

A History of the Production of Statistics in Zambia, 1939-2018

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Declaration

I hereby declare that this thesis is my own independent work and has not been previously submitted by me at another university or institution for any degree, diploma, or other qualification. I further authorise copyright of this thesis to the University of the Free State.

Signed: _____

Date: _____

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Dedication

I dedicate this thesis to my mother Beatrice Masiliso Ngenda, my late father George Santebe and my uncle Paul Simasiku for the foundation they laid towards my academic dream. I am indebted to you for everything.

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Abstract

This thesis examines the development of statistics in Zambia in the period 1939-2018. It builds on studies concerned with the quality of data produced in Africa by unravelling the main forces that shaped the making of numbers. The thesis argues that external forces such as British colonial rule, and later the United Nations, donor countries and regional organisations shaped data priorities and funding of statistical enquiries. The United Nations also dominated the formulation of concepts, methods and classifications used to collect and process data. Nonetheless, internal dynamics also played a role in statistical development as the local environment determined the availability of requisite data and the application of international frameworks. Besides, locally-based statisticians made critical choices and decisions in data collection and processing while political players at times censored the circulation of data and the implementation of statistical reforms.

The thesis further contends that statistical development was uneven across subjects and time. From the aftermath of the Second World War to the 1970s, the construction of national accounts and related indices expanded while other datasets received little attention. Whereas the production of statistics generally declined in the 1980s in the context of the economic crisis and the one-party state, some datasets were sustained in the same period. Furthermore, the onset of Structural Adjustment Programmes and the Poverty Reduction Strategy tilted statistical priorities towards data on human welfare and social indicators. The thesis also argues that the quality of statistics was uneven depending on the availability of required data. Often, statistics were weakened by the inadequacy of requisite information that complicated data processing and dissemination. Such difficulties negatively affected policy making, public service delivery, as well as local and international development programmes that often depended on incomplete data.

Key Words: Statistics, data, statistical development, Central Statistical Office, Zambia.

Opsomming

Hierdie tesis ondersoek die ontwikkeling van statistiek in Zambië in die periode vanaf 1939 tot 2018. Dit bou voort op studies rakende die kwaliteit van data voortgebring uit Afrika deur die ontrafeling van die grootste invloede op die getalle. Die tesis argumenteer dat eksterne invloede soos die Britse koloniale regerings, en later die Verenigde Nasie, sekere lande en streeksorganisasies se data prioriteite en befondsing van statistiese studies help vorm het. Die Verenigde Nasies het ook die formulering van konsepte, metodes en klassifikasies wat gebruik word om data te versamel en die prosesseer gedomineer. Nieteenstaande het interne dinamieka ook 'n rol gespeel in statistiese ontwikkeling aangesien die plaaslike omgewing die beskikbaarheid van die vereiste data asook die mate van toepassing van die internasionale raamwerk bepaal het. Verder het plaaslike statistikuste kritiese keuses en besluite gemaak met betrekking tot data versameling en verwerking, terwyl politieke spelers met tye die verspreiding van data asook die implementering van statistiese veranderings gesensor het.

Die tesis sal verder aavoer dat statistiese ontwikkeling ongelyk was ten opsigte van onderwerpe en tyd. Sedert die nagevolg van die Tweede Wêreldoorlog tot die 1970s, het die konstruksie van nasionale rekeninge en die gepaardgaande indekse gegroei terwyl ander datastelle min aandag geniet het. Terwyl die produksie van statistiek in die algemeen afgeneem het in die 1980s in die konteks van die ekonomiese krisis en die een-party staat, het ander datastelle behoue gebly in dieselfde tydperk. Verder het die aanvang van strukturele aanpassingsprogramme en die strategie om armoede te verminder, statistiese prioriteite na data oor menslike welsyn en sosiale aanwysers gekantel. Die tesis argumenteer verder dat die kwaliteit van statistiek ongelyk was, afhangende van die beskikbaarheid van die vereiste data. Statistiek is gereeld verswak deur die ongelykhede in die beskikbare data wat die verwerking en ontleding daarvan bemoeilik het. Hierdie

ongelykhede het die maak van beleid, publieke diensverskaffing sowel as plaaslike en internasionale ontwikkelingsprogramme negatief beïnvloed, vanweë onvolledige data.

Sleutelwoorde: Statistiek, data, statistieke, ontwikkeling, Sentrale Statistiese Kantoor, Zambië

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Acronyms

AIDS	Acquired Immunodeficiency Syndrome
ASYCUDA	Automated System for Customs Data
BTN	Brussels Tariff Nomenclature
CASO	Central African Statistical Office
CSO	Central Statistical Office
CCCN	Customs Cooperation Council Nomenclature
COMESA	Common Market for Eastern and Southern Africa
CSPR	Civil Society for Poverty Reduction
FAO	Food and Agriculture Organisation
FRN	Federation of Rhodesia and Nyasaland
GDP	Gross Domestic Product
GDDS	General Data Dissemination System
GRZ	Government of the Republic of Zambia
HIPC	Heavily Indebted Poor Countries
HIV	Human Immunodeficiency Virus
ICP	International Comparison Programme
ILO	International Labour Organisation

IMF	International Monetary Fund
ISIC	International Standard Industrial Classification
JCTR	Jesuit Centre for Theological Reflection
LCMS	Living Conditions Monitoring Survey
MDGs	Millennium Development Goals
MMD	Movement for Multiparty Democracy
NAZ	National Archives of Zambia
NCDP	National Commission for Development Planning
NCCM	Nchanga Consolidated Copper Mines
NSDS	National Strategy for the Development of Statistics
PARIS21	Partnership for Statistical Development in the Twenty-First Century
PDL	Poverty Datum Line
PRSP	Poverty Reduction Strategy Paper
SADC	Southern African Development Community
SAP	Structural Adjustment Programme
SITC	Standard International Trade Classification
SNA	System of National Accounts
SPSS	Statistical Package for the Social Sciences

SUT	Supply and Use Table
UNDP	United Nations Development Programme
UNECA	United Nations Economic Commission for Africa
UNIP	United National Independence Party
UNZA	University of Zambia
ZamStats	Zambia Statistics Agency
ZDHS	Zambia Demographic and Health Survey
ZCCM	Zambia Consolidated Copper Mines
ZCCM-IH	Zambia Consolidated Copper Mines Investment Holding

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GLOSSARY

Balance of payments – A systematic statement of the economic transactions of a country with the rest of the world in a specified period.¹

Brussels Tariff Nomenclature (BTN) – A standard nomenclature that was used internationally to classify goods in customs tariffs from 1949 to 1976. The BTN was renamed Customs Co-operation Council Nomenclature (CCCN) in 1974.²

Census – A survey held on a full set of observation objects belonging to a given population or universe.³

Consumer Price Index – A measure of the change in prices of goods and services bought by households in a specified period of time.⁴

Establishment – An enterprise, or part of an enterprise, that is situated in a single location and in which only a single productive activity is carried out or in which the principal activity accounts for most of the added value.⁵

Gross Domestic Product – The total value of goods and services created in an economy in a fixed period that are available for domestic use or export.⁶

Gross fixed capital formation – The total value of a producer's acquisitions (less disposals) of fixed assets during the accounting period plus certain expenditure on services that adds to the value of non-produced assets.⁷

Gross National Income – The aggregate value of gross balances of primary incomes for all sectors.⁸

Index of Industrial Production – A measure of change in the volume of industrial production of an economy over time.⁹

Intermediate consumption – The value of goods and services consumed as inputs by a process of production, excluding fixed assets, whose consumption is recorded as consumption of fixed capital.¹⁰

¹ Organisation for Economic Co-operation and Development (OECD), *Measurement of the Non-Observed Economy: A Handbook* (Paris: OECD, 2002), 206.

² J.E.D. Lima, M. Alvarez and D. Cracau, *Manual on Foreign Trade and Trade Policy: Basics, Classifications and Indicators of Trade Patterns and Trade Dynamics* (Santiago: Economic Commission for Latin America and the Caribbean, 2016), 44.

³ OECD, *Measurement of the Non-Observed Economy*, 206.

⁴ *The Statistician*, 2013, 3.

⁵ *System of National Accounts, 2008* (New York: United Nations Statistical Commission, 2009), 87.

⁶ *The Statistician*, July 2017, 7.

⁷ *System of National Accounts, 2008*, 198.

⁸ *Ibid*, 134.

⁹ *The Statistician*, 2013, 4.

¹⁰ *System of National Accounts, 2008*, 120.

International Standard Industrial Classification – An international standard for classifying productive economic activities that categorises entities according to the activity they conduct. It consists of tabulation categories, divisions, groups and classes.¹¹

Metadata – refers to data that describes the given statistics.¹²

National Accounts – These are systematic records of all economic transactions in a country over a specified period and their reduction to a balanced account of income and expenditure.¹³

Optical Character Reader – an electronic device used for data entry that recognises and converts typed, printed or written characters into machine-encoded text that a computer can manipulate.

Standard International Trade Classification – A statistical classification of commodities entering external trade designed to provide aggregates for economic analysis and international comparison of trade-by-commodity data.¹⁴

Supply and Use Tables – Matrices that record how supply of goods and services originate from domestic industries and imports and how the supplies are allocated between various intermediate or final uses, including exports.¹⁵

Survey – an investigation about the characteristics of a given population by means of collecting data from a sample of the population and estimating their characteristics through the systematic use of statistical methodology.¹⁶

System of National Accounts – A set of internationally agreed concepts, definitions, classifications and accounting rules used to compile measures of economic activity.¹⁷

¹¹ OECD, *Measurement of the Non-Observed Economy*, 206.

¹² *Ibid*, 226.

¹³ Phyllis Deane, *Colonial Social Accounting* (Cambridge: Cambridge University Press, 1953), 3.

¹⁴ *The Statistician*, 5.

¹⁵ *Ibid*, 4.

¹⁶ OECD, *Measurement of the Non-Observed Economy*, 227.

¹⁷ *System of National Accounts*, 2008, 1.

Chapter One

Introduction and Historical Background

1.1. Introduction

This thesis examines the major developments in the production of statistics in Zambia in order to contribute to debates on the construction of numerical data.¹ It argues that statistical development was dominated by external forces that influenced the nature of data produced as well as the methods and classification systems used to compile them. However, internal dynamics also played a role as they determined the availability of data and application of international frameworks as well as regulated the circulation of data and the implementation of statistical reforms. The thesis also argues that statistical development and the quality of numbers were uneven across time and datasets as the frequency, coverage and conduct of enquiries varied within and across time and subjects covered. Nevertheless, it contends that there was improvement in the quality of some figures due to advancements in statistical methods and technologies.

The study begins in 1939 when the onset of the Second World War brought significant changes in the production of data. It ends in 2018 when Zambia's National Strategy for the Development of Statistics ended and the Statistics Act 2018 was passed, which resulted in wide-ranging changes in the organisation of the statistical service. The study provides a historical analysis of the production of statistics in Zambia. To do so, it traces the origins of statistical works and explores the changes in the organisation of the data collection system. The thesis also explains changes in the nature of data compiled and examines the major shifts in the methods of collecting, processing

¹ My interest in the history of numbers and particularly the development of statistics in Zambia arose after I studied Mathematics and History at the University of Zambia at undergraduate level and especially after I successfully completed my Master of Arts in History at the same University.

and circulating them. It also analyses the challenges faced, how they affected the quality of data and the efficacy of statistics in policy making, service delivery and development programmes.

This study was inspired by a controversy between the economic historian Morten Jerven and the Central Statistical Office (CSO) of Zambia over the quality of data produced by the latter.² Jerven argues that Sub-Saharan African countries generated poor statistics on economic growth and cites Zambia as one of the producers of weak national accounts data. He explains the poor numbers in terms of lack of resources for collecting adequate requisite information, which made statisticians resort to gap-filling methods involving guesswork. Hence, he concludes that it is pointless to rank countries using national income data.³ In response, the Zambian CSO dismissed Jerven's arguments as exaggerated and based on very circumstantial and subjective evidence. Despite recognising the difficulties it encountered in collecting data, the CSO argued that while its methods were not fully sound, they met global standards insofar as they were used for shorter benchmarked series. The office thus alleged that Jerven was a "hired gun" aimed to discredit African statisticians and create employment for European expatriates.⁴

While it is important to assess the quality of data as Jerven suggests, it is also critical to understand the evolution of the statistical system that generated the figures and the factors that shaped its development. This thesis, firstly, argues that the production of numbers and the making of the Zambian statistical service were largely dominated by external forces. Initially, the production of

² See, for example, Morten Jerven, *Poor Numbers: How We are Misled by African Development Statistics and What to Do About it* (Ithaca and London: Cornell University Press, 2013), Morten Jerven, *Economic Growth and Measurement Reconsidered in Botswana, Kenya, Tanzania, and Zambia, 1965-1995* (Oxford: Oxford University Press, 2014) and Morten Jerven, *Africa: Why Economists get it Wrong* (New York: Zed Press, 2015).

³ Jerven, *Poor Numbers*, 29.

⁴ CSO, 'Reaction of the Zambian Central Statistical Office to Mr. Morten Jerven's Book – Poor Numbers: How We Are Misled by African Development Statistics and What to Do About It', Paper presented at the 20th SADC Statistics Committee Meeting, Pemba, Mozambique, 28-30 May 2013, 12.

statistics was dominated by the British colonial state that collected data in order to make the colonised societies legible and governable. However, Southern Rhodesia (now Zimbabwe) also contributed to the production of statistics in Northern Rhodesia (now Zambia) by conducting enquiries for the latter from 1940 to 1964, adding a regional dimension to the external influence. This was aided by the siting of a regional statistical hub in Salisbury (now Harare) and it facilitated the dominance of Southern Rhodesia in Central Africa. In the postcolonial period, Britain's aid to statistical development in Zambia was channelled through the British Department for International Development, which contributed statistical equipment, technical staff and funding for some enquiries and training programmes.

The thesis also demonstrates that the United Nations, from its inception in 1945, was a crucial external force that shaped statistical development in Zambia just as elsewhere. It influenced major data priorities, funding of enquiries and the formulation of definitions, concepts, classifications and methods used to compile data. The United Nations also held and sponsored world censuses in which all countries were required to participate. Hence, some of the major statistical series were compiled to provide data to the organisation. Besides the United Nations, from the 1990s, regional organisations, namely the Common Market for Eastern and Southern Africa (COMESA) and the Southern African Development Community (SADC), aided statistical development in Zambia by helping the CSO with software and equipment for data collection and processing.⁵ They did this partly because they required statistics from their member countries to maintain their own datasets.

Another argument of the thesis is that, despite the dominance of external forces, internal dynamics also contributed to statistical development as local political and economic conditions sometimes

⁵ Government of the Republic of Zambia (GRZ), *Central Statistical Office Strategic Plan, 2003-7*, 56-7.

promoted, and in some cases hindered, the production of data. The Zambian government funded some enquiries and collected data in order to understand the conditions of its people and facilitate its functioning. This reifies the argument by scholars like Scott, Lieber and Lieber who view statistics as part of the technologies that the state used to make society legible, improve human conditions and enhance governance.⁶ However, these scholars largely ignore the influence of external forces on state statistical works, a weakness rectified in this discourse. The thesis further observes that local political players at times censored the production and circulation of data as well as the execution of statistical reforms. Furthermore, the local environment shaped the application of international statistical concepts, methods and classifications that often had to be adapted to local reality. Also critical were the attitudes of data suppliers that determined the availability of requisite information and the decisions made by locally-based statisticians during data collection, processing and tabulation, which all affected the quality of numbers. Thus, statistical development must be understood in the context of an amalgam of internal and external dynamics.

The thesis also contends that statistical development in Zambia was uneven across subjects and time and, as a result, so was the quality of data. As studies by Kratke, Byiers and Jerven, among many others, have focused on the production of single subject datasets or statistics in general, they have not recognised this unevenness.⁷ To illustrate this argument, the thesis focuses on a range of data categories across different periods. This facilitates a clearer and more comprehensive understanding of the similarities and differences between datasets. From the end of the Second

⁶ James C. Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed* (New Haven and London: Yale University Press, 1998). Also see Anat A. Lieber and Anat Lieber, 'Statistical Ambition: Governmentality, Modernity and National Legibility', *Israeli Studies*, 9, 2 (2004), 121-49.

⁷ See, for example, Florian Kratke and Bruce Byiers, 'The Political Economy of Official Statistics: Implications for the Data Revolution in Sub-Saharan Africa', *Partnership in Statistics for Development in the Twenty First Century* (hereafter PARIS 21), Discussion Paper No. 5, 2014 and Jerven, *Poor Numbers*.

World War to the 1970s, the production of national accounts and associated datasets increased while other subjects received little attention. This was due to the role of national accounts in economic diagnosis, development planning and public service delivery. Although the production of statistics generally declined in the 1980s under the influence of the economic crisis and the one-party state, some datasets particularly those on population, labour and cost of living were actually sustained. In addition, the onset of Structural Adjustment Programmes and Poverty Reduction Strategies tilted statistical priorities towards data on human welfare and social indicators.

Often, the quality of numbers was also uneven depending on the availability of requisite data. In many instances, statistics were weakened by the inadequacy of input information that held up the processing and release of figures. Some of the persistent problems faced were low response rates to enquiries, delays in acquiring data and inadequacy of personnel and equipment. Such problems limited the availability of statistics and negatively affected decisions relating to policy making, development planning and public service provision, which were often made using incomplete preliminary datasets. Hence, decision making processes, including that on major international programmes, were not adequately informed statistically. The following sections provide the historical background, the problem statement and justification, conceptual definitions, literature review as well as the sources and methodology of the study. The final section outlines the organisation of the thesis and the contributions of each of the subsequent chapters.

1.2. Historical Background

The collection of and use of numerical data to represent conditions of the society developed in different parts of the world long before the Enlightenment period. Ancient societies of Europe, China, India and Africa, among others, evolved systems of counting and recording data and utilised

the information for taxation and military purposes. Some European societies compiled and used numerical data long before the birth of Jesus Christ.⁸ Edmunds and Marchant note that at the start of the Christian era, a population count was held in the Roman provinces of Syria and Judea during the rule of Emperor Augustus Caesar to ascertain tax liability.⁹ In relation to China, Durand argues that the ancient state collected data on the numbers of households and people in different provinces as well as on taxation and economic production.¹⁰ In Africa, there is evidence that some societies measured and recorded data and used them for various purposes including enhancing taxation and military strength and measuring production, such as in Egypt. Gerdes explains the systems of counting and data recording in various parts of Africa.¹¹ However, the systems differed from the data collection and recording procedures evolved in other parts of the world.

Though numerical data collection has a long history, the systematic study and use of statistics to solve problems in society began during the Enlightenment in the seventeenth century.¹² The utilisation of data went beyond taxation and military aspects to include subjects like births, marriages, deaths, external trade, customs and excises, social structure and public finance.¹³ It was further extended during the eighteenth century Industrial Revolution as state appetite for wealth and resource control expanded.¹⁴ Scott notes that whereas the pre-modern state restricted itself to ‘a level of intelligence sufficient to allow it to keep order, extract taxes, and raise armies, the modern state increasingly aspired to take [charge of] the physical and human resources of the

⁸ R.L. Plackett, ‘Royal Statistical Society: The Last Fifty Years, 1934-84’, *Journal of the Royal Statistical Society, Series A (General)*, 147, 2 (1984), 149.

⁹ Roger Edmunds and Tim Marchant, ‘Official Statistics and Monitoring and Evaluation Systems in Developing Countries: Friends or Foes?’ PARIS21 Paper, October 2008, 13.

¹⁰ John D. Durand, ‘The Population Statistics of China, A.D. 2 - 1953’, *Population Studies*, 13, 3 (1960), 209-56.

¹¹ Paulus Gerdes, ‘On Mathematics in the History of Sub-Saharan Africa’, *Historia Mathematica*, 21 (1994), 345-76.

¹² Pat Hudson, *History by Numbers: An Introduction to Quantitative Approaches* (London: Arnold, 2000), 27-8.

¹³ Hudson, *History by Numbers*, 27-8.

¹⁴ Kratke and Byiers, ‘Political Economy’, 15 and John Pullinger, ‘The Creation of the Office for National Statistics’, *International Affairs*, 65, 3 (1997), 306.

nation and make them more productive.¹⁵ The increased utilisation of statistics stimulated the creation of statistical societies and associations in Europe that gathered data for the state, the private sector, research institutions and the general public.¹⁶

When European states colonised Africa, they introduced their own systems of counting, data collection and representation. Typically, their statistical systems developed slowly and for years, they collected and used only basic data, such as on taxation, population, education, mining and commerce.¹⁷ They used the data to administer the colonies, measure and report progress, plan and evaluate colonial projects and as a tool for exploiting valuable resources to generate wealth for their home countries.¹⁸ In colonial Africa, statistics were collected by different bodies like government departments, regional administrative centres, commissions of enquiry and research bodies, which often included statistics in their reports.¹⁹ Also, academic institutions and private companies in mining, railways, trading and finance compiled figures on their activities and the state used their records as sources of data. Private companies also provided data to the government through their responses to enquiries undertaken by data collecting institutions.

Before the Second World War, most statistical works in Africa were still in their infancy and they developed quite slowly. Although the Great Depression of the 1930s increased the need to collect

¹⁵ Scott, *Seeing Like a State*, 51.

¹⁶ In Britain, for example, some of these institutions included the General Register's Office, the Home Office, the War Office, the Board of Trade, the Statistical Society of London, the Central Society of Education and the Health of Towns Association. Hudson, *History by Numbers*, 30-2 and Theodore Porter, *The Rise of Statistical Thinking, 1820-1900* (Princeton: Princeton University Press, 1986), 30-32.

¹⁷ Serra, 'Uneven Statistical Topography', 10 and Raymond R. Gervais and Richard Marcoux, 'Saving Francophone Africa's Statistical Past', *History in Africa*, 20 (1993), 385.

¹⁸ Kratke and Byiers, 'Political Economy' 14 & 19-20.

¹⁹ See, for example, Registrar General's Department and Central Statistical Office, 'The Current Status of Vital Statistics and Civil Registration Systems in Zimbabwe', Paper Presented at UNESCO African Workshop on Strategies for Accelerating the Improvement of Civil Registration and Vital Statistics Systems, Addis Ababa, 5-9 December 1994, 50-1.

data for assessing its impact on the colonies, it was not accompanied by the drastic statistical developments that ensued during the Second World War (1939-45) and its aftermath. Indeed, the economic crisis stimulated the role of the colonies in metropolitan wealth creation and increased the need for statistics to measure resource extraction.²⁰ This expanded radically with the onset of the war as colonial regimes became convinced that African countries were viable economic units that could contribute significant income to the metropole and thus merited close numerical observation.²¹ The war also stimulated the collection of data on recruitment, production and supplies of food, water, arms and finances. Thus, the major colonial powers, Britain and France, reorganised and centralised their statistical systems and this improved coordination and spurred the timely production and availability of better data.²²

After the Second World War, Britain and France reorganised statistical activities in their colonies in order to collect better data with which to execute recovery measures, participate in the post-war economic boom and keep pace with the prevailing discourse that required all important economic decisions to be based on statistics.²³ Besides, they wanted to use the colonies to test new statistical methods like survey sampling. Thus, they opened specialised statistical offices in selected colonies. In particular, Britain in 1948 formed the Office of the Government Statistician in the Gold Coast (now Ghana), the East African Statistical Bureau in Kenya and the Central African

²⁰ Ibid, 14 & 19.

²¹ Ibid.

²² Gervais and Marcoux, 'Saving Francophone Africa', 385-6, Pullinger, 'Creation of the Office for National Statistics', 292, Richard O. Lang, 'Post-War Planning for British Official Statistics', *Journal of the American Statistical Association*, 39, 277 (1999), 275-7 and Claus Moser, 'The Role of the Central Statistical Office in Assisting Policy Makers', *The American Statistician*, 30, 2 (1976), 61.

²³ Lang, 'Post-War Planning for British Official Statistics', 277 and Austin Robinson, 'Official Statistics', *The Economic Journal*, 53, 212 (1943), 419. To facilitate economic recovery, Britain compiled comprehensive statistics on industrial production, employment and unemployment, imports and exports, commodity prices and other economic indicators. See C. A. Blyth, *The Use of Economic Statistics* (London: George Allen and Unwin, 1960), 17-96.

Statistical Office (CASO) in Southern Rhodesia.²⁴ The CASO collected statistics for Southern Rhodesia, Northern Rhodesia and Nyasaland (now Malawi). During the Federation of Rhodesia and Nyasaland (1953-63), the CASO was renamed Central Statistical Office and it compiled data for the central administration and serviced the territorial governments. Besides, like other statistical offices in colonial Africa, the CSO served as a laboratory for statistical research.²⁵

Some of the statistical experiments undertaken in colonial Africa include those done by the British in the 1940s and 1950s in the area of national accounting, which were intended to develop tools for comparing incomes and revenue potential in the Empire.²⁶ British economists experimented with national income using methods earlier developed for industrialised economies by Simon Kuznets in the United States, as well as Colin Clark and Richard Stone in Britain.²⁷ The works of Phyllis Deane in Northern Rhodesia and Nyasaland, Alan Peacock in Tanganyika, A.R. Prest and I.G. Stewart in Nigeria and Dudley Seers in the Gold Coast illuminate their efforts.²⁸ Regional statistical centres were also active in similar works. For example, the East African Statistical Bureau in Kenya began compiling national income statistics in 1949 and by 1958, Kenya had among the best macroeconomic data in Africa with complete series for the 1950s.²⁹ Similarly, the

²⁴ Kratke and Byiers, 'Political Economy', 20, Gervais and Marcoux, 'Saving Francophone Africa', 386, Serra, 'Uneven Statistical Topography', 11, Bawa Abdul-Kadir, 'An Evaluation of Official Statistics Utilisation Practices for Decision Making in Decentralised Departments in the Bolgatanga Municipal Assembly, Bolgatanga' (MBA Thesis, Kwame Nkrumah University of Science and Technology, Ghana, 2012), 2, Kenya National Bureau of Statistics (KNBS), 'Strategic Plan 2008-2012', 1, https://www.paris21.org/sites/default/files/KENYA_StrategicPlan_2008-2012.pdf, Accessed 8 August 2017 and Registrar General's Department and Central Statistical Office, 'Current Status of Vital Statistics in Zimbabwe', 50-1.

²⁵ Registrar General's Department and Central Statistical Office, 'Current Status of Vital Statistics in Zimbabwe', 51 and J.R.H. Shaul, 'Statistical Research and African Vital Statistics', *The Central African Journal of Medicine*, 1, 2 (1955), 83-5.

²⁶ Kratke and Byiers, 'Political Economy', 20.

²⁷ For details, see Daniel Speich, 'The Use of Global Abstractions: National Income Accounting in the period of Imperial Decline', *Journal of Global History*, 6 (2011), 7-28.

²⁸ Speich, 'Use of Global Abstractions', 13-17.

²⁹ Ibid, 16.

Salisbury-based CSO compiled the national income data of Southern Rhodesia, Northern Rhodesia and Nyasaland during the federal period.

When the Federation collapsed in 1963, Nyasaland and Northern Rhodesia became independent in 1964 as Malawi and Zambia, respectively. The federal statistical office became a Rhodesian institution and Malawi and Zambia set up their own offices. Zambia formed the Central Statistical Office as the prime body that collected official data for the government to facilitate general administration, policy making as well as planning and evaluating development and public service provision.³⁰ Consequently, in the postcolonial period, the bulk of statistics were produced by the CSO with other data compiled by sectoral ministries and other public institutions like the Bank of Zambia.³¹ By the 1990s, the civil society also compiled important statistics. The users of data were the state, the private sector, researchers, the civil society and the international community while the sources included the government, business firms, households and individuals.³²

1.3. Problem Statement and Justification

Statistics have been used in Zambia as a basis for policy making, public service delivery as well as development planning, implementation and evaluation since the colonial times. Despite the significance of statistics to the state, the private sector and the international community, there is dearth of historical studies on the development of the Zambian statistical service and the specific enquiries it undertook. The few scholars who attempt to examine these subjects, such as Kiregyera, Banda and Jerven, do not provide historical analysis of the chronological development of

³⁰ *The Statistician*, July 2017, 1.

³¹ *The Statistician*, 2014, 1.

³² *Ibid.*

numerical data.³³ Hence, knowledge of shifts in the development of the statistical system, the factors that shaped them and their effects on the availability and quality of data is peripheral. In fact, Jerven appeals to historians and other scholars who use qualitative methods to take interest in studying the production of statistics in Africa and the environment in which datasets were constructed.³⁴ Hence, this thesis responds to Jerven's appeal in order to provide a nuanced historical account of statistical development in Zambia. Besides, the existing works concentrate on the activities of data collectors with little focus on the role of data providers in the making of statistics. As a result, this thesis includes the role of data providers such as business establishments and individuals in shaping statistical enquiries. The inadequacies in the existing literature justified the conduct of this study in order to rectify the identified shortcomings.

1.4. Conceptual Definitions

In this study, the term statistics refers to numerical information which authorised institutions and agencies collect, process and disseminate in order to provide an understanding of the economic and social conditions of the society.³⁵ Statistical works denote the activities that data collecting institutions and their personnel undertake in order for them to produce and disseminate numerical data. In addition, a statistical system is defined as 'the ensemble of statistical organisations and units within a country which jointly collect, process and disseminate statistics on behalf of the national government.'³⁶ It includes all categories of data suppliers, collectors and users from both

³³ See Ben Kiregyera and J.P. Banda, 'Challenges of a Central Statistical Office in a Developing Economy: The Case of Zambia', *Journal of Official Statistics*, 2, 1 (1986), 35-42 and Jerven, *Poor Numbers* and Jerven, *Economic Growth and Measurement Reconsidered*, 175-83.

³⁴ See, for example, Jerven, *Poor Numbers*, 111.

³⁵ Hudson, *History by Numbers*, 30 and Jerven, *Poor Numbers*, 3.

³⁶ Organisation for Economic Co-operation and Development (OECD), *Measurement of the Non-Observed Economy: A Handbook* (Paris: OECD, 2002), 220.

the government and non-government sectors and extends to incorporate research and training institutions as well as the data themselves.

1.5. Literature Review

A review of literature on statistical development in various parts of the world reveals that the subject has been dealt with following clearly identifiable themes. One strand of scholars represented here by Eberhard-Breard, Goldberg and Moye advances the role of individual influences on statistical development.³⁷ Eberhard-Breard in particular argues that Robert Hart, the Inspector General of the Maritime Customs Service of China, shaped the development of Chinese customs statistics as he created an efficient Statistics Department in the period 1873-91. The author posits that Hart provided excellent direction to statisticians, rationalised their work and thus helped to improve the accuracy, timeliness and uniformity of customs data.³⁸ Eberhard-Breard maintains that Hart appointed talented and hardworking staff to oversee the work of the department and that his personal engagement in its work encouraged statisticians to pay attention to every detail. As a result, Hart remarkably improved the operations of the Statistics Department.³⁹

Similarly, Goldberg and Moye examine the roles of various commissioners in the development of the American Bureau of Labour Statistics from 1884 to 1984 and how they shaped statistical works in the United States. They credit the positive developments in labour statistics to individuals who led the Bureau in various periods. Goldberg and Moye argue that Carroll Wright laid such a strong foundation for the Bureau's works that although the Bureau underwent 'several metamorphoses

³⁷ Andrea Eberhard-Breard, 'Robert Hart and China's Statistical Revolution', *Modern Asian Studies*, 40, 3 (2006), 605-629 and Joseph P. Goldberg and William T. Moye, *The First Hundred Years of the Bureau of Labour Statistics, 1884-1984* (Washington, D. C: United States Bureau of Labour Statistics, 1985).

³⁸ Eberhard-Breard, 'Robert Hart and China's Statistical Revolution', 605 & 612.

³⁹ *Ibid*, 616-17.

which reflected shifting political forces, Wright's leadership gave steady direction to its work in conducting judicious investigations and the fearless publication of the results.⁴⁰ They also note the contribution of Charles Neill, who visited agents in the field and improved their work culture and Ethelbert Stewart, who expanded the collection of data on retail prices, wages and productivity and upheld the objectivity of the Bureau during the Great Depression.⁴¹ The duo also applauds Ewan Clague for enhancing the quality of economic statistics and resisting political manipulation.⁴² While the above works to some extent acknowledge the role of economic and political forces in shaping statistical development, they emphasise the role of individuals. In contrast, this thesis argues that individual leaders of the statistical service did not do much to shape statistical development in Zambia due to the structural constraints they faced.

As opposed to scholars that emphasise the role of individuals, O'Hara stresses the dominant role of the government in statistical development.⁴³ He notes that in the early 1950s, the British government successfully ignored calls for statistical reforms. However, in the late 1950s when it realised that its budget decisions were based on faulty data, it quickly spent huge sums of money reorganising its statistical system and collected lots of economic statistics that shaped its policies. Thus, O'Hara asserts that statistical development was determined by the needs and priorities of the government as it decided which data would be collected and funded. He contends that the government's 'immediate needs and priorities were more important than the "epistemic communities", who were consulted as and when they were needed.'⁴⁴ In contrast, this thesis argues

⁴⁰ Goldberg and Moye, *First Hundred Years*, 6-7.

⁴¹ Ibid, 43-139.

⁴² Ibid, 140-211.

⁴³ Glen O'Hara, 'Towards a New Bradshaw? Economic Statistics and the British State in the 1950s and 1960s', *The Economic History Review New Series*, 60, 1 (2007), 1-34.

⁴⁴ Ibid, 29.

that government priorities were only part of a complex combination of factors that shaped statistical development. Although the Zambian government sometimes determined what data would be collected and disseminated, in many cases, data production was done under external frameworks while donors funded some enquiries and programmes.

Perhaps the most popularised is the theme that advances the role of political economy in statistical development. With regard to Africa, proponents of this view include Abegaz, Bah, Khalfani, Zuberi and Lehohla.⁴⁵ Abegaz contends that prior to 1980, the performance of the Ethiopian government in the production of statistics was dismal because of the political and economic crisis the country faced. However, Abegaz notes that from 1980, economic recovery after the end of political instability enabled the statistical office and other institutions to improve the quality of data.⁴⁶ Despite identifying the impact of political economy on the production of data, Abegaz does not explain its effects on specific statistical enquiries. On the other hand, Bah is of the view that the nature and quality of data are shaped more by political rather than economic forces. He insists that the political history of South Africa before 1994 shaped the course of vital statistics as racial considerations dominated its demographic data.⁴⁷ This view is shared by Khalfani, Zuberi and Lehohla with whom Bah analyses the development of population statistics in the apartheid era and argues that racial discrimination created a racially stratified statistics system in which data on Africans was scantier than that on non-Africans.⁴⁸ Lehohla argues that before 1994, the Central

⁴⁵ Berhanu Abegaz, 'A Brief Note on Recent Ethiopian Economic Statistics', *Northeast African Studies*, 8, 1 (1986), 31-4, Sulaiman M. Bah, 'The Making and Unmaking of a National but Stratified Vital Statistics System in the Republic of South Africa and the New Making of a More Comprehensive Vital Statistics System', *Southern African Journal of Demography*, 7, 1 (1999), 45-50, A.K. Khalfani, Tukufu Zuberi, Sulaiman Bah and Pali J. Lehohla, 'Population Statistics', in Tukufu Zuberi, Amson Sibanda and Eric Udjo (eds.), *The Demography of South Africa* (Armonk, New York: M.E. Sharpe, Inc., 2005), 3-39 and Pali Lehohla, 'Statistics South Africa in Transition: Reflections on a Decade of Statistical Practice (1994-2004)', *African Statistical Journal*, 1 (2005), 48-69.

⁴⁶ Abegaz, 'Brief Note on Ethiopian Economic Statistics', 31-4.

⁴⁷ Bah, 'Making and Unmaking', 45-8.

⁴⁸ For a detailed discussion, see Khalfani, Zuberi, Bah and Lehohla, 'Population Statistics', 3-49.

Statistical Service stressed the collection of data on whites rather than the entire population and that the statistics were inadequate for national development planning and monitoring.⁴⁹ He further argues that from 1994, South Africa made reforms to its statistical system and reinforced the collection of various datasets.⁵⁰ These included restructuring of the Central Statistical Services into Statistics South Africa, holding country-wide censuses and social surveys, adopting new technology and international standards and using administrative data.⁵¹ In his view, these changes were engendered by the transformation from apartheid to inclusive democracy.

Other affiliates to the political economy framework are Devarajan and Jerven.⁵² They contend that statistics in developing countries were compiled using competing methods while their political sensitivity attracted government interference. Devarajan argues that Africa faced a statistical tragedy with data compiled under political censorship. He insists that statisticians were made to assemble data that projected a positive image to ensure re-election of parties in power or which reflected conditions that would qualify countries to donor aid, thereby compromising the quality of statistics.⁵³ Similarly, Jerven argues that in the 1967-77 Green Revolution in India, the government manipulated statisticians to inflate production figures and project the picture that its policies were working.⁵⁴ Therefore, he concludes that the revolution was statistically exaggerated and created before it actually began. Jerven also argues that in the 2000s, agricultural production figures in Malawi were inflated under political pressure to deceive voters so as to mobilise support for Bingu Wa Mutharika.⁵⁵ The inflation of production figures was also intended to attract

⁴⁹ Lehohla, 'Statistics South Africa in Transition', 48-69.

⁵⁰ Ibid, 48-50.

⁵¹ Ibid, 51-66.

⁵² Devarajan, 'Africa's Statistical Tragedy', 9-15 and Jerven, 'Political Economy', 3.

⁵³ Ibid, 9 & 12-14.

⁵⁴ Jerven, 'Political Economy', 11.

⁵⁵ Ibid, 9-11.

agricultural donor aid. This thesis demonstrates that political economy was only part of the factors that influenced the production of statistics in Zambia.

Jerven proceeds to question the quality of statistics produced in Africa.⁵⁶ He echoes the argument made by Blades, Johnston and Marczewski that developing countries lacked resources to attract competent statisticians and fund statistical work. As a result, 'little data collection is undertaken in the field, approximate methods are used to estimate important aggregates, and there are considerable delays in the publication of data.'⁵⁷ Jerven questions the reliability of the national accounts of Sub-Saharan Africa in both national and international datasets and cautions data users to probe sources of statistics before using them.⁵⁸ From the late 1970s, the capacity of many statistical offices declined due to inadequate resources. Poor funding led to shortages of manpower, erratic statistical enquiries, use of obsolete methods and guessing of figures. In addition, the records of enterprises and individuals that were the main data sources were pathetic and some datasets vanished due to poor record-keeping.⁵⁹ In Jerven's view, these problems compromised the GDP series of Sub-Sahara African countries, and so, it is deceptive to rank economies based on such estimates.⁶⁰ Crucial as these works may be, they do little to document the activities of

⁵⁶ Jerven, *Poor Numbers*, Morten Jerven, 'Poor Numbers! What do we know about Income and Growth in Sub-Saharan Africa?' www.cgdev.org/doc/17-NOV-CGD-Poor_Numbers-Jerven.pfd, accessed 16 August 2018, Morten Jerven, 'Research Note, Africa by Numbers: Reviewing the Database Approach to Studying African Economies', *African Affairs*, 115, 459 (2016), 342-58, Morten Jerven, 'The Political Economy of Agricultural Statistics: Evidence from India, Nigeria and Malawi', *Simons Papers in Security and Development*, No. 18/2012, School for International Studies, Simon Fraser University, Vancouver, March 2012, 1-20, Morten Jerven, 'The Relativity of Poverty and Income: How Reliable are African Economic Statistics?' *African Affairs*, 109, 434 (2010), 77-96, Morten Jerven and Magnus Ebo Duncan, 'Revising GDP Estimates in Sub-Saharan Africa: Lessons from Ghana', *The African Statistical Journal*, 15 (2012), 13-22 and Shantayanan Devarajan, 'Africa's Statistical Tragedy', *The Review of Income and Wealth*, 59 (2013), 9-15.

