D*100/B$	
E. COMPENSATION OF EMPLOYEES (C.E) (3.1 - 3.16 - 3.17)	
(a) <i>C.E/V.A (%)</i> $E*100/D$	
(b) <i>C.E per employee per month</i> $E/A*12$	
F. OTHER TAXES ON PRODUCTION 4.55	
G. SUBSIDIES 5.53	
H. GROSS OPERATING SURPLUS (D - E - F)	



National Bureau of Statistics

Vision

“To become a one-stop Centre for official statistics in Tanzania.”

Mission

“To produce quality official statistics and services that meet needs of national and international stakeholders for evidence-based planning and decision making.”