⁵⁷ Derek W. Blades, Derek D. Johnston and Witold Marczewski, *Service Activities in Developing Countries: An Analysis based on National Accounts* (Paris: OECD, 1974), 19-20.

⁵⁸ Jerven, 'Poor Numbers' and Jerven, 'Relativity of Poverty and Income', 77-96.

⁵⁹ *Ibid*, 1-3, 85, Jerven, 'Africa by Numbers', 342-8 and Jerven, 'Relativity of Poverty and Income', 77, 90-4.

⁶⁰ For the conflicting ranks of Sub-Saharan African countries by GDP estimates, see Jerven, *Poor Numbers*, 16-20.

statisticians and their responses to the challenges highlighted. In contrast, this thesis highlights specific censuses and surveys and unveils the experiences of statisticians in the actual processes of data collection, analysis and tabulation and thus captures their voices.

Outside Africa, Wong, Chow, Heleniak, Motivans and Oh argue that changes in the political economy shaped statistical development.⁶¹ Wong and Chow attribute China's 1980s statistical reforms to political and economic modernisation. They note that during the Cultural Revolution (1966-76), political interference in the work of the State Statistical Bureau led to inflated figures on production and blocked the release of data considered to be state secret.⁶² Yet, from the late 1970s, the promotion of private firms, adoption of latest technology and increased autonomy of state enterprises helped to modernise the economy, expand internal markets, increase external trade and induce foreign investment.⁶³ The relaxed state grip on the economy stimulated individual participation and stirred the production and dissemination of statistics. By the 1980s, state mendacity was abandoned, the bureau embraced modern methods and published abundant statistics.⁶⁴ Despite their critical contributions, these scholars ignore changes in the organisation of the statistical system and specific enquiries, a point this study considers in the case of Zambia.

In their analysis of the late 1980s Soviet statistical reforms, Heleniak and Motivans note the impact of Mikhail Gorbachev's *glasnost* (openness) policy.⁶⁵ They note that before 1987, statistics were largely unavailable due to their limited collection and restriction to a tight circle of officials and

⁶¹ John Wong, 'Understanding Recent Changes in China's Statistical System', *China Perspectives*, 35 (2001), 56-62, Gregory M. Chow, 'Chinese Statistics', *The American Statistician*, 40, 3 (1986), 191-9, Tim Heleniak and Albert Motivans, 'A Note on Glasnost and the Soviet Statistical System', *Soviet Studies*, 43, 3 (1991), 473-90 and Jong Nam Oh, 'The Role of NSOs in Assuring National Prosperity: A Case Study of Korea', *International Statistical Review*, 73, 2 (2005), 191-6.

⁶² Wong, 'Understanding Recent Changes', 59 and Chow, 'Chinese Statistics', 191.

⁶³ Chow, 'Chinese Statistics', 191.

⁶⁴ Ibid.

⁶⁵ Heleniak and Motivans, 'Glasnost and the Soviet Statistical System', 473-90.

academics. Moreover, publications were irregular, methods faulty and the data deceptive. Nevertheless, from 1987 *Goskomstat*, the prime statistical body, injected *glasnost* in its work. It intensified statistical activities, increased data circulation through daily press releases, monthly bulletins, *ad hoc* reports, annual handbooks and a computerised data bank.⁶⁶ Republics, ministries and districts were allowed to collect and circulate data. Besides, the *Goskomstat* began to interact with European and American statistical bodies with which it shared data and published joint reports. Thus, the duo concludes that *glasnost* increased the production of statistics and opened them up to internal and external interests.⁶⁷ Benefiting from these insights, this thesis assesses the extent to which changes in government affected the release of statistics in Zambia.

Oh argues that statistical development in Korea was shaped by the socio-economic setting that dictated the extent to which data were used and inspired changes in the work of the Korean National Statistical Office.⁶⁸ He notes that in the period 1948-2002, the Office repeatedly adapted to social, economic and global changes. During the Korean War, the state was unable to adequately fund the Office and this weakened its data.⁶⁹ However, from 1961, Korean statistics improved due to economic growth and development plans that availed funds for statistical work. Thus, the office became more effective and by the 1990s, it began to incorporate global aspects that increased its efficiency.⁷⁰ Other than the government statistical office, the author does not focus on data providers, their responses to enquiries and how they affected the quality of the figures.

⁶⁶ Ibid, 475-88.

⁶⁷ Ibid, 478-80.

⁶⁸ Oh, 'Role of NSOs in Assuring National Prosperity', 191-6.

⁶⁹ Ibid, 191.

⁷⁰ Ibid, 192-6.

Very relevant to this thesis is the theme on the role of global and other international factors in shaping statistical development explored separately by Speich and Jerven.⁷¹ The former argues that the rise of global statistics influenced changes in the production of data in Africa. With no country providing leadership in international statistics, the United Nations took the leading role from the 1950s and began to harmonise data categories and standardise methods of collecting and compiling statistics. Speich points out that the United Nations tested its statistical tools in Africa, an example being the System of National Accounts used to compare and rank national economies.⁷² However, he does not analyse specific enquiries to illustrate how the methods were implemented. Similarly, Jerven refers to the role of the United Nations statistical manuals, international frameworks, the Millennium Development Goals and donor priorities in shaping statistics in Africa.⁷³ Likewise, Olubusoye, Oluwatoyin and Keshinro argue that international factors such as the Addis Ababa Plan of Action on Statistics and the Millennium Development Goals shaped statistical development in Nigeria.⁷⁴ As this thesis illustrates, Zambia participated in many international programmes that variedly contributed to her statistical development.

The study also benefits from scholars who explore the theme regarding the training of statistical staff in Africa.⁷⁵ In this vein, Ching'anda and Ntozi posit that in order to address staffing problems and build a stock of statisticians, African countries began the Statistical Training Programme for

⁷¹ D.C. Speich, 'The Roots of Millennium Development Goals: A Framework for Studying Global Statistics', *Historical Social Research*, 41, 2 (2016), 218-37, Jerven, *Poor Numbers*, 22-6 and Jerven, 'Africa by Numbers', 357.

⁷² Speich, 'Roots of Millennium Development Goals', 219-32.

⁷³ Jerven, *Poor Numbers*, 22 & 26.

⁷⁴ O.E. Olubusoye, K.G. Oluwatoyin and O.A. Keshinro, 'Nigerian Statistical System: The Evolution, Progress and Challenges', <https://www.researchgate.net/publication/283715250>, Accessed on 22 February 2018.

⁷⁵ These include Enock F. Ching'anda and James P.M. Ntozi, 'Training Employees for African Statistical Services', *International Statistical Review*, 66, 2 (1998), 235-44, Vitalis E. Muba, 'The Eastern Africa Statistical Training Centre', *The African Statistical Journal*, 2 (2006), 145-50, Mark Woodward, 'Training Government Statisticians in Zimbabwe', *Journal of Official Statistics*, 1, 1 (1985), 79-82 and Mark Woodward, 'Training Government Statisticians in Zimbabwe - An Update', *Journal of Official Statistics*, 10, 2 (1994), 215-20.

Africa in the late 1970s under the United Nations Economic Commission for Africa.⁷⁶ They explain that the scheme managed to open regional training centres and increased the retention of employees who had joined as clerks and then trained in statistics. Yet, the centres did not attract enough support as donors resented funding them through the Commission and they were funded only by the United Nations Development Programme.⁷⁷ Similarly, Muba reviews the training activities of the Eastern Africa Statistical Training Centre and notes that it expanded its beneficiaries from the initial Tanzania, Kenya and Uganda to fourteen other Anglophone countries.⁷⁸ The centre provided training in statistics, archiving data on computer diskettes and in schemes like the International Comparison Programme for Africa and the System of National Accounts. However, Muba argues that the centre had weak links with other stakeholders and maintained outdated courses.⁷⁹ These weaknesses are common in many African statistical systems and are examined in this thesis on Zambia, which also analyses the impact of the training schemes.

A few scholarly works on the development of statistics in Zambia were crucial to this thesis as they highlighted some of the themes that it builds on. These include works by Kiregyera and Banda, Mulenga, Jerven as well as Litschauer and Rowe who throw some light on the organisation of statistical service and the methods used to collect data.⁸⁰ However, most of them are ahistorical, cover specific subject datasets and are limited in scope. Kiregyera and Banda examine the organisation of the statistical service, the activities it undertook and the problems it faced in the

⁷⁶ Ching'anda and Ntozi, 'Training Employees for African Statistical Services', 236-7.

⁷⁷ Ibid, 240-4.

⁷⁸ Muba, 'The Eastern Africa Statistical Training Centre', 145-50.

⁷⁹ Ibid, 147 & 149.

⁸⁰ Kiregyera and Banda, 'Challenges of a Central Statistical Office', 36-42, Mpafya S.C. Mulenga, 'Zambia', *Population Size in African Countries* (Paris: *Groupe de Demographie Africaine*, 1986), 335-49, Morten Jerven, *Economic Growth and Measurement Reconsidered in Botswana, Kenya, Tanzania and Zambia, 1965-1995* (Oxford: Oxford University Press, 2014), 150-74 and John Litschauer and John S. Rowe, 'Zambia's Agricultural Data System: A Review of the Agricultural Time Series Data', in Michael Roth and Steven Smith (eds.), *Land Tenure, Land Markets, and Institutional Transformation in Zambia* (Madison, Wisconsin-Madison: 1995), 227-53.

1980s.⁸¹ They note that the service comprised the CSO and statistical units in sectoral ministries and provincial centres. Among the challenges faced was the tendency by ministries to isolate their statistical units from the CSO and this caused duplication of work. Others were insufficient funding, shortage of qualified staff as well as inadequate infrastructure and equipment.⁸² As this thesis illustrates, these hurdles often delayed data processing and dissemination. Though this thesis is the first comprehensive historical analysis of statistical development in Zambia, it builds on insights from Kiregyera and Banda.

Mulenga explores the population censuses and surveys held in Zambia before 1980 and notes that the methods used in the colonial period differed according to race. While colonial officials held decennial censuses of non-Africans, they estimated the number of Africans from tax records assembled during district tours. Colonial officials explained that they lacked adequate resources to hold countrywide censuses and besides, most Africans were unable to complete the forms used for enumeration.⁸³ The first census of Africans was conducted in 1963 while the first nationwide population census was held in 1969. Mulenga also argues that calculations of the African population from tax registers were underestimates since most of them detested taxation and underreported data on adult males and plural wives to reduce their tax burden.⁸⁴ These arguments are briefly echoed by Vickery and Chipungu in their books on agriculture in the Southern Province of Zambia.⁸⁵ In addition, as this thesis also confirms, the use of villages and chiefdoms as sample

⁸¹ Kiregyera and Banda, 'Challenges of a Central Statistical Office', 36-42.

⁸² *Ibid*, 36-8.

⁸³ Mulenga, 'Zambia', 345.

⁸⁴ *Ibid*, 339.

⁸⁵ Kenneth P. Vickery, *Black and White in Southern Zambia: The Tonga Plateau Economy and British Imperialism* (New York: Greenwood Press, 1986), 146-47 and Samuel N. Chipungu, *The State, Technology and Peasant Differentiation in Zambia: A Case Study of the Southern Province, 1930-1986* (Lusaka: Historical Association of Zambia, 1988), 24.

frames was problematic because their boundaries were not clear, villages were prone to relocation and name changes while the size of chiefdoms changed over time leading to overlaps.

Similar to Mulenga's study, Jerven investigates the methods used to construct national accounts statistics in Zambia and notes that from 1965, there was a shift from the income method used in the colonial period to the commodity method.⁸⁶ The change was influenced by the attainment of independence whose consequence was that more people whose economic activities were ignored in the colonial period began to be treated as productive and their activities were now seen as worth counting. However, Jerven bemoans the lack of evidence to ascertain the methods used from the late 1970s to the early 1990s after which performance indicators were resorted to due to lack of data.⁸⁷ Clearly, the work does not explain how particular statistical enquiries were organised and carried out. In contrast, this thesis investigates how specific surveys were held and sheds light on the experiences of statisticians in the field and their workrooms and illuminates the conditions in which particular datasets were collected, processed and disseminated.

Litschauer and Rowe review the agricultural data issued separately by the Ministry of Agriculture and the CSO from the 1970s to the mid-1990s and note the differences in the methods they used to conduct surveys.⁸⁸ They observe that surveys held by the ministry derived data from grass-root cataloguing of all farms by camp officers who reported to ward supervisors for transmission to district, provincial and head office staff while the CSO utilised a sample survey.⁸⁹ Thus, they argue that the data series of the two institutions are incomparable. This argument inspired the thesis to analyse the aspects of collaboration and coordination in the statistical service. Litschauer and

⁸⁶ Jerven, *Economic Growth*, 150-74.

⁸⁷ Ibid, 150, 154-5.

⁸⁸ Litschauer and Rowe, 'Zambia's Agricultural Data System', 227-53.

⁸⁹ Ibid, 233 & 242.

Rowe also bemoan the dearth of metadata on Zambia's agricultural statistics noting that they lack 'technical notes that document the survey procedures including problems that may have affected the quality of data.'⁹⁰ Like Jerven, the duo contends that little is known about the definitions, classifications and methods used. To address this lacuna, this thesis highlights some of the conceptual and classification systems that were used in various data categories.

1.6. Sources and Methodology

This study used a wide range of sources to examine the main developments in the production of statistics in Zambia. It was based mainly on primary sources that include written sources collected from archives and interviews held by the researcher. The main archives used were the National Archives of Zambia (NAZ), the Special Collections of the University of Zambia (UNZA) Library, the Central Statistical Office Library (all in Lusaka) and the Mining Industry Archives (former Zambia Consolidated Copper Mines Archives) in Ndola. At NAZ, I used government files, *Annual Colonial Reports*, *Blue Books*, *Government Gazettes*, *Legislative Council Debates*, *Parliamentary Debates*, reports of the Secretary for African Affairs and various periodicals compiled by colonial and postcolonial statistical offices. I also collected data from reports of statistical units of sectoral ministries that dealt with education, health, agriculture and labour, and from newspapers such as *Northern News*, *Zambia Daily Mail*, *Times of Zambia* and *The Post*. These sources provided data on statistical developments, challenges faced and the use of statistics in policy making, service delivery and development schemes. However, archival data relating to statistics on Africans in the colonial period were scanty. Hence, I used a variety of administrative reports containing statistics in their text or appendices. Also, archival data for the 1980s up to the mid-1990s were scarce. As

⁹⁰ Ibid, 249.

Simabwachi notes, archival records dwindle from the 1970s onwards.⁹¹ Yet, by visiting various archives, some of the reports were located and others were obtained from online repositories. Besides, reports for the late 1990s have some information on the problematic period in their review sections that contained tables with data stretching as far back as the 1970s.

Primary sources were also drawn from the Special Collections of UNZA Library where I gathered data from *Monthly Digests of Statistics*, CSO annual reports and statistical reports on population, agriculture, industrial production, external trade, labour and national accounts. These illuminate the nature of data produced and the methods used to collect, process and disseminate them. At the CSO Library, I collected data from its annual, quarterly and monthly reports and periodicals on external trade and national accounts. The library also provided some reports of the United Nations with data on global statistical developments. At the Mining Industry Archives, I consulted records of mining companies and referred to newspapers like *Mufulira Mirror*, *Nchanga Weekly* and *Mufulira African Star*. They were informative on the making of statistics on mineral production, exports, revenues and mine labour, the attitudes of mining companies towards state statistical enquiries and the perceptions of the mines on the quality of data. Zambia Railways Archives in Kabwe supplied data on rail transport contained in the company's annual reports. At the United National Independence Party (UNIP) Archives in Lusaka, I used files with data on education and population statistics that informed the thesis on the party's participation in census sensitisation.

In South Africa, I visited the William Cullen Library at the University of the Witwatersrand and researched from the Historical Papers Research Archives. These archives provided data on the production of cost of living statistics in South Africa and Northern Rhodesia during the Second

⁹¹ Miyanda Simabwachi, 'A History of Archives in Zambia, 1890-1991', PhD Thesis, University of the Free State, 2019, 34.

World War and its aftermath. The data facilitated a comparison of the preparation of cost of living data in Southern and Central Africa. They supplemented materials collected from the NAZ and the Institute for Social and Economic Research and illuminated the contribution of the Rhodes-Livingstone Institute to the production of statistics in Central Africa.

The study also benefited from a broad range of internet sources. The CSO maintains an online repository on which it publishes statistical reports that I accessed from there. These include *The Monthly*, *The Statistician*, the *Zambia Demographic and Health Survey*, the *Living Conditions Monitoring Survey* and the Census of Population and Housing. Similarly, *Bank of Zambia Annual Reports* were accessed from the Bank's online repository. Due to funding limitations, I was unable to visit the archives or statistical centres of external agencies like the World Bank and the United Nations Economic Commission for Africa (UNECA) that would have contributed significant data on their statistical operations and their influence on Zambia. However, many historical documents of these international institutions have been digitised and are available on their online repositories where I accessed some statistical reports on Zambia, Africa in general and on international statistical programmes. This reduced the risk of failure to visit their physical archives.

Besides documentary evidence, I held oral interviews with current and former statistical personnel of the CSO to capture their voices. I also interviewed some staff at Zambia Railways headquarters in Kabwe and planning officers in Luapula and Copperbelt Provinces. The interviewees were identified from reports of statistical enquiries that they took part in and located after consulting staff at statistical centres. The CSO was particularly helpful in identifying and contacting respondents. A total of thirteen interviews were conducted and a list of the interviewees and their roles is provided in the Bibliography. However, some potential interviewees were not found and

others were engaged with the help of the CSO. I used open ended questions to allow respondents give detailed explanations. Aware of the potential biases of oral sources and the danger of loss of memory by respondents, data from interviews were triangulated with archival evidence. This helped to ascertain the accuracy of the sources and to identify and eliminate their biases.

The study employed a qualitative analysis in which data collected from various sources were analysed in collaboration with each other to develop the argument of the thesis. A combination of chronological and thematic approaches was used. This facilitated analysis over important historical periods and comparison across different statistical subjects, respectively. Different periods in which related changes in statistical works occurred were identified. For each period, the analysis then focused on the major themes of concern such as the major factors in statistical development, the nature of data produced, the methods used, the challenges faced, the quality of the figures and the use of the statistics generated. Where necessary, the thesis makes reference to quantitative data to illustrate conclusions derived from qualitative information.

1.7. Organisation of the Thesis

The thesis consists of eight chapters. Chapter One introduces the study, provides a historical background, the problem statement and justification, literature review and methodology. Chapter Two explores the production of statistics in colonial Zambia in the period 1939-52 spanning the Second World War and its aftermath. It examines the major factors that shaped the production of statistics and proceeds to analyse the main datasets. Chapter Three focuses on the federal period (1953-63) and explores the changes brought about by the creation of the Federation of Rhodesia and Nyasaland and the formation of the United Nations in statistical development in colonial

Zambia. It analyses the organisation of statistical works and the main enquiries held drawing attention to sources and methods used and the weaknesses of the data produced.

Chapter Four analyses the development of statistics in the period 1964-74 and underscores the influence of the independence euphoria and that of the United Nations. The chapter demonstrates that despite Zambia establishing a statistical service and increasing the production of data, the dependence on expatriate staff and resources implied that the expansion had a fragile footing based on external resources. Chapter Five elucidates the slowdown in statistical works during the years 1975-90 and underscores the role of the global economic crisis and the one-party state. In examining the works undertaken in the period, the chapter elucidates the mounting backlog, the enquiries held and those that were suspended. Thus, it illuminates the unevenness of the slowdown in data production and the deterioration of many of the statistical series.

Chapter Six examines the construction of statistics during the years 1991-2004 when development planning was abandoned. It explores the influence of the Structural Adjustment and the Poverty Reduction Strategy. The chapter analyses the main international statistical schemes and Zambia's participation in them. It argues that the attempted revival of statistics was unsuccessful due to the contradictory environment created. While the need for data was identified, budgetary constraints and the tilting of donor funding towards data for poverty assessment constrained a rounded revival of statistics. Chapter Seven explores the collection of statistics in the period 2005-2018. It analyses the influence of the renewed development plans and the Millennium Development Goals, explores the international schemes Zambia attempted to implement and explores the enquiries held. Chapter Eight is the conclusion of the entire study and advances its main thesis and contribution to debates on statistical development in Zambia and Africa in general.

Chapter Two

Uneven Development: The Production of Statistics in Northern Rhodesia during and after the Second World War, 1939-52

2.1. Introduction

Before the Second World War, the development of statistics in Northern Rhodesia was slow just as elsewhere in colonial Africa.¹ Government departments and regional administrative centres collected some figures on subjects under their jurisdiction. There was no single institution in the territory that was specialised in compiling official numbers for the colonial administration and other interest groups. Instead, data collection was decentralised, with weak liaison and coordination among departments. Also, the application of statistical techniques was fragile, with no conceptual uniformity, as the government service had no trained statisticians. The incapacity of the prewar organisation worsened during the Second World War, owing to the weakened staffing position. It was only after the war that significant changes were made to the organisation and methods of collecting statistics.

Kratke and Byiers generally argue that the Second World War stimulated the expansion of data production in colonial Africa without recognising the non-uniformity of the effects of the war on statistical development.² This chapter examines the development of statistics in Northern Rhodesia in the period 1939-52 and illustrates the uneven impact of the war on data production. It begins in 1939 when the war started and ends in 1952 just before the Federation. The chapter first analyses

¹ For reference to Africa, in general, see Gerardo Serra, 'Uneven Statistical Topography: The Political Economy of Household Budget Surveys in Late Colonial Ghana, 1951-1957', in Morten Jerven (ed.), *Measuring African Development Past and Present* (New York: Routledge, 2015), 11-12.

² See Serra, 'Uneven Statistical Topography' and Florian Kratke and Bruce Byiers, 'Official Statistics: Implications for the Data Revolution in Sub-Saharan Africa', PARIS21 Discussion Paper No. 5, December 2014.

the compilation of statistics on the eve of the Second World War and then explores their production during the war. It argues that the construction of most data declined owing to redeployment of colonial officials and funds to the war effort. Nevertheless, the production of cost of living data increased. The chapter then analyses postwar developments and notes that statistical development expanded with the rise of national accounts (which required data on various subjects) and the use of new statistical methods. However, the developments were externally driven while the conduct of major enquiries and compilation of national accounts were done by individuals and institutions outside the territory, chiefly the CASO. Thus, the capacity of Northern Rhodesia to collect data remained weak as the CASO did not open a branch in the territory and sectoral departments operated without statistical units and statisticians. As a result, the quality of most data remained weak and did not accurately depict conditions of the society.

2.2. Overview of Statistical Works on the Eve of the War

Before the Second World War, the development of statistics in Northern Rhodesia was still in its infancy. Data production was decentralised as an abridged version of the British system. Lang's description of Britain's statistical service on the eve of the war indicates that 'each Department collected its own statistics. In many instances there was no statistical branch even in major Departments and where such ... offices did exist, the practice was for each office to deal with data required for its own work.'³ Similarly, no single institution was responsible for collecting statistics in Northern Rhodesia. Instead, each department produced figures as by-products of its work. For instance, the Agriculture Department collated agricultural statistics, the Health Department collected health figures, the African Education Department compiled data on African education,

³ Richard O. Lang, 'Post-War Planning for British Official Statistics', *Journal of the American Statistical Association*, 39, 277 (1999), 273.

the Mines Department dealt with statistics on mining and the Customs Department collated external trade data.⁴ Besides, departments collected data from administrative sources using their own staff. They had no statistical units and no trained statisticians and so relied on clerks to collate data. There were also no specialised reports for disseminating the data, the usual practice being for departments to include some figures in their annual reports, attach statistical tables as appendices and publish departmental figures in official documents like *Annual Colonial Reports* and *Blue Books*.⁵ As the data in these documents were only for the purpose of illustration, they were often scanty, not very useful for detailed analysis and they have been incisively criticised by Kuczynski as being very inaccurate and unreliable.⁶

The main pieces of statistics legislation in place were the Census Ordinance of 1930 and the Agricultural Statistics Ordinance of 1930 that provided the framework for the collection of population and agricultural data, respectively.⁷ However, the Census Ordinance also provided for the collation of other statistics under the authority of the Governor who was empowered to make regulations ‘for the collection of agricultural, educational, industrial or other statistics by means of the Census Supervisors and Enumerators.’⁸ Thus, Northern Rhodesia lacked an all-embracing statistical legislation and the two ordinances in place did not provide for an institution that would be in charge of compiling official numbers or coordinating their collection.

A short review of the main datasets collected before the war suffices as a build-up to the discussion of the changes that occurred thereafter. Despite the weak organisation, some data were compiled

⁴ Northern Rhodesia Government (hereafter, NRG), *Annual Reports on the Social and Economic Progress of the People of Northern Rhodesia, 1935-9* (London: His Majesty’s Stationery Office).

⁵ NRG, *Annual Reports on Social and Economic Progress, 1935-9 and Northern Rhodesia Blue Books for the years 1935-9* (London: His Majesty’s Stationery Office).

⁶ R.R. Kuczynski, *Demographic Survey of the British Colonial Empire, II* (London: Oxford University Press, 1949).

⁷ *Ibid*, 410 and NRG, *Laws of Northern Rhodesia 1930, Vol. II, Chapter 76* (Lusaka: Government Printer, 1930).

⁸ Kuczynski, *Demographic Survey*, 410.

but with varying amount of detail. In general, the data lacked depth on the subjects covered. Yet, they provided a subject framework for most statistics collected after the war. What improved was the depth of the coverage and the use of scientific methods and concepts in data collection. The major datasets were on population, agriculture, external trade, finance, health, education, mining and labour.⁹ No standard procedures were followed in collecting most of the data and, indeed, the production of statistics was still in its infancy.

In the population sector, three censuses had been held in Northern Rhodesia in 1911, 1921 and 1931.¹⁰ However, the coverage of these censuses was limited to non-Africans (Europeans, Asians and Coloureds) who constituted a tiny proportion of the overall population. Household heads were sent forms to provide details of all persons who were in their homes on the census day. All data on Europeans were analysed and tabulated by Hollerith electrical processing at the Government Statistician's office in Southern Rhodesia.¹¹ The Hollerith machine used electrical and mechanical signals to count data on paper punch cards. Though the number of whites was still small and could have been worked out manually, the Hollerith system was used in order to maintain uniformity with the practice in Britain. In contrast, data on Asiatics, Coloureds and Africans were tabulated by hand in Northern Rhodesia. This shows that the government attached more importance to data on Europeans as opposed to other races. For Africans in particular, no census was held and figures were estimated from tax records, tour counts, labour returns and food rationing records.¹² As discussed later in this chapter, these sources grossly underestimated the African population.

⁹ *Northern Rhodesia Blue Books, 1935-9.*

¹⁰ NRG, *Annual Report on the Social and Economic Progress of the People of Northern Rhodesia, 1938* (London: His Majesty's Stationery Office, 1939), 8.

¹¹ *Ibid.*

¹² Phyllis Deane, *Colonial Social Accounting* (Cambridge: Cambridge University Press, 1953), 231.

Jerven asserts that agricultural statistics were not collected in Africa until the late colonial period when governments began to provide extension services through which they gave technical advice to farmers and assisted them with necessary inputs and services.¹³ In contrast, this thesis notes that they were compiled long before the Second World War with a limited scope and were biased against Africans. On the eve of the war, the data were collected under the Agricultural Statistics Ordinance of 1930 with separate methods used for Europeans and Africans.¹⁴ Statistics on Europeans were collected by annually mailed forms while those on Africans were estimated from administrative sources as no regular enquiry on African agriculture was held.¹⁵ Agricultural supervisors responsible for specific stations collected some data on Africans and reported to senior agricultural officers who compiled provincial reports for the Director of Agriculture. The main sectors covered were land tenure, crop and livestock. Nevertheless, most of the data collected were on Europeans as those on Africans were reported to be hard to obtain because of lack of sources.¹⁶

Industrial statistics were almost entirely confined to the mining sector with the only data on manufacturing being on saw-milling, because the territory had little activity in terms of secondary industries.¹⁷ The Chief Inspector of Mines collated figures from monthly returns of mining companies as the department had no independent resources to gather data. The returns captured data on all minerals exploited including those mined on a small scale as they were required to

¹³ Morten Jerven, *Poor Numbers: How We are Misled by African Development Statistics and What to Do About it* (Ithaca and London: Cornell University Press, 2013), 85.

¹⁴ For details, see NRG, *Summary of the Proceedings of the First Meeting of the Advisory Council, 25 September-3 October 1918*, 4, British South African Company, *Northern Rhodesia Government Gazette*, 1919, 1, 9 (Livingstone: 1919), 7, NRG, *Laws of Northern Rhodesia, 1930, Vol. II, Chapter 76*, 673-4, NRG, *Annual Colonial Report for 1924-5* (London: His Majesty's Stationery Office, 1926), 10-12, NRG, *Annual Colonial Report for 1930* (London: His Majesty's Stationery Office, 1932), 13-19 and NRG, *Annual Report on the Social and Economic Progress of the People of Northern Rhodesia, 1936* (London: His Majesty's Stationery Office, 1937), 13-16.

¹⁵ NAZ/MAG 2/5/11 Department of Agriculture Annual Report for Eastern Province, 1944 and Letter from the Director of Agriculture to all Agricultural Officers, 20 August 1947. Also see NRG, *Agricultural Statistics Ordinance, Chapter 95 of the Laws, 1954 Edition* (Lusaka: Government Printer, 1954), 2.

¹⁶ NAZ/MAG 2/5/11 Eastern Province Annual Agricultural Reports, 1939.

¹⁷ See, for example, *Northern Rhodesia Blue Book, 1938*, V 7 and *Northern Rhodesia Blue Book, 1939*, V 5-6.

assess the industry's development and potential to generate revenue and provide employment.¹⁸

They reported the quantity and value of production monthly and annually. The data were also used to assess the royalties paid by mining companies to the British South Africa Company and tax on profits to the state. Statistics on mineral exports, were compiled by the Customs Department.

Labour, wages and cost of living statistics were compiled as by-products of the work of various departments, as there was no labour department before 1939. They included data on recruitment to the Belgian Congo, South Africa, Southern Rhodesia and the Copperbelt.¹⁹ Also included were employment figures for the public service, mining, sawmills, railways, agriculture and domestic service and the wages paid in each sector. These statistics were used to assess the territory's labour position and revenue potential.²⁰ Cost of living data were scanty and confined to Europeans. Moreover, they only showed prices of items on the line of rail and so misrepresented the situation in other European occupied areas. There was no price index and no budget survey was held before the war.²¹ Data on Africans were reportedly unobtainable as they were only marginally integrated in the money economy. The government argued that money was not yet vital to the African because 'once the tax obligation has been discharged, any balance of funds is generally expended on the acquisition of simple luxuries which can be eliminated without hardship'²² This complicated the attempt to collect data on the African cost of living and negatively affected the government's ability to make sound labour policies. It is not surprising then that the government did not anticipate the conditions that led to the 1935 mineworkers strike on the Copperbelt.

¹⁸ *Northern Rhodesia Blue Books, 1935-9.*

¹⁹ NRG, *Annual Report on Social and Economic Progress, 1938*, 22.

²⁰ *Ibid*, 21-3.

²¹ *Ibid*, 24.

²² NRG, *Annual Report on the Social and Economic Progress of the People of Northern Rhodesia, 1932* (London: His Majesty's Stationery Office, 1933), 24.

Statistics on external trade covered imports and exports and were collected by the Customs Department. The import data showed annual values of goods imported into the country.²³ The bulk of the imports were for the mining industry and comprised machinery, metal manufactures, plant and other capital goods while others were textiles, liquors, foodstuffs, animals, stationery, jewelry, oils, drugs, chemicals and fertilisers.²⁴ Export data captured the value of goods sold by destination and type, showing data on domestic exports and re-exports separately. The bulk of domestic exports were minerals like copper, zinc, lead, silver, gold and vanadium, but they also included maize, cotton, tobacco, animals, hides, skins, horns, ivory and wood.²⁵ Import and export statistics were used to compute the trade balance and provided an idea of the economic potential and progress of the territory. The data on external trade highlighted the most important sectors of the economy and how they were shaping up before the onset the war.

2.3. The Production of Statistics during the Second World War

The impact of the Second World War (1939-45) on data production in Northern Rhodesia was uneven as some datasets deteriorated while others improved. Serra, Kratke and Byiers indicate that the Second World War stimulated the expansion of statistics in colonial Africa, but they have paid no attention to wartime conditions and how they disrupted some activities.²⁶ In contrast, it is argued here that wartime exigencies adversely affected the production of some statistics in Northern Rhodesia, just like in other colonies, as opposed to the improvement in Britain. This was because while Britain enhanced its statistical service to facilitate timely availability of accurate data for war intelligence, the administrative machinery of Northern Rhodesia and other colonies were

²³ *Ibid*, 19.

²⁴ *Ibid*, 21-22 and NRG, *Annual Report on Social and Economic Progress, 1938*, 16-18.

²⁵ *Ibid*.

²⁶ See Serra, 'Uneven Statistical Topography' and Florian Kratke and Bruce Byiers, 'Official Statistics: Implications for the Data Revolution in Sub-Saharan Africa', PARIS21 Discussion Paper No. 5, December 2014.

weakened by the redeployment of officials from colonial service to the war effort.²⁷ Thus, most departments and districts faced staff shortages and were unable to perform at prewar level.

To illustrate the adverse impact of the war on staffing, Kuczynski notes, for example, that throughout 1941 the Health Department ‘worked with a heavily depleted staff, over 33 per cent of medical officers and also the Deputy Director, having been released for military service.’²⁸ The critical shortage of personnel affected the provision of medical services and the collection of data on health. In the same vein, the war hampered the development of the Rhodes-Livingstone Institute, which was established by the colonial government in Northern Rhodesia in 1937 to conduct research on Africans so as to inform the state and other stakeholders like the mining companies. Its work remained limited until the end of the war. During the war, only Godfrey Wilson, an anthropologist and the Institute’s first Director, undertook a study of urban Africans at Broken Hill (Kabwe) in 1938-41 and collected data on budgets of employed Africans.²⁹ Schumaker notes that in 1939, only two anthropologists were in the country and ‘because of the war, research and staff remained at low levels until 1946.’³⁰ Nonetheless, in the aftermath of the war, the Institute rapidly conducted studies mainly on urban African budgets and contributed to the creation of knowledge on African societies.

More importantly, the war led to the reduction of district tours by colonial officials owing to staff shortages. It is worth stressing that the tours were the main source of statistics on various subjects (including population) for colonial officials. Yet, during the war, ‘regular touring and census work

²⁷ Kuczynski, *Demographic Survey*, 507.

²⁸ *Ibid.*

²⁹ G. Wilson, *An Essay in the Economics of Detribalisation in Northern Rhodesia* (Livingstone: Rhodes-Livingstone Institute, 1941).

³⁰ Lynette Schumaker, ‘A Tent with a View: Colonial Officers, Anthropologists, and the Making of the Field in Northern Rhodesia, 1937-1960’, *Osiris*, 11 (1996), 244.

was suspended ... in the districts. By 1947 there were still rural areas that had not been visited for some years.³¹ As the District Commissioner for Chinsali reported, for some years until 1949, it had not been possible to completely tour the district due to the persistent staff shortage.³² This drastic reduction in tours further impaired the already weak African population statistics as information from the visits diminished. Also, the census of non-Africans slated for 1941 could not be held until 1946 due to the redeployment of colonial officials to the war.³³ The deferment of censuses was not peculiar to Northern Rhodesia. In nearby Nyasaland, a similar census slated for 1941 was postponed until 1945.³⁴ In South Africa, preparation of the full report of the 1936 census was suspended during the war and it was never completed. In the same country, the 1941 census that was planned to cover the whole country was reduced to a count of whites only.³⁵ Thus, the war hampered the collection of population statistics in colonial Africa.

In contrast, the mining companies continued to compile population statistics for their mine locations, indicating the unevenness of the impact of the war. For example, the Rhodesian Selection Trust held a quarterly population census of Luanshya and Mufulira throughout the war and its aftermath.³⁶ Nonetheless, these datasets had their own limitations. In the Mufulira case, it was noted in 1942 that the census did not include ‘the number of Africans ... either unemployed or living with their relatives or working on their own and staying more or less permanently with

³¹ Deane, *Colonial Social Accounting*, 231.

³² NRG, *African Affairs Annual Report for the year 1949* (Lusaka: Government Printer, 1950), 32.

³³ Mpafya S.C. Mulenga, ‘Zambia’, *Population Size in African Countries* (Paris: *Groupe de Demographie Africaine*, 1986), 338.

³⁴ Martin E. Palamuleni, ‘Population Dynamics of Malawi: A Re-examination of the Existing Demographic Data’, PhD Thesis, London School of Economics and Political Science, University of London, 1991, 33.

³⁵ A.J. Christopher, ‘The Union of South Africa Censuses, 1911-1960: An incomplete record’, *Historia*, 56, 2 (2011), 6-7.

³⁶ This census started in 1929 and was sustained throughout the years 1939-52. See ZCCM 14.2.6E Roan Antelope Copper Mines Limited: Census of Luanshya as at 25 November 1929, 30 September 1941, 30 September 1945 and Letter No. A.3380-Census 1951. The file contains census reports for many other quarters in the period 1929-54.

friends in the mining compound.’³⁷ Thus, it is concluded here that these counts tended to underestimate the populations of the towns. The censuses reported data on Europeans, Asians and Africans in company employment, contractors, storekeepers and personal servants, among others. Over the years, its coverage expanded to include data on housing, particularly the number of people of each race residing in the mine township area and government compound.³⁸ This information was important for assessing and planning housing requirements in the town. The census yielded data on the population of Luanshya town during the years 1940-45 as shown in Table 2.1.

Table 2.1: Population Figures from the Quarterly Census of Luanshya, 1940-45

Quarter ended	Number of Africans	Number of Europeans	Number of Asians	Total population
31 December 1940	21,732	2,167	69	23,968
30 September 1941	23,211	2,183	62	25,456
31 December 1942	29,575	2,532	63	32,170
31 December 1943	30,463	2,731	124	33,308
31 December 1944	26,531	2,662	77	29,270
30 September 1945	24,488	2,670	112	27,270

Source: ZCCM 14.2.6E Roan Antelope Copper Mines: Census of Luanshya, 1929-54.

For the agricultural sector, the production of crop figures was adversely affected. In 1940, the compilation of crop statistics was suspended due to inadequate manpower and it was only resumed after the war.³⁹ Gann notes that ‘the agricultural department like the district staff was over-worked and understaffed, recruits being almost impossible to get at a time when every available man was put in khaki.’⁴⁰ Thus, crop data were absent from *Blue Books* for 1940-48. Also, during the war,

³⁷ NAZ/MLSS 1/9/13 Monthly consumption of staple foodstuffs by Africans in Mufulira and population statistics, 31 March 1942.

³⁸ Ibid, Roan Antelope Copper Mines Limited: Census of Luanshya as at 30 June 1936, 30 June 1942 and 30 September 1945.

³⁹ *Northern Rhodesia Blue Book for the year ended December 1940* (Lusaka: Government Printer, 1941), V 2 and *Northern Rhodesia Blue Books for the years 1941-8* (Lusaka: Government Printer), V 2.

⁴⁰ Lewis Gann, *A History of Northern Rhodesia: Early Days to 1953* (London: Chatto and Windus, 1964), 335.

publication of the Agriculture Department's annual report was suspended while preparation of the *African Affairs Annual Report* was deferred and only resumed in 1947.⁴¹ These events limited the compilation and publication of agricultural data. The CASO stated that:

Up to 1938-39 an annual census was held by the Agricultural Department but this practice was discontinued during the 1939-45 war and no agricultural statistics were collected until 1949, when, under the centralisation of statistics in the three Central African territories, details for the 1948-49 season were the first to be compiled by the Central African Statistical Office.⁴²

Industrial statistics also remained scanty. In 1942, reporting of data on sawmilling was suspended and up to 1944, no figures were published in the *Blue Books* on industrial and manufacturing firms, their workforce, production costs and quantity of output, but mining statistics were collected throughout the war with the Northern Rhodesia Chamber of Mines formed in 1941 being the source of data.⁴³ Transport figures suffered an even worse fate. Prior to the war, some data were compiled on the railways, roads and air transport. Although air transport was still in its infancy, statistics were collected to monitor its development. However, the compilation of data on air transport was suspended in 1941 and *Blue Books* of the period up to 1945 stressed that particulars for deriving these statistics were not obtainable during the war.⁴⁴ Thus, up to 1948, the *Blue Books* continued to report that data on air transport were unavailable since the war years. This indicates that statistics that declined during the war took some time to recover to their pre-war level.

⁴¹ *Northern Rhodesia Blue Books, 1940-48*, V 2 and NAZ/MAG 2/5/11 Director of Agriculture to all Agricultural Officers, 20 August 1947.

⁴² NAZ/MAG 2/21/39 European Agriculture in Northern Rhodesia, 1950-51.

⁴³ *Northern Rhodesia Blue Books, 1942-4*, V 6.

⁴⁴ *Northern Rhodesia Blue Books, 1941-8*, Ia 1-7.

On the other hand, the war stimulated the compilation of cost of living statistics, demonstrating its uneven impact and the shifting priorities of the colonial government that began to collect data on a sector it hitherto said lacked sources. This shift was inspired by the increase in the cost of living that caused problems such as protests in urban areas making it necessary to monitor. During the war, there was a sharp increase in commodity prices caused by the shortage of essential goods and the profiteering tendencies of some traders.⁴⁵ Tembo attributes the commodity shortage to the reduction in metropolitan exports to the colonies and the incidence of wartime shipping blockades by the Axis powers.⁴⁶ In order to assess the increase in living costs, the government began to compile statistics on commodity prices from African and European stores. Hence, cost of living figures, which were restricted to Europeans before the war, were extended to urban Africans so that the data could be used to assess the effects of the war on their living conditions and find ways of preventing more industrial unrest, especially after the 1940 mineworkers strike on the Copperbelt.⁴⁷ Thus, both the colonial government and mining companies began to compile cost of living statistics for assessing the war bonus or cost of living allowance.

In 1940, the Forster Commission established to investigate the Copperbelt unrest recommended that ‘an enquiry should be made into the extent to which the cost of living for Natives has increased owing to war conditions and that if the present bonus of 2/6 is found to be inadequate, it should be adjusted, accordingly.’⁴⁸ Based on this proposal, the Labour Department, formed earlier in 1939,

⁴⁵ NAZ/MLSS 1/9/13 Minutes of the Conference of District Commissioners on the Copperbelt Province, 15-17 August 1941.

⁴⁶ Alfred Tembo, ‘The Impact of the Second World War on Northern Rhodesia (Zambia), 1939-1953’, PhD Thesis, University of the Free State, 2015, 134-6.

⁴⁷ NAZ/MLSS 1/9/6 From Deputy to the Governor of Northern Rhodesia to the Governor of Southern Rhodesia, 28 January 1942, NAZ/MLSS 1/9/13 Minutes of the Conference of District Commissioners on the Copperbelt Province, 15-17 August 1941 and NAZ/MLSS 1/9/6 General Manager of Roan Antelope Copper Mines to the Chief Secretary, 4 January 1941.

⁴⁸ NAZ/MLSS 1/9/22 Labour Commissioner to Labour Officer for Ndola, 7 November 1940.

began to collect data on African living costs. In February 1941, Compound Managers and District Commissioners were asked to supply lists of essential articles bought by African employees.⁴⁹ The list for assessing the living costs was agreed upon with the Controller of Prices and the Chamber of Mines. On the assumption that Africans received enough food ration, only non-food items were included. Three methods were used to collect retail prices; either proprietors were asked to submit returns on prices of listed items or selected African women were given money and asked to buy the items from different stores or officers from the department visited stores and collected prices.⁵⁰ It was unreasonable that food items were excluded from the list as families of African employees often had to supplement the ration through gardening, trade and beer sales. Besides, in comparison with food items, most of the listed articles were of lesser importance to the Africans.⁵¹

In view of the continued escalation of commodity prices, the Labour Department engaged Ambrose Lynn Saffery, an anthropologist from the South African Institute of Race Relations, in August 1942, to conduct an enquiry into the African cost of living on the Copperbelt.⁵² For six months, Saffery collected data from official documents, conducted interviews with government and mine officials, private employers, missionaries and private individuals and made house-to-house enquiries and observations in the compounds. The survey yielded data on the income of Africans in various occupations namely the mines, secondary industries, domestic service and independent work as well as the expenditure necessary for a reasonable minimum living

⁴⁹ Ibid, Labour Commissioner to Labour Officer for Ndola, 3 February 1941.

⁵⁰ The list included trousers, shorts, vests, socks, shoes, dishes, basins, mugs, cups, saucepans, sieves, spoons, knives, soap, blankets, blouses, print cloth, dresses, cotton, needles, matches, padlocks and candles. The data were gathered on the same date from the towns of Chingola, Mufulira, Luanshya, Kitwe, Livingstone, Mazabuka, Broken Hill and Lusaka. NAZ/MLSS 1/9/1 African Cost of Living Form, June 1942.

⁵¹ Ibid.

⁵² NRG, *A Report on Some Aspects of African Living Conditions on the Copperbelt of Northern Rhodesia* by A. Lynn Saffery (Lusaka: Government Printer, 1943), 1.

standard.⁵³ Table 2.2 shows the summary of incomes from different occupations on the Copperbelt in the six months from August 1942 while Table 2.3 indicates the expenditure needed to maintain a reasonable living standard in the same period.

Table 2.2: Summary of Monthly Incomes on the Copperbelt, 1942-3

	Cash	Food	Quarters	Other	Total
	£ s d	£ s d	£ s d	£ s d	£ s d
Mines	2 1 0	2 4 7	0 5 0	0 4 0	4 14 7
Secondary industries	0 17 6	0 13 4	0 5 0	0 10 0	2 5 10
Domestic	1 7 6	0 11 0	0 5 0	1 8 6	3 12 0
Independent workers	3 14 0	- - -	- - -	0 6 0	4 0 0

Source: NRG, *Report on Aspects of African Living Conditions*, 17.

Table 2.3: Expenditure Necessary to maintain a Minimum Standard, 1942-3

	Per Week	Per Month
	£ s d	£ s d
Food	1 0 11	4 10 8
Housing	0 1 2	0 5 0
Clothing and Covering	0 4 5	0 19 1
Furniture and kitchen equipment	0 1 1	0 4 9
Fuel and light	0 0 6	0 2 2
Tax	0 2 3½	0 1 3
Miscellaneous	0 2 0	0 8 8
Total	1 10 2½	6 11 7

Source: NRG, *Report on Aspects of African Living Conditions*, 10.

On comparing the two datasets, Saffery found ‘a startling difference between the average cash wage of the male wage earner and what can be considered the minimum cost of living of a [standard] family consisting of husband, wife and two children.’⁵⁴ As the two tables illustrate, the minimum living cost for a standard family was £6 11s. 7d per month while the maximum income was £4 14s. 7d. The gap, nearly half the income, was filled through gardening, bartering, beer

⁵³ NRG, *Report on Aspects of African Living Conditions*, 10-17.

⁵⁴ *Ibid*, 17.

selling and economy.⁵⁵ Incomes from secondary industries were even less than half the required minimum living cost. Therefore, the rise in the cost of living since the onset of the war had impoverished many Africans in the urban centres of Northern Rhodesia.

Nevertheless, Saffery met difficulties that compromised the quality of his figures. The most serious one was the scarcity of statistics on Africans in both government and private sectors. He was surprised that on the Copperbelt, only the Compound Manager at Rhokana had a substantial record of data on labour and health conditions.⁵⁶ Hence, he was in many instances compelled to use trial and error methods and most of his conclusions were derived from data collected at Rhokana, which he generalised to other Copperbelt towns. Due to the inadequacy of the sources, Saffery could not break down his data into separate months, which would have been more ideal in view of the rapid commodity price inflation. With these inadequacies, the conclusion that the data were not a sound reflection of reality is inescapable. Saffery himself notes that the figures 'are purely arbitrary [and] they probably err on the side of understatement',⁵⁷ and warns that 'much of this report cannot therefore be regarded as anything more than a preliminary, giving conditions of trends and pointing out future areas of research.'⁵⁸ Nevertheless, the data provided a picture of the deteriorating purchasing power of Africans and their living conditions in urban centres.

For Europeans, cost of living data were from 1940 collected by the Southern Rhodesia Statistics Department at the request of the Northern Rhodesian government that sought a scientifically constructed European cost of living index that accurately reflected the effects of the war.⁵⁹ In 1940,

⁵⁵ NAZ/MLSS 1/9/6 Labour Commissioner to the Chief Secretary, 30 January 1943 and NRG, *Report on Aspects of African Living Conditions*, 10 & 17.

⁵⁶ NRG, *Report on Aspects of African Living Conditions*, 2.

⁵⁷ *Ibid.*

⁵⁸ *Ibid.*

⁵⁹ NAZ/MF 2/1/7 Implications of a Possible break-up of the two Rhodesias on the Work of the CSO, 1963.

therefore, the department held the first European family expenditure survey in Northern Rhodesia and collected baseline data used to compile the European cost of living index throughout the 1940s.⁶⁰ The index was based on ‘a standard budget for a family of 2.43 man units, which may be pictured as a man, his wife and children under 6 years of age.’⁶¹ It represented the average conditions of 39 families whose monthly incomes ranged from 41 shillings to 62 shillings. Clearly, then, while the war depressed statistics on other subjects, it stimulated an increase in statistics on the cost of living. However, the figures were weakened by the lack of reliable sources of data.

2.4. Drivers of Postwar Statistical Development

The main factors that shaped the production of statistics in Northern Rhodesia in the postwar years were the rise of state-led economic development and service delivery, the formation of the United Nations Organisation and wartime statistical developments in Europe. This section argues that these dynamics changed the context in which statistics were produced as they influenced government data priorities as well as changes in the methods of collecting and processing statistics, and contributed to the centralisation of major statistical works in Central Africa.

2.4.1. The Rise of State-led Economic Development and Public Service Delivery

During and after the Second World War, colonial regimes increasingly employed interventionist economic and welfare policies in Africa. Ross notes that Britain pursued actively interventionist policies in relation to agriculture and stock-raising, which constituted ‘an invasion of the daily practices of African farmers and cattle herders by agriculturists, veterinary surgeons, and the like.’⁶² Historians have termed the increased involvement of the colonial state in the economic and

⁶⁰ Ibid.

⁶¹ NRG, *Economic and Statistical Bulletin* 1, 6, 1949, 13.

⁶² Robert Ross, ‘Politics of Household Budget Research in Colonial Central Africa’, *Zambia Social Science Journal*, 4, 1 (2013), 9.

social lives of their subjects and the tight controls that accompanied it as the Second Colonial Occupation. Through the new policy, the state spearheaded development efforts and service delivery in order to improve economic efficiency, productivity and social welfare. The policies arose from the growing economic importance that colonial officials began to assign to their territories.⁶³ It must be noted that during the Second World War, the colonial state increased resource exploitation to support the war effort and this was stepped-up thereafter to raise revenue for economic recovery at home. As Kratke and Byiers argue, wartime and postwar demands made colonial authorities begin to view their African colonies as economically viable entities that could generate wealth for the metropole.⁶⁴ Hence, the imperial powers engaged in the so-called Second Colonial Occupation. It was in this regard that they required more extensive statistical knowledge than was hitherto used in order to closely monitor their economic and welfare schemes.

Accompanying the increased role of the state in the economy and service delivery was the onset of development planning. Deane notes that in 1940 Britain passed the Colonial Development and Welfare Act that made provision for funds to support “development” efforts in her Empire in order to improve the living standard in the colonies. In this regard, the Colonial Office urged territorial governments to prepare ten-year development plans before the funds could be dispensed.⁶⁵ In order to formulate the plans, colonial officials required evidence on which to base their decisions. Serra observes that the Colonial Office called for more and better data on territorial economies in place of the inaccurate and misleading datasets that were available.⁶⁶ Statistics were also required to monitor and evaluate the implementation of colonial development plans.

⁶³ Kratke and Byiers, ‘Official Statistics’, 19.

⁶⁴ Ibid.

⁶⁵ Deane, *Colonial Social Accounting*, 6. Also see L.J. Butler, *Copper Empire: Mining and the Colonial State in Northern Rhodesia, c. 1930-1964* (New York: Palgrave Macmillan, 2007), 110.

⁶⁶ Serra, ‘Uneven Statistical Topography’, 11.

In Northern Rhodesia, a series of meetings were held at district and provincial levels, culminating in the formulation of the first ten-year development plan in 1945.⁶⁷ The plan was implemented during the years 1946-55 and stressed the need to raise the living standard, especially in rural areas, through improvement of agriculture, education, health and transport facilities.⁶⁸ It stimulated the collection of data for monitoring the programmes that were initiated. For example, in rural areas, the plan focused on improving African farming through schemes that funded extension services aimed at making Africans adopt practices like crop rotation, contour ridging, composting and modern implements such as ploughs.⁶⁹ As this chapter later demonstrates, the need to monitor the progress of these schemes spurred an increase in the collection of statistics on extension services as well as new agricultural practices and technologies.

2.4.2. The United Nations Organisation

The United Nations was established in 1945 and quickly began to foster global efforts for economic recovery and the eradication of poverty and inequality, thereby requiring data on prevailing conditions.⁷⁰ In 1946, it created a Statistical Commission that coordinated the collection of data by its agencies, member states and non-governmental bodies concerned with economic and social development. The Commission coordinated the framing of concepts, methods and classifications that countries were expected to use for collecting, analysing and publishing data to facilitate comparisons and, through this framework, shaped statistical development in Africa.⁷¹ With the United Nations having a statistical centre, countries around the world began to form

⁶⁷ Dorothy Mwansa, 'Gender and Agricultural Development in Zambia, 1890-1990', PhD Thesis, University of Zambia, 2017, 85.

⁶⁸ Elena Berger, 'Government Policy towards Migrant Labour on the Copperbelt, 1930-1945', *Transafrican Journal of History*, 2, 1 (1972), 99.

⁶⁹ Mwansa, 'Gender and Agricultural Development', 89-92.

⁷⁰ D.C. Speich, 'The Roots of Millennium Development Goals: A Framework for Studying Global Statistics', *Historical Social Research*, 41, 2 (156), 221-2.

⁷¹ Stuart A. Rice, 'The United Nations Statistical Commission', *Econometrica*, 14, 3 (1946), 243-4.

institutions that would spearhead the production of data. Rice and Serra agree on the point that the demand for more and better data on Africa was stimulated by United Nations institutions such as the International Monetary Fund (IMF) and the World Bank, which carved a global epistemic space in which knowledge about economies was gathered, packed and transmitted.⁷²

It was within this international framework that from the 1940s onwards, the French and the British invested heavily in remodeling the data systems of their Africa colonies. As a result, they set up or reinforced their statistical offices and made them more independent in order to improve data collection.⁷³ Serra observes, for example, that in Ghana the Office of the Government Statistician was created in 1948 as ‘a self-contained Statistical Office, not subordinated to any one Department, but serving and working with all Departments which require statistical information in any form in the course of their duties.’⁷⁴ The offices dealt mainly with the construction of macro-economic data. Though Northern Rhodesia did not establish its own statistical office, the territory increasingly turned to the Southern Rhodesia Statistics Department, which had been operating since 1928, to help conduct sample surveys and compile data scientifically.

Moreover, some United Nations agencies began to organise worldwide censuses in which they required countries to participate by furnishing data. Northern Rhodesia participated in such enquiries and had to collect data in view of each census round. For example, the Food and Agriculture Organisation (FAO) requested developing countries to take part in the World Agricultural Census in 1950 by supplying data on crop cultivation and production as well as livestock raising.⁷⁵ It was chiefly due to this census that the Agriculture Department undertook a

⁷² *Ibid.*

⁷³ Serra, ‘Uneven Statistical Topography’, 11.

⁷⁴ *Ibid.*

⁷⁵ NAZ/MF 2/1/1 Preliminary Notes on the Proposed Sample Enquiry in Northern Rhodesia, 1950.

sample survey of African agriculture in Northern Rhodesia in 1950.⁷⁶ From the late 1940s, the Colonial Office also began to collect statistics from the Empire in order to report to the United Nations. An advisory committee on education in British colonies noted in 1949, for example, that ‘it is clearly of great importance that the Secretary of State should be able to supply statistical information, accurate and up to date, about the colonial Empire as a whole, particularly to bodies such as the United Nations.’⁷⁷ Some of the data required the conduct of surveys and censuses that were organised by the Southern Rhodesia Statistical Department.

2.4.3. Statistical Developments in Europe

During the Second World War, the major colonial powers, France and Britain, reorganised their statistical systems and created Central Statistical Offices in 1940 and 1941, respectively, which began to coordinate data collection on war-related production and supplies of food, water, arms and finances.⁷⁸ By the end of the war, the institutions had greatly improved the quality and timeliness of statistics. This influenced them to establish independent statistical offices in their colonies in order to replicate the improvements. Besides, in the 1940s, the British adopted from America new scientific methods for collecting and processing statistics on various subjects using sample surveys. They then set out to experiment the applicability of surveys to their colonies. In this vein, the Rhodesias and Nyasaland became testing grounds for the use of sample surveys to estimate population, agricultural production, household consumption, industrial production and

⁷⁶ Ibid.

⁷⁷ NAZ/ED 1/2/43 Advisory Committee on Education in the Colonies: Report of a Sub-Committee appointed to consider the Form of Annual Reports of Education Departments, 17 June 1949.

⁷⁸ Raymond R. Gervais and Richard Marcoux, ‘Saving Francophone Africa’s Statistical Past’, *History in Africa*, 20 (1993), 385-6, Claus Moser, ‘The Role of the Central Statistical Office in Assisting Policy Makers’, *The American Statistician*, 30, 2 (1976), 61, Lang, ‘Post-War Planning’, 275-7 and Austin Robinson, ‘Official Statistics’, *The Economic Journal*, 53, 212 (1943), 419.

national income figures.⁷⁹ It is noted here that the conduct of these experiments required a team of statisticians assembled in an institution that was specially designed for such works. Hence, the adoption of new methods of data production and their experimentation in Central Africa contributed to the regional centralisation of technical statistical activities.

Developments in national accounting in Europe also had a ripple effect in colonial Africa. National accounts are systematic records of all economic transactions in a country in a specified period and their reduction to a balanced statement of income and expenditure.⁸⁰ The modern system of national accounts was developed in the United States and Britain during the 1930s in order to facilitate resource allocation during the Great Depression and it served the same purpose during the Second World War. In Britain, its success culminated in the publication of the annual *National Income White Papers* from 1941.⁸¹ The data proved to be useful for economic planning and monitoring. Thus, though national accounts were designed for industrialised countries, experiments on their application to African economies started during the war due to the growing importance of the colonies to the metropole. As British economists began their studies in Africa, Northern Rhodesia was their first testing ground.⁸² Pioneer works were done by the economist Phyllis Deane who visited the territory in 1941, collected data relating to 1938 and compiled her results in a monograph published in 1946. She returned to Northern Rhodesia after the war and

⁷⁹ J.R.H. Shaul, 'Vital Statistics of Africans Living in Southern Rhodesia, 1948', *The Central African Journal of Medicine*, 1, 4 (1955), 145-50, J.R.H. Shaul, 'Preliminary Results of the Demographic Survey of the African Population of Southern Rhodesia', *The Central African Journal of Medicine*, 1, 5 (1955), 246-9, Phyllis Deane, *The Measurement of Colonial National Incomes* (London: Cambridge University Press, 1948) and NAZ/MF 2/1//1 Sample Census of the African Population of Northern Rhodesia, 1948.

⁸⁰ Deane, *Colonial Social Accounting*, 3.

⁸¹ J.E.G. Utting, 'The Sources and Nature of Statistical Information on Specific Fields of Statistics: National Income and Related Statistics', *Journal of the Royal Statistical Society (Series A)*, 118, 4 (1985), 435 and M.D. Morris, *Measuring Conditions of the World's Poor: The Physical Quality of Life Index* (New York: Pergamon Press, 1970), 15.

⁸² Speich, 'Use of Global Abstractions', 13 and NAZ/SEC 1/362 National Income: Problems of Social Accounting in Central Africa, 1947.

gathered data for the year 1945 to supplement her earlier work. The sum total of her work was *Colonial Social Accounting* that was published in 1953 and is discussed in Section 2.6.6.⁸³ As national accounting required specially trained personnel, the British government began to compile them from Salisbury and this stimulated the centralisation of works on associated datasets.

2.5. Towards Centralisation of Statistical Services in Central Africa

One of the major post-Second World War statistical developments in Central Africa was the centralisation of technical data collection works of the governments of Southern Rhodesia, Northern Rhodesia and Nyasaland that was epitomised by the creation of the CASO in 1948.⁸⁴ The move was part of the effort by white settlers in Southern Rhodesia to bring the three territories under one administrative unit as they strengthened their advocacy for the formation of the Federation of Rhodesia and Nyasaland. Thus, the centralisation of statistics occurred alongside other administrative developments. Simabwachi notes, for example, that the archives of the three territories were centralised in 1946 with the creation of the Central African Archives partly due to Southern Rhodesia's attempt to exert her dominance in the region and to benefit from the cost sharing venture.⁸⁵ Certainly, and in a similar manner, the formation of a regional statistical office would be a positive step towards bringing the three territories together.

In Northern Rhodesia, the centralisation of technical statistical activities was first proposed on territorial lines by the economist W.J. Busschau who, in 1945, advised the government to form a

⁸³ Deane, *Measurement of Colonial National Incomes*, NAZ/SEC 1/362 National Income: Problems of Social Accounting in Central Africa, 1947 and Phyllis Deane, 'Measuring National Income in Colonial Territories', NBER Conference on Research in Income and Wealth, 1946.

⁸⁴ See foreword to NRG, *Economic and Statistical Bulletin*, April 1948.

⁸⁵ Miyanda Simabwachi, 'A History of Archives in Zambia, 1890-1991', PhD Thesis, University of the Free State, 2019, 125-33.

central statistical bureau.⁸⁶ He argued that in the wake of the postwar economic order, the government should base its decisions on data constructed scientifically by specially trained experts. In his view, though the civil service compiled ‘statistics relating to the country’s economic life, it appears very considerable that a Statistical Department should be established under a properly qualified statistician.’⁸⁷ Busschau’s views were certainly influenced by the postwar economic thinking that promoted the utilisation of scientifically constructed data in all major decisions. However, his proposal was not actualised at territorial level as it was overtaken by events at the broader level where centralisation was conceived within the wider political debate in support uniting the three territories in a Federation.

Proposals to centralise statistical services at Salisbury emerged in 1945 at the second meeting of the Central African Council where J.R.H. Shaul, Director of the Southern Rhodesia Statistical Department, was tasked to investigate the viability of forming a regional statistical bureau.⁸⁸ In 1946, Shaul visited Northern Rhodesia and Nyasaland and deliberated with heads of departments on the prospect of regional centralisation. In supporting the idea, he advanced its perceived advantages arguing that a central bureau would aid the timely availability of adequate scientifically analysed data on economic and social conditions to facilitate decision making. Shaul posited that the bureau would eradicate overlaps in form-filling, enhance the creation of adequate technical facilities and coordinate the collation of statistical by-products of administrative departments that would be analysed using uniform methods and classifications.⁸⁹ He stressed that though it was

⁸⁶ W.J. Busschau, *Report on the Development of Secondary Industries in Northern Rhodesia* (Lusaka: Government Printer, 1945), 9.

⁸⁷ *Ibid*, 9.

⁸⁸ See foreword to NRG, *Economic and Statistical Bulletin*, April 1948.

⁸⁹ NAZ/ED 1/22/1 Memorandum on the Centralisation of Statistical Services in Northern and Southern Rhodesia and Nyasaland, February 1946.

essential for departments to continue compiling their own figures, a central body would be crucial if such data were to be scientifically analysed and made more useful.

As Northern Rhodesia had since 1940 been asking Southern Rhodesia to conduct surveys for her, the former was easily convinced to accept the idea of centralisation. Shaul had argued that as a result of challenges in obtaining qualified personnel to set up a CSO in each territory, it would be convenient to proceed with regional centralisation. He also argued that there were few personnel with statistical training in the colonies and it was hard to obtain them from outside the Empire because the shortage was global.⁹⁰ Indeed, Gervais and Marcoux also note that French officials also faced a critical scarcity of statisticians in their colonies.⁹¹ Using the perceived advantages and the staff shortage, Shaul proceeded to explain that Southern Rhodesia already had the nucleus for a central bureau and so, the plan for broader centralisation would revolve around the existence of its statistical department where some facilities and personnel were available.⁹²

Reports of the deliberations on the formation of a regional statistical office were prepared by Shaul and submitted to the three governments in 1947. The territorial governments accepted the proposal and, consequently, the Southern Rhodesia Statistical Department began to officially operate as a regional centre in January 1948 and was renamed Central African Statistical Office.⁹³ In the period up to 1952, it evolved into a formidable institution providing the three territorial governments with the services of staff specialised in various fields.⁹⁴ This was done at a reasonable economy resulting from the relatively large body that was developed. However, it is argued here that centralisation

⁹⁰ Ibid.

⁹¹ Gervais and Marcoux, 'Saving Francophone Africa's Statistical Past', 385.

⁹² NAZ/ED 1/22/1 Memorandum on the Centralisation of Statistical Services in Northern and Southern Rhodesia and Nyasaland, February 1946.

⁹³ See foreword to NRG, *Economic and Statistical Bulletin, April 1948* and NAZ/MF 2/1/7 Implications of a possible break-up of the two Rhodesias on the Work of the CSO, 1963.

⁹⁴ Ibid.

instigated the dependence of Northern Rhodesia and Nyasaland on Salisbury for technical works, since the CASO did not open territorial branches while government departments remained without statistical units. Thus, centralisation did not improve the capacity of Northern Rhodesia and Nyasaland to collect and analyse data as it did in Salisbury.

2.6. The Production of Statistics in the Aftermath of the War

The main changes in the production of statistics in Northern Rhodesia after the Second World War occurred in the sectors of population, agricultural, industrial, external trade, cost of living and national income data. This section explores the major developments in the construction of these statistics focusing on their composition, the sources and methods used, the challenges faced and the quality of the figures. It demonstrates that in the aftermath of the war, there was an increase in statistics in Northern Rhodesia and that new statistical methods, particularly sample surveys, were deployed to collect the main datasets. The methods were extended to the collection of data on Africans including some sectors that were previously ignored. Although data collection expanded, the quality of the figures largely remained weak due to inadequate sources of information.

2.6.1. Population and Vital Statistics

One of the major developments in the production of population data was the inclusion of employed Africans in censuses and their enumeration using surveys. From 1946, a quinquennial census of non-Africans and employed Africans was held and geometric rates were used to make inter-censal population estimates.⁹⁵ In December 1945, Attorney General, H.G. Morgan, informed the Legislative Council that the government was preparing to hold a population census that would be limited to non-Africans in view of inadequate manpower to enumerate all persons.⁹⁶ However, due

⁹⁵ Mulenga, 'Zambia', 335-49.

⁹⁶ *Legislative Council Debates*, 30 November 1945, 159.

to the increased need to include Africans, it was resolved in May 1946 to incorporate Africans employed in Northern Rhodesia, especially in urban areas. This decision was partly influenced by the rise of interventionist policies because data on Africans were direly needed for the functioning of development plans and public service provision.

Two censuses of non-Africans and employed Africans were held in the period under discussion on the nights of 15 October 1946 and 8 May 1951, respectively. They were overseen by Gordon Read a former Provincial Commissioner as the Chief Census Supervisor while District Commissioners served as District Census Supervisors.⁹⁷ District Commissioners delimited their districts into enumeration areas, recruited enumerators, budgeted for the census at district level and transmitted census forms.⁹⁸ On the other hand, enumerators distributed census forms to ‘households in areas where any European, Coloured or Asiatic person resides and to every office, shop, store, factory, railway station or any other place where Africans are employed.’⁹⁹ In the case of non-Africans, Mulenga explains that the census was held on a *de facto* basis as ‘forms were completed by the head of household on a given date for all persons including visitors who had spent a night at the house.’¹⁰⁰ On the other hand, for employed Africans, employers completed and submitted returns on their behalf as this part of the census also served as an employment enquiry that collected some labour statistics on Africans and the industries in which they were engaged. Enumerators collected completed forms, scrutinised them to ensure that they were correctly entered, filled in the summary book and delivered the forms to their supervisors.¹⁰¹

⁹⁷ *Legislative Council Debates*, 3 December 1946, 35-6.

⁹⁸ NAZ/BSE 1/10/35 Census Circular No.1 of 1946 and NAZ/EP 4/20/24 Chief Supervisor of Census to all District Commissioners, 1 February 1951.

⁹⁹ NAZ/EP 4/20/24 Chief Secretary to all Heads of Departments and Provincial Commissioners, 25 January 1951.

¹⁰⁰ Mulenga, ‘Zambia’, 338.

¹⁰¹ NAZ/EP 4/20/24 Chief Secretary to all Heads of Departments and Provincial Commissioners, 25 January 1951.

The census faced major challenges and the datasets compiled were scanty and lacked detailed demographic features. In each enumeration area, town, village or other locality, rural area or urban centre, the returns simply reported the number of Europeans, Asiatics, employed Africans, total for all races and the respective numbers of male and female persons under 21 years old and those aged 21 and above.¹⁰² The main problem that the census faced was shortage of manpower. In the 1946 census, the territory was delineated into 34 census districts comprising 167 enumeration areas. These were too large for supervisors and enumerators to manage efficiently, despite not covering the entire population. Only 95 personnel, officials and non-officials, were engaged in the exercise while officers from the Northern Rhodesia Police and Rhodesia Railway guards enumerated railway travellers.¹⁰³ Ironically, with the difficulty in obtaining enumerators, some District Commissioners ended up serving as both supervisors and enumerators. This reduced the time they spent on supervising other enumerators in their districts and weakened the census. Similarly, in 1951, the Chief Secretary had to appeal to departmental and provincial heads to allow their officers to assist in taking the census. He noted that although it was preferable to use non-officials, the number of such persons was inadequate to cater for all areas and so, it was necessary to engage government officers as supervisors and enumerators.¹⁰⁴ Table 2.4 illustrates the distribution of the locally employed African population generated from the census.

¹⁰² NAZ/BSE 1/10/35 Northern Rhodesia Census: Enumerators' Returns for each Area of the Census District, 1946.

¹⁰³ *Legislative Council Debates*, 30 November 1946, 36 and NAZ/BSE 1/10/35 Census Circular No.1 of 1946.

¹⁰⁴ NAZ/EP 4/20/24 Chief Secretary to Heads of Departments and Provincial Commissioners, 25 January 1951.

Table 2.4: Africans Employed in Northern Rhodesia, 8 May 1951

Province	Adult male	Juvenile	Female	Total
Barotse	8,751	162	175	9,088
Central	36,467	3,544	1,743	41,754
Eastern	17,632	5,226	2,522	25,380
Northern	9,176	735	422	10,333
Southern	26,513	3,698	1,529	31,740
Western	74,529	3,077	1,222	78,828
Total Northern Rhodesian Africans	173,068	16,442	7,613	197,123
Africans from other countries	29,512	1,334	707	31,553
Total Africans employed	202,580	17,776	8,320	228,676

Source: NAZ/EP 4/20/24 Population Census, 1951.

For the rest of the African population not covered by censuses, various sources were used to make estimates. These included village tour counts, African tax registers and food rationing records. The sources produced inaccurate data and, as a result, the government decided to conduct a sample demographic survey in 1950. Mulenga explains that the survey was the first attempt to ascertain on a large scale the demographic and vital statistics of Africans.¹⁰⁵ A demographic survey was first held in Southern Rhodesia in 1948 and collected vital statistics (that is, statistics on births, marriages and deaths) of Africans in that country.¹⁰⁶ Plans to hold the survey in Northern Rhodesia emerged after the 1946 census in view of the deficiency in personnel that made the government to ask the Southern Rhodesia Statistics Department to hold a demographic survey of Africans.¹⁰⁷ In December 1946, Secretary for African Affairs, R.S. Hudson, noted that the manpower shortage hampered the government from taking a full census. He stated that:

¹⁰⁵ Mulenga, 'Zambia', 339.

¹⁰⁶ See, for example, Shaul, 'Vital Statistics of Africans, 1948', 145-55.

¹⁰⁷ *Legislative Council Debates*, 3 December 1946, 51.

The results of certain experiments and investigations into an enumeration based on scientific sampling methods, which are being made by the Statistician to the Government of Southern Rhodesia, are now being awaited and, if they are satisfactory, this system- which is said to be likely to replace the more expensive direct census in a number of European countries, and is believed to be only slightly less accurate - may be adopted for the enumeration of the African population¹⁰⁸

The demographic survey was part of an effort by the British colonial state to innovate methods of collecting data on Africans to make them legible and governable. BarrettHakanson contends that statistics were crucial for producing knowledge about the composition of the population, required for governance purposes.¹⁰⁹ Being the first actual enumeration of Africans, the survey was aimed to yield baseline data for future reference. Mulenga explains that in rural areas, the census used the village as the basic sampling unit ‘from which a systematic sample with constant sampling fraction was drawn for each administrative district.’¹¹⁰ He further notes that the survey used a stand or dwelling place as the sampling unit in urban areas where a ‘systematic sample of one in ten of the non-African residential areas, commercial and industrial stands was used. In the case of African locations and compounds, a ten percent systematic random sample of dwelling places were selected’¹¹¹ Data on Africans was collected on both *de jure* and *de facto* basis. It should be noted that the CASO used the survey as part of its experimentation with sampling techniques.

¹⁰⁸ *Ibid*, 51-2.

¹⁰⁹ Erik BarrettHakanson, ‘Governmentality and the History of Statistical Reason’, MA Dissertation, University of Montana, 1997, 2-5.

¹¹⁰ Mulenga, ‘Zambia’, 339. Also see J.R.H. Shaul, ‘Statistical Research and African Vital Statistics’, *The Central African Journal of Medicine*, 1, 2 (1955), 84.

¹¹¹ The survey covered Kabwe, Chingola, Chipata, Livingstone, Luanshya, Lusaka, Ndola, Mufulira and Kitwe. See Mulenga, ‘Zambia’, 340.

Although it was a test survey, successive governments and other stakeholders have used the data as the official population statistics of Northern Rhodesia for that year.

Actual enumeration involved interviews held by European staff from the provincial administration assisted by African guides and interpreters. However, the enumerators underwent no training except for written instructions.¹¹² This is surprising bearing in mind that this was a pioneering exercise that involved new concepts and methods that enumerators were not familiar with. The enumerators collected data on age under three categories; namely, under one year, one year to puberty and over puberty. They also gathered data on births and deaths, clearly showing deaths of infants. Besides, for every woman enumerated, they recorded the number of children ever born and those surviving.¹¹³ The 1950 survey estimated the total number of Africans in Northern Rhodesia at 1,816,000 and the annual population growth rate at 2.5 percent per year.¹¹⁴ Later censuses showed that these figures were both underestimates. However, it should be observed that there was a tendency in later counts to view previous figures as having been inaccurate in the context of improvement in methods and technologies of enumeration.

One of the limitations of statistics from the survey was that data on age lacked detail on demographic aspects. Hill asserts that ‘the actual enumeration appears to have been very deficient and it is likely that the age, fertility and mortality data are not generally reliable.’¹¹⁵ This was partly because it was held by untrained interviewers lacking familiarity with the African environment. In support of Hill’s argument, it is noted here that some provincial officials also doubted the figures. With reference to the Copperbelt, for example, while data from maize-meal rationing records put

¹¹² Hill, ‘Demography of Zambia’, 1.

¹¹³ *Ibid.*

¹¹⁴ GRZ, *Final Report of the May/June 1963 Census of Africans in Zambia* (Lusaka: CSO, 1966), 3.

¹¹⁵ Hill, ‘Demography of Zambia’, 1.

the African population at 46,000, the sample census showed only 26,000.¹¹⁶ Besides, contrary to the figure of 15,500 adults obtained from rationing sources, the survey yielded a total of 10,000.¹¹⁷ When these differences became apparent, some provincial officials doubted the survey results and sided with maize-meal rationing data. Yet, maize-meal rationing records also did not accurately capture the number of Africans as some of the employees over-declared the number of children in order to obtain more food. In their view, ‘the sample census ... missed some of the floating loafer population who made a special point of keeping away when [it] was taken.’¹¹⁸ These may have been counted in the rationing office as soon as they obtained temporary employment. Unemployed Africans on the Copperbelt were occasionally captured and sent back to their villages and this made them seek to avoid being counted by colonial authorities during surveys.

Other major population surveys were conducted by the Rhodes-Livingstone Institute that continued to collect data on urban populations. One such was a survey of the African population of Livingstone held in 1952 by Merran McCullosh, which illustrates the contribution of the Institute to the production of statistics.¹¹⁹ McCullosh used two African research assistants Davidson Sianga and Lealii Setumo to collect data by interviewing African families. The two were chosen because of their familiarity with the town. While Sianga had been a research assistant for the institute for many years, Setumo was a welfare officer in the municipality and had helped in conducting similar surveys on the Copperbelt.¹²⁰ Thus, contrary to the CASO which only used European enumerators in this period, the Rhodes-Livingstone Institute trained and used African

¹¹⁶ Employer records of maize meal rations given to their employees were used also used to estimate the number of Africans in urban areas, especially on the Copperbelt. NRG, *African Affairs Annual Report for the year 1950* (Lusaka: Government Printer, 1951), 17.

¹¹⁷ *Ibid.*

¹¹⁸ *Ibid.*, 17 & 57.

¹¹⁹ See Merran McCullosh, *A Social Survey of the African Population of Livingstone* (Manchester: Manchester University Press, 1968).

¹²⁰ McCullosh, *Social Survey*, ix.

research assistants. Some such assistants later became researchers and generated further data. The interviews held in this particular survey involved discussions rather than question and answer sessions with respondents. Survey cards were taken to the Institute every morning for checking and filing to avoid continuation of faulty interviewing and recording, and those which required corrections or more data were returned. Also, where possible, some data were obtained from compound managers and personnel officers and used to check the accuracy of the survey results.¹²¹ Coding and punching were done at the Rhodes-Livingstone Institute while tabulation was done at the CASO and in London.

One of the challenges faced was difficulty in finding residents of the selected houses, especially men who went for work and whose wives declined to be interviewed without their husbands' permission.¹²² In some instances, the memories of interviewees failed and this was partly fixed by using public interviews among illiterate respondents so that their relatives and friends could help. It was also hard to ascertain years when events occurred and so, some estimates were made using dates of arrival in town, employment, marriage and occupation of residence.¹²³ Some years were estimated using historical events like wars, epidemics or chief's reign. Others were determined using features on stamps of tax receipts such as the hand, fish or cock that were obtained from the Rhodes-Livingstone Museum.¹²⁴ Another challenge was African suspicion and resistance of the survey that emerged partly because it was held during discussions of the Federation, which made some respondents think that entry of their details on cards amounted to its endorsement. Also, some Africans were worried that the survey was meant to conscript them for war or force them

¹²¹ *Ibid*, 14.

¹²² *Ibid*, 13.

¹²³ *Ibid*.

¹²⁴ *Ibid*

back to their villages. However, the survey team reportedly dismissed the rumours successfully and altogether about 99 percent of households in the selected sample were enumerated.¹²⁵

2.6.2. Agricultural Statistics

In the agricultural sector, the influence of colonial government policies and the United Nations in shaping the expansion in statistics is evident. In the postwar era, there was an increase in agricultural data and the extension of their coverage in response to changes in government policy towards African agriculture. Chipungu argues that as a result of the postwar boom, the colonial government embarked on schemes to support African agriculture in order to expand production and facilitate the expansion of mining.¹²⁶ In the late 1940s, the government introduced schemes that supported African agriculture through funding and extension services to farmers to help them adopt practices like crop rotation, contour ridging, composting and use of new farming implements such as ploughs.¹²⁷ As a result of the need to monitor the progress of farmers receiving government aid, there was an increase in the collection of statistics on extension services, resettlement schemes and agricultural technology, which included data such as length and cost of contour ridges, acreage under contour ridges and plough permits issued.¹²⁸ These datasets were not hitherto collected in Northern Rhodesia before the introduction of African agricultural schemes.

Also worth mentioning is the annual census of European agriculture that the CASO held from 1948 in conjunction with the Agriculture Department. Data were collected from European farmers using mailed questionnaires that were processed by the CASO and published in the *Economic and*

¹²⁵ *Ibid*, 14.

¹²⁶ Samuel Chipungu, *The State, Technology and Peasant Differentiation in Zambia: A Case Study of the Southern Province, 1930-86* (Lusaka: Historical Association of Zambia, 1988), 67.

¹²⁷ Mwansa, 'Gender and Agricultural Development', 89-92.

¹²⁸ NAZ/MAG 2/5/11 Department of Agriculture Annual Reports for Katete, 1947-9.

Statistical Bulletin.¹²⁹ Some of the data were collected in response to the 1950 World Agricultural Census, indicating the influence of the United Nations on statistical development as this census was initiated by FAO. The census faced challenges of late responses and non-reply, which caused delays in the collection and processing of data. For the 1950-51 season, for example, returns were ‘unavoidably delayed with the result that the final summaries have become available as much as twelve months after the due date.’¹³⁰ Owing to low response rates from farmers, the CASO often had to make some estimates based on returns for the previous years. Such data often did not correctly reflect the actual production. Thus, even data on European agriculture were not accurately determined, though they were much better than those on Africans.

Shortage of staff and funding hindered the CASO from conducting a census of African agriculture in Northern Rhodesia. To fill the void, in June 1950, it held an experimental sample survey of African agriculture to test the use of sampling techniques in the sector and generate data for the 1950 World Agricultural Census.¹³¹ This census was held alongside the World Population Census and was a major driving force in the collection of agricultural data in colonial Africa. The survey was held in collaboration with the Agriculture Department that mobilised enumerators. Each team of enumerators, led by a European agricultural officer and accompanied by an African messenger, measured planted fields from selected villages. They found it difficult to measure the irregularly shaped African fields using statistical techniques derived from Europe where most fields were rectangular or square. Such methods did not directly suit the Northern Rhodesian context where most African fields had irregular shapes. Hence, to deal with the challenge, they divided fields into combinations of approximate rectangular, triangular and circular portions whichever were

¹²⁹ NAZ/MAG 2/21/39 European Agriculture in Northern Rhodesia, 1950-51.

¹³⁰ Ibid.

¹³¹ Ibid, Pilot Census of African Agriculture in Northern Rhodesia: Instructions for Enumerators, 1950 and NAZ/MF 2/1/1 Preliminary Notes on Proposed Sample Enquiry in Northern Rhodesia, 1950.

applicable and measured them by pacing.¹³² They recorded the data and sent them to the CASO where planted acreage and expected yields were estimated. The survey was also hit by a shortage of enumerators especially that it was held simultaneously with the demographic survey. Thus, non-agricultural district staff were incorporated in the enumeration exercise.¹³³

2.6.3. Industrial Statistics

The industrial sector also illustrates the attempt by the Northern Rhodesian government to expand statistics and adhere to United Nations standards. The collection of data on secondary industries began in 1945 initially in response to the rise of small-scale manufacturing. Butler argues that the Second World War stirred the rapid growth of mining in Northern Rhodesia.¹³⁴ This was, to varying extents, replicated in other economic sectors. Although the growth of manufacturing was hampered by competition for the internal market from Southern Rhodesian and South African products and the lack of decisive state support for local industries, European-run small-scale enterprises emerged on the Copperbelt and in Livingstone engaged in making pipes, bricks, furniture, veneer, clothing, blankets, soap and sweets as well as printing, grain milling, baking, meat processing, breweries, weaving and tobacco processing.¹³⁵ Though the activities were done on a small scale, the government wanted to monitor their progress. Thus, from 1945, it started collecting data on them reporting numbers of enterprises and persons they employed.¹³⁶

Certainly unprecedented in the development of industrial statistics in Northern Rhodesia was the conduct of the industrial census in 1948. This followed the request by the Advisory Committee on Industrial Development in July 1947 for the Southern Rhodesian Statistical Department to organise

¹³² Ibid, District Commissioner, Fort Jameson, to Provincial Commissioner, Eastern Province, 6 June 1950.

¹³³ Ibid, Provincial Commissioner, Eastern Province, to Secretary for African Affairs, 7 June 1950.

¹³⁴ Butler, *Copper Empire*, 60-145.

¹³⁵ Tembo, 'Impact of the Second World War', 159-72.

¹³⁶ *Northern Rhodesia Blue Books, 1945-7*, V 6.

a census of industries in the territory.¹³⁷ In October 1947, officers from the department visited Northern Rhodesia and agreed with various stakeholders on the list of industries to be enumerated. Thus, in March 1948, the department held the first industrial census of Northern Rhodesia covering the year 1947 and collected data through mailed forms.¹³⁸ In this census, an industrial establishment was defined as ‘any manufacturing or repairing concern whether privately or publicly owned, which (i) employs six or more persons, irrespective of race, including the proprietor or manager or other person in charge thereof; or (ii) uses any form of motive power (iii) uses a boiler for steam-heating purposes.’¹³⁹ Home industries like dressmaking and tailoring, decorating, jobbing, and carpenters working on their own were excluded.

From this early stage, the influence of the United Nations on the methods used was quite evident as the census was designed to conform to the United Nations industrial classification. It covered various types of factory and workshop industries as prescribed by the United Nations. One category comprised food, drink and tobacco industries. These were grain milling, baking, confectionery, brewing, mineral waters and tobacco. Another category included textiles and the third comprised non-ferrous metal smelting, extraction, engineering and repairs. The census also covered firms in the wood, furniture, building materials, printing and publishing sectors.¹⁴⁰ Others were water works, electricity, building and construction. It gathered data on the number of firms, their workforce, output, production costs as well as expenditure on salaries and wages.¹⁴¹

¹³⁷ NRG, *First Report on the Census of Industrial Production, 1947* (Salisbury: CASO, n.d.), 1. In Southern Rhodesia, the census began in 1938 and it was held annually until the federal census was introduced in 1953. FRN, *Report on the Census of Industrial Production, 1955* (Salisbury: CASO, 1958), 1.

¹³⁸ NRG, *Census of Industrial Production, 1947*, 1.

¹³⁹ *Ibid.*

¹⁴⁰ *Ibid.*

¹⁴¹ *Ibid.*, 1-2.

However, the data collected were scanty as the census faced major challenges partly because the manufacturing sector was still small. One of the main problems was that some firms delayed submitting returns while others did not respond and this derailed the publication of results. Unfortunately, response to the enquiry was voluntary as there was no legislation compelling firms to complete the forms. The census revealed that a small number of firms existed in the territory and this raised questions about the efficacy or viability of continuing with it.¹⁴² It also emerged that most industries could not be counted without breaching the standard statistical practice that required an industry to have at least five firms for data on it to be published separately. Therefore, the internal environment inhibited the use of international standards that did not conform to the local reality. Most industries in Northern Rhodesia had less than five firms and could not be reported separately following such standards. As a result of the challenges faced, the industrial census was suspended and only resumed in the federal period during which it covered the entire federal economy with most firms located in Southern Rhodesia.¹⁴³

The government sourced statistics on mining and its auxiliary activities from the mining companies. Such data were important because mining occupied a central position in the economy of Northern Rhodesia. By the onset of the Second World War, the main mining companies were the Rhodesian Selection Trust (that controlled the Roan Antelope and Mufulira mines) and the Anglo-American Corporation (that worked the Nkana and Nchanga mines).¹⁴⁴ Anglo-American also owned the Rhodesia Broken Hill Development Company, which exploited zinc and lead at Broken Hill. Individual companies produced data for their local, regional and head offices to report

¹⁴² FRN, *Census of Industrial Production, 1955*, 1.

¹⁴³ FRN, *Reports on the Census of Industrial Production, 1957-9* (Salisbury: CSO) and FRN, *The Census of Industrial Production in 1960 and 1961: Mining, Manufacturing, Electricity and Water Supply* (Salisbury: CSO, 1963).

¹⁴⁴ For details, see Hyden Munene, 'A History of Rhokana/Rokana Corporation and its Nkana Mine Division, 1928-1991', PhD Thesis, University of the Free State, 2018, 32-5.

the progress of their mines and inform their decision making. Their statistics were issued in reports compiled periodically by staff of various company departments from administrative sources. The major datasets compiled by the mining companies included mineral production, labour and company accounts. Labour data focused on personnel, wages, housing and food rations while company accounts showed revenue, expenditure, capital, profits, taxes and dividends.¹⁴⁵

Other data were on requirements of food, coal, timber, firewood and equipment. Together, these statistics were used to assess the growth of the mining business especially during the wartime and postwar boom. They were also significant to the colonial state as it sought to maximise revenue from the industry. Mining was so key to the economy of Northern Rhodesia that even when the compilation of other statistics declined during the war, figures on the sector were sustained as part of the war effort. Throughout the Second World War and its aftermath, mining companies reported the monthly quantity and value of production to the Chief Inspector of Mines.¹⁴⁶ This entails that mineral production and revenue were the most important data on the industry as they informed the government's effort to yield funds for the war effort and, later, economic recovery.

2.6.4. External Trade Statistics

The impact of centralising statistics in Salisbury is clearly illustrated by the case of external trade statistics. Colonial officials in Africa assembled external trade data and used them to assess the economic performance of their territories. In Northern Rhodesia, these statistics were initially compiled by the Customs Department from administrative records, some of which were sourced from the statistical departments of Southern Rhodesia and South Africa as much of the territory's

¹⁴⁵ ZCCM 12.6.1E Rhodesia Anglo-American Corporation Limited: Report and Accounts for the year ended 31 March 1933 and ZCCM 12.7.2F Rhokana Corporation Limited: Annual Reports and Accounts for the year ended 30 June 1945.

¹⁴⁶ See, for example, ML 8/11/47 General Summary of Mineral Production for February 1941 and December 1942. In the same file, see letter from J.A. Jearey to Chief Inspector of Mines, 8 May 1942.

trade either involved or passed through the two countries. For example, the Southern Rhodesian Statistical Department supplied data on exports and re-exports of that country to Northern Rhodesia and in-transit goods from the port of Beira in Mozambique.¹⁴⁷ Data on external trade were initially published in *Blue Books, Annual Colonial Reports* and the Customs Department's annual reports. They included the quantity and value of imports by route and country of origin and the quantity and value of exports by route and country of destination.¹⁴⁸

However, the data compiled by the Customs Department had a number of limitations. In 1946, for example, Shaul bemoaned 'the absence of explanatory notes stating how the goods are valued, what quantities are employed [and] how the countries are classified.'¹⁴⁹ This was certainly because the lack of statisticians in the department. In addition to that, there was 'a very inconvenient absence of comparative figures relating to a number of years so that without considerable research it becomes impossible to judge the directions into which trade is moving.'¹⁵⁰ Besides the limitations, Deane observes that the determination of imports based on values at the point of entry into Northern Rhodesia caused underestimations.¹⁵¹

The above weaknesses pointed to the need for the data to be handled by an office specialised in statistical work. Hence, from 1949, the compilation of the foreign trade data of Northern Rhodesia was transferred to the CASO and it began to publish them in the *Annual Statement of External Trade*.¹⁵² However, the CASO worked with the Customs Department as its main source of

¹⁴⁷ *Northern Rhodesia Blue Books, 1945-7*, V 6.

¹⁴⁸ *Northern Rhodesia Blue Book, 1939*, T 3-87.

¹⁴⁹ NAZ/ED 1/22/1 Memorandum on the Centralisation of Statistical Services in Northern and Southern Rhodesia and Nyasaland, February 1946.

¹⁵⁰ *Ibid.*

¹⁵¹ Deane, *Colonial Social Accounting*, 285-6.

¹⁵² See NRG, *Annual Statement of the External Trade of Northern Rhodesia with British Countries and Foreign Countries, 1950 compared with the years 1946-9* (Lusaka: Government Printer, 1951), NRG, *Annual Statement of the External Trade of Northern Rhodesia with British Countries and Foreign Countries, 1951 Compared with the years 1947-50* (Lusaka: Government Printer, 1952) and NRG, *Annual Statement of the External Trade of Northern Rhodesia*

information. These changes reduced delays in the availability of external trade statistics. Also, the publication of the data in a specialised report made them more elaborate than the tables previously included in reports of the Customs Department.¹⁵³ Thus, the CASO developed a series of comparable external trade statistics during the period 1948-53 and helped to improve the quality of the datasets. It is also observed here that for Southern Rhodesian settlers, the take-over of Northern Rhodesia's external trade data boosted hopes for federation with the north as it added to the list of administrative functions already centralised at Salisbury.

2.6.5. Cost of Living Statistics

Works on the cost of living data that began during the Second World War were sustained and expanded after the war. However, the quality of data remained weak due to inadequacies in the sources and methods used. In 1946, the colonial government constituted a commission of inquiry into the cost of living of both Europeans and Africans in Northern Rhodesia. It found that since the onset of the war, the cost of living for Europeans had risen by 36 percent and that of Africans had soared by 90 percent.¹⁵⁴ Meanwhile, when the CASO replaced the Southern Rhodesian Statistical Department in 1948, it continued to compile the European cost of living index in collaboration with the Labour Department and the Northern Rhodesia Chamber of Mines. The estimates were based on data obtained by the 1940 European family expenditure survey. In view of the continued rise in living costs, the colonial government asked the CASO to compile a monthly African cost of living index that it furnished to various employers. Table 2.5 shows the cost of living index of the employed population for selected months in the period 1939-49.

with British Countries and Foreign Countries, 1952 Compared with the years 1949-51 (Lusaka Government Printer, 1953).

¹⁵³ NRG, *Statement of the External Trade of Northern Rhodesia, 1948-9* (Lusaka: Government Printer, 1950), iii.

¹⁵⁴ Tembo, 'Impact of the Second World War', 155.

Table 2.5: Northern Rhodesia Cost of Living Index for the Working Class, 1939-49

	Groups of household expenditure					Final index figure
	Food	Rent	Clothing	Fuel, light and washing	Other expenditure	
Group Weight	71	12	14	10	10	
Index as at:						
September 1939	100	100	100	100	100	100
August 1942	136	100	175	119	125	135
July 1943	156	100	200	130	135	151
July 1944	161	100	192	148	138	155
July 1945	173	100	219	143	138	166
July 1946	176	105	210	160	144	169
July 1947	216	110	299	164	160	206
July 1948	219	110	310	182	160	210
July 1949	208	110	304	182	172	204

Source: NAZ/MLSS 1/42/9 Ministry of Labour and Mines Economic Bulletins, 1939-49.

On the European sector, the CASO held a second European family budget survey in Northern Rhodesia in 1952 and collected data for updating the base and rechecking price movements.¹⁵⁵ It was held in the towns of Mufulira, Broken Hill, Luanshya, Nkana, Nchanga, Lusaka, Ndola, Fort Jameson, Kasama, Abercorn, Kitwe, Livingstone and Chingola and covered about 2,000 families selected by the organisers as a representative section of the European community.¹⁵⁶ This was a huge sample size considering the small number of Europeans who lived in Northern Rhodesia and it illuminates the colonial government's prioritisation of data on Europeans. Publicity of the survey was done through radio and newspapers. The selected families completed a questionnaire and as inducement, they were offered a token of £1.1.0d. for a properly completed form.¹⁵⁷ The data generated by the survey were used as a basis for calculating the European cost of living index from

¹⁵⁵ NAZ/ED 1/22/1 Circular Minute No. E/1006 Distribution B, 21 February 1951. Also see ZCCM 3.8.2E 'Statement on Living Costs', Extract from *Northern News*, Saturday, 17 January 1953.

¹⁵⁶ Ibid.

¹⁵⁷ Ibid.

1953 to 1960, for it was not until the latter year that another European family budget enquiry was conducted in Northern Rhodesia.¹⁵⁸

Cost of living statistics had a number of weaknesses. Deane argues that the indices compiled before 1953 were of doubtful value as they were based on prices of goods collected from selected towns.¹⁵⁹ Thus, they provided only a rough idea of ‘the direction and order of magnitude of broad price movements ... in attempting to assess the real significance of changes in money national incomes before 1954.’¹⁶⁰ Besides Deane’s concern, it is observed here that the cost of living indices for the period 1940-52 were all based on the 1940 European family budget survey and they continued to use 1939 as the base year. Data from the second European family budget survey were used only after 1952.¹⁶¹ In view of the drastic increase in prices experienced during and after the Second World War, it is inexorably concluded here that the validity of cost of living data weakened over the years. This was an irony for the government that was trying to prevent industrial unrest by dealing with effects of the increased cost of living using the data.

The mining companies also contributed to the construction of the cost of living index during the Second World War and its aftermath. For European employees, the index was initiated at Mufulira after which it was later adopted by the other mines and it became a responsibility of the Chamber of Mines.¹⁶² The standard family used for calculating the index comprised a man, his wife and 1.5 children who were allocated 1.0, 0.8 and between 0.2 and 0.8 points, respectively. The points for children whose age did not exceed 14 years old were allotted according to age.¹⁶³ The main

¹⁵⁸ ZCCM 5.4.2E Director of Census and Statistics to General Manager of Nchanga Mine, 30 January 1961.

¹⁵⁹ Phyllis Deane, ‘The Industrial Revolution in British Central Africa’, *Civilisations*, 12, 3 (1962), 335.

¹⁶⁰ *Ibid.*

¹⁶¹ *Ibid.*

¹⁶² Tembo, ‘Impact of the Second World War’, 158.

¹⁶³ *Ibid.*

expenditure items used were foodstuffs, fuel and light, rents and rates, medical services, insurance, taxes and subscriptions, education, wages of servants and expenses on clothing, hairdressing, footwear, newspapers and gardening.¹⁶⁴ For each company, the Chamber determined the monthly budget, percentage increase and average for the four mines. The data were used to calculate the cost of living index that was used to determine the rate of the cost of living allowance.¹⁶⁵

Other cost of living data emanated from surveys of African budgets conducted in urban centres by scholars from the Rhodes-Livingstone Institute. In the 1940s, they held agricultural surveys in rural areas alongside colonial administrators and this made the Institute vulnerable to government influence.¹⁶⁶ However, from the early 1950s, the researchers distanced themselves from the government as they undertook research in urban centres.¹⁶⁷ This shift was in response to political pressure from their African informants and research assistants who were agitated by debates about the formation of the Federation of Rhodesia and Nyasaland. By avoiding government influence, the Rhodes-Livingstone Institute sought to build a reputation of research neutrality. The urban household budget studies conducted by affiliates to the Institute included the social surveys held in 1952 on the Copperbelt and in Livingstone.¹⁶⁸

It was mainly due to the shift in the context of the Rhodes-Livingstone research that colonial officials became suspicious of some of the scholars and their data, especially when they depicted negative conditions. This partly explains why from 1948 when the CASO was formed in Salisbury, the colonial government increasingly turned to it for surveys. As Ross explains, colonial officials

¹⁶⁴ The companies included Roan Antelope, Mufulira, Rhokana and Nchanga. ZCCM 3.8.2E Details of Cost of Living (War) Allowance, February 1948.

¹⁶⁵ *Ibid*, Cost of Living (War) Allowance, January 1950.

¹⁶⁶ *Ibid*, 240.

¹⁶⁷ *Ibid*.

¹⁶⁸ Merran McCullosh, *A Social Survey of the African Population of Livingstone* (Manchester: Manchester University Press, 1968), ix.

felt that data from the Institute tended to incorrectly paint the picture that African conditions were deteriorating under colonial rule amidst the effects of industrialisation, urbanisation and labour migration.¹⁶⁹ This contrasted with the image often projected by the CASO that Africans were progressing under colonial tutelage. Hence, from the early 1950s, colonial officials became uneasy with the Institute and its association with African research assistants some of whom, like Harry Mwaanga Nkumbula, were in the nationalist movement.

Despite controversies between the Institute and the state, the researchers continued to hold surveys and yielded important data. Among the most statistically productive were Clyde Mitchell's early 1950s social surveys on the Copperbelt, which collected data on African budgets using sampling techniques. He used a 'stratified sample of 12,000 people interviewed over five years in all the major Copperbelt towns'¹⁷⁰ The surveys yielded statistics on the quality of life of urban Africans. Mitchell also collected information from the punch-card database of mining company employees and analysed his data using a Hollerith machine acquired from Anglo-American Corporation.¹⁷¹ His methods illustrate his familiarity with statistical techniques. It is in this vein that Smith has applauded Mitchell's fascination for numerical techniques and 'the most systematic contemporary data assembled around the zenith, and in the wake, of colonialism in Africa.'¹⁷²

2.6.6. National Accounts Statistics

The national accounts sector began to take shape in Northern Rhodesia in the aftermath of the Second World War thanks to the works of Phyllis Deane and the CASO. An analysis of Deane's work is paramount to understanding the development of these datasets. Speich contends that the

¹⁶⁹ Ross, 'Politics of Household Budget Research', 7.

¹⁷⁰ Susan J. Smith, 'James Clyde Mitchell 21 June 1918-15 November 1995: elected fellow of the British Academy 1990', *Biographical Memoirs of Fellows of the British Academy*, 18 (2019), 98.

¹⁷¹ *Ibid*, 105.

¹⁷² *Ibid*, 98-9, 104-5.

results of Deane's experiment did not convince the Colonial Office that compiling national income should be a government responsibility.¹⁷³ Even so, it is observed here that after Deane compiled her first monograph in 1946 and while she was still gathering more information, the colonial government through the CASO also began to collect data for compiling territorial accounts in 1948.¹⁷⁴ As already pointed out, the colonial administration actually preferred figures from the CASO as it contended that some data collected by other researchers were prejudiced against the economic and social conditions in the colony.

Deane's sources included government documents, company records, mission reports, works of anthropologists, and interviews she held in Mongu, Mazabuka and Fort Jameson. Her study gathered statistics on European income from census reports, *Blue Books*, the *Pim Report*, income tax returns, the Rhodesian Railways bulletin and reports of the Mines, Treasury, Income Tax and Customs Departments.¹⁷⁵ She also collated data on European earnings in government service, mining, railways, religion, trade, farming and other employment and on rent, profit, interest and income from abroad. Others were incomes for mining companies, royalties, transport firms, foreign companies, local companies and total company income.¹⁷⁶ However, most of the sources contained scanty, conflicting and inaccurate data for national accounting purposes. Statistics on African income included earnings from employment in mining, agriculture, domestic service, manufacturing, railways, building, teaching, missions, government service and commerce as well as income of independent workers in farming.¹⁷⁷ As for Asiatics and Coloureds, no data were available on their earnings and a 'guess amounting to about £100 per adult male and £74,000 in

¹⁷³ Speich, 'Use of global abstractions', 13.

¹⁷⁴ CASO, 'The National Income and Social Accounts of Northern Rhodesia, 1945-53.'

¹⁷⁵ Deane, *Colonial Social Accounting*, 136-59 & 338-9 and Deane, *Measurement of Colonial Incomes*, 26-9.

¹⁷⁶ *Ibid.*

¹⁷⁷ *Ibid.*

all was therefore entered for this item.’¹⁷⁸ This reflects the fact that these groups were very small in Northern Rhodesia and that the colonial government did not have much interest in them.

From the above sources, Deane computed the net national income focusing on individual, company and government incomes. Data on individuals included wage earnings and remittances from migrant labourers, statistics on companies showed sectors for local and foreign firms while the government sector included yields from property, pension and trade, among others.¹⁷⁹ However, the study faced serious challenges of inadequate data and the non-applicability to African conditions of the concepts and methods adopted from industrialised economies.¹⁸⁰ Colonial researchers mistakenly assumed that western concepts and methods applied to colonies. Yet, as Deane found out, the concept of “nation” was misleading in a dependent colony since it was hard to distinguish “national” from “foreigner.”¹⁸¹ Besides, the line between “economic” and “non-economic” activities was not clear, making it hard to determine what should be rightly counted or ignored. Thus, she often resorted to guesswork and arbitrary assumptions.

Other studies on the national income and social accounts of Northern Rhodesia were conducted by the CASO in the period 1948-53.¹⁸² A.G. Irvine and W.C.W. Borland played the leading role in compiling the series. The concepts and methods used to collect and process data were adopted from two United Nations documents *Measurement of National Income and the Construction of Social Accounts* published in 1947 and *A System of National Accounts and Supporting Tables* completed in 1953.¹⁸³ The use of these documents underscores the global influence of the United

¹⁷⁸ *Ibid*, 31.

¹⁷⁹ *Ibid*, 32.

¹⁸⁰ NAZ/SEC 1/362 National Income: Problems of Social Accounting in Central Africa, 1947 and Jerven, *Poor Numbers*, 38-9.

¹⁸¹ Deane, *Measurement of Colonial Incomes*, 21.

¹⁸² CASO, ‘National Income and Social Accounts.’

¹⁸³ *Ibid*.

Nations on statistics in Africa and Northern Rhodesia in particular. The CASO tabulated the national income, national expenditure, domestic output, accounts of the business, mining and railway sectors, personal outlay and income as well as government accounts.¹⁸⁴ Other data were on balance of payments. Table 2.6 illustrates the Gross Domestic Product (GDP) and national income of Northern Rhodesia in the period 1945-53 as compiled by the CASO. Though these figures resulted from experimental work, they remain the country's official data for that period in the absence of any other government statistics on national accounts.

Table 2.6: The Gross Domestic Product of Northern Rhodesia, 1945-53

Year	Gross Domestic Product	National Income
	£ million	£ million
1945	15.4	16.4
1946	18.1	17.3
1947	27.8	20.2
1948	34.0	25.5
1949	43.9	32.4
1950	58.5	37.9
1951	85.9	59.2
1952	96.9	69.4
1953	112.2	88.7

Source: CASO, 'National Income and Social Accounts', 1.

Like Deane, the CASO faced a big challenge of inadequate data, especially for the subsistence economy where monetary transactions were scarce. As Jerven notes, the resultant national accounts estimates, like those of Southern Rhodesia and Nyasaland, excluded the value added by African producers due to lack of data.¹⁸⁵ The CASO itself reported that the series referred almost entirely to the money economy and only nominal estimates of subsistence output not involving

¹⁸⁴ Ibid, 23-37.

¹⁸⁵ Jerven, *Poor Numbers*, 37.

monetary transactions were included in tables on national income and expenditure, but they were excluded from social accounts.¹⁸⁶ In fact, data on rural producers only began to receive attention in the postcolonial period. As a result, the CASO grossly underestimated the national income of the territory. On the quality of the data, the statistical office itself noted that almost all the figures were estimates and in the absence of objective measures of accuracy, subjective estimates of error were made in order to allow data users test the validity of their conclusions.¹⁸⁷

2.7. Conclusion

The Second World War was an important factor in the development of statistics in Africa and other parts of the world. Besides impacting the organisation of data collection, it shaped the nature of the numbers produced. This chapter has argued that the development of statistics in Northern Rhodesia during the years 1939-52 was, to a great extent, shaped by the impact of the war. In this regard, the reorganisation of data production in Europe, the rise of state-led interventionist policies, the formation of the United Nations and the centralisation of statistics in Central Africa were important factors. However, the chapter argued that the Second World War had an uneven impact on the production of numerical data in wartime Northern Rhodesia. This was because on one hand, wartime exigencies weakened the capacity of the prewar organisation to compile data due to the withdrawal of staff from colonial service and their redeployment to the war, which caused the reduction or suspension of most statistical works. On the other hand, the war stimulated the compilation of cost of living indices to support the attempt by the colonial government and other employers such as the mining companies to prevent industrial unrest.

¹⁸⁶ CASO, 'National Income and Social Accounts', 43.

¹⁸⁷ *Ibid*, 22.

Besides, the chapter has demonstrated that the production of statistics in Northern Rhodesia expanded after the war. This was evidenced by the resumption and extension of prewar activities and the commencement of new works, such as the compilation of national accounts. The CASO increasingly conducted censuses and surveys collecting data on population, agricultural, industrial and household sectors. However, the input data had a number of weaknesses that compromised the quality of statistics. The chapter also observed that the capacity of Northern Rhodesia to scientifically collect data remained weak because the CASO did not open a branch in the territory and departments operated without statistical units. Hence, there continued to be no trained statisticians in the government service and equipment remained inadequate since they were primarily mobilised for the CASO. The discourse incorporated the Rhodes-Livingstone and the mining companies as important sources of statistics in Northern Rhodesia as they produced their own statistics, which they supplied to the government through periodical reports and responses to enquiries. Hence, the chapter concludes that discussions of statistical development that make no reference to these sectors are incomplete. However, the scope of data from the Institute and the mines were limited because they covered only subjects that related their activities. Thus, the colonial government became increasingly dependent on the CASO for technical statistical enquiries that were in line with international standards.

Chapter Three

Perpetuating Dependence on Southern Rhodesia: Statistical Works in Northern Rhodesia during the Federal Period, 1953-63

3.1. Introduction

Colonial officials and scholars applauded the Federation of Rhodesia and Nyasaland for expanding and improving the quality of data in Central Africa.¹ They argued that the Federation developed an efficient statistical system that gained a reputation for its excellent work. Myburgh noted that the federal statistical service gained international recognition for extensive coverage, high standards and pioneering works on national income, African demography, agriculture and urban households.² Frankel notes that the statistical services of the Rhodesias and Nyasaland became the envy of most other African countries.³ These works exaggerated the improvement of statistical services as they looked at the Federation in general. A close look at statistical works in Northern Rhodesia reveals the perpetuation of dependence on Southern Rhodesia for technical enquiries.

This chapter examines statistical developments in Northern Rhodesia in the federal period. It argues that the creation of the Federation and the UNECA were crucial factors in statistical development. The federal government initially centralised only the data it considered to be crucial to its operations and left others with territorial departments.⁴ However, over the years, its CSO

¹ C.A.L. Myburgh, 'J.R.H. Shaul', *Review of the International Statistical Institute*, 31, 3 (1963), 455 and S.H. Frankel, 'Review of Balance of Payments of Rhodesia and Nyasaland, 1945-1954, by I.G. Irvine', *Economica*, 28, 111 (1961), 338.

² Myburgh, 'Shaul', 455.

³ Frankel, 'Review of Balance of Payments', 338.

⁴ There was a sectoral division of responsibilities between the federal and territorial governments. G.H. Baxter and P.W. Hodgins, 'The Constitutional Status of the Federation of Rhodesia and Nyasaland', *International Affairs*, 33, 4 (1957), 443-4, Miyanda Simabwachi, 'History of Archives in Zambia, 1890-1991', PhD Thesis, University of the Free State, 2019, 150 and J.R.T. Wood, *The Welensky Papers: A History of the Federation of Rhodesia and Nyasaland* (Durban: Graham Publishing Co., 1983), 253.

increased the collection of territorial data. This aided Southern Rhodesia's dominance of the federal political setup through control of the statistical knowledge systems of her counterparts and allowed her to reap from the copper wealth of Northern Rhodesia and labour resources of Nyasaland. Consequently, it perpetuated the dependence of Northern Rhodesia on Southern Rhodesia for the scientific collection of statistics. The chapter also argues that the UNECA contributed to statistical development in Northern Rhodesia as it coordinated data collection in Africa. Consequently, the CSO began to work within the global statistical framework in which data were collected and processed using concepts, classifications and methods developed for international use.

Nevertheless, on the internal front, the chapter argues that development planning remained an important factor in the production of statistics. It also demonstrates that territorial government departments, the Rhodes-Livingstone Institute and the Chamber of Mines continued to produce data and contributed to statistical development. However, the government relied more on the CSO and sectoral departments as its data producers and informants. The chapter also analyses specific enquiries undertaken and the data generated, highlighting their scope, sources and methods, and the challenges encountered. It argues that though the production of statistics expanded, the quality of some data remained weak due to the inadequacy of reliable sources of information. Also, the internal political environment associated with the growth of African nationalism hampered the smooth conduct of some statistical enquiries and compromised the quality of certain datasets.

3.2. The Establishment of a Federal Statistical Service

In August 1953, the Federation of Rhodesia and Nyasaland was created bringing under one administration the self-governing territory of Southern Rhodesia and the protectorates of Northern Rhodesia and Nyasaland, with its capital at Salisbury, where federal ministries and departments

were based.⁵ However, each territory continued to exist as a separate entity and maintained its own government. In the federal organisation, government matters were administered as federal, concurrent or territorial business. Federal matters were overseen by the federal government and included external affairs, defence, immigration, major economic sectors, transport, communication and European education.⁶ Concurrent business included health and industrial development, among others, and was administered collaboratively by the federal and territorial governments. Lastly, territorial business comprised forestry, internal law and order as well as the African components of agriculture, education and labour, among others.⁷

The formation of the Federation shaped the production of numerical data in Northern Rhodesia through the creation of a federal statistical service. In 1955, the Census and Statistics Act was passed and it converted the CASO into a federal body, the Central Statistical Office.⁸ The CSO was headed by the Director of Census and Statistics who was responsible for organising censuses and collecting data required by the federal government. A proposal to open territorial branches was rejected based on the argument that it would triplicate funding and manpower needs.⁹ The federal government argued that the global scarcity of statisticians hindered the maintenance of viable territorial branches. In line with this argument, Myburgh contends that in its initial stages, the federal CSO actually faced a shortage of both funding and adequately trained staff.¹⁰ The global shortage of statisticians also made it impossible for each government department to employ statisticians. Thus, without territorial statistical branches, Northern Rhodesia had to depend on Salisbury for most scientifically produced data in order to complement statistics from

⁵ Baxter and Hodgins, 'Constitutional Status of the Federation', 443-4.

⁶ *Ibid.* Also see Simabwachi, 'History of Archives in Zambia', 150.

⁷ Baxter and Hodgins, 'Constitutional Status of the Federation', 444.

⁸ *Federal Assembly Debates*, 16 March 1955, 2042-3.

⁹ *Ibid.*

¹⁰ Myburgh, 'Shaul', 455.

administrative sources. These events illustrate that federal priorities superseded territorial requirements and influenced the major statistical developments.

Besides the shortage of statistical personnel, Ross asserts that the non-establishment of territorial branches in the northern territories was part of a plan by white settlers in Southern Rhodesia to use the CSO to strengthen their dominance in the region.¹¹ By controlling the statistical knowledge systems of her counterparts, Southern Rhodesia would use the data to dominate the federal political setup and in the process reap from the copper wealth of Northern Rhodesia and the labour resources of Nyasaland. As Kalpagam elaborates, statistics were not merely a form of representation but a tool for controlling and regulating society.¹² The lack of territorial branches itself was unlike other federal statistical systems such as those of India, Australia and the United States where there was a statistical body for the central government, for each state and for every sectoral ministry.¹³

The creation of the CSO brought changes in the organisation of statistical works in Central Africa as there was a division of responsibilities between the CSO and sectoral departments. The CSO compiled data required by the federal government on the three territories.¹⁴ These were on federal and concurrent matters and included population, external trade, industry, finance, national accounts as well as European agriculture and European education.¹⁵ It collected some data through surveys and censuses and obtained others from sectoral ministries and departments. The resultant figures were issued in regular specialised reports and common serials like the *Monthly Digest of Statistics*. While some of the data were disaggregated to indicate territorial contributions,

¹¹ Robert Ross, 'Politics of Household Budget Research in Colonial Central Africa', *Zambia Social Science Journal*, 4, 1 (2013), 13.

¹² U. Kalpagam, 'The Colonial State and Statistical Knowledge', *History of the Humanities*, 13, 2 (2000), 47 & 49.

¹³ See, for example, P.C. Bansil, *Agricultural Statistics in India* (New Delhi: Oxford & IBH Publishing Company, 1983), 14-32.

¹⁴ *Federal Assembly Debates*, 16 March 1955, 2042.

¹⁵ NAZ/MF 1/3/209 UNECA Statistical Survey: Review of Existing Data, 1960.

industrial, external trade and balance of payments data only showed federal totals signifying the influence of the creation of the Federation. However, territorial industrial statistics were later compiled from 1962 onwards and they were backdated to as far as 1955.

On the other hand, sectoral departments gathered data required by the territorial government. These were mostly on concurrent and territorial sectors such as health, cost of living, finance, African agriculture and African education. The territorial ministries and departments of Northern Rhodesia compiled data mainly from administrative sources but also from surveys held mostly with the aid of the CSO. Besides, the CSO also compiled statistics for territorial administrations on request and with funding from the concerned government.¹⁶ Initially, these were data that departments could not compile with the desired quality and within a specific timeframe due to the technicalities involved. However, over the years, the CSO began to collect even statistics that were previously handled by territorial departments. This was meant to ensure the availability of scientifically constructed data but it also increased the influence of Salisbury in the northern territories. A statistical review held in 1960 reported that the bulk of data were collected by the CSO except on labour and health that were collected by the ministry or department concerned.¹⁷

The CSO expanded over the years and by 1960, it had about 100 personnel among whom were professional statisticians, punch-card operators, tabulators and sorters, a strength that increased to 113 by the end of the year 1962.¹⁸ Consequently, it became one of the most viable statistical offices in Africa conducting pioneering statistical enquiries for the federal and territorial governments in the fields of national income, African demography, agriculture and urban households.¹⁹ Ross

¹⁶ *Federal Assembly Debates*, 16 March 1955, 2042.

¹⁷ *Ibid.*

¹⁸ NAZ/MF 1/3/209 UNECA Statistical Survey: Review of Existing Data, 1960 and NAZ/MF 2/1/7 Establishment required for division of the CSO into three territorial departments, 20 May 1963.

¹⁹ Myburgh, 'Shaul', 455.

argues that the CSO produced statistical reports of technically higher quality than those of most other African countries partly because its first Director, J.R.H. Shaul, and his team of statisticians were familiar with the latest developments in statistical methods and sampling techniques.²⁰ Thus, they expanded the production of statistics on the three Central African territories and facilitated their participation in the global census programmes.

While the above accolades represent improved statistical capacity at federal level, they obfuscate the incapacity of the northern territories. Besides them, Jerven also generally asserts that statistical capacity greatly increased in late colonial Africa.²¹ On the contrary, this was not the case for Northern Rhodesia. It is argued here that while the federal CSO improved statistical capacity in Southern Rhodesia, its centralisation with no territorial branches in Northern Rhodesia and Nyasaland inhibited a similar development there. This reflects the skewedness of development in the Federation, dominated by Southern Rhodesia.²² Resources for collecting data were mobilised primarily for the regional office while the other territories largely remained statistically underdeveloped and their capacity to produce data lagged behind. Hence, officials in Northern Rhodesia continued to bemoan the lack of a territorial statistical branch. In September 1961, they expressed displeasure that for years, their requests for the federal government to open a statistical branch in Lusaka were fruitless, being told repeatedly that this had not been possible because qualified statisticians were ‘the rarest birds.’²³

²⁰ Ross, ‘Politics of Household Budget Research’, 13-14.

²¹ Morten Jerven, *Poor Numbers: How We are Misled by African Development Statistics and What to Do About it* (Ithaca and London: Cornell University Press, 2013), 5.

²² For details on inequalities in the Federation, see Harry Franklin, *Unholy Wedlock: The Failure of the Central African Federation* (London: George Allen & Unwin Ltd., 1963).

²³ NAZ/MF 1/3/209 A.E. Lewis, Permanent Secretary of Finance (Lusaka) to all Secretaries in Northern Rhodesia, 26 September 1961.

A CSO branch was only opened in Lusaka in October 1961 after a series of letters between federal and territorial officials.²⁴ Initially staffed by one Statistician, A.A. Le Roux, it could not compile the required data. In 1962, it operated with a skeletal staffing of only five while the head office in Salisbury had 113.²⁵ Clearly, the branch was very small and could only do minor works on behalf of the CSO. These included statistical advice to departments and provincial administrations and guidance to survey respondents. For example, in August 1962 its staffer, J. Wilmshurst, met the mining companies to discuss challenges in the completion of cost of living forms.²⁶ However, by September 1962, some works on the ‘six monthly domestic servants enquiry, the annual rent enquiry and the monthly mine labour statistics’ were transferred to Lusaka.²⁷ This move was possible only because the selected works would not strain the slender resources of the branch.

When the Federation collapsed in 1963, the Lusaka branch was later transformed into the Central Statistical Office of Zambia. It was impossible for it to immediately take over all activities previously done by the federal CSO for Northern Rhodesia due to limited capacity relating to inadequate staffing and equipment.²⁸ There was no sharing of staff and equipment of the federal CSO as it was simply converted into a Rhodesian statistical office, which retained nearly all the staff and equipment of the institution. However, the Rhodesian CSO entered into an agreement with Zambia and Malawi to complete all the analysis work relating to the territories and ‘to help maintain the regular statistical series relating to Zambia and Malawi until such a time as the two

²⁴ Ibid, From A.A. Le Roux, Officer-in-charge of CSO Lusaka Branch, to the Secretary of the Ministry of Finance (Lusaka), 11 November 1961.

²⁵ NAZ/MF 2/1/7 Establishment required for division of the CSO into three territorial departments, 20 May 1963.

²⁶ ZCCM 5.4.2E Director of CSO to Secretary of Nchanga Consolidated Copper Mine, 7 September 1962.

²⁷ NAZ/MF 2/1/7 From Officer in Charge of Lusaka branch to the Director of CSO, Salisbury, 27 September 1962.

²⁸ UNECA, ‘Summary of Progress Reports of the Fourth Conference of African Statisticians’, Addis Ababa, 8-17 November 1965, 28.

were able to establish their own offices.’²⁹ The agreement continued until 1965 when the United Nations began to help Zambia to recruit competent statisticians to carry out the works.

3.3. The Role of the United Nations Economic Commission

The development of statistics in Africa, Zambia included, cannot be fully understood without analysis of the role of the United Nations. From 1947, the global organisation began to build a system of regional bodies for constructing development knowledge. These included the Economic Commissions for Europe, Asia, Latin America and Africa. The regional body for Africa, the UNECA, was formed in 1958 in Addis Ababa, Ethiopia.³⁰ The UNECA coordinated efforts at economic development in Africa in line with the scientific and industrial progress of the western world, an endeavour in which economic statistics were ‘the chief informant and agent of change.’³¹ It was in this context that the UNECA worked with the United Nations Statistical Commission and statistical offices of various countries to harmonise the production of numerical data in Africa along United Nations requirements in order to make them comparable.³² Hence, from 1958, the federal CSO began to work within the framework of the UNECA and this shaped both federal and territorial statistics.

One of the initiatives of the UNECA was the Conference of African Statisticians, which was first held in 1959 and became an avenue for sharing ideas on statistical development.³³ The conference was also held in 1961 and 1963 and it was conducted regularly in the postcolonial period. The conference recommended that each country should prepare a five-year statistical development

²⁹ Ibid.

³⁰ Chasse, ‘Roots of Millennium Development Goals’, 222.

³¹ Ibid.

³² UNECA, *Annual Report to the Economic and Social Council covering the period 7 January 1959 to 6 February 1960* (New York: ECOSOC, 1960), 25.

³³ Ibid, 4. The second conference was held in 1961 and the third in 1963. UNECA, ‘Sub-regional Meeting on Economic Co-operation in East Africa’, Lusaka, 6-9 October 1965, 1.

programme for economic and social planning. In view of the critical shortage of statisticians in Africa, the conference suggested that the UNECA should set up regional training centres in some of the existing African universities, organise in-service programmes or send staff for training at the United Nations Training Centre in New York.³⁴ The conference expanded over the years to include planners and demographers and contributed to statistical development in Africa as crucial information was shared by participants. Yet, in the case of British Central Africa, the conference was attended only by CSO staff from Salisbury who represented the Federation. Also, the UNECA channeled all communication on statistical matters through the CSO in Salisbury.

The UNECA adopted the recommendations of the conference and designed a programme of statistical activities for Africa. This included helping member countries prepare five-year statistical development plans, establish regional co-operation based on specific country needs, formulate a programme for training statisticians and organise sub-regional centres to conduct seminars in statistics.³⁵ It also included establishing a system for the exchange of data between African countries, preparing a bibliography of statistical publications of African countries and spearheading the adoption of international standards in the production of statistics, such as the System of National Accounts (SNA), the Standard International Trade Classification (SITC) and the International Standard of Industrial Classification (ISIC).³⁶

The activities of the UNECA reflect the influence of external forces on the production of data in Northern Rhodesia as the federal CSO began to align its works with the programmes of the Commission. The CSO adopted the UNECA's statistical programme and influenced the three territories to take part in the formulation of the five year plan of federal statistical development to

³⁴ *Ibid*, 4, 13-19.

³⁵ *Ibid*, 25.

³⁶ *Ibid*.

be executed in the period 1961-5. Each sectoral department in Northern Rhodesia forwarded its proposals, which were debated at length before the CSO drew the final plan and submitted it to the UNECA.³⁷ The planned activities were numerous but can be summarised as incorporating Africans in population censuses, conducting a quarterly employment enquiry, holding a regular sample census of African agriculture, expanding the coverage of the industrial census, compiling a consolidated education dataset, migrating external trade statistics to the BTN and holding a census of distribution.³⁸ The plan became the framework for statistical development in the Federation. Section 3.5 alludes to the implementation of some of the planned activities. Even when the Federation collapsed in 1963, the three territories continued to implement the plan and this explains why some statistical works in Northern Rhodesia continued to be done by the Rhodesian CSO until 1965. Hence, the UNECA influenced the production of statistics in the region. The Commission also began to harmonise the format of statistical documents so as to facilitate the compilation of its own reports to the United Nations.

3.4. Development Planning in Northern Rhodesia

Development planning continued to be a crucial factor in the production of statistics in Northern Rhodesia. The federal government prepared four-year development plans that outlined its capital projects and funds allocated to them. These were ‘revised every second year and projected a further two years ahead.’³⁹ In 1958, for example, the 1957-61 development plan was extended to 1959-63. The plans included projects like construction of the Kariba power station, investment in the

³⁷ NAZ/MF 1/3/209 NRG, Comments by Ministries on the Original Draft Programme of Development in Federal Statistics, 1960.

³⁸ ‘Five Year Programme of Development in Federal Statistics’, 1961-5, 1-8. The BTN was a classification system for imports that was used internationally to specify tariffs on imported goods until 1976 when it was replaced by the Customs Co-operation Council Nomenclature.

³⁹ V.W. Breilsford, *Handbook of the Federation of Rhodesia and Nyasaland* (London: Cassell and Company Ltd., 1960), 683.

Rhodesia Railways and the construction of roads, bridges, postal, telegraphic, health and education facilities. Similarly, territorial governments outlined their expenditures in four-year development plans. For Northern Rhodesia, the 1957-61 plan allocated £35,478,000 to housing, administration, water, irrigation, power, roads, bridges, African education and veterinary infrastructure.⁴⁰ The practice of multi-year development plans, which originated in the colonial period, continued in the postcolonial era despite suspensions in some years.

The importance of statistics in development is evident from the 1963 debates of the Legislative Council. By that time, it was clear that the Federation would collapse and Northern Rhodesia would proceed to self-government. Hence, the context of development planning had swung towards catering for the needs and welfare of Africans in an independent nation. Thus, in their advocacy for a census of all Africans in 1963, members of the Council stressed the significance of population data in development planning. J.M. Michelo, the Member for Zambezi, supported the planned census noting that ‘we have before us a major development plan, which could not be put to proper effect if the government did not know [the] exact population’ and ‘the more accurate we are to the figure, the easier it would be for us in our planning.’⁴¹ Arthur Wina, Secretary to the Minister of Finance, stressed that the census should go beyond a head count to collect details on birth, housing, education, employment and wages, which would be crucial in economic and social planning.⁴² Similarly, C.E. Cousin, Minister of Lands, welcomed the census as it would yield data for planning. He stated: ‘We need this to plan our housing requirements, our schools, the amenities of the towns; to find out what the employment position ... is and the distribution of the population

⁴⁰ *Ibid*, 684.

⁴¹ *Legislative Council Debates*, 22 January 1963, 109-110. Also see 168-9 & 257-8.

⁴² *Legislative Council Debates*, 22 January 1963, 258.

... so that proper planning can be carried on.’⁴³ Thus, the need for accurate data for development planning was used to justify allocations to the census of Africans.

3.5. Enquiries held and Statistics Compiled

With the creation of the Federation, some statistics were centralised and compiled by the CSO and they were published showing only federal aggregates. These included balance of payments and external trade data. Industrial statistics followed the same course up to 1962 when the CSO began to publish territorial figures. This was possible because by that year, it had become clear that the Federation would collapse. Other data like those on population, agriculture, cost of living, health and education showed both federal and territorial sectors. This section explores the various datasets compiled and specific enquiries held in Northern Rhodesia as none of the existing studies puts together a detailed analysis of such works in one narrative. It argues that the CSO became increasingly engaged in the production of statistics as it collected data in the federal and concurrent sectors while increasing its role in territorial data. This expanded Northern Rhodesia’s dependence on Southern Rhodesia. Though there was an improvement in the quantity and quality of statistics, the data also had some weaknesses that spilled-over from the years prior to Federation.

3.5.1. Population Statistics

During the federal period, population statistics were concurrent business and they were collected by the CSO with the help of the territorial government. Data on non-Africans and urban employed Africans were collected through censuses while those on the rest of the Africans came from administrative sources and demographic surveys. Colonial officials explained the lack of a full-scale census of Africans in terms of inadequate funds and shortage of census personnel. For

⁴³ *Legislative Council Debates*, 31 January 1963, 527.

example, in 1962, T.C. Gardner, the Minister of Finance, explained that a countrywide census had been elusive due to its complexity that made it impossible to conduct in view of the shortage of staff.⁴⁴ This reflects the limited statistical capacity, the weakness of the colonial state and its political preference to enumerating Europeans in contrast to counting Africans. In the absence of a census of all Africans, the CSO held an urban African demographic survey in April-May 1960 in eight main towns.⁴⁵ The towns were chosen because of their significance to the political economy of Northern Rhodesia, being in the most economically and politically active region where mining, commerce and African nationalists were most active. Also, it was easier to collect data from them, than from rural areas, due to their linkage by rail and road. The last point suggests that their selection was partly based on ease of access rather than purely statistical considerations.

The demographic survey was conducted alongside the budget survey. In preparation, Director of Census and Statistics, D.W. Hill, visited the Copperbelt on 19 May 1960 and addressed an executive meeting of the Mineworkers Union to solicit for their support.⁴⁶ This was in view of rumours that Africans might sabotage the surveys as they associated them with the Monckton Commission, which was constituted to investigate the political climate and recommend the future of the Federation. Besides yielding the total population of urban Africans, the demographic survey collected data on the population distribution by age, sex, birth place, geographical area, occupation and wages.⁴⁷ It also collected data on education, family size, number of families, housing particulars and adequacy of accommodation. These were the same categories on which the 1956

⁴⁴ *Legislative Council Debates*, 31 July 1962, 1253-1254.

⁴⁵ The towns were Lusaka, Kabwe, Ndola, Kitwe, Luanshya, Mufulira, Chingola and Livingstone. NAZ/MLSS 1/9/60 Press Communique No. 65, Northern Rhodesia Government to make Budget and Demographic Survey of Urban Africans, 14 April 1960.

⁴⁶ *Ibid*, 'Copperbelt Africans come under Survey' Extract from *Northern News*, 20 May 1960.

⁴⁷ *Ibid*, Press Communique No. 65, Northern Rhodesia Government to make Budget and Demographic Survey of Urban Africans, 14 April 1960.

census collected data on Europeans, Asians and Coloureds. Therefore, the data facilitated comparisons between the African population and the other races.

As explained by Mulenga, the survey methodology involved systematic sampling in African areas and cluster sampling in European areas. Enumerators visited every tenth house in each part of the towns surveyed.⁴⁸ One notable development from the survey was that for the first time, Africans were used as enumerators and supervisors (under European controllers) in contrast to the previous survey that used only Europeans.⁴⁹ This was partly because by 1960, the colonial state became inclusive of Africans in response to African nationalism. Besides, African enumerators were preferred because they would easily speak to their fellow Africans and collect the data required while Europeans would be resented as associates of the Federation. However, most enumerators were recruited on part-time basis and they collected data in the evenings and weekends.⁵⁰ This undermined the importance of the census as it gave enumerators the impression that the enquiry was not as important as their employment. Hence, although the surveys were designed along international standards, they were often modified to suit local conditions.

In the absence of a countrywide population census before 1963, the federal government also collected data through the census of non-Africans and employed Africans. It was held in May 1956 and September 1961 as part of the federal census conducted under the supervision of a Regional Census Director appointed from Salisbury and posted to Northern Rhodesia.⁵¹ This indicates the dependence of Northern Rhodesia on Southern Rhodesia as well as the dominance of the latter in the Federation. Within the territory, District Commissioners continued with the role of organising

⁴⁸ Mulenga, 'Zambia', 340.

⁴⁹ NAZ/MLSS 1/9/60 Press Communique No. 65, Northern Rhodesia Government to make Budget and Demographic Survey of Urban Africans, 14 April 1960.

⁵⁰ Ibid.

⁵¹ NAZ/EP 3/13/7 Census Circular to all District Commissioners, 14 February 1956.

the census in their districts. In 1956, they delineated their respective districts into enumeration areas following the *General Instructions to Supervisors* in consultation with district maps and plans of enumeration areas.⁵² They also determined the number of enumerators required, supervised fieldwork and transmitted census returns to the Regional Census Director.

The 1961 census clearly illustrates the conditions in which data were collected and the methods used. The federal government initially planned to include all Africans in the census as part of the five year statistical development plan. However, this proved to be difficult as the CSO was unable to enumerate the entire federal population at once due to human resource constraints. As a result, it was decided to do the all-races census in phases starting with Southern Rhodesia and to include only employed Africans in Northern Rhodesia.⁵³ The decision clearly shows the federal bias in favour of that Southern Rhodesia. Priority was given to enumerating all Africans in Southern Rhodesia in order to boost white settler dominance there. However, African nationalists in that country opposed the census and encouraged boycott of enumerators charging that the whites would use the data to increase their power over Africans.⁵⁴ Hence, the census only proceeded after the state arrested the census opponents and this weakened the exercise and the resultant data.

The shortage of personnel to collect data remained an issue. In Northern Rhodesia, the 1961 census of non-Africans and employed Africans was conducted by 44 supervisors and 314 enumerators who covered 389 enumeration areas.⁵⁵ Though they covered mostly urban areas, the districts were quite vast to enumerate. They collected data such as name, age, income, size of house and distance

⁵² Ibid.

⁵³ *Mufulira African Star*, June 1961, 6.

⁵⁴ Josiah Brownell, *The Collapse of Rhodesia: Population Demographics and the Politics of Race* (London: I.B. Tauris & Co. Ltd., 2011), 27-8.

⁵⁵ GRZ, *Final Report of the September 1961 Census of Non-Africans and Employees* (Lusaka: CSO, 1965), 1.

to work.⁵⁶ Initial analysis was done by supervisors locally before the forms were sent to Salisbury where they were further scrutinised alongside those of Southern Rhodesia and Nyasaland.⁵⁷ The census estimated the number of employed Africans in Northern Rhodesia at 236,422 and that of non-Africans at 30,826, a total of 267,248.⁵⁸ As Hill notes, data on Africans were recorded in three broad age groups; under 21, between 21 and 45, and over 45 years but with no information on fertility and mortality.⁵⁹ In view of increased urbanisation in the territory, the census yielded data on the distribution of the employed urban population.

The census of all Africans was finally held in Northern Rhodesia in May-June 1963 covering the whole country simultaneously to reduce double counting.⁶⁰ This marked the fulfilment of the five year federal statistical development plan in which the proposal was made. The census was preceded by a mapping scheme aimed at delineating the enumeration areas. Again, district boundaries were followed in demarcating the areas, which numbered 525 in all from all the 44 districts. The enumeration areas were then stratified into urban, state land and customary land areas. Mulenga explains that ‘census frames for the urban and state land farming areas were based on various cadastral and township maps. For the customary lands, the enumeration areas were based on chiefs’ areas.’⁶¹ The census engaged 302 supervisors, 420 team leaders and 2,377 enumerators, which were much larger figures than had been previously used and this was enabled by the use of Africans. On the census day, enumerators collected data from all dwellings on a *de facto* basis, counting people where they were rather than in their usual households.⁶²

⁵⁶ Brownell, *Collapse of Rhodesia*, 26.

⁵⁷ GRZ, *Final Report of the 1961 Census*, 1.

⁵⁸ *Ibid*, 3.

⁵⁹ Hill, ‘Demography of Zambia’, 1.

⁶⁰ *Nchanga Weekly*, 4 October 1963, 4 and *Legislative Council Debates*, 31 July, 1962, 1254.

⁶¹ Kay, *Maps of the Distribution and Density of African Population in Zambia*, 4 and Mulenga, ‘Zambia’, 340.

⁶² GRZ, *Final Report of the May/June 1963 Census of Africans in Zambia* (Lusaka: CSO, 1966), 3 and Hill, ‘Demography of Zambia’, 1.

In contrast to Southern Rhodesia where Africans fiercely opposed enumeration, the census was not resented as much in Northern Rhodesia. This was because in the latter, it was held when the near-end of Federation had partly pacified Africans with a promise for independence. Hence, African nationalists saw the census as a vital source of data they would use in the near future. Their representatives in the Legislative Council, such as J.M. Michelo and Arthur Wina, strongly supported the census in the January-February 1963 session.⁶³ Besides, members of the Council explained the benefits of the census to chiefs in rural areas, whom they urged to enlighten their subjects and ask for their co-operation. This was part of a publicity exercise held countrywide using posters, fliers, interest films and newspapers, similar to a vigorous campaign used to encourage African co-operation during Ghana's 1960 population census.⁶⁴

Being beyond a headcount, the census had a wider subject coverage than previous sources. It reported data on birth, education, employment, housing, occupation and the age-sex composition of the population by province.⁶⁵ However, similar to the 1961 census data, the 1963 figures were presented in three age groups only; under 21, between 21 and 45, and over 45 years, which as the CSO noted, were largely unreliable.⁶⁶ The census revealed that the total population of Northern Rhodesia as of June 1963 was approximately 3½ million of whom 3,410,000 were Africans, 76,000 Europeans and about 10,000 Asians and Coloured persons.⁶⁷ It revealed that the bulk of Africans were in rural areas where they practiced subsistence agriculture or cattle keeping, while a minority 223,000 were in paid employment at the end of 1962.⁶⁸

⁶³ See *Legislative Council Debates*, 17 January 1963, 110 and *Legislative Council Debates*, 22 January 1963, 258.

⁶⁴ GRZ, *Final Report of the 1963 Census*, 3. Gerardo Serra, "'Hail the Census Night': Trust and Political Imagination in the 1960 Population Census of Ghana", *Comparative Studies in Society and History*, 60, 3 (2018), 659-87.

⁶⁵ CSO, *Workbook on Demographic Analysis: Middle Level Course* (Lusaka: CSO and UNECA, 1984), 21.

⁶⁶ Hill, 'Demography of Zambia', 1.

⁶⁷ *Northern Rhodesia: An Economic Survey* (Lusaka: Barclays Bank DCO, 1964), 22. Also see GRZ, *Final Report of the 1963 Census*, 8.

⁶⁸ *Ibid.*

The 1963 census data had some weaknesses. For example, to get the total population, the CSO amalgamated the results of the 1961 and 1963 censuses by simple addition.⁶⁹ Thus, the final figures were underestimates since the assumption was that no growth in the non-African population occurred between 1961 and 1963. Kay notes that the CSO ‘readily acknowledges their limitations; in particular, the quality of details ... on personal characteristics is recognised to be poor.’⁷⁰ Data on age were also inaccurate as many Africans were illiterate and there were very few birth records from which to determine their age. Besides, though Hill argues that it is impossible to determine the quality of data since no fieldwork problems were reported and no post-enumeration survey was held, the CSO explains that some figures were less satisfactory ‘due to lack of adequately trained staff to carry out the necessary checks and the scrutiny of the data.’⁷¹ This again demonstrates the statistical incapacity that characterised Northern Rhodesia. It is likely that the 1963 census underestimated the African population, but to a lesser extent than previous counts. The implication of undercounting is that per capita figures calculated using the estimates were inaccurate.

Despite the weaknesses of the 1963 census, it is indisputable that the exercise yielded better data on the population and its distribution than figures obtained from previous sources. It unveiled the huge inaccuracies of earlier population data. Kay notes that the census ‘recorded a total population of 3,417,580 which is about 35 per cent in excess of the official estimate for ... 1963.’⁷² That the number of Africans was 35 percent higher than previously estimated reflects the inaccuracy of the methods used earlier. For example, the CSO observes that results of the 1950 demographic survey were inconsistent with those of the 1963 census. Whereas the survey estimated an annual

⁶⁹ Hill, ‘Demography of Zambia’, 1.

⁷⁰ Kay, *Maps of the Distribution and Density of African Population in Zambia*, 1.

⁷¹ Hill, ‘Demography of Zambia’, 1-2 and GRZ, *Final Report of the 1963 Census*; see ‘Preface.’

⁷² Kay, *Maps of the Distribution and Density of African Population in Zambia*, 1. Preliminary results of the census placed the total population at 3,411,200 as compared to an official estimate of 2,520,000 for June 30, 1963 and 255,000 Africans in employment as opposed to 215,000 arrived at in March 1963. See *Nchanga Weekly*, 4 October 1963, 4.

population growth rate of 2.5 percent, the census found it to be understated and put it at three percent.⁷³ In Southern Rhodesia, Brownell elucidates that pre-census estimates of the 1962 African population were underestimated by over 20 percent.⁷⁴ Thus, the unreliability of previous methods of enumerating Africans was not peculiar to Northern Rhodesia.

3.5.2. Agricultural Statistics

The formation of the Federation altered the organisation of the collection of agricultural data as it led to a racial division of responsibilities between the federal and territorial governments. The territorial Agriculture Department collected data on Africans while the CSO compiled figures on European agriculture. Statistics on Africans were mainly compiled from district sources as well as records of receipts and sales of the Maize Control Board and the Cattle Marketing and Control Board. The Department continued to use its district staff to collect data for its annual reports. In addition to these sources, it held *ad hoc* surveys on African agriculture such as that conducted in the Sala reserve of Mumbwa District in 1954-5 to assess the efficacy of state-aided African agricultural schemes.⁷⁵ The holding of these surveys was a fulfilment of the five year programme of federal statistical development that was formulated under the influence of the UNECA. Thus, the external influence combined with the increased interest of the colonial state in African agriculture to stimulate the conduct of agricultural surveys.

The agricultural survey of the Sala reserve was held from October 1954 to January 1955 to yield data for evaluating peasant schemes that supported crop rotation, contour ridging and composting among African farmers. It collected data for the 1953-4 agricultural season. The reserve was

⁷³ GRZ, *Final Report of the 1963 Census*, 1.

⁷⁴ Brownell, *Collapse of Rhodesia*, 29.

⁷⁵ See A.M. Morgan Rees and R.H. Howard, *An Economic Survey of Commercial African Farming among the Sala of the Mumbwa District of Northern Rhodesia* (Lusaka: Government Printer, 1955), ix and NAZ/MAG 2/9/11 African Improved Farming Survey (Southern Province), 1955.

chosen for the survey due to its location near Lusaka where the office of the agricultural economist was stationed. Besides, the Department wanted to benefit from the familiarity which the Agricultural Supervisor of the reserve, R.H. Howard, had with local African agriculture and the trust that Africans had in him after working with them in the peasant improvement scheme.⁷⁶ The Department felt that if Howard was put in the forefront, the African farmers would co-operate and provide the required data. The practice of establishing trust with the local people before enumeration was also used in Ghana in the 1950s where the government held pre-survey meetings with subjects to explain the purpose of the enquiries and convince them that their goal was to collect 'knowledge about agricultural yields, labour costs and other sociological data.'⁷⁷ The meetings informed Africans that the data were important for improving their agriculture. Nonetheless, in the Ghana case, some Africans remained hostile to enumerators and as Serra elucidates, house-to-house visits were met with such hostility that abuse of data collectors sometimes turned violent and the enquiries were nearly aborted. In some cases, enumerators abandoned compasses, chains and other measuring equipment that had aroused African suspicion and used second-best methods of measuring plots, involving estimation by pacing and observing the general shapes of the fields.⁷⁸

In the Sala reserve, the survey used a questionnaire that African farmers responded to in question-and-answer sessions. Each respondent was visited by a European enumerator accompanied by an African agricultural councilor who helped as a translator.⁷⁹ As in the case of Ghana, farm sizes were pace-measured. This was the only practicable method for estimating the acreage of irregular African fields. In all, 66 records were analysed out of which 28 were from improved farmers and

⁷⁶ Rees and Howard, *Economic Survey among the Sala*, ix.

⁷⁷ Serra, 'Uneven Statistical Topography', 13.

⁷⁸ *Ibid.*

⁷⁹ Rees and Howard, *Economic Survey among the Sala*, 44.

38 from unimproved farmers.⁸⁰ Improved farmers were those on peasant improvement schemes who had adopted new agricultural technology while unimproved farmers were those who were not on the schemes. The Agriculture Department rated the question-and-answer method as very satisfactory and asserted that ‘due to the relatively simple structure and organisation of the African farm there is every likelihood that the information obtained is of high order accuracy.’⁸¹ It further elucidates that the success of the survey was partly aided by the experience of Howard and the trust that African farmers in the reserve had in him. Howard helped to design a questionnaire suitable to agricultural activities in the reserve and African farmers were reported to have co-operated with enumerators. Thus, the survey yielded a lot of data.

Despite its success, the survey faced some difficulties. Firstly, logistical hurdles delayed it until the rain season. Hence, there were delays ‘in the collection of field data due to the commencement of planting, bad roads and swollen rivers.’⁸² The survey team also admitted that it was hard to ascertain the extent to which the samples represented the improved and unimproved farmers. Yet, they estimated that the survey enumerated 53 percent of all registered improved farmers in the area. The team also observed that ‘the sample of unimproved farms is above the average for the survey area as a whole.’⁸³ Furthermore, they noted that the degree of accuracy varied from one farm to another depending on the data requested. Nonetheless, the Department argued that farm to farm errors within each sample evened out resulting in fair accuracy.⁸⁴

Statistics on European agriculture were collected through an annual census. From September 1956, data on European agriculture became a federal concern and the CSO began to hold an annual

⁸⁰ *Ibid*, 10.

⁸¹ *Ibid*, 9.

⁸² *Ibid*, 9.

⁸³ *Ibid*, 10.

⁸⁴ *Ibid*.

census of agricultural and pastoral production in the entire Federation.⁸⁵ Although there was an expansion of agricultural statistics, the data had some limitations. Firstly, the census excluded a number of small but important farms. It excluded holdings under 25 acres and so omitted a number of orchards and poultry farms. The 1955-6 census report cautions that the figures compiled ‘should not therefore be regarded as totals for Northern Rhodesia as a whole, but only for farmers occupying more than 25 acres.’⁸⁶ Also, the list of farmers and addresses that the CSO used for mailing forms was not frequently revised and contained some outdated information. The CSO also bemoaned the lack of co-operation from some farmers who were unwilling to disclose certain data for fear of being divulged to their competitors. Thus, the census faced high non-response cases. Unsurprisingly, therefore, the CSO explains that as far as crop and livestock data were concerned, full coverage was not guaranteed.⁸⁷ However, it attempted to improve the completeness of data by making estimations from returns of previous seasons.

3.5.3. Industrial Statistics

These statistics included data on mining and secondary industries. The mines continued to be critical sources of statistics as mining was the bedrock of the Northern Rhodesian and federal economies. As Munene notes, the mines were ‘the major sources of federal and territorial revenues in the form of income tax and heavy customs duties on imported supplies.’⁸⁸ The copper industry took its place as the Federation’s largest source of revenue especially with the enormous copper boom that began in the late 1940s and spanned much of the 1950s. Butler elucidates that during

⁸⁵ FRN, *Report on the Agricultural Production and Pastoral Production of Southern Rhodesia, Northern Rhodesia and Nyasaland, 1955-6* (Salisbury: Government Printer, 1958), 58.

⁸⁶ *Ibid*, 4.

⁸⁷ *Ibid*, 58-63.

⁸⁸ Hyden Munene, ‘A History of Rhokana/Rokana Corporation and its Nkana Mine Division, 1928-1991’, PhD Thesis, University of the Free State, 2018, 76.

the boom years ‘copper mining contributed nearly two-thirds of the Federation’s total export earnings, as well as accounting for more than one-third of the public revenues accruing to the governments of the Federation.’⁸⁹ Southern Rhodesia was the major beneficiary from the copper revenue. In the period 1953-60, for example, Northern Rhodesia contributed about £70 million in tax revenue towards infrastructure development in Southern Rhodesia and Nyasaland the bulk of which went to Southern Rhodesia.⁹⁰ This confirmed the suspicions of Africans that the Federation would financially benefit the white settler minority disproportionately.

With the significance of the copper industry to the federal and territorial governments, there was more attention to data on the sector to improve its legibility. This was stimulated by the need for the state to assert its control on the activities of the private companies involved. One important development in the mining statistics sector was the beginning of the *Northern Rhodesia Chamber of Mines Year Book* that was published annually in the years 1955-63.⁹¹ It was compiled by the Chamber of Mines featuring the most pertinent statistics on the industry, which reflected the interests of the companies, the territorial government and the federal government jointly and separately. An analysis of the year books indicates the significance of the Chamber in the compilation and dissemination of data to its members and other stakeholders. Its main sources of data were the mining companies as they periodically submitted returns containing data on various aspects of the industry. However, the Chamber obtained statistics on the contribution of the copper

⁸⁹ L.J. Butler, *Copper Empire: Mining and the Colonial State in Northern Rhodesia, c.1930-1964* (New York: Palgrave Macmillan, 2007), 210. Also see Robert Griswold, ‘The British Policy of Partnership in the Federation of Rhodesia and Nyasaland’, PhD Thesis, Syracuse University, 1959, 89.

⁹⁰ Butler, *Copper Empire*, 210.

⁹¹ ZCCM 8.5.4J *Northern Rhodesia Chamber of Mines Year Books, 1955-63* (Kitwe: NRCM). The main copper mining companies in the NRCM were Mufulira Copper Mines Ltd., NCCM Ltd., Rhokana Corporation Ltd., Roan Antelope Copper Mines Ltd. and, from 1957, Chibuluma Copper Mines Ltd.

industry to federal GDP from reports of the CSO.⁹² Besides, data on copper production by leading world producers were sourced from the *Monthly Bulletin of Non-Ferrous Metal Statistics* in Britain while that on copper prices were obtained from the London Metal Exchange.⁹³

The creation of the Federation accelerated the growth of secondary industries in British Central Africa, particularly in Southern Rhodesia where many firms and adequate infrastructure for their expansion already existed.⁹⁴ Industrial growth was stirred by the large domestic market that the Federation created. Foreign capital especially from South Africa, Britain and the United States poured in and boosted the growth of manufacturing. For example, 'in the period 1953-56 investment from the United States increased from £1.05 million in 1952 to £3.02 million in 1953, and was worth an estimated £5 million by 1954.'⁹⁵ The federal government needed to assess the growth of secondary industries since they were crucial sources of employment and income. In addition, there was need to regulate the activities of private companies involved in mining. Hence, it was essential to collect data from them. As argued by Kalpagam in the case of India, statistics were critical in devising modalities for economic regulation and intervention.⁹⁶

The federal government centralised the collection and publication of industrial statistics under the responsibility of the CSO. It held an annual census of industries from 1955 for the entire Federation and published the aggregates without showing territorial figures.⁹⁷ This practice continued until 1962 when the CSO started publishing territorial industrial data separately in line with the five

⁹² Ibid, *Northern Rhodesia Chamber of Mines Year Book 1956*, 59 and *Northern Rhodesia Chamber of Mines Year Book 1963*, 22.

⁹³ Ibid, *Northern Rhodesia Chamber of Mines Year Book 1959*, 21.

⁹⁴ Ian Phimister and Victor Gwande, 'Secondary Industry and Settler Colonialism: Southern Rhodesia before the Unilateral Declaration of Independence', *African Economic History*, 45, 2 (2017), 91.

⁹⁵ Ibid, 92.

⁹⁶ U. Kalpagam, 'The Colonial State and Statistical Knowledge', *History of the Human Sciences*, 13, 2 (2000), 49.

⁹⁷ FRN, *Report on the Census of Industrial Production, 1955* (Salisbury: CSO, 1958), FRN, *Report on the Census of Industrial Production, 1958-59* (Salisbury: CSO, 1961) and FRN, *The Census of Industrial Production in 1960 and 1961, Mining, Manufacturing, Electricity and Water Supply* (Salisbury: CSO, 1963).

year plan of federal statistical development that advocated for their separate publication. The figures were compiled to as far back as 1955 and published in 1965.⁹⁸ Since the primary focus of this study is on territorial data, the proceeding discussion examines the collection of industrial statistics in Northern Rhodesia for the 1962-3 censuses.

The 1962 industrial census was held by the CSO while the 1963 census was conducted by its Lusaka branch. The two censuses were held along the lines of the previous federal censuses covering mining, quarrying, manufacturing, construction, electricity and water.⁹⁹ They covered private firms, corporations, statutory bodies, local and central government enterprises and departments engaged in production. Listing of firms was based on the register made using data from the 1961 employment census. The employment enquiry itself was held in fulfilment of the proposal made in the five year plan of federal statistical development.¹⁰⁰ The data were collected by mailed questionnaires that were sent to enterprises throughout the Federation.¹⁰¹ Besides, the CSO deployed field officers to firms with difficulties in completing forms and they collected returns that were unduly delayed. Also, CSO staff with knowledge in statistics and accounting extracted data from records of firms that were slow in rendering returns.¹⁰² However, the delays created a backlog of work that dragged the publication of the industrial census reports until 1965. This means that these statistics were not available at the time they were required and that the government had to rely on preliminary and incomplete data.

⁹⁸ GRZ, *The Census of Production in 1962: Mining, Manufacturing, Electricity, Water Supply and Construction, with Comparisons back to 1955* (Lusaka: CSO, 1965) and GRZ, *The Census of Industrial Production in 1963: Mining, Manufacturing, Electricity, Water Supply and Construction, with Comparisons back to 1955* (Lusaka: CSO, 1965).

⁹⁹ GRZ, *Census of Industrial Production, 1962*, 1.

¹⁰⁰ *Ibid*, 2.

¹⁰¹ Phimister and Gwande, 'Secondary Industry and Settler Colonialism', 95.

¹⁰² GRZ, *Census of Industrial Production, 1963*, 3.

The 1962-3 census data were compiled using definitions and groupings adopted from the United Nations ISIC that were explained in the metadata to the reports.¹⁰³ This also signifies the influence of the five year programme of federal statistical development that had proposed the use of the classification system and it shows the significance of international influences on data production. However, strict adherence to global standards was not possible because of the insufficiency of input data and conceptual difficulties. For each of the main industries, the census reported the number of production units, gross output, net output, number of employees and sectoral earnings.¹⁰⁴ These were the same aspects that the census covered in Southern Rhodesia. Phimister and Gwande add that the census also yielded data for assessing foreign capital in secondary industries.¹⁰⁵ Table 3.1 as follows summarises the results of the industrial census covering the years 1955-63 for mining and quarrying.

Table 3.1: Results of the Census of Industrial Production: Mining and Quarrying, 1955-63

Sector	Year	Number of units	Gross output (£'000)	Net output (£'000)	Total number employed	Wages and salaries (£'000)
Mining and quarrying	1955	26	118,993	98,162	48,307	18,712
	1956	25	136,624	111,656	50,415	24,686
	1957	26	105,409	78,779	50,150	23,024
	1958	31	83,690	54,777	46,735	21,610
	1959	29	110,004	83,641	45,515	23,972
	1960	27	139,947	104,450	50,017	28,737
	1961	27	135,743	100,970	50,317	28,878
	1962	26	141,607	91,692	49,780	31,233
	1963	21	137,649	100,634	48,638	31,758

Source: GRZ, *Census of Industrial Production, 1963*, 2.

¹⁰³ *Ibid.*

¹⁰⁴ GRZ, *Census of Industrial Production, 1962*, 7-12.

¹⁰⁵ Phimister and Gwande, 'Secondary Industry and Settler Colonialism', 95.

One of the limitations of the census that weakened the quality of data was the incompleteness of the register of industrial establishments since it was based on the employment enquiry. The result was that those industrial units with no employees were excluded from the census.¹⁰⁶ In order to remedy the situation, the CSO attempted to update the list from time to time by adding some firms and excluding others when data from other sources were available. In the opinion of CSO officials, these omissions were insignificant. However, it is argued here that the so-called “insignificant” effect combined with other omissions to increase the degree of underestimation. For instance, the census did not include African home industries in the villages and it insufficiently covered African industries in urban centres because of difficulties in collecting data.¹⁰⁷ On the contrary, a combination of these omissions must have significantly weakened the accuracy of the data.

Other challenges included continued delays in the submission of returns and non-response by firms. In 1955 when the federal census started, many industrialists faced challenges in completing the forms and this caused serious delays. In many instances, forms were not obtained until CSO officers visited the erring firms some of which were large mining companies whose omission would seriously weaken the data.¹⁰⁸ Thus, their figures were estimated from monthly returns they sent to the Mines Department while others were guessed. Also, in order to improve response rates and timeliness, the CSO sent strong reminders to erring companies. For example, from October 1959 to mid-February 1960, it sent several reminders to Nchanga Consolidated Copper Mines to submit forms for 1958 that were due on 30 September 1959.¹⁰⁹ Similarly, several reminders were sent to the same company from October to December 1960 before it submitted the 1959 forms.

¹⁰⁶ *Ibid.*

¹⁰⁷ *Ibid.*

¹⁰⁸ FRN, *Census of Industrial Production, 1955*, 1.

¹⁰⁹ ZCCM 5.4.2E Director of Census and Statistics to Nchanga Consolidated Copper Mines, 23 November 1959 and 16 February 1960.

These challenges were also faced in the 1962 and 1963 censuses. Though two months were initially set aside for completion and return of the forms, ‘a considerably longer time was spent visiting firms and finalising returns by correspondence.’¹¹⁰ In view of these challenges, it is concluded here that most figures from the censuses understated sectoral contribution to national income.

3.5.4. Cost of Living Indices

In the federal period, some cost of living data were compiled by the CSO in association with the Labour Department and others by the Rhodes-Livingstone Institute. The CSO held household budget surveys to collect baseline data for the African cost of living index. Serra argues that budget surveys increased in Africa from the 1950s as colonial officials used them to yield systematic data on the welfare and expenditure of urban populations.¹¹¹ However, Ross argues that budget surveys were political tools that colonial officials used to justify the “second colonial occupation” by posting the image that the colonies were prospering. He views them as tools that colonial governments attempted to use to tighten their grip on Northern Rhodesia.¹¹² Serra notes that the surveys were biased towards areas of political and economic value.¹¹³ Indeed, in Northern Rhodesia, they were confined to urban areas that were more economically viable. However, it is also worth noting that rural areas were more problematic to enumerate in the absence of reliable methods and sources of data and this contributed to the urban bias of the surveys.

The rise in the cost of living and the tense political climate associated with African resentment of the Federation affected the conduct of household budget surveys and shaped the production of price indices. In the federal period, the CSO held two African budget surveys in Northern Rhodesia

¹¹⁰ GRZ, *Census of Industrial Production*, 1962, 4. Also see Appendix to GRZ, *Census of Industrial Production*, 1963.

¹¹¹ Serra, ‘Uneven Statistical Topography’, 15.

¹¹² Ross, ‘Politics of Household Survey Research’, 7.

¹¹³ Serra, ‘Uneven Statistical Topography’, 9-27.

in 1953 and 1960. The June 1953 survey was held in the towns of Mufulira, Chingola, Kitwe, Ndola, Luanshya, Broken Hill, Lusaka and Livingstone to generate baseline data for assessing the cost of living.¹¹⁴ The government wanted to know how Africans in towns spent money and find a reliable method for measuring changes in commodity prices. Conciliators in industrial disputes and the mining companies also bemoaned ‘the absence of a proper method of measuring changes in the cost of living of Africans.’¹¹⁵ They argued that the existing consumer price indices were inaccurate since they were based on items purchased by Europeans and omitted many articles that Africans bought and included others they did not buy. Hence, the 1953 survey was held as part of the statistical experiments of the CSO. Its methodology involved a representative group of families in each town who responded to a questionnaire. Each group comprised families whose heads had different jobs, numbers of children and expenditure levels. Each family was:

visited daily by an African enumerator who asked what money had been spent that day, what items had been bought ... and agreed the answers with cash receipts and cash balance of the family on that day. The answers recorded by enumerators were checked by ... supervisors and finally by the Statistical Department before they were accepted and included in the results of the survey.¹¹⁶

The survey involved 462 families divided into five groups arranged in order of their expenditure sizes indicating the averages for 20 percent of families with the lowest expenditures, the next 20 percent families and so on up to the top 20 percent. The first group had 92 families spending up to

¹¹⁴ NAZ/MLSS 1/9/46 The African Consumer Prices Index: A Statement dealing with African Family Expenditure in the Urban Areas of Northern Rhodesia, June 1953 and March 1954.

¹¹⁵ Ibid, Circular Minute No. E/1006/2/1 of 7 May 1953 and Press Release: African Family Budget Survey, 7 May 1953.

¹¹⁶ Ibid, The African Consumer Prices Index: A Statement dealing with African Family Expenditure in the Urban Areas of Northern Rhodesia, June 1953 and March 1954. The survey yielded data on family expenditure on food, rent, fuel and light, household stores and durables, clothing and footwear, drink and tobacco, among others.

£4/4/6d. per month, the second 93 families with expenditure between £4/4/6d. and £5/17/3d, the third 92 families spending between £5/17/3d. and £7/17/8d, the fourth 93 families with expenditure between £7/17/8d. and £10/16/3d. and the fifth had 92 families spending £10/16/3d and over.¹¹⁷ Based on the notion that not the same kinds of goods were bought by Africans in different seasons, it was decided to hold a check survey in summer to test the results of the winter data. The survey was held in March 1954 and due to its limited purpose, it was confined to Kitwe, Chingola, Ndola, Lusaka and Livingstone. It verified the data collected by the earlier survey and showed that seasonal differences in expenditure were not much.¹¹⁸ This shows how assumptions of colonial officials influenced data collection and it disproved their expectation that seasonal differences in expenditures recorded in Europe also occurred in the colonies.

The 1953 urban budget survey shows the political nature of statistics. It indicated that the rise in the cost of living exceeded the incomes of urban families. As a result, the government hesitated to publish the full report of the survey as late as 1960.¹¹⁹ In justifying their hesitation, colonial officials explained that due to its complexity, the report might be misinterpreted and some data taken out of context to foment industrial unrest and political tension.¹²⁰ They feared that if African unions accessed the report, they might incite their members to strike or engage in political activities against the government. Also, colonial officials noted that the table on the standard family budget that was intended for benchmarking purposes only might be treated as the actual requirement for an African family and abused to underrate the cost of living allowance.¹²¹ The CSO used the survey

¹¹⁷ Ibid.

¹¹⁸ NAZ/MLSS 1/9/60 Letter from Director of Census and Statistics to the Economic Secretary to the Government of Northern Rhodesia, 30 April 1958 and NAZ/MLSS 1/9/46 The African Consumer Prices Index: A Statement dealing with African Family Expenditure in the Urban Areas of Northern Rhodesia, June 1953 and March 1954.

¹¹⁹ NAZ/MLSS 1/9/60 Secretary for the Ministry of Finance to Secretary of the Ministry of Labour, 3 March 1960.

¹²⁰ Ibid.

¹²¹ ZCCM 14.1.6F Minutes of the 34th Executive Meeting held at Kitwe, 3 October 1957 and NAZ/MLSS 1/9/60 From Secretary of the Ministry of Finance to Secretary of the Ministry of Labour, 3 March 1960.

results to rebase the cost of living indices to 1955 and maintained that base up to 1960 when it held another budget survey. Table 3.2 shows indices for selected months in the period 1955-8.

Table 3.2: The Quarterly Cost of Living Indices for Africans, 1955-8

Month and year	Consumer Price Index
December 1955	100
March 1956	102
September 1956	103
December 1956	104
March 1957	105
September 1957	104
December 1957	103
March 1958	105
June 1958	106

Source: MLSS 1/9/60 Government Notice No. 1758 of 1959.

The Rhodes-Livingstone Institute also held surveys and explored the impact of industrialisation, labour migration and urbanisation on Africans.¹²² They focused on the line of rail where they gathered some data on the conditions of urban societies that were to be used for strengthening state control over Africans and for social and economic planning.¹²³ Musambachime and Schumaker both argue that in the 1950s, colonial officials suspected the Rhodes-Livingstone Institute of supporting African nationalists.¹²⁴ Hence, the government distrusted some of their data. Even so, this thesis argues that some of the Institute's data still influenced major state policies. This is illustrated using the sociological survey held by D.G. Bettison on the living conditions of Africans

¹²² For discussions of industrialisation and urbanisation, see among others, Phyllis Deane, 'The Industrial Revolution in British Central Africa', *Civilisations*, 12, 3 (1962), 331-55 and Helmuth Heisler, 'The Creation of a Stabilised Urban Society: A Turning Point in the Development of Northern Rhodesia/Zambia', *African Affairs*, 70, 279 (1971), 125-45.

¹²³ Ross, 'Politics of Household Budget Research', 7.

¹²⁴ M.C. Musambachime, 'The University of Zambia's Institute for African Studies and Social Science Research in Central Africa, 1938-1988', *History in Africa*, 20 (1993), 245 and Lynette Schumaker, 'A Tent with a View: Colonial Officers, Anthropologists, and the Making of the Field in Northern Rhodesia, 1937-1960', *Osiris*, 11 (1996), 250-54.

in comparison with the Poverty Datum Line (PDL).¹²⁵ The concept of PDL was initially applied to urban areas of South Africa in 1941 by Edward Batson, a Professor of Sociology at the University of Cape Town. He defined the PDL as ‘an estimate of income needed by any individual household if it is to attain a defined minimum level of health and decency.’¹²⁶ The measure was a minimum and only included food, clothing, housing, fuel, lighting and transport to work, which were considered to be immediate survival needs. In 1944, Batson also conducted research in Salisbury and calculated the PDL of its residents.¹²⁷

Batson’s methods were adopted by Bettison and applied to urban areas of the Rhodesias and Nyasaland in 1957-60. At the request of the Northern Rhodesia African Housing Board, Bettison held a social survey of Africans in Lusaka in 1957 to yield data on the degree of African urbanisation, economic differentiation, housing and ability to pay rent.¹²⁸ He held similar surveys in Blantyre and Salisbury. The Lusaka survey comprised a sample of ten percent of households in the targeted compounds where a questionnaire was used to collect data on size of household, actual income and income required to maintain a household at minimum standard of health and decency compared with the PDL.¹²⁹ Bettison arrived at a PDL of £11.2.5d. per month and used it to assess the extent of poverty and affluence in the compounds by determining the degree to which each household was below or above the PDL. However, the survey had some weaknesses and data on income were unreliable as most Africans did not keep records of their expenditure.¹³⁰ For example,

¹²⁵ NAZ/MLSS 1/9/60 Report to the Northern Rhodesia African Housing Board on the relationship between household composition and the needs of households at Poverty Datum Line standards of living of unauthorised and private compounds in Lusaka, 1957.

¹²⁶ Ross, ‘Politics of Household Budget Research’, 11.

¹²⁷ *Ibid*, 12.

¹²⁸ D.G. Bettison, ‘The Poverty Datum Line in Central Africa: Comparative Material from Northern Rhodesia, Southern Rhodesia and Nyasaland’, *Rhodes – Livingstone Journal*, 27 (1960), 4.

¹²⁹ NAZ/MLSS 1/9/60 Report to the Northern Rhodesia African Housing Board on the relationship between household composition and the needs of households at Poverty Datum Line standards of living of unauthorised and private compounds in Lusaka, 1957.

¹³⁰ *Ibid*.

traders did not record their living and transport costs and lacked reliable data. Besides that, for households comprising more than one family living together, many wage earners did not know how much went to the common purse and what they retained for personal use.¹³¹ Hence, Bettison assumed that the wage earners contributed all their income to the common purse. Also, the survey excluded women's contribution from sources other than trade and employment and thus ignored their income from gardens, firewood and beer sales.¹³² Therefore, this study notes that the Institute faced the same challenges of inadequate sources of information as the CSO.

The survey showed that the majority of African families lived below the PDL. While the PDL was £11.12.5d, the average wage of African labourers was £7.10.8d. and the government paid £4.14.3d. to unskilled workers.¹³³ Deficits of family income over the PDL were reported elsewhere. A study by Gibson under the South African Institute of Race Relations earlier in 1954 showed a similar deficit in Johannesburg where the average family income was £15.18.11d. per month compared with an average expenditure of £22.13.7d.¹³⁴ When the results of the Lusaka survey were out, government officials feared that if Africans accessed them, they would demand a substantial wage rise. As already noted, colonial officials also hesitated to publish the 1953 budget survey for fear of industrial unrest and political agitation. However, they published Bettison's report in 1960 noting that a wage rise was inevitable. These contrasting events show how the government influenced statistical work. Informed by Bettison's study, among other factors, the government decided to form the Minimum Wages Board which would 'take cognisance of the report and its

¹³¹ Ibid.

¹³² Ibid.

¹³³ NAZ/MLSS 1/42/9 Northern Rhodesia African Housing Board: Report of the Sociological Survey of the African Population, 1958.

¹³⁴ Bettison, 'Poverty Datum Line in Central Africa', 5.

contents and ... give the material therein most careful consideration.'¹³⁵ Hence, the government used the data to revise the minimum wage and raise the wages of all its employees in 1958-9. In Nyasaland, results of the Blantyre survey were used to justify the revision of the minimum monthly wage from 2s. to 2s. 6d. in 1959.¹³⁶ Evidently, colonial officials continued to use data produced by Rhodes-Livingstone Institute despite the latter's sympathies with African nationalists.

The CSO held its second urban African household survey in May-June 1960. The survey collected data on the income of African families and single men in different income levels and their expenses on 'mealie meal, meat, bread, sugar, shirts, dresses, pots, pans, soap and under goods.'¹³⁷ The data were used to assess their expenditure patterns and the value of calories, proteins and other nutrients contained in the foodstuffs they purchased compared internationally accepted standards. Besides, together with data from the demographic surveys, they were used to estimate the size of the African market for individual commodities in urban areas.¹³⁸ Selected African families and single men provided data on their income and expenditure and their houses were chosen without knowledge of the occupants. The survey engaged about 120 African enumerators organised in groups of seven to ten, each led by an African supervisor. They collected data on purchases of listed items for five weeks, daily, in the evenings and weekends.¹³⁹ In Ghana, Serra argues that the use of self-filled forms in surveys was not possible as 'widespread illiteracy made unviable the option of sending printed questionnaires and asking people to compile them.'¹⁴⁰ Thus, face-to-face data collection

¹³⁵ NAZ/MLSS 1/42/9 Northern Rhodesia African Housing Board: Report of the Sociological Survey of the African Population, 1958.

¹³⁶ Bettison, 'Poverty Datum Line in Central Africa', 4.

¹³⁷ NAZ/MLSS 1/9/60 Press Communique No.65, Budget and Demographic Survey of Urban Africans, 14 April 1960.

¹³⁸ Ibid and *Data on the African Market in Northern Rhodesia* (Lusaka: Central African Mail Limited, 1963), 9-12.

¹³⁹ NAZ/MLSS 1/9/60 Press Communique No.65, Budget and Demographic Survey of Urban Africans, 14 April 1960.

¹⁴⁰ Serra, 'Uneven Statistical Topography', 13.

was preferred to minimise under- or over-reporting. Similarly, self-filled forms were found to be unideal for enumerating Africans in Northern Rhodesia due to low literacy levels.

The 1960 budget survey faced challenges related to the hostile political climate in which it was held, particularly with the rise of African nationalism and especially their resentment of the Federation. Africans associated the survey with the 1960 Monckton Commission that was assessing the political climate to recommend the future of the Federation. They opposed the Commission in solidarity with African nationalist organisations that boycotted it on suspicion that it was meant to authenticate the Federation.¹⁴¹ Also, some Africans speculated that the survey was designed to determine the time and money they spent on beer so as to reduce their wages or send them back to their villages. Thus, before it started, some stakeholders expressed doubt about the possibility of its success, fearing that it might fuel industrial and political unrest.¹⁴² In fear of industrial strife, mining companies excused themselves from association with the survey. They informed the CSO that it was crucial for them not to appear to the Africans to have anything to do with the survey. As a result, ‘the companies will not be able to assist in the recruitment of field workers or to carry advertisements in their African newspapers or to make any mine office or transport available for the use of the field workers.’¹⁴³ In view of political tension, the CSO decided to start the surveys in towns outside the Copperbelt from the end of April and proceed to the mining towns later. Yet, in Lusaka, some enumerators were harassed and beaten as Africans accused them

¹⁴¹ NAZ/MLSS 1/9/60 ‘Copperbelt Africans come under Survey’, Extract from *Northern News*, 20 May 1960 and Roy Welensky, *Welensky’s 4000 days: The Life and Death of the Federation of Rhodesia and Nyasaland* (London: Collins, 1964), 156-208.

¹⁴² ‘First Report on Urban African Budget Surveys held in Northern Rhodesia’, May to August, 1960, 1.

¹⁴³ ZCCM 14.1.6F Secretary of the Northern Rhodesia Chamber of Mines to the Director of Central Statistical Office, 27 April 1960.

of working for the Monckton Commission thinking that they were registering names of people who supported the Federation.¹⁴⁴

In order to overcome hostility, colonial officials sought the help of the Northern Rhodesian African Mineworkers' Union and launched a campaign on the Copperbelt to persuade Africans about the benefits of the survey.¹⁴⁵ The CSO also decided to use Africans as enumerators in order to solicit the co-operation of Africans and to minimise the cost of the survey. Partly due to the campaign, most of the budgets were collected. Out of the targeted 640 budgets in the May-June survey, 636 were obtained and 609 were used.¹⁴⁶ After concluding the surveys, the CSO rebased the consumer price indices to 1962, which was used up to December 1968. Rebasing was meant to eliminate the effects of price inflation and yield updated indices. Table 3.3 shows the quarterly African consumer price indices from December 1960 to the end of 1963. It should be noted from Table 3.2 and Table 3.3 that the rise in the African cost of living in the late 1950s and early 1960s was not as much as qualitative data suggests. From 1955 to 1958, the cost of living rose by six percent while the overall increase over the years 1960-63 was about one percent. It is possible, as Ross asserts, that the CSO might have interfered with the figures in order to reduce political and industrial agitation among Africans.¹⁴⁷ Studies by scholars of the Rhodes-Livingstone Institute showed a considerable mismatch between living costs and African incomes.

¹⁴⁴ For details, see NAZ/MLSS 1/9/60 'Copperbelt Africans come under Survey', Extract from *Northern News*, 20 May 1960 and 'First Report on Urban African Budget Surveys held in Northern Rhodesia', May to August, 1960, 1.

¹⁴⁵ *Ibid.*

¹⁴⁶ 'First Report on Urban African Budget Surveys held in Northern Rhodesia', May to August, 1960, 1.

¹⁴⁷ Ross, 'Politics of Household Survey Research', 7.

Table 3.3: African Consumer Price Indices, 1960-63

Year	Month	Consumer Price Index	
		Food items	All items
1960	June	100.9	100.3
	September	99.5	99.5
	December	100.7	100.4
1961	March	102.0	101.3
	June	100.8	100.3
	September	100.6	100.2
	December	1.00	1.00
1962	March	104.7	102.8
	June	102.5	102.3
	September	99.9	100.2
	December	101.4	101.7
1963	March	102.6	102.7
	June	99.9	100.9
	September	100.0	100.6
	December	99.7	100.9

Source: ZCCM 12.7.4B Consumer Price Index Numbers for Urban Families, April 1964.

The data collected by the 1960 budget survey were criticised by the mining companies as they observed evidence of ‘slipshod work both in the field and in the office, which must cast serious doubt on the results of the survey.’¹⁴⁸ In their opinion, if fieldworkers were unable to obtain correct data on rent from mine employees, which data were readily available, the accuracy of other figures that were not as easier to obtain was doubtful. Nonetheless, they supported the publication of the report since its main findings favoured their business. Also, the marginal increases in the cost of living index reported by the CSO were conducive to the companies as they implied a marginal rise in the respective allowance. This shows that the private sector sometimes accepted faulty statistics from the government when the data favoured their business. In view of the defective weighting system in their own cost of living index, the mines had since June 1957 used CSO indices to

¹⁴⁸ ZCCM 14.1.6F Letter from the Secretary of the Northern Rhodesia Chamber of Mines to General Managers and Managers of Mining Companies, 6 March 1960.

calculate the allowances as they regarded it to be more scientific than theirs.¹⁴⁹ Also, while their index was limited to the Copperbelt towns, the CSO index went beyond to include other towns like Broken Hill, Lusaka and Livingstone and was more representative of the urban centres. Besides, the Chamber of Mines noted that the CSO's index was compiled by an independent body.¹⁵⁰ This was due to concerns by the colonial government and the Northern Rhodesian African Mineworkers Union that the mining companies deliberately understated the cost of living through which they underrated the cost of living allowance.¹⁵¹ Hence, they switched to the CSO's index, which was viewed to be independent since it was compiled from Salisbury, outside Northern Rhodesia. Yet, as already noted, even the CSO index understated the cost of living.

3.5.5. National Accounts Statistics

In the 1950s and 1960s, national accounts increasingly became central in understanding production and distribution in African economies.¹⁵² By 1958, the East African Statistical Department in Nairobi had compiled a series of national accounts of that region, especially for Kenya. In Central Africa during the federal period, national accounts data were centralised at Salisbury and compiled primarily for the federal government. In particular, balance of payments were made strictly federal and showed only aggregates for the entire Federation.¹⁵³ This followed the abolition of territorial monetary areas and their merger into a single unit in 1954, after which external monetary transactions were regarded as occurring between other countries and the Federation, not with

¹⁴⁹ Ibid, Letter from the Secretary of the Northern Rhodesia Chamber of Mines to all Secretaries of Mining Companies, 18 April 1957 and Minutes of the Executive Committee Meeting of the Northern Rhodesia Chamber of Mines held at Kitwe on 19 June 1957 and Letter from Secretary of the NRCM to General Secretary of the Mines Staff Association, 26 June, 1957.

¹⁵⁰ Ibid.

¹⁵¹ NAZ/MLSS 1/9/60 Secretary of the Ministry of Finance to Secretary of the Ministry of Labour, 3 March 1960.

¹⁵² Alden Young, 'Measuring the Sudanese Economy: A Focus on National Income Growth Rates and Regional Inequality, 1959-1964', in Morten Jerven (ed.), *Measuring African Development Past and Present* (New York: Routledge, 2015), 48.

¹⁵³ See, for example, FRN, *Balance of Payments, 1954-9* (Salisbury: CSO, 1960), 1.

individual territories. This underscores the influence of the Federation on statistical development in the region. As for national income, a few tables showed territorial figures and data for Northern Rhodesia can be extracted from there.¹⁵⁴ Therefore, the ensuing discussion focuses on national income data which, unlike balance of payments, had a territorial component.

The main source of national accounts data was the national income and balance of payments enquiry held annually by the CSO.¹⁵⁵ Other data were obtained from administrative sources and various enquiries like the industrial census, employment enquiry and agricultural surveys. Besides, Serra notes that household surveys yielded some data for calculating the national income.¹⁵⁶ The first national income and balance of payments enquiry was held in 1958 and collected data for as far back as 1954. The enquiry covered firms in mining, agriculture, forestry, quarrying, finance, manufacturing, construction, distribution, communication and electricity production with nominal capital not less than £20,000.¹⁵⁷ It excluded commercial banks, financial houses, insurance companies and building societies from which data were sourced on *ad hoc* basis.¹⁵⁸ The enquiry covered firms incorporated in the Federation and branches of companies incorporated abroad.

The national income data indicated the contributions of Africans, Europeans as well as Asians and Coloureds in different sectors. These included agriculture, mining, manufacturing, building and construction, electricity and water, communication and transport, distribution, banking and insurance, real estate, administration and defence, education and health, domestic service and

¹⁵⁴ *Ibid*, 63-71.

¹⁵⁵ FRN, *Report on Results of the National Income and Balance of Payments Questionnaire sent to Companies Operating in the Federation in 1960* (Salisbury: CSO, 1961).

¹⁵⁶ Serra, 'Uneven Statistical Topography', 12.

¹⁵⁷ FRN, *Report on Results of the National Income and Balance of Payments Questionnaire sent to Companies Operating in the Federation in 1961* (Salisbury: CSO, 1962) and FRN, *Report on Results of the National Income and Balance of Payments Questionnaire sent to Companies Operating in the Federation in 1962* (Salisbury: CSO, 1963).

¹⁵⁸ FRN, *National Income and Balance of Payments*, 1960.

African subsistence household services.¹⁵⁹ They also included contributions of wages and salaries, unincorporated firms, interest, dividends and profits, rent, income from abroad, transfers from government, net operating profits of companies and statutory bodies, rents and royalties, and government and personal income from property. Besides, there were data on GDP contributions from various taxes. Collectively, the data informed state decisions on sectoral investment. This is also articulated by Young in the case of Sudan.¹⁶⁰ The expenditure side indicated expenses on goods and services, subsidies, pensions, individuals, local authorities, educational bodies and statutory bodies. It also included loan payments to the federal government, Rhodesia Railways, statutory bodies, local authorities and industry as well as investments.¹⁶¹

National income figures were expanded in 1960 so much that it was decided to publish territorial datasets in a supplementary volume.¹⁶² This was possible because a lot of data were collected in that year. Taking advantage of the data, the CSO made vigorous revisions to the figures for the previous two years in order to update them and adhere closely to theoretical concepts and principles.¹⁶³ Among the changes made was the inclusion of estimates of losses and the correction of taxable profits for capital allowances, debenture and other interest allowed as deductions. Also included were estimates of subsistence production, changes in stocks, private consumption expenditure and building output.¹⁶⁴ In 1961, further revisions were made to previous estimates as more data were obtained from the employment enquiry. For example, the CSO revised the 1960 tables on capital formation, especially those compiled according to industrial use and sector, as

¹⁵⁹ FRN, *National Income and Balance of Payments*, 1962, 65.

¹⁶⁰ Young, 'Measuring the Sudanese Economy', 46-8.

¹⁶¹ FRN, *National Income and Balance of Payments*, 1962, 67-70.

¹⁶² FRN, *National Accounts, 1954-60* (Salisbury: CSO, 1961). See 'Preface.'

¹⁶³ FRN, *National Accounts of the Federation of Rhodesia and Nyasaland, 1954-9* (Salisbury: CSO, 1960). See 'Preface.'

¹⁶⁴ *Ibid.*

they were found to be unsatisfactory since they had been compiled from inadequate data.¹⁶⁵ It was in this context that the CSO used asterisk like “preliminary”, “provisional”, “incomplete”, and so on, which Jerven alludes to in his analysis of Zambian national accounts.¹⁶⁶

One of the limitations of national income statistics was the low response rate to the enquiry that was often below 60 percent and weakened the quality of data. In 1960, for example, questionnaires were sent to about 2,500 firms out of which returns were received from 1,380, a response rate of 55.2 percent.¹⁶⁷ In 1961, forms were addressed to about 2,900 companies out of which 1,817 or 62.7 percent responded, while in the 1962 enquiry, about 4,000 questionnaires were sent with 2,104 or 52.6 percent returned.¹⁶⁸ The CSO argued that its data were valid since the low response was offset by the fact that most of the larger firms responded to the enquiry. It estimated that the 1960 questionnaire covered 85.3 percent of the total operating profits of companies.¹⁶⁹ The respective figures for the 1961 and 1962 enquiries were estimated at 90.4 percent and 89 percent. In this way, the CSO asserted that the enquiry attained a high response rate in Northern Rhodesia due to the predominance of the copper mining industry.¹⁷⁰

The arguments of the CSO represent the dependence of the economy on mining and the reluctance of the government to stimulate significant growth in secondary industries. Nevertheless, it is argued here that the resort to operating profits to explain how the low response rates were balanced off was only a convenient way for the CSO to validate its datasets. Besides, other sources of national income data like agricultural, industrial, employment and household enquiries all had low

¹⁶⁵ FRN, *National Accounts of the Federation of Rhodesia and Nyasaland, 1954-61* (Salisbury: CSO, 1962).

¹⁶⁶ Morten Jerven, *Economic Growth and Measurement Reconsidered in Botswana, Kenya, Tanzania and Zambia, 1965-1995* (Oxford: Oxford University Press, 2014), 155.

¹⁶⁷ FRN, *National Income and Balance of Payments, 1960*, 3.

¹⁶⁸ FRN, *National Income and Balance of Payments, 1961* and FRN, *National Income and Balance of Payments*, 1.

¹⁶⁹ FRN, *National Income and Balance of Payments, 1960*, 3.

¹⁷⁰ *Ibid*, 4.

response rates. In view of unsatisfactory response rates and omissions caused by conceptual inadequacies, it is argued here that the national income figures were underestimates. Thus, decisions on planning, investment and service delivery were based on inaccurate data. Similarly, in the case of Sudan, Young notes that ‘The estimator was inevitably forced to rely on arbitrary escapes from theoretical to practical difficulties.’¹⁷¹ This indicates the influence of local dynamics on the international frameworks promoted by the United Nations.

3.5.6. Health and Education Statistics

Statistics on education and health were obtained from administrative sources by the departments concerned. These datasets were also affected by the Federation. Responsibility for data on education was divided according to race. From 1954, the education of Whites, Coloureds and Asians in the three territories became a federal matter.¹⁷² For this reason, the responsibility over statistics on non-African education was moved to the CSO that compiled them from data submitted by school head teachers through termly and annual reports to the territorial Department of European Education.¹⁷³ The data showed enrolment by gender, age and standard reached and the teaching staff by sex and qualification. These statistics showed federal aggregates but also included territorial disaggregation. On the other hand, African education was a territorial matter and data on the sector were compiled by the African Education Department. Parker notes that each territory administered ‘its own African school system up to but not including university level.’¹⁷⁴ As a corollary, statistics on African education were compiled by the territorial administration using the

¹⁷¹ Young, ‘Measuring the Sudanese Economy’, 49.

¹⁷² Franklin Parker, ‘Education in the Federation of Rhodesia and Nyasaland’, *The Journal of Negro Education*, 30, 3 (1961), 288-9.

¹⁷³ NAZ/ED 1/2/43 FRN, Report on African Education, 1954, NAZ/ED 1/3/209 UNECA Statistical Survey: Review of Existing Data, 1960 and NAZ/ED 1/22/1 Secretary-Designate for European Education to the Director of Education, 21 April 1954.

¹⁷⁴ Parker, ‘Education in the Federation’, 288.

African Education Department staff. They continued to be published in the annual reports, which included number of schools by type, children enrolled by sex, type of school and standard as well as number of teachers by type of school and qualification.¹⁷⁵

Health statistics were collected concurrently by the territorial and federal governments. At territorial level, they were collected by the Health Department and included in appendices to its annual report. Medical staff in charge of government, missionary and mine hospitals furnished data annually to Provincial Medical Officers who forwarded them to the Director of Medical Services.¹⁷⁶ The figures were consolidated and incorporated in the annual report following the format of the federal medical report in which they were finally incorporated. Thus, the compilation of health data was influenced by the expectations of the federal government that prescribed the required standards and format. The territorial data included figures on admissions, outpatient attendance, staffing, beds, total in-patient days and deaths.¹⁷⁷ Others were on the training of medical personnel and they were sourced from training centres. There was an improvement in the collection of health data in this period and fewer challenges were reported as compared to the years prior to Federation. A survey of medical returns indicated very few cases of delay and even mine hospitals were reportedly supplying full data to the Provincial Medical Officer.¹⁷⁸

3.6. Conclusion

This chapter examined statistical works conducted in Northern Rhodesia in the federal period. It argued that the creation of the Federation affected the organisation of the data collection system

¹⁷⁵ NAZ/ED 1/3/209 UNECA Statistical Survey: Review of Existing Data, 1960.

¹⁷⁶ NAZ/MH 1/3/108 Director of Medical Services to all Provincial Medical Officers, 19 November 1958. In the same file, see Letter from Provincial Medical Officer for Central Province to Director of Medical Services, 5 March 1959.

¹⁷⁷ Ibid.

¹⁷⁸ Ibid, Provincial Medical Officer for Central Province to Director of Medical Services, 5 March 1959 and Health Department Annual Report, 1958-59.

and increased the role of the CSO in data production. The UNECA also contributed to statistical development as it guided the CSO and other African statistical bodies on international concepts and methods. Broadly, the chapter illuminates the influence of regional political dynamics and global factors in statistical development. Statistical enquiries increased with the growing global, federal and territorial demand for data. Although territorial departments continued to compile data, the statistical capacity of Northern Rhodesia remained weak due to the delayed formation of a statistical branch. Thus, while sectoral departments were primary data collectors, the CSO increasingly conducted the technical works as the former lacked the capacity to gather and process data scientifically due to lack of personnel and equipment. This made Northern Rhodesia increasingly dependent on Southern Rhodesia to conduct technical statistical work.

Statistics from the Rhodes-Livingstone Institute and mining companies to some extent counter-balanced the dependence of Northern Rhodesia on data from the CSO. The chapter incorporated the contribution of the Rhodes-Livingstone Institute and the Chamber of Mines to the production of statistics. These generated important data that were availed to the government through their reports or responses to CSO surveys. However, the thesis noted that the data compiled by these bodies were confined to their sectors of interest. The Chamber collected statistics on the mining industry while the Institute focused mainly on household budget and demographic data. Thus, colonial officials depended more on statistics from the CSO and sectoral departments, a combination of which had a more holistic subject coverage. Also, data from other sources were subjected to analysis by the CSO or sectoral departments before they were used by the government. Thus, it was in the federal period that the CSO became the main data producer, the chief informant of government and a symbol of state modernity. This was partly aided by the United Nations through the UNECA that coordinated the work of official statistical institutions.

Chapter Four

A Fragile Footing: The Production of Statistics in Zambia during the first decade of Independence, 1964-74

4.1. Introduction

After their attainment of independence, many African states expanded their capacity to collect statistics during the 1960s and 1970s in pursuit of development and as a symbol of modern statehood.¹ Amidst the independence euphoria, they opened statistical offices or expanded the existing ones by mobilising manpower, equipment and finances for them. The result was a rapid increase in the collection of statistics, most of which were used for compiling national accounts data that were used to diagnose areas requiring government attention and to assess development efforts.² Such was the case in Zambia. New demands following the attainment of independence and the desire by the political leadership to build a modern developed state combined with external dynamics, mainly the role of the United Nations, to stimulate statistical development.

This chapter analyses the main developments in the construction of numerical data in Zambia from the attainment of independence in 1964 up to 1974 just before the Zambian economy was hit hard by the economic crisis that negatively affected statistical development. It examines the influence of the independence euphoria and the support of the United Nations on the development of the Zambian statistical service. The chapter also elucidates the organisation of the service and the major works it did. It argues that in pursuit of development and modern statehood, Zambia

¹ Morten Jerven, *Poor Numbers: How We are Misled by African Development Statistics and What to Do About it* (Ithaca and London: Cornell University Press, 2013), 5 & 35-42 and Pali Lehohla, 'Statistical Development in Africa in the Context of the Global Statistical System', Paper for the Thirty-Ninth Session of the United Nations Statistical Commission (UNSO), 26-29 February 2008, 2.

² Jerven, *Poor Numbers*, 35.

expanded its data collection machinery with the support of external institutions. Hence, this period witnessed an expansion of statistical infrastructure, personnel, equipment and funding that stimulated a rapid increase in data. Yet, unlike other works that simply celebrate the expansion of data in the aftermath of independence, this chapter argues that the development of the statistical service had a fragile footing as it largely depended on expatriates and the support of the United Nations to the Zambian CSO. Besides, the CSO faced challenges of inadequate sources of data and delayed responses from data providers and this led to a backlog in the processing and publication of statistics by the mid-1970s.

4.2. Independence and Statistical Development

On 24 October 1964, Zambia became independent from Britain. Both the leadership and the general populace were optimistic of better things to come in terms of development. They saw independence as the end of the deprivation endured under colonial rule. The Zambian government sought to improve the living conditions of the indigenous people by providing employment opportunities and social services like education, health and transport.³ Hence, the government engaged in more robust development plans than those of the colonial period targeting the perceived needs of indigenous Zambians. Prior to its major development plans, Zambia implemented the Emergency Development Plan (1964-5) and the Transitional Development Plan (1965-6) that served as a bridge between colonial and postcolonial aspirations.⁴ While the former plan sought to adjust and complete activities in the Colonial Development Plan, the latter birthed new projects on the construction of education, health and transport facilities especially in rural areas to improve

³ NAZ/MF 1/3/240 Transitional Development Plan, 7 September 1964 and 'A Transitional Plan, No Time to Waste in Zambia', *Financial Times*, 19 January 1965.

⁴ GRZ, *Third National Development Plan 1979-83* (Lusaka: National Commission for Development Planning, 1979), iii.

the welfare of the rural masses, curtail the rural-urban drift and reduce urbanisation.⁵ However, the plans did not achieve much due to delays in implementation caused by the shortage of technical and skilled manpower, rises in tender prices during the implementation of economic sanctions against Rhodesia, and challenges in selecting building sites.⁶ Hence, some projects were postponed, others abandoned and the savings directed to other works.

In view of the role of planning in development, President Kenneth Kaunda formed the Office for National Development Planning in 1965, which coordinated the making and working of development plans.⁷ Independent Zambia's First National Development Plan was executed in 1966-71. Chipungu notes that it sought to expand agriculture, increase employment, improve wages and living standards and forge equality between urban and rural dwellers and between whites and blacks.⁸ It was based on the report of an economic survey held a few months before independence by experts from the United Nations led by the economist Dudley Seers (*The Seers Report*), which proposed enhanced government involvement in the economy to expand infrastructure, agriculture and resources for regional development.⁹ The Second National Development Plan (1972-6) pursued these aims further and tried to diversify agriculture and industry so as to promote self-reliance and self-sustained economic growth. However, this was

⁵ NAZ/MF 1/3/240 Transitional Development Plan, 7 September 1964 and 'A Transitional Plan, No Time to Waste in Zambia', *Financial Times*, 19 January 1965. Also see GRZ, *Zambia's Guideline for the Next Decade: His Excellency the President, Dr. Kenneth Kaunda, Addressing the National Council of UNIP at Mulungushi*, 9 November 1968 (Lusaka: Government Printer, 1968), 26.

⁶ NAZ/MF 1/3/240 Transitional Development Plan: Delays in Implementation of Projects, 15 September 1965.

⁷ NAZ/NCDP 2/7/1 From Permanent Secretary of National Development Planning to Permanent Secretary for Ministry of Finance, 7 January 1966 and Andrew Sardanis, *Africa, Another Side of the Coin: Northern Rhodesia's Final Years and Zambia's Nationhood* (London: I.B. Tauris & Co., 2003), 164.

⁸ Samuel N. Chipungu, *The State, Technology and Peasant Differentiation in Zambia: A Case Study of the Southern Province, 1930-1986* (Lusaka: Historical Association of Zambia, 1988), 136.

⁹ F.E. Mulenga, 'Crises of Expectations: Workers Struggles in Zambia, 1964-2011', PhD Thesis, University of Zambia, 2017, 49. *Report by the UN/ECA/FAO Economic Mission (Seers Report)* (Ndola: Falcon Press, 1964).

unsuccessful due to the implementation of economic sanctions on Rhodesia which led to a serious shortage of supplies in Zambia.¹⁰

The formulation and execution of development plans required a strong database to inform decision making. Thus, the state increased its efforts to develop a statistical system that would collect data for the government and other players.¹¹ This made the CSO a central player in the development agenda in which it worked with the Office for National Development Planning and from 1965, there was considerable liaison between them. Two United Nations experts who visited and advised the country on the organisation of the statistical system in that year suggested the creation of a committee of officers from the CSO and the Office to coordinate the operations of the former with the needs of the latter.¹² With the recognised role of statistics in development, the state and external agencies provided financial and manpower support to the CSO. In terms of personnel, the CSO grew from a strength of less than 50 in 1964 to 78 in 1966, 112 in 1971 and 150 in 1974 while its recurrent funding rose from K482,500 in 1970 to K705,020 in 1974.¹³ Yet, both the staffing and funding were inadequate for the CSO to perform its work without difficulties.

Development planning shaped statistical priorities as some statistical programmes were shelved in order to collect data required for development planning. In 1971, for example, the CSO stated that priority was given to data related to the formulation of the Second National Development Plan and the CSO's activities were 'geared to providing necessary data required for the Plan.'¹⁴ As

¹⁰ GRZ, *Third National Development Plan, 1972-6* (Lusaka: NCDP, 1979), iii.

¹¹ GRZ, *Department of Census and Statistics Report for the Eighteen Months ended 31 December, 1967* (Lusaka: CSO, 1969), 1 and NAZ/MF 1/2/53 First National Development Plan December Review, 28 November 1966.

¹² UNECA, 'Summary of Progress Reports of the Fourth Conference of African Statisticians', Addis Ababa, 8-17 November 1965, 49.

¹³ NAZ/MF 1/3/242 D.H. Bhate to Permanent Secretary of the Ministry of Finance, 11 August 1966, GRZ, *Department of Census and Statistics Annual Report for the year ended December 1974* (Lusaka: CSO, 1976), 1 and Appendices to GRZ, *Department of Census and Statistics Annual Reports, 1968-74*.

¹⁴ GRZ, *Department of Census and Statistics Annual Report for the year 1971* (Lusaka: CSO, 1973), 1.

illustrated later in this chapter, the prioritisation of data related to the Second Plan was such that some of the statistical activities scheduled for 1971 were suspended to pave way for work related to the plan. Besides, because of priority given to the Second National Development Plan, the CSO was unable to participate in international conferences and seminars on statistics in that year.¹⁵ This was partly due to shortage of staff as the officers available could not adequately cater for all activities without negatively affecting data collection for the plan.

Independence also ushered a legal framework for statistical development as the government passed the Census and Statistics Act, 1964. The Act was an integral part of the statistical system as it set up the CSO and gave it the mandate to collect, compile and circulate data.¹⁶ The Director of Census and Statistics was responsible for administering the CSO, holding censuses, coordinating the collection of data and publication of reports. The Act authorised the Director to decide the method of data collection whether to use a census or sample survey and whether to use interviews or self-filled forms.¹⁷ In practice, such decisions depended on the availability of resources and in many cases, the CSO resorted to surveys. The Act compelled respondents to provide data to the CSO and it was an offence to fail to complete a return. Also, failure to return a filled form, non-response and knowingly giving false answers were offences and a guilty person was liable to ‘a fine not exceeding one hundred kwacha or, in default of payment, to imprisonment for a period not exceeding six months.’¹⁸ Yet, as this study argues, the Act was not strictly enforced and so, late

¹⁵ *Ibid.*

¹⁶ GRZ, *Census and Statistics Act, Chapter 425 of the Laws of Zambia* (Lusaka: Government Printer, 1966). The Act was based on the 1955 Census and Statistics Act of the Federation of Rhodesia and Nyasaland. Save for a few changes, the 1964 Act was a reproduction of its predecessor.

¹⁷ GRZ, *Census and Statistics Act Chapter 425 of the Laws of Zambia*, 3-6.

¹⁸ *Ibid.*, 6.

responses and non-response persisted. This was a major weakness in the Zambian statistical setup that encouraged some private firms to persistently resist efforts by the state to collect data.

Shortly after independence came policies of economic nationalisation and Zambianisation of labour that affected statistical development. Nationalisation was supposed to transfer the economy from European and other foreign hands to Zambian control.¹⁹ In trade, it involved the transfer of retail business to Zambians, in the mining sector it entailed the takeover of 51 percent of shares in the mines while the banking sector saw the creation of a national commercial bank to ease credit to Zambians.²⁰ Zambianisation of labour also meant replacing foreign staff in government and industry, including Africans from other countries, by indigenous Zambians. In the mining industry, Munene explains that the government pursued the policy of Zambianisation in order to provide employment to Zambians and increase their economic participation.²¹ As this thesis elaborates, Zambianisation shaped statistical development since specific data were compiled in order to assess progress towards its implementation. Besides, some Zambian personnel were trained in statistics in order to replace expatriates and such staff were, over time, promoted to higher positions.

After the attainment of independence in Malawi and Zambia in 1964, the white settlers in Rhodesia proceeded with the Unilateral Declaration of Independence from Britain in 1965.²² This received widespread international condemnation as it signified the continuation of white minority rule and denial of independence to the black majority. Thus, the United Nations imposed sanctions that

¹⁹ Hugh Macmillan, “‘The devil you know’: The impact of the Mulungushi economic reforms on retail trade in rural Zambia, with special reference to Susman Brothers and Wulfsohn, 1968-80”, Jan-Bart Gewald, Marja Hinfelaar and Giacomo Macola (eds.), *One Zambia Many Histories: Towards a Post-Colonial History of Zambia* (Lusaka: Lembani Trust, 2009), 192-9.

²⁰ *Ibid* and NAZ/EP 4/20/86 Economic Reforms: Takeover of Shops, 18 October 1968. In the same file, see Economic Reforms: Bank Credit, 27 March 1968.

²¹ Hyden Munene, ‘A History of Rhokana/Rokana Corporation and its Nkana Mine Division, 1928-1991’, PhD Thesis, University of the Free State, 2018, 100-104.

²² Andrew Sardanis, *Zambia: The First Fifty Years* (Lusaka: IB Tauris, 2014), 27.

isolated Rhodesia and cut her trade links with other countries. Zambia supported the sanctions in solidarity with other African countries.²³ It also provided military support to African liberation movements in Rhodesia and other Southern African countries. These events and Rhodesia's closure of the border with Zambia in 1973 negatively affected the Zambian economy as the country faced unprecedented shortages of supplies due to Rhodesia's imposition of high transport tariffs on Zambian exports and imports passing through that country. Hence, Zambia engaged in costly remedial measures such as airlifting and road haulage of supplies and the expansion of its road and railway to the east coast through Tanzania.²⁴ The country also engaged in various other costly projects that were a big drain on the country's coffers.

The consequences of the economic crisis on the development of statistics in Zambia were quite profound. Lusaka's long established ties with Salisbury and the dependence of the former on the latter in conducting statistical enquiries were seriously shaken by the stressed relations. Ties with the south were cut and Zambia could no longer look to Rhodesia for co-operation in statistical development. In fact, Rhodesia was also isolated from the UNECA's statistical development agenda and as noted by Woodward, her seclusion later made her lag behind other African countries in terms of technology and methods of data collection and analysis.²⁵ In a similar vein, Zambia could not seek help from South Africa because of strained relations between the two over the former's support to the black liberation movements in the south. South Africa was also isolated because of her racist Apartheid policies. Luckily, Zambia had somewhere to seek help. As the next

²³ *Ibid.*

²⁴ Sardanis, *Another Side of the Coin*, 174-80.

²⁵ For details, see Mark Woodward, 'Training Government Statisticians in Zimbabwe', *Journal of Official Statistics*, 1, 1 (1985), 79-82.

section shows, the country turned more to the United Nations for technical help to develop a statistical service and recruit specialised personnel.²⁶

4.3. The United Nations and Statistical Development in Zambia

The United Nations played a critical role in shaping statistical development by providing assistance with technical experts, funding data collection, sponsoring Zambians for training in essential fields and organising international statistical meetings. These efforts complemented resources from the Zambian government which met most of the routine expenses. As this thesis demonstrates, over time, the government became dependent on external aid even for activities that could be met from local resources. In 1965, the United Nations sent two experts in statistical organisation at the request of the government to advise on the structure of the statistical service.²⁷ They urged the development of a centralised system to meet planning requirements by constructing data in the context of ‘an extended system of national accounts.’²⁸ By 1966, the CSO was already implementing the proposal to construct a comprehensive series of national accounts.

Assistance with technical staff was critical because at the time of its creation, the CSO did not have enough experts in statistics and supporting fields. In fact, the entire Zambian civil service faced a critical shortage of trained staff due to the limited development of education in the colonial period. At independence, the country had only ‘100 university graduates, a bare 1,500 Zambians with secondary school certificates and only 6,000 with junior secondary education.’²⁹ There was no university in the country until 1966 and all the university graduates were trained abroad. The

²⁶ GRZ, *Department of Census and Statistics Annual Report for year ended 30 June 1966* (Lusaka: CSO, 1966).

²⁷ UNECA, ‘Summary of Progress Reports’, 48.

²⁸ GRZ, *Department of Census and Statistics Annual Report, 1966*, 1 and UNECA, ‘Summary of Progress Reports’, 48.

²⁹ Caesar Cheelo, Marja Hinfelaar and Manenga Ndulo, *The Development State in Zambia: Plausibility, Challenges, and Lessons from South Korea* (Ithaca: Cornell Institute for African Development, 2020), 68.

limited number of educated Zambians affected almost all sectors of the government service that had to scramble for the few personnel. The situation was more critical for CSO as the field of Statistics had few trained staff globally. In 1964, the CSO had almost no professional officer, save for the Director, D.H. Bhate, from the United Nations Development Programme (UNDP).³⁰ Hence, the CSO received experts from the UNECA, World Bank, International Monetary Fund (IMF), FAO and UNDP, who supervised the conduct of statistical enquiries and the compilation of data. The experts were highly qualified and held a minimum of a degree in their fields with some having masters and doctoral degrees. However, the number of technical experts was below the requirements of the CSO. For example, there were 13 expatriates in 1968, 13 in 1970, 10 in 1971 and 10 in 1974.³¹ As the technical experts headed most of the branches of the statistical service and supervised most of the works, they sometimes advanced the interests of their affiliate institutions. For instance, technical experts gave priority to data required by the United Nations especially economic statistics like national accounts while data on sectors like education and health that the government equally required were not prioritised by the CSO and they were compiled by sectoral ministries.³²

The United Nations also aided statistical development through its support to the recruitment of Zambians to the CSO in line with the policy of Zambianisation. It helped to sponsor Zambian personnel for training abroad and locally to create a pool of local statisticians. Some schemes were organised by UNECA and others by UNDP. In 1966, a scheme to send at least ten officers per year for training abroad started, with priority given to non-professional staff. Among the main destinations were the UNECA middle-level training centre at Dar-es-Salaam for a diploma in

³⁰ GRZ, *Department of Census and Statistics Annual Report, 1974*, 1.

³¹ See Appendices to GRZ, *Department of Census and Statistics Annual Reports, 1968-74*.

³² GRZ, *Department of Census and Statistics Annual Report, 1966*, 2.

Statistics, the Indian Statistical Institute for intermediate level and the United Nations Training Centre at Washington for various levels.³³ Others were the Netherlands Institute for Social Studies for training in national accounts, Makerere University (Uganda) for degree programmes and the University of York (UK) for degree in Administration and Statistics.³⁴ Locally, personnel were sponsored at the University of Zambia for degrees in Economics and Statistics as well as at the National Institute for Public Administration and Evelyn Hone College that trained junior statistical assistants, typists and clerical officers. Numbers on the scheme increased annually and in 1974, there were 20 personnel on training, eleven abroad and nine locally.³⁵ Yet, these numbers were below the CSO's requirements especially with the policy of Zambianisation. From 1970, senior officers were also sent for postgraduate studies but there was less attention to this level.

Despite the efforts made to train Zambian statisticians and recruit them to the CSO, Zambianisation proceeded slowly partly due to the lower status and pay given to statisticians as compared to officers in other departments and the private sector. The low status of statisticians was a global phenomenon that manifested itself in Zambia and indicates that the country was not implementing a home-grown statistical policy. It prevailed even in developed countries like Canada, Britain and the United States. Worton reveals, for instance, that statisticians in Canada were ranked and paid less than other public officers before they achieved better status.³⁶ It should also be noted that expatriates were paid better than local statisticians by the Zambian government and often had extra allowances from their recruiting agencies.³⁷ Thus, several trained Zambians deserted the CSO for

³³ For actual numbers of personnel sent to these institutions see GRZ, *Department of Census and Statistics Annual Report, 1966*, 1, GRZ, *Department of Census and Statistics Annual Report, 1968*, 1. GRZ, *Department of Census and Statistics Annual Report, 1969*, 2 and Appendix to GRZ, *Department of Census and Statistics Annual Report, 1974*.

³⁴ *Ibid.*

³⁵ See Appendix to GRZ, *Department of Census and Statistics Annual Report, 1974*.

³⁶ D.A. Worton, *The Dominion Bureau of Statistics: A History of Canada's Central Statistical Office and its Antecedents, 1841-1972* (Montreal & Kingston: McGill Queen's University Press, 1998), 119-30.

³⁷ GRZ, *Department of Census and Statistics Annual Report, 1975*, 8-10.

greener pastures. Also, many statisticians were transferred to other departments and this weakened the CSO. The Director of the CSO lamented in 1969 that:

The Department lost the services of a number of Zambian officers below the professional level due to their transfer on promotion to other departments and ministries in Government All the officers who were thus transferred had been working in this Department for a number of years and were trained in statistical work The transfers of these officers deprived the Central Statistical Office of the services of personnel, resulting in considerable difficulties in continuing the work on various inquiries of this Department.³⁸

As the quotation illustrates, transfers and promotions of staff from the CSO to other departments contradicted and frustrated the efforts made to stock the institution with qualified Zambians and weakened the footing of the statistical service. It also demonstrates that despite its recognised significance in national planning, the CSO was sometimes treated as a low priority institution by the Zambian government and this was a policy contradiction.

The United Nations also shaped statistical development in Zambia through its regular and *ad hoc* international gatherings such as conferences, seminars, meetings and workshops. Statistical offices of member countries were obliged to participate in such programmes. Regular gatherings included a UNECA conference of African statisticians, planners and demographers, seminars on agricultural statistics, study group meetings on industrial statistics, workshops on family budget surveys and the World Population Conference.³⁹ In the period 1965-7, staff from the CSO attended many of the gatherings. Though there was a hiatus in the CSO's attendance in the years 1968-70

³⁸ GRZ, *Department of Census and Statistics Annual Report, 1969*, 1.

³⁹ GRZ, *Department of Census and Statistics Annual Reports, 1966-74*.

owing to the direction of resources to the 1969 population and housing census, the participation of the CSO in the meetings resumed in 1971 and increased in the years leading to 1974.⁴⁰ Notably, Zambia hosted a regional meeting organised by FAO on the 1970 World Agricultural Census at which participants discussed problems relating to the census.⁴¹ These gatherings were avenues for sharing information on statistical organisation, data priorities, methodological issues, international standards as well as the progress made and challenges faced in enquiries. Thus, the attendants acquired different kinds of knowledge and skills that were applied and shared locally.

4.4. The Organisation of the Zambian Statistical Service

As prescribed in the Census and Statistics Act, 1964, the central player in the Zambian statistical service was the CSO, which collected most of the data required by the government and other stakeholders. The CSO was initially under the Ministry of Finance but in 1967 it was transferred to the Office for National Development Planning to draw it into closer contact with national planners.⁴² It functioned through subject-specialised sections headed by professional officers who worked with one or more executive officers and three or four clerical staff. The sections collected data on their areas of specialisation.⁴³ During the period under discussion, the CSO opened provincial statistical offices starting in 1967 with offices at Choma in Southern Province, Chipata in Eastern Province and Kitwe in Western Province. The provincial centres were opened in phases because of the human, material and financial challenges and over time each province developed a statistical office. Once opened, the offices served as a permanent field organisation that collected data during surveys and censuses.

⁴⁰ GRZ, *Department of Census and Statistics Annual Reports, 1971-4*, 1-2.

⁴¹ Other attendants were from Botswana, Ethiopia, Lesotho, Malawi, Swaziland, Tanzania, Uganda, Zambia, the ECA and FAO. GRZ, *Department of Census and Statistics Annual Report, 1974*, 3-4.

⁴² GRZ, *Department of Census and Statistics Report, 1967*, 1.

⁴³ NAZ/MF 1/3/242 D.H. Bhate to Permanent Secretary of the Ministry of Finance, 11 August 1966.

The CSO was reorganised from time to time with the aim of improving its efficiency by making use of experts in specialised fields. The first major restructuring was done in 1974 when it was constituted into four broad divisions that were sub-divided into subject-specialised sections in view of the greatly expanded work.⁴⁴ Each division was headed by a senior statistician. The divisions were Agriculture and Fisheries, Social Statistics, Economic Division and Financial Statistics.⁴⁵ Agriculture and Fisheries comprised three sections, namely, fisheries, commercial farms and traditional farms. Social Statistics had five sections; population, household budget surveys, prices, transport and field operations. The Economic Division comprised four sections; national accounts, industrial production, labour and registry, while Financial Statistics had six sections; balance of payments, government accounts, income tax, external trade, publications and library.⁴⁶

Other players in the statistical service were sectoral ministries and the Bank of Zambia, the latter having taken over work on banking and monetary data previously compiled by the Bank of Rhodesia and Nyasaland. Sectoral ministries dealing with education, health and agriculture had statistical units that compiled some of their required data. The continued collection of education and health statistics separate from the CSO was a legacy of colonial rule. However, unlike in the colonial period when departments used staff who were not trained in statistics, the ministries began to create statistical units and recruited some statisticians with the aid of external agencies, though they were usually heavily understaffed. The Ministry of Education clearly illustrates the above points. From 1964, its statistical unit compiled data obtained from annual returns submitted by staff in various provinces, districts and schools.⁴⁷ The returns were processed at the ministry

⁴⁴ GRZ, *Department of Census and Statistics Annual Report, 1974*, 5.

⁴⁵ *Ibid*, 1.

⁴⁶ *Ibid*, 6.

⁴⁷ GRZ, *Department of Census and Statistics Annual Report, 1966*, 2, NAZ/EDU 2/26/2 Ministry of Education Statistics: Lists of all Schools, 29 October 1968 and UNIP 7/11/11 Education Statistics, 1973.

headquarters and the data were published in the *Annual Digest of Statistics* that was redesigned into the *Education Statistics* in 1972. A survey of these documents shows that the ministry continued with the subjects covered in the colonial era though they were expanded to include university education, illustrating continuities from the colonial times to the postcolonial era.⁴⁸ The ministry continued to face delays in the collection, processing and publication of statistics partly because the few staff could not handle manual data entry in time. However, even after the introduction of computer data processing in 1972, delays still prevailed due to late arrival of returns from some institutions.⁴⁹ These challenges suggest that the ministry had not rectified the causes of delay from the colonial period and that the increase in numerical data was not accompanied by improvement of statistical capacity.

Similarly, the Ministry of Health produced statistics on health just like the Health Department did in the colonial era. In 1971, F.M. Walusiku, then CSO Director, reported that health statistics were compiled by the concerned ministry.⁵⁰ The data were incorporated in the ministry's annual reports, just like in the colonial era, and they covered vital events, medical staff, health facilities, patient attendance and cases of disease recorded.⁵¹ These subjects were covered for health facilities under the government, mining companies and missions. The data were compiled by staff of the ministry's statistical unit, under the supervision of a senior statistician, from returns rendered annually by health institutions. For most subjects, the figures were compiled according to district, province and race.⁵² Though the ministry faced delays in receiving returns, the problem was not as big as in education probably because the health sector had fewer institutions to cover. However, the health

⁴⁸ NAZ/EDU 2/26/2 Ministry of Education Statistics: Lists of all Schools, 29 October 1968 and UNIP 7/11/11 Education Statistics, 1973.

⁴⁹ UNIP 7/11/11 Education Statistics, 1973.

⁵⁰ GRZ, *Department of Census and Statistics Annual Report, 1971*, 2.

⁵¹ NAZ/MH 1/3/136 Ministry of Health Annual Reports for 1964-6.

⁵² *Ibid.*

sector also witnessed an expansion of data on maternal and child health care services, which were not well covered in the colonial period. They were reported in an annual report on maternal health services indicating the number of hospitals and clinics with under five services.⁵³ They included the number of recorded deliveries, still births, under five attendees and immunisations.

After the attainment of independence, the Rhodes-Livingstone Institute was converted into the University of Zambia Institute for African Studies in 1971. Musambachime notes that in the postcolonial period, it abandoned its “applied” approach and became more of an academic player concerned with research for knowledge and was not so much influenced by the immediate interests of the government or private sector.⁵⁴ Hence, its role in the production of statistics increasingly dwindled as its applied research approach declined due to reduced funding, especially with the economic crisis from the mid-1970s.⁵⁵ The University of Zambia Institute for African Studies was later renamed Institute for Economic and Social Research.

4.5. Major Statistical Activities Undertaken

During the period 1964-74, the CSO expanded the production of statistics in Zambia. As in the colonial period, its main datasets were on population, agriculture, industry, external trade, labour, prices, national accounts and balance of payments. The following section explores the main activities undertaken on these datasets. It demonstrates that while data collection expanded, the CSO continued to face challenges of unreliable data sources, inadequate staff and equipment, delayed returns and non-response to enquiries. These problems sometimes resulted in a backlog of work and weakened the quality of statistics.

⁵³ NAZ/MH 1/3/148 Maternal and Child Health Services in Zambia: Annual Report for 1971.

⁵⁴ M.C. Musambachime, ‘The University of Zambia’s Institute for African Studies and Social Science Research in Central Africa, 1938-1988’, *History in Africa*, 20 (1993), 243.

⁵⁵ Musambachime, ‘The University of Zambia’s Institute for African Studies’, 243.

4.5.1. Population and Demographic Statistics

Statistics on population, births, marriages, deaths and migration were collected mainly through the 1969 census of population and housing. The CSO held the 1969 nationwide census of population and housing as part of the 1970 United Nations round of censuses, illustrating the growing importance of the global organisation in statistical work.⁵⁶ Taking advantage of the 1970 round of censuses, the government decided to conduct the census in 1969, earlier than scheduled, in order to generate data required for the formulation of the Second National Development Plan. The UNIP government also explained that the census data would be crucial for determining representation in parliament, allocating grants to administrative areas and dispensing funds for roads, schools, health facilities and water supply, which were to be part of the plan.⁵⁷

The involvement of the United Nations began from the initial stages of the census. The UNECA noted that many African countries needed help and so availed experts to help design and conduct the population censuses.⁵⁸ It was in this context that Dr. V. Kannisto, an expert in population censuses from the UNECA, visited Lusaka in 1967 and advised on the preparation of the census programme. Subsequent to Dr. Kannisto's visit, a national census committee was formed to coordinate the preparations. In 1968, a pilot census was held to test the questionnaire, field organisation and the Optical Character Reader to be used for data analysis.⁵⁹ The census forms were tested in London to assess the accuracy of the procedure. In the same year, another census specialist from the United Nations, J.G.C. Blacker, visited Lusaka and advised on the final census

⁵⁶ GRZ, *Census of Population and Housing 1969* (Lusaka: CSO, 1970).

⁵⁷ UNIP 15/1/15 Census of Population in Zambia, August 1969.

⁵⁸ UNSO, 'Development Programme of Assistance to Statistical Development in Africa', Paper for the Seventh Session of the UNECA Conference of African Statisticians, Dakar, Senegal, 13-22 October, 1971, 3-4.

⁵⁹ For details, refer to GRZ, *Department of Census and Statistics Annual Report, 1967*, 1 and GRZ, *Department of Census and Statistics Annual Report, 1968*, 1-2.

plan, which was then submitted to the government.⁶⁰ Clearly, the census was influenced by the United Nations as it provided guidance from the preparatory stages.

After preparations such as the setting up of systems for progress monitoring, transport preparations, staff training and appointment of a Chief Census Officer, the final population and housing census was held in the last week of August 1969 on a *de facto* basis.⁶¹ Like the 1963 census, it was preceded by a general publicity scheme that encouraged people to turn out and be counted. This was done using posters, sketches and film shows at district centres, press articles, advertisements and announcements, most of them translated into regional languages.⁶² Besides, political parties and government officers at district centres were engaged to explain the importance of the census, enlist public co-operation and encourage people to give correct data. In his pre-census national address, President Kaunda stressed the significance of the census in development planning and encouraged all persons to co-operate with enumerators.⁶³

The enumerators were mostly school teachers but included some senior secondary pupils who all underwent training before the census. They used separate forms to collect data from rural and urban areas. Coding of data was done by about 350 students who worked from Libala and Matero Secondary Schools due to inadequate space at the CSO.⁶⁴ The use of students indicates the shortage of staff at the CSO and it is undeniable that such arrangements were not conducive for producing quality statistics. Unfortunately, over the years, the substitutes appear to have become a norm in the Zambian statistical setup. Data processing followed and with the urgency of the information, most of the staff and computer time for the first half of 1970 were allocated to the census work as

⁶⁰ *Ibid*, 2.

⁶¹ Hill, 'Demography of Zambia', 2 and GRZ, *Census of Population and Housing 1969* (Lusaka: CSO, 1970), 2.

⁶² GRZ, *Census of Population and Housing 1969*, 7, 15-16.

⁶³ *Ibid*, 17-18.

⁶⁴ GRZ, *Department of Census and Statistics Annual Report, 1970*, 1.

the data were required by June that year for finalising the Second National Development Plan that was to begin in 1971.⁶⁵ After tabulation, the preliminary census report was issued at the end of July 1970. The census put the total population of Zambia at 4,056,995 persons, comprising 3,998,644 Africans, 43,390 Europeans, 14,961 others with 398,350 in full time employment.⁶⁶ The final volume of the census report was issued in 1974 while reports on provinces and districts were fully published in 1975. Table 4.1 shows the population distribution of Zambia by province.

Table 4.1: Distribution of the Population of Zambia by Province, 1969

Province	Male	Female	Total
Western	190,435	219,652	410,087
Central	365,544	347,086	712,630
Eastern	234,115	275,400	509,515
Luapula	161,075	174,509	335,584
Northern	255,850	289,246	545,096
North-Western	109,589	122,144	231,733
Southern	244,791	251,250	496,041
Copperbelt	425,612	390,697	816,309
Total	1,987,011	2,069,984	4,056,995

Source: GRZ, *Monthly Digest of Statistics*, January 1975, 1.

The CSO rated the census as successful and very satisfactory. Among the successes, it noted the use of a flow chart for monitoring progress and controlling various stages of the census that enabled the computer centre to generate progress reports and facilitated the timely issue of preliminary figures.⁶⁷ Another success was the use of the Optical Character Reader to interpret data, which also aided the timely completion of the census since it eliminated data punching and verification as it quickly read ordinary hand-written letters.⁶⁸ Besides, Hill notes that the 1969 census was the first to simultaneously cover the entire population of Zambia, document the age of respondents

⁶⁵ GRZ, *Census of Population and Housing 1969*, 2.

⁶⁶ *Mufulira Mirror*, 9 October 1970, 2 and GRZ, *Department of Census and Statistics Annual Report, 1970*, 2.

⁶⁷ GRZ, *Department of Census and Statistics Annual Report, 1969*, 2.

⁶⁸ GRZ, *Department of Census and Statistics Annual Report, 1970*, 2.

and it yielded a lot of demographic data for the Second National Development Plan. Among other data, he notes that the census collected figures on ‘children ever born and children surviving to women 15 and over, plus number of births and deaths during the previous year’⁶⁹ Also recorded were data on migration, life expectancy, employment and manpower. Statistics on employment and manpower were compiled with the aid of an expert from the International Labour Organisation, yet again showing the significance of the United Nations.

Though a post-enumeration survey was not held to assess the quality of the census figures, some of the limitations were quite evident. The CSO noted that some of the enumerators did not correctly interpret some questions in the early stages of the census and they had to be guided accordingly.⁷⁰ Thus, Hill emphasises that ‘there is some reason to suspect a significant undercount ... and this would not be surprising given the dramatic urban growth immediately after independence’⁷¹ In particular, the quality of data on fertility and mortality was poor because large numbers of women did not respond to questions on fertility probably for cultural reasons as counting of children, for example, was a taboo in some ethnic groups, with the belief that it might cause the death of the children. Hill further posits that data on deaths were so incomplete that they were discarded at the start of data analysis.⁷² Therefore, the resultant figures included gap-filling guestimates that weakened the quality of statistics.

Vital statistics, or data on births, marriages and deaths, remained scanty as the CSO compiled only figures on non-Africans in the absence of reliable sources of data on Africans.⁷³ However, in 1973, it began to expand them after the government passed the Births and Deaths Registration Act, which

⁶⁹ Hill, ‘Demography of Zambia’, 2. Also see UNIP 15/1/15 Census of Population in Zambia, August 1969.

⁷⁰ GRZ, *Census of Population and Housing 1969*, 4.

⁷¹ Hill, ‘Demography of Zambia’, 2.

⁷² *Ibid.*

⁷³ GRZ, *Department of Census and Statistics Annual Report, 1966*, 2.

provided for the registration of all births and deaths. The data were issued in a report on vital statistics with figures on registered births, marriages and deaths presented by month, place and ethnic group.⁷⁴ They were sourced from the Registrar of Births, Marriages and Deaths to whom the health department forwarded data on births and deaths while marriage officiants reported marriages. The Registrar then sent monthly reports of vital events to the CSO. In practice, however, many such events took place outside the formal system. For example, many births, especially in rural areas where health facilities were hard to access, occurred in homes and were not captured. Similarly, many marriages were done under the traditional setup and were not recorded. Thus, data on vital events remained scanty. For example, in 1974, it was estimated that only five percent of total births and eight percent of deaths were registered.⁷⁵ In fact, it was due to the persistent scarcity of information that the publication of vital statistics reports ceased in the 1980s.

4.5.2. Agricultural Statistics

Developments in this sector indicate that the CSO attempted to improve the collection of statistics on agriculture in a bid to meet the requirements of development plans and the demands of the United Nations. Moreover, it made methodological and conceptual changes in order to improve the quality of data. Yet, the CSO faced major challenges that made its work hard. Thus, though the coverage of the data increased, the quality remained weak. The CSO held agricultural enquiries following the trend began in the colonial period of enumerating commercial and non-commercial farms separately. For commercial farms, it held an annual census of agricultural and pastoral production of non-Africans by mailed forms.⁷⁶ The CSO made year-to-year changes to the census

⁷⁴ GRZ, *Registered Births, Marriages and Deaths: Vital Statistics*, 1973 (Lusaka: CSO, 1973).

⁷⁵ GRZ, *Registered Births, Marriages and Deaths (Vital Statistics)*, 1974 (Lusaka: CSO, 1975).

⁷⁶ John Litschauer and J.S. Rowe, 'Zambia's Agricultural Data System: A Review of the Agricultural Time Series Data', in Michael Roth and S.G. Smith (eds.), *Land Tenure, Land Markets, and Institutional Transformation in*

in order to improve its quality. For example, in 1972, it re-designed the schedules as pre-punch computer input forms to quicken the collection and processing of data. Besides, it used simple random sampling to select households for enumeration. By 1974, its sampling procedure included stratifying agricultural households, using pre-selected lists of sample numbers and canvassing the questionnaire besides the household listing schedule.⁷⁷ To expand the coverage, the CSO modified the forms to include farm employment, inputs, fixed capital formation and current production expenses that helped to get the input-output relation for national accounts.⁷⁸ It also simplified and reduced the questionnaire so as to improve the response rates, timeliness and quality of data.

Besides, from 1969-74, the CSO redefined a “commercial farmer” so as to eliminate the weakness of the initial definition. Litschauer and Rowe note that a commercial farmer was initially defined in terms of affiliation to the Commercial Farmers Union.⁷⁹ However, some union members were not farmers but joined it to access agricultural produce at lower prices. Thus, by 1974, a commercial farmer was redefined as one with at least five hectares under commercial crops who sold to the National Agricultural Marketing Board crops valued at K600 at 1973-4 prices.⁸⁰ The value varied from year to year depending on changes in producer prices. Commercial crops included maize, cotton, sunflower, sorghum, beans, vegetables and fruits. A commercial farmer was also defined in terms of other agricultural activities. Together, the definitions were used to prepare the census frame. A survey of *Monthly Digests of Statistics* shows that data on maize and

Zambia (Madison: University of Wisconsin-Madison, 1995), 234 and GRZ, *Department of Census and Statistics Annual Report, 1966*, 2-3.

⁷⁷ GRZ, *Department of Census and Statistics Annual Report, 1974*, 10.

⁷⁸ *Ibid.*

⁷⁹ Litschauer and Rowe, ‘Zambia’s Agricultural Data System’, 234.

⁸⁰ GRZ, *Department of Census and Statistics Annual Report, 1974*, 8, Litschauer and Rowe, ‘Zambia’s Agricultural Data System’, 234 and J.A. Cochrane and M.J. Roth, ‘Land Use Patterns and Growth in Commercial Input Use, Productivity, and Profitability by Farm Size Category’, in Michael Roth and M.J. Smith (eds.), *Land Tenure, Land Markets, and Institutional Transformation in Zambia* (Madison: University of Wisconsin-Madison, 1995), 201.

groundnuts were the most complete while those on fruits and vegetables were the weakest.⁸¹ This was because fruits and vegetables were traded mostly in spaces where sales were not recorded.

The main challenge faced by the census was low response. Litschauer and Rowe postulate that response to mailed enquiries ranged from 20-34 percent and the distribution of non-response was unknown.⁸² Indeed, the CSO reported that the response to the 1969-70 census was only 30 percent and this prompted it to hold a survey to establish the reasons for non-response. Three teams of officers toured Central, Southern and Copperbelt Provinces in 1971 and collected 1,337 completed forms.⁸³ They found that some of the registered farmers had left the country or ceased to be farmers and those who took over the farms were not on the master list. Unfortunately, those were the lists that were previously used and it is obvious that the census data were inaccurate. Thus, the CSO updated the register of commercial farmers. Yet, due to delays, the publication of reports for 1968 and 1969 dragged until 1972 while those for 1972 and 1973 were issued in 1975.⁸⁴ Clearly, this period also faced challenges that created a backlog of work that spilled over to the 1980s.

The CSO also increased the collection of data on small-scale agriculture through an annual survey of non-commercial farms and *ad hoc* surveys. The former survey, which covered randomly selected farms, began in 1971 but it was later suspended in 1979.⁸⁵ It collected data on production, retention and sale of food crops and livestock. Like other enquiries, the survey faced delays in the collection, processing and tabulation of data. For example, reports for 1971 and 1972 were only ready in 1975.⁸⁶ Another challenge was that some villages used as sampling units lacked unique

⁸¹ GRZ, *Monthly Digest of Statistics, December 1971* (Lusaka: CSO), 8 and GRZ, *Monthly Digest of Statistics, July 1974* (Lusaka: CSO), 8.

⁸² Litschauer and Rowe, 'Zambia's Agricultural Data System', 236.

⁸³ GRZ, *Department of Census and Statistics Annual Report, 1971*, 3.

⁸⁴ GRZ, *Department of Census and Statistics Annual Report, 1975*, 21.

⁸⁵ Cochrane and Roth, 'Land Use Patterns', 202, GRZ, *Department of Census and Statistics Annual Report, 1974*, 2 and Litschauer and Rowe, 'Zambia's Agricultural Data System', 237-8.

⁸⁶ GRZ, *Department of Census and Statistics Annual Report, 1974*, 9.

identity and their stability and permanence was not assured. In some cases, more than one village shared the same name and in other cases, villages had either changed names or moved to other places. These problems caused overlaps in enumeration. Also, most non-commercial fields were irregular and the 'high illiteracy rates in rural Zambia mean[t] that for agricultural surveys, reported crop area by the traditional farmers is not reliable.'⁸⁷ However, for selected fields, physical measurement of area under principal crops and yields were taken and used to estimate farm productivity. The above challenges continued to complicate the conduct of the survey and despite efforts made to improve the datasets, no effective remedies were found.

The CSO also held various surveys of rural farms as part of its 1966-70 agricultural statistics programme. These included a survey of village herds in Eastern, Northern and Western Provinces in 1967, an enquiry into subsistence millet, beans and cassava growing in Kasama District in 1968, a survey of horticulture in Western Province in 1969 and an enquiry into groundnuts cultivation in Eastern Province.⁸⁸ Mulenga explains that the surveys were intended to yield data for developing a methodology for collecting agricultural statistics.⁸⁹ Nonetheless, it is noted here that they were meant to yield data for facilitating government efforts to improve rural agriculture as envisaged in the First National Development Plan and were part of the preparations for the 1970-71 countrywide agricultural census that collected data for the 1970 World Agricultural Census.⁹⁰ This suggests that a combination of local and international forces shaped the production agricultural statistics in Zambia. From 1971, the CSO also held crop forecast surveys.⁹¹ However, the surveys were problematic and the figures they generated were not reliable. Lombard and Tweedie note that crop

⁸⁷ GRZ, *Department of Census and Statistics Annual Report, 1975*, 4-5.

⁸⁸ NAZ/MF 1/3/242 Outline Programme of Agricultural Statistics, 1966-70 and GRZ, *Department of Census and Statistics Annual Reports, 1967 & 1968*, 2.

⁸⁹ Mulenga, 'Zambia', 344.

⁹⁰ NAZ/MF 1/3/242 Outline Programme of Agricultural Statistics, 1966-70.

⁹¹ GRZ, *Department of Census and Statistics Annual Report, 1971*, 3.

forecast data on maize varied by up to 40 percent with statistics obtained from the National Agricultural Marketing Board, which kept records of actual deliveries and sales.⁹²

The most extensive enquiry on the sector was the 1970-71 countrywide census of agriculture held by the CSO and the Agriculture Department as part of the World Agricultural Census. It was the first enquiry to cover both commercial and non-commercial farms and yielded data on the whole structure of agriculture.⁹³ The census collected data on ‘characteristics of farmers and farming units in relation to social, economic and institutional factors influencing and limiting production and ... statistics of land, farmers, livestock, patterns of consumption and changes in farming patterns.’⁹⁴ After a pilot enquiry that tested the proposed organisation and methods, the census was held in four phases from October 1970 to September 1971. The first phase was a farm inventory, the second was field measurement, the third was field harvesting and the fourth was sales valuation.⁹⁵ In the third phase, enumerators harvested randomly selected plots and measured the yield from time to time until the crop gave a constant weight indicating that it was dry.

For practical reasons, training sessions were held during the census itself. In early 1971, officers from CSO visited all provinces and trained supervisors and enumerators on area measurement in preparation for the second phase.⁹⁶ Training for the third phase was then done in March-April 1971 and enumerators were trained to collect data on agricultural and pastoral production, sales and retentions. Besides, in all the phases, a number of senior staff toured the provinces to train census personnel and to supervise the census. On average, every province was visited five times. After

⁹² C.S. Lombard and A.H.C. Tweedie, *Agriculture in Zambia since Independence* (Lusaka: NECZAM, 1972), 16.

⁹³ GRZ, *Census of Agriculture, 1970-71* (Lusaka: CSO, 1974), 9 and Ben Kiregyera and J.P. Banda, ‘Challenges of a Central Statistical Office in a Developing Economy: The Case of Zambia’, *Journal of Official Statistics* 2, 1 (1986), 36.

⁹⁴ *Mufulira Mirror*, 31 July 1970, 2.

⁹⁵ GRZ, *Department of Census and Statistics Annual Report, 1971*, 2.

⁹⁶ *Ibid*, 3.

data collection, analysis and tabulation, the census report was issued in May 1974, the first to cover both non-commercial and commercial farms.⁹⁷ This was in line with the government's attempt to improve rural agriculture. As the CSO explains, the census provided benchmark crop data at a time when the administration was making efforts to boost agricultural production and accelerate rural development in line with the First National Development Plan.⁹⁸

The census faced a number of problems that cast doubts on the accuracy of the figures that were assembled. The first related to the use of enumeration areas derived from the 1969 population census. Kiregyera argues that creating suitable sampling frames using villages was problematic since they were vulnerable to name changes, unclear boundaries, relocation, fragmentation and disappearance.⁹⁹ Besides, this chapter notes that some supervisory areas were not divided into natural enumeration areas and they were canvassed as wholes by enumeration teams. Even where supervisors had created enumeration areas, 'the boundary descriptions were known only to supervisors and enumerators at the time of the census and no proper documentation was made elsewhere.'¹⁰⁰ Hence, there were overlaps in enumeration areas whose likely effects were double counting and overestimations. Besides, lack of equipment was another challenge but this at times reflected poor preparation and coordination. For example, field measuring and harvesting were delayed by the late arrival of compasses on 30 March 1971. Though the CSO borrowed thirty compasses from the Survey Department, these were not enough and the work of the second phase had to be done in or after the third phase.¹⁰¹ These delays put pressure on the staff involved in

⁹⁷ Kiregyera and Banda, 'Challenges of a Central Statistical Office', 4 and GRZ, *Department of Census and Statistics Annual Report, 1974*, 7.

⁹⁸ GRZ, *Department of Census and Statistics Annual Report, 1974*, 7.

⁹⁹ Ben Kiregyera, 'Types and Some Causes of Non-Sampling Errors in Household Surveys in Africa', *Journal of Official Studies*, 3, 4 (1987), 350.

¹⁰⁰ GRZ, *Department of Census and Statistics Annual Report, 1974*, 9.

¹⁰¹ *Ibid*, 2-3. Also see GRZ, *Census of Agriculture, 1970-71*, 21.

collecting and processing data and delayed the availability of the required statistics, which implied that the targeted development plan was not timely informed.

Also, some commercial farmers were not familiar with concepts like “acre” and they overstated crop yields and field measurements. The CSO could not develop concepts that would be relevant and recognisable to Zambian farmers because it operated under a global framework in which it had to use units formulated elsewhere to facilitate international comparison. With some farmers not aware of these concepts, it is not surprising that the 1970 census data were overstated for most crops.¹⁰² Overestimates were reported elsewhere in the same round of censuses. In Ghana and Uganda, responses on field size, yield and income were discarded because too few farmers were familiar with the concepts.¹⁰³ As for non-commercial farmers, they were covered through interviews because many of them were illiterate. However, supervisors from CSO faced challenges in dealing with enumerators from the Agriculture Department, who treated the census as additional work requiring extra pay and were problematic in the absence of extra allowances.¹⁰⁴ Besides, the agricultural statistics division faced a critical manpower shortage due to mass transfers of staff, which delayed the processing and publication of census data.¹⁰⁵ These internal conditions and challenges inhibited the production of quality and timely agricultural statistics.

Other data on agriculture were produced by the statistics unit of the Agriculture Department. The advent of independence ushered marketing boards that became vital sources of data. In this vein, the National Agricultural Marketing Board supplied data on maize, millet, groundnuts, sorghum and beans, Tobacco Board of Zambia on tobacco, the Dairy Produce Board on milk and the Cold

¹⁰² Kiregyera, ‘Types and Causes of Non-Sampling Errors’, 352.

¹⁰³ *Ibid.*

¹⁰⁴ *Ibid.*

¹⁰⁵ GRZ, *Department of Census and Statistics Annual Report, 1975*, 21.

Storage Board on cattle and beef.¹⁰⁶ Yet, the boards only supplied data on deliveries and sales, not production. Robinson, *et al*, argue that producer prices for crops were available only for maize and tobacco.¹⁰⁷ This reflects the bias of the boards in favour of the two crops. The ministry considered data from the boards to be accurate and reliable since they kept records of receipts, sales and prices. Unlike in the colonial era when data were issued only in annual reports, the department published the *Quarterly Statistical Bulletin* and the *Annual Agricultural Statistics Bulletin*.¹⁰⁸

4.5.3. Industrial and Transport Statistics

Works on industrial statistics were overseen by technical experts from the UNECA. One of the sources of data was the annual census of industrial production that covered mining, quarrying, manufacturing, electricity, water and construction, and it was held besides the national accounts enquiry.¹⁰⁹ The census provided data for compiling indicators of industrial activity, number of firms, persons employed, man hours worked, inputs, outputs, subsidies, value added, income and expenditure.¹¹⁰ The CSO reported that the coverage of the census improved over the years such that by 1972, it had been expanded to include regional distribution of industries, type of products and key ratios. Yet, the enquiry had serious non-response problems. In 1973, non-response was 30 percent out of 1,067 establishments and this rose to 40 percent out of 1,097 in 1974.¹¹¹ In order to improve the response rate, the CSO made follow-ups to non-responding firms by postal reminders,

¹⁰⁶ Lombard and Tweedie, *Agricultural Development in Zambia*, 14 and NAZ/MAG 2/17/100 Tobacco Board of Zambia Auction Floor Tobacco Sales Return (Wet Leaf Basis), Week Ending 30 June 1965.

¹⁰⁷ Peter Robinson, Jones Govereh and Daniel Ndlela, 'Distortions to Agricultural Incentives in Zambia', World Bank Working Paper No. 40, 2007, 41.

¹⁰⁸ Ibid. Also see GRZ, *Ministry of Rural Development Quarterly Statistical Bulletin September – December 1974* (Lusaka: MRD, 1974).

¹⁰⁹ UNSO, 'Programme of Assistance to Statistical Development', 3, GRZ, *Census of Production 1964* (Lusaka: CSO, 1966), 1-3 and GRZ, *Department of Census and Statistics Report, 1967*, 3.

¹¹⁰ GRZ, *Census of Industrial Production, 1970*, 9-48.

¹¹¹ GRZ, *Census of Industrial Production, 1973* (Lusaka: CSO, 1976), 7 and GRZ, *Census of Industrial Production, 1974* (Lusaka: CSO, 1979), 7.

telephone calls and personal contacts.¹¹² It also made some estimates using data from the employment enquiry. However, no prosecution of defaulters was reported and this was a major weakness that encouraged firms to continue evading enquiries.

Data were also collected every month from selected establishments and used to prepare a monthly index of industrial production whose scope was limited to mining, quarrying, manufacturing and electricity because of inadequate data on other sectors.¹¹³ The indices were repeatedly revised to keep pace with changes in the pattern of industrial production. However, in the late 1960s, the series showed distortions and the CSO attributed them to flaws in the classification and weighting systems devised at the time of their inception in 1962. Others resulted from substitutes like the use of sales data in cases where production figures were unavailable, as the two differed markedly in sectors with large seasonal differences.¹¹⁴ Therefore, in 1968, the CSO began to revise the classification and weighting systems in order to rebase the indices to 1969 and computerise them. Nonetheless, the work suffered a setback due to shortage of professional staff and the new series was only completed in 1970.¹¹⁵

The construction of a new series was aimed at updating the indices in view of the changing industrial arena and to upgrade them in harmony with United Nations standards. The weights of the previous series were derived from the 1960 industrial census and were based to 1961. The CSO noted that ‘the composition of industries was very much different from what it was in 1961 [and a] new series, therefore, became necessary.’¹¹⁶ The new indices were compiled using data from the 1969 census that was used to select typical industrial figures and derive new weights in line

¹¹² *Ibid.*

¹¹³ GRZ, *Index of Industrial Production: Revisions and Extensions of the 1969 Series* (Lusaka: CSO, 1977), 3.

¹¹⁴ *Ibid.*, 2 and GRZ, *Department of Census and Statistics Annual Report, 1971*, 3.

¹¹⁵ GRZ, *Department of Census and Statistics Annual Report, 1969*, 3.

¹¹⁶ *Ibid.*

with the United Nations classification system.¹¹⁷ In 1973, the indices became anomalous again and the CSO reworked them. It introduced new commodity and regional groupings, revised the weighting system, instituted a new series rebased to 1973 and computerised it in 1974.¹¹⁸ These measures helped to widen the database and improve the accuracy and timeliness of the indices.

The CSO also collected and compiled statistics on transport. It held monthly analyses of motor vehicle registration and accidents and the extent of the road transport.¹¹⁹ However, data on goods transported by road were scanty. Besides, railway and air services data were not separately available before 1970 as combined figures were reported on Zambia, Rhodesia and Malawi. This was because the railways and air transport services were owned jointly during the Federation and it was not until 1971 that the government created Zambia Railways and Zambian Airways as state-owned enterprises. Thus, it was from that year that data on Zambia became obtainable from the parastatals. Zambia Railways, for instance, issued data on labour, finance, equipment, railway traffic and freights in its annual reports, which were provided to the CSO.¹²⁰ The parastatals also provided data in response to CSO enquiries. Undoubtedly, therefore, their creation helped to improve the availability of statistics on railways and aviation. However, the CSO's attempt to improve the timeliness of the data was sometimes upset by delays in returns from the parastatals which had to do with the inefficiency of the institutions rather than unwillingness to supply data.

¹¹⁷ *Ibid.*

¹¹⁸ GRZ, *Index of Industrial Production: Revisions and Extensions*, 1969, 2.

¹¹⁹ GRZ, *Official Statistics: Transport Statistics, September 1965* (Lusaka: CSO), GRZ, *Official Statistics: Transport Statistics, January-March 1970* (Lusaka: CSO), GRZ, *Department of Census and Statistics Report, 1967*, 3, GRZ, *Official Statistics: Transport Statistics, First Quarter 1973* (Lusaka: CSO) and GRZ, *Monthly Digest of Statistics for August 1973* (Lusaka: CSO), 26-7.

¹²⁰ GRZ, *Department of Census and Statistics Annual Report, 1971*, 2, *Zambia Railways Annual Report 1971*, 14-30 and *Zambia Railways Annual Report 1974*, 11-24, GRZ, *Monthly Digest of Statistics for December 1971* (Lusaka: CSO) 25-8 and GRZ, *Monthly Digest of Statistics, August 1973*, 25-8.

The mining industry continued to be an integral source of data for the CSO and other government departments as they participated in the quarterly employment survey, the industrial census and the national income enquiry.¹²¹ They also submitted monthly reports to the Mines Department, which were critical sources of data. Yet, while the mines availed their reports to the government, their response to statistical enquiries held by the CSO was sometimes unfavourable, particularly before they were nationalised. A crucial source of mining data was the Copper Industry Service Bureau that replaced the Northern Rhodesia Chamber of Mines in October 1964. Thus, the *Northern Rhodesia Chamber of Mines Year Book* that was issued by the former was replaced by the *Copperbelt of Zambia Mining Industry Year Book* compiled by the latter.¹²² The bureau provided secretarial services to the two major mining groups, Rhodesian Selection Trust and Anglo American Corporation. It redesigned the year book and expanded its statistical content.¹²³ The year book contained a section that was dedicated to statistical tables. Most of the data were on the same subjects covered in the colonial period. They came from different sources, some from the mining companies and others from government documents.¹²⁴ The London Metal Exchange and the World Bureau of Metal Statistics were also sources of data. However, statistics from the mines had no metadata on the concepts and methods used without which it is hard to assess their quality.

With the attainment of independence, the government began pursuing the policy of Zambianisation that sought to replace expatriates in the public and private sectors with qualified Zambians. The policy also included the replacement of Africans from other countries such as Malawi, Tanzania,

¹²¹ See, for example, GRZ, *Census of Production*, 1965.

¹²² *Copperbelt of Zambia Mining Industry Year Book 1964* (Kitwe: Copper Industry Service Bureau). See 'Preface.'

¹²³ *Ibid.*

¹²⁴ See *Copperbelt of Zambia Mining Industry Year Book 1967* (Kitwe: Copper Industry Service Bureau), 32-58 and *Copperbelt of Zambia Mining Industry Year Book 1968* (Kitwe: Copper Industry Service Bureau), 35.

Kenya, Angola and others by Zambian nationals.¹²⁵ This was meant to reduce reliance on foreign labour so as to lessen costs and provide employment to Zambians. Munene elucidates that in the mining industry, Zambianisation started in 1964 as the indigenous people had already been working in the mines for many years.¹²⁶ Thus, Europeans were given expatriate status through which they served on contracts renewable only twice. Also, many Zambians were put on training locally and abroad to equip them with the required skills.¹²⁷ In 1966, the government held a survey that amassed data on manpower, education, training and Zambianisation in the public and private sectors. In the ensuing report, President Kaunda stressed that Zambianisation depended on manpower training and that educated men were required for development.¹²⁸

Similarly, the mining industry collected statistics on Zambianisation. These appear in reports of the Copper Industry Service Bureau and were sourced from the Manpower Planning, Training and Zambianisation Unit, which was opened in Kitwe in 1973. The bureau reported figures on Zambians in the mining industry who were on training as engineers, metallurgists, short-hand typists, accountants and technicians locally and abroad.¹²⁹ In 1973, ‘there were 315 Zambian undergraduates studying for technical degrees on full-cost mining industry scholarships, and a further 70 on non-technical courses or their equivalent. Of these 337 [were] at the University of Zambia and at universities or mining schools in Britain.’¹³⁰ Also collected were data on Zambians ascending to various positions in the mining industry. These statistics were all important for

¹²⁵ See Duncan Money, ““Aliens” on the Copperbelt: Zambianisation, Nationalism and Non-Zambian Africans in the Mining Industry’, *Journal of Southern African Studies*, 45, 5 (2019), 859-75.

¹²⁶ Munene, ‘History of Rhokana’, 101.

¹²⁷ *Zambia Mining Year Book for 1973* (Kitwe: Copper Industry Service Bureau), 14 and *Zambia Mining Year Book for 1974* (Kitwe: Copper Industry Service Bureau).

¹²⁸ ZCCM 4.6.3A Manpower Report: A Report and Statistical Handbook on Manpower, Education, Training and Zambianisation, 1965-6, iii.

¹²⁹ *Zambia Mining Year Book*, 1973, 14.

¹³⁰ *Ibid.*

assessing the progress of Zambianisation in the sector. Table 4.2 shows the labour strength and turnover of the copper mines for selected years in the period 1970-74.

Table 4.2: Copper Mines Labour Strength and Turnover, 1964-74

Year	Expatriates			Zambians and other employees on local conditions		
	Average strength	Number engaged	Number left service	Average strength	Number engaged	Number left service
1964	7,326	1,783	1,849	39,203	4,820	3,173
1966	5,786	1,213	2,026	42,475	4,999	3,054
1968	4,862	1,088	1,532	42,989	2,731	2,401
1970	4,375	1,162	1,092	44,094	3,219	2,175
1972	4,600	1,087	1,139	46,245	5,904	3,932
1974	4,392	1,046	1,035	51,736	7,431	4,527

Source: *Copperbelt Mining Year Book*, 1968, 46 and *Zambia Mining Year Book*, 1974, 36.

Individual mines also continued to compile statistics in their annual reports. However, the data were not very different from those of the colonial period. They included data on production, sales (quantity and value for each mine) and profits. Others were financial statistics and comprised data on mineral prices, capital expenditure, loan finance, interest rates, tax paid, fixed assets, net assets, emoluments and dividends.¹³¹ The datasets were mainly for company stakeholders but they were also of interest to the state for monitoring revenue from the sector. The government had acquired 51 percent of shares in the mining companies in 1969 and was, therefore, the major stakeholder in the industry.¹³² Besides, as Munene observes, mining continued to occupy the most important

¹³¹ Munene, 'History of Rhokana', 101, *Mufulira Mirror*, 14 February 1964, 1, *Mufulira Mirror*, 31 July 1970, 2 and *Mufulira Mirror*, 22 January 1974, 2.

¹³² Alastair Fraser, 'Introduction: Boom and Bust on the Zambian Copperbelt', in Alastair Fraser and Miles Larmer (eds.), *Zambia Mining and Neoliberalism: Boom and Bust on the Globalised Copperbelt* (New York: Palgrave Macmillan, 2010), 8.

position in the Zambian economy just like in the colonial period.¹³³ In this vein, therefore, the state needed to know how the mines were performing.

4.5.4. External Trade Statistics

After attaining independence, Zambia became a separate national trade area and it began to compile external trade statistics within the international framework. In the first place, the *Seers Report* had earlier recognised the lack of data on Zambia's foreign trade and highlighted the need to quickly begin their preparation.¹³⁴ The research by Seers and his team itself was held under the auspices of the UNECA and was therefore an external influence. The Zambian CSO compiled external trade statistics using data from the Customs and Excise Department and following United Nations standards.¹³⁵ The UNECA coordinated African states in the use of new and international frameworks. In 1971, for example, it hosted a seminar on external trade concepts at Addis Ababa, which Zambia attended. The participants discussed problems relating to the SITC and agreed on possible remedies.¹³⁶ Among other data, the main external trade tables highlighted imports and exports according to the SITC while others were on imports and exports by countries of origin and destination.¹³⁷ From the tables, it is evident that Zambia's foreign trade did not vary much from its pre-1953 structure dominated by copper exports.

A survey of various reports indicates that the CSO attempted to compile quality and timely trade statistics by adopting new technology and procedures for collecting, processing and tabulating

¹³³ Munene, 'History of Rhokana', 97.

¹³⁴ *Seers Report*, 4.

¹³⁵ NAZ/MCT 1/11/39 Republic of Zambia External Trade Statistics, January – September 1965 and GRZ, *Official Statistics: External Trade of Zambia for the year 1965* (Lusaka: CSO, 1966), 1.

¹³⁶ UNSO, 'Programme of Assistance to Statistical Development', 3.

¹³⁷ NAZ/MCT 1/11/39 Republic of Zambia External Trade Statistics, January – September 1965.

data.¹³⁸ By 1969, the SITC was used for commodity grouping and analysis. However, in 1970, the CSO introduced a computer system that facilitated the use of the BTN and the routing of data using new codes for country of supply, harbour and payment method. These features eliminated manual coding, quickened data entry and enabled centralised data processing by computer.¹³⁹ A new coding form was designed with changes for input on the Optical Character Reader, which eliminated the card punching and verifying phases of the old system. In view of these changes, a coding manual was prepared, coders were trained in the new system and drilled in writing letters and objects that the machine could read.¹⁴⁰ These changes were meant to improve the quality and timeliness of data and adherence to international models.

However, the introduction of new computer systems came with challenges that caused delays during the teething years. For instance, in 1966, the analysis of external trade figures was delayed by the changeover from ICT 1500 to ICT 1904 computer that proved disastrous as the programme designed for the latter was unsatisfactory.¹⁴¹ Thus, it became impossible to get the data analysed until the CSO decided to re-programme in 1967. Though this was eventually done successfully, there was considerable delay in publishing statistics for 1967.¹⁴² Besides, there were numerous mistakes made by clearing agents in completing the customs forms used to record data. In response, the CSO and the Customs and Excise Department revised the forms and by the end of 1968, the situation was reported to have changed for the better.¹⁴³

¹³⁸ GRZ, *Department of Census and Statistics Annual Report, 1969*, 3, GRZ, *Department of Census and Statistics Annual Report, 1970*, 2 and GRZ, *Official Statistics: Annual Statement of External Trade, 1966-74* (Lusaka: CSO).

¹³⁹ NAZ/MCT 1/11/39 Republic of Zambia External Trade Statistics, January - September 1965. For a summary of the codes adopted from the ISIC, see GRZ, *Census of Industrial Production, 1970* (Lusaka: CSO, 1972), 2.

¹⁴⁰ *Ibid.*, 2-3.

¹⁴¹ GRZ, *Department of Census and Statistics Report, 1967*, 3.

¹⁴² *Ibid.*

¹⁴³ *Ibid.*

Another problem that caused delays was the shortage of staff that combined with the prioritisation of work on the population census during the years 1969-71 to affect work on external trade. In 1970, coding of foreign trade data was delayed as most coders were assigned to the population census.¹⁴⁴ Similarly, the Government Printer delayed printing the *Annual Statement of External Trade* for the previous year as priority was given to reports on the population census. Although the BTN system was introduced in 1970, it was hard to find computer time for programming and testing it. When time was finally allocated, the rewriting of ailing programmes was disrupted by the resignation of the Principal Programmer and Systems Manager.¹⁴⁵ These challenges delayed the correction of errors in the new system as well as the scanning and release of preliminary data for 1970. The backlog was only cleared in 1971 when work on the population census reduced and some statisticians and coders were assigned to external trade data. Hence, the figures were later published in the *Monthly Digest of Statistics* and the final report was issued in 1972.¹⁴⁶

The successful installation of the BTN system and the finalisation of the population census eased the challenges of the external trade section. Works on foreign trade data proceeded without major problems in 1973 and 1974. In the latter year, processing of data for 1973 was done and the results made ready for publication while preliminary figures for 1974 were issued in the *Monthly Digest*.¹⁴⁷ Besides, the CSO prepared the BTN-SITC Correspondence Listing for 1974 and revised the trade indices for 1969-73 using a new system of weights. Also introduced was the BTN Index used by the Customs and Excise Department and the Principal Value Index that helped to obtain ‘imports and re-exports values in their descending order of importance ... useful for picking out

¹⁴⁴ GRZ, *Department of Census and Statistics Annual Report, 1970*, 2.

¹⁴⁵ *Ibid.*

¹⁴⁶ GRZ, *Department of Census and Statistics Annual Report, 1971*, 4.

¹⁴⁷ GRZ, *Department of Census and Statistics Annual Report, 1974*, 15.

the major import/export items.¹⁴⁸ These were among the changes made by the CSO in the production of external trade data in Zambia. From the evidence provided, it is certain that the CSO attempted to keep pace with changes at international level. Table 4.3 illustrates the value of Zambia's exports and imports during the years 1964-74. Throughout the period, the country had a positive balance of trade that increased from K179,080 in 1964 to K400,992 in 1974.

Table 4.3: Total Exports and Imports of Zambia (K'000), 1964-74

	Exports			Imports	Trade Balance
	Total	Domestic	Re-exports		
1964	335,518	326,872	8,646	156,438	179,080
1965	380,294	376,096	5,198	210,742	169,552
1966	493,458	490,332	3,126	246,116	247,342
1967	470,009	467,016	2,993	306,350	163,659
1968	544,415	540,744	3,671	325,184	219,231
1969	766,489	754,449	12,040	311,797	454,692
1970	714,964	710,388	4,576	340,711	374,253
1971	485,177	480,011	5,166	399,282	85,895
1972	541,564	536,043	5,521	402,471	139,093
1973	741,955	738,004	3,952	346,867	395,088
1974	904,205	889,814	4,391	503,213	400,992

Source: GRZ, *Monthly Digest of Statistics*, March 1977, 19.

The CSO compiled balance of payments data, which provided a systematic record of Zambia's economic transactions with the rest of the world. This was facilitated by the breakup of the Federation and the attainment of independence that paved way for Zambia to be a unique monetary area. The data were collected through the balance of payments enquiry held annually by the CSO and the Bank of Zambia. They included transactions in goods and services, transfer payments, capital inflows and outflows and changes in foreign assets and liabilities.¹⁴⁹ Ali explains that balance of payments expanded with the economic role of trade surpluses, foreign reserves, external

¹⁴⁸ *Ibid*, 16.

¹⁴⁹ GRZ, *Department of Census and Statistics Report*, 1974, 13-14 and GRZ, *Balance of Payments Statistics*, 1968-1970 (Lusaka: CSO, 1972), 1.

capital and debt contraction.¹⁵⁰ The data were also heavily influenced by external forces, especially the United Nations that provided technical experts who supervised the enquiry and the compilation of tables using concepts and methods adopted from the IMF.¹⁵¹ Also, in 1968, the CSO extended data on external payments and receipts following a recommendation by the IMF. This prompted it to hold a survey of Zambia's assets and liabilities and collected detailed data for expanding the tables.¹⁵² Besides the improvements, the CSO made organisational changes in 1974 and moved balance of payments from the national accounts to the finance branch where they were compiled besides data on public finance and external trade. This was done to improve efficiency. Also, it began to identify investment units by nature and extent of foreign participation and control.¹⁵³

4.5.5. Labour Statistics

These were compiled by the CSO and the Ministry of Labour. Data produced by the CSO mainly covered employment in various sectors and were collected using the employment census, monthly labour returns, quarterly employment enquiries and the 1969 population and housing census.¹⁵⁴ In December 1965, the CSO held an employment census in Zambia after updating the establishments register. This was used to collect data required for formulating new labour policies following the attainment of independence. The census attained 70-75 percent response and was repeated in March 1966 with similar results. The CSO maintains that the census obtained 'more reliable data on the distribution of employment according to industrial sectors.'¹⁵⁵ The census also helped to develop a new sampling procedure that was used in the employment enquiry. However, it should

¹⁵⁰ A.A. Ali, 'Balance of Payments Statistics: Purpose, Method, Sources and Problems, Case of Sudan', *Sudan Records*, 56 (1975), 176-91.

¹⁵¹ GRZ, *Department of Census and Statistics Annual Report*, 1966, 4.

¹⁵² GRZ, *Department of Census and Statistics Annual Reports*, 1968-9, 3.

¹⁵³ GRZ, *Department of Census and Statistics Annual Report*, 1974, 15.

¹⁵⁴ ZCCM 12.2.9D Roan Copper Mines Monthly Labour Return, May 1970 and GRZ, *Department of Census and Statistics Annual Report*, 1966, 2.

¹⁵⁵ GRZ, *Department of Census and Statistics Annual Report*, 1966, 2.

be noted that while the census was more detailed than other sources of labour statistics, a non-response rate of 25-30 percent weakened the quality of data. Other labour data were collected through monthly labour returns made by employers to the Labour Department. The returns were, nonetheless, not detailed as they only reported the number of employees in service and at work and the shifts and hours worked.¹⁵⁶ Also, some of them were incomplete and others had a number of errors that the department only corrected after follow-ups.

In the first decade of independence, the CSO held the quarterly employment enquiry and upgraded its scope and methodology to improve the quality of data. In 1967, the enquiry was expanded so much that it covered nearly all establishments.¹⁵⁷ Besides, revisions were made to the series as other data became available to update them and meet global standards. In 1971, tables for the previous four years were revised in line with the new ISIC and data on employees by province and industrial disputes were included.¹⁵⁸ In the same year, the CSO began to classify employees as Zambians and non-Zambians, instead of Africans and non-Africans, to facilitate the implementation of Zambianisation. By 1974, it updated and computerised the register of firms and extended the enquiry to include data on earnings. The enquiry reported the number of employees, earnings in each industry and data on labour exchange and industrial disputes, and was more detailed than the monthly labour returns.¹⁵⁹

Yet, the data generated from the employment enquiry were not without issues. The enquiry was affected by shortages of staff and equipment especially in the late 1960s. In 1967, for example, the expansion of the coverage of the enquiry increased the workload while it was not possible to recruit

¹⁵⁶ ZCCM 12.2.9D Roan Copper Mines Monthly Labour Return, August 1974.

¹⁵⁷ GRZ, *Department of Census and Statistics Report*, 1967, 2.

¹⁵⁸ GRZ, *Monthly Digest of Statistics*, August 1971, 4-6.

¹⁵⁹ GRZ, *Department of Census and Statistics Annual Report*, 1974, 14-15.

more staff to complete the work without delay.¹⁶⁰ Moreover, there were difficulties in processing and analysing data due to inadequate equipment. Nonetheless, as a result of the computerisation done in 1969, data processing worked well for some time and a detailed publication of trends in industrial employment and earnings for the previous three years was issued.¹⁶¹ However, from the fourth quarter of the year, the computer was occupied with work on the population census and the processing of employment data slowed down until 1972.¹⁶² This demonstrates the inadequate capacity of the CSO and the prioritisation of the 1969 census of population and housing.

The population census itself collected data on employment in various sectors. A notable example was agricultural employment, which was largely neglected in the colonial period. The collection of data on agricultural employment was stimulated by the attainment of independence because, as Jerven argues, certain activities and sections of the population that were not considered to be productive in the colonial period were now seen as productive as the newly independent state sought to account for the contribution of all Zambians to economic development.¹⁶³ This represents the attempt by the state to Zambianise statistics. As a result, there were substantial discrepancies in the data collected by the 1969 census and the estimates made in the colonial period. For example, while the 1961 census put the number of agricultural employees at 38,679, the 1969 census found 330,300 agricultural employees, an unlikely increase of 291,579 in just eight years that points to earlier underestimations and omissions caused by conceptual inadequacies.¹⁶⁴

¹⁶⁰ GRZ, *Department of Census and Statistics Report, 1967*, 2.

¹⁶¹ GRZ, *Department of Census and Statistics Annual Report, 1969*, 2.

¹⁶² *Ibid.*

¹⁶³ Morten Jerven, *Economic Growth and Measurement Reconsidered in Botswana, Kenya, Tanzania and Zambia, 1965-1995* (Oxford: Oxford University Press, 2014), 150.

¹⁶⁴ See, for example, GRZ, *Census of Population and Housing 1969*, B 60.

The CSO sometimes worked in conjunction with the Ministry of Labour. In 1968, the two institutions began to strengthen their collaboration in order to expand the collection of labour statistics beyond the existing enquiries and evolve an integrated scheme of data on labour.¹⁶⁵ Thus, in 1971, the CSO aided the ministry to re-process data that the latter had collected during the 1969 survey of occupational earnings. Besides, it helped the ministry to conduct a monthly enquiry of forty-two establishments from which data on labour were derived.¹⁶⁶ Hence, the Ministry of Labour continued to work harmoniously with the CSO in order to improve the quantity and quality of labour statistics in Zambia. This collaboration stretches back to the colonial period during which statistical offices worked with the Labour Department to collect data on labour.

4.5.6. Consumer Price Statistics

The CSO compiled data on prices focusing on the consumer price index, the wholesale price index and the building materials price index. This section focuses on the consumer price index to illustrate the works done and the limitations of the data. Soon after taking over work on the consumer price index in 1965, the CSO attempted to improve the data by increasing the number of price quotations that were used. This was facilitated by an arrangement between the CSO and the Price Controller through which data gathered by the former were complemented with figures collected by price checkers from the latter.¹⁶⁷ More importantly, the CSO undertook a budget survey of low-cost households in 1966-8 and collected data for deriving new weights that were used to revise the indices and develop a new series. The survey used a sample of 2,576 households selected using a stratified random sampling procedure and gathered data on household income, expenditure and various other economic and social aspects. Data collection from selected towns

¹⁶⁵ GRZ, *Department of Census and Statistics Annual Report, 1968*, 2.

¹⁶⁶ GRZ, *Department of Census and Statistics Annual Report, 1971*, 2.

¹⁶⁷ GRZ, *Department of Census and Statistics Annual Reports, 1966-7*, 2 and *Mufulira Mirror*, 13 February 1970, 6.

was done by personnel from provincial statistical offices.¹⁶⁸ Since non-response was a big challenge, they had to make follow-ups in order to obtain complete data.

After the 1966-8 budget survey, the CSO revised and rebased the indices for the lower income group to 1969. The data illuminated the ‘changes in the prices of goods and services entering into the household budgets of families with incomes of K60 and below per month.’¹⁶⁹ Similarly, in 1970, it updated and rebased to the same year the consumer price indices for the higher income group which related to families with monthly incomes of at least K160. According to the CSO, the figures were compiled using latest techniques so that they accurately reflected changes in the prices of goods and services consumed by the upper income group.¹⁷⁰ The two series were updated on a monthly basis in the period 1971-4 and issued in the *Monthly Digest* because they were ‘of special interest to the public and Government as they provided the basic indicators for gauging changes in the prices of commodities especially at a time of rising inflation’¹⁷¹ Table 4.4 shows the average consumer price indices for 1970-74 for the higher income group with 1969 as the base year.

¹⁶⁸ GRZ, *Urban Household Budget Survey in Low-Cost Areas, 1966-68* (Lusaka: CSO, 1973), 1. The surveys were conducted in Lusaka, Kitwe, Kabwe, Ndola, Luanshya, Choma, Livingstone, Chipata and Mongu. NAZ/MF 1/3/242 Director of CSO to Permanent Secretary of the Ministry of Finance, 20 January 1967.

¹⁶⁹ GRZ, *Department of Census and Statistics Annual Report, 1970*, 6.

¹⁷⁰ *Ibid*, 7.

¹⁷¹ GRZ, *Department of Census and Statistics Annual Report, 1974*, 12. The Consumer Price Indices revealed a rapid increase in inflation in the 1970s. See Cochrane and Roth, ‘Land Use Patterns’, 219 & 224 and ZCCM 12.7.4B ‘Life on the Copperbelt is more Expensive’, Extract from *Times of Zambia*, July 1974.

Table 4.4: Consumer Price Indices for the High Income Group, 1970-74

Weight	1000	309	79	194	130	13	158	79
Year	All items	Food items	Clothing and footwear	Rent, fuel and lighting	Furniture	Medical services	Transport and communication	Recreation
1970	105.0	103.0	103.4	111.8	104.7	100.0	101.8	103.8
1971	110.9	109.7	109.4	119.7	109.1	102.0	107.3	110.3
1972	118.7	119.9	120.0	121.5	118.4	108.4	118.4	113.6
1973	126.4	128.8	131.9	125.0	128.6	113.2	127.1	119.1
1974	134.6	142.0	142.0	125.9	136.7	117.1	135.8	126.1

Source: ZCCM 12.7.4B African Cost of Living Allowance, 1960-74.

In 1974, the CSO conducted a budget survey of urban, peri-urban and rural households, the first of its kind since its predecessors were restricted to urban areas. Mulenga observes that the survey embraced all racial groups and argues that it was used to evaluate demographic data on household size and composition.¹⁷² In contrast, this study stresses that the survey was primarily envisioned to yield data for assessing incomes as well as spending and consumption patterns. The data were used to derive new weights for revising the consumer price indices. In urban and peri-urban areas, enumerators collected data from households on a daily basis while in rural areas they visited each sample household once in three days for a month.¹⁷³ Data analysis and publication of results were finalised in 1976 after which they were used to rebase the indices. Kiregyera and Banda assert that ‘the household sector is the weakest aspect of national statistics in Zambia in spite of the fact that the household as a composite social, demographic and economic unit is at the centre of the development process.’¹⁷⁴ This was partly due to the infrequent conduct of household budget surveys and the challenges faced in obtaining quality responses that weakened the quality of data.

¹⁷² Mulenga, ‘Zambia’, 344.

¹⁷³ GRZ, *Department of Census and Statistics Annual Report, 1974*, 2.

¹⁷⁴ Kiregyera and Banda, ‘Challenges of a Central Statistical Office’, 35.

4.5.7. National Accounts Statistics

National accounts statistics were a top priority of the CSO in the period 1964-74 due to their significance in economic planning, analysis and diagnosis. Although the datasets were expanded in the first decade of independence, their quality and adherence to global standards suffered from limitations of inadequate sources that spilled over from the colonial period. The agenda for national accounts data itself was driven by external forces particularly the United Nations. In 1965, the UNECA reported that the most important exercise done by the Zambian CSO was the preparation of national accounts statistics for 1964.¹⁷⁵ The work was done by expatriates from the United Nations. The UNECA assigned experts to nine African countries, including Zambia, to assist in preparing the estimates and lay a sound foundation for compiling them in order to enhance the government's economic interventions as proposed in the *Seers Report*.¹⁷⁶ Initially, the CSO's emphasis was on laying a footing for data relevant to Zambia other than continuity from the colonial period. As a result, the figures were not necessarily comparable with those of the colonial era until adjustments were later made.

As noted by Jerven, from 1964, Zambia switched from the income approach for constructing national accounts to the commodity method, which was used up to the late 1970s.¹⁷⁷ The income approach involved the construction of GDP by adding profits, rents, interest, dividends, salaries and wages while the commodity method summed up estimates of value added per sector to obtain the total value added.¹⁷⁸ The shift in methodology was stimulated by the dictates of independence and was a clear example of the Zambianisation of statistics. It was envisioned to incorporate

¹⁷⁵ UNECA, 'Summary of Progress Reports', 49.

¹⁷⁶ UNSO, 'Programme of Assistance to Statistical Development', 2.

¹⁷⁷ Jerven, *Economic Growth and Measurement Reconsidered*, 150. Also see 'Preface', in GRZ, *National Accounts, 1964-67* (Lusaka: CSO, 1970).

¹⁷⁸ Jerven, *Poor Numbers*, 12.

sections of the economy, particularly the rural subsistence sector, that were largely excluded in the colonial period. In the independent nation, such sectors were seen as productive and worth incorporating in the estimates. Yet, counting them using the income method was problematic with the paucity of data and hence the switch by the Zambian CSO to the commodity approach.¹⁷⁹

The sources of data used by the CSO to compile national accounts appear in some of its annual reports and national accounts publications, which indicate the local and international frameworks that were used.¹⁸⁰ The accounts were compiled within the context of the 1966 National Accounts and Balance of Payments Regulations and using the 1969 System of National Accounts. While the regulations outlined the sources of information for the CSO, the System of National Accounts provided a detailed conceptual and methodological guide for data collection, analysis and presentation.¹⁸¹ As in the federal period, the main source of data was the national accounts enquiry that collected statistics on mining, banking, finance and insurance. However, it was inadequate as it covered only four out of nine sectors in the International Standard of Industrial Classification.¹⁸² Thus, it was enhanced by data from enquiries on agriculture, manufacturing, employment, transport, construction, electricity and water. Also, hunting and subsistence farming were estimated using FAO guidance on per capita consumption of various types of items while data on fishing came from an annual enquiry on catches and sales from the main fisheries.¹⁸³

A survey of CSO reports reveals the challenges faced in constructing these datasets. The completion of the tables was sometimes frustrated by delays in the availability of data from some firms that did not submit their returns in time and caused a backlog of work. As early as 1966, the

¹⁷⁹ Jerven, *Economic Growth and Measurement Reconsidered*, 150.

¹⁸⁰ GRZ, *Department of Census and Statistics Annual Report, 1966*, 4.

¹⁸¹ *Ibid.*

¹⁸² Jerven, *Economic Growth and Measurement Reconsidered*, 152.

¹⁸³ GRZ, *National Accounts, 1964-7*, 37 and *Fisheries Statistics: Natural Waters 1971* (Lusaka: CSO, 1971).

CSO bemoaned the challenges involved in getting back the forms.¹⁸⁴ Besides, delays faced by other enquiries such as the industrial and agricultural censuses also held up works on the accounts. The problem persisted in the period leading to 1974 and caused the loss of substantial time for processing the estimates. For example, national accounts and input-output tables for 1971-3 were all still under preparation at the end of 1974 due to insufficient data.¹⁸⁵ In fact, with the incompleteness of agricultural data, the CSO delayed the accounts for these years until the completion of the 1970-71 census of agriculture. To speed up the national income enquiry, the CSO revised the questionnaire in 1974 and introduced a shorter form for small trading units. This was to some extent successful as most of the returns were received and it enabled the timely release of GDP data.¹⁸⁶ However, the publication of the final report was held up by delays at the Government Printer, which had a printing backlog.

National accounts figures were issued in the *Monthly Digest of Statistics* and national accounts reports. Like in the colonial era, accounts for each year underwent revisions in subsequent years when more data were obtained. Hence, the CSO continued to use asterisk like “preliminary” and “provisional” for recent data, especially those in the *Monthly Digests*.¹⁸⁷ While this served to alert users on the need to look for final figures in later reports, it signaled the inadequacy of requisite data. Table 4.5 presents the GDP estimates of Zambia for 1970-74 at constant 1965 prices.

¹⁸⁴ GRZ, *Department of Census and Statistics Annual Report, 1966*, 4. Also see GRZ, *Department of Census and Statistics Reports, 1967 & 1969*, 3.

¹⁸⁵ GRZ, *National Accounts, 1964-68* (Lusaka: CSO, 1971), GRZ, *National Accounts, 1970* (Lusaka: CSO, 1978) and GRZ, *Department of Census and Statistics Annual Report, 1974*, 13.

¹⁸⁶ GRZ, *Balance of Payments Statistics, 1972* (Lusaka: CSO, 1974), 1.

¹⁸⁷ GRZ, *Monthly Digest of Statistics, August 1971* and GRZ, *Monthly Digest of Statistics, July 1974*, 54-9.

Table 4.5: GDP Estimates at Constant 1965 Prices (K' million), 1970-74

Kind of activity	1970	1971	1972	1973	1974
Agriculture, forestry and fisheries	115.7	118.2	129.2	131.4	128.6
Mining and quarrying	232.6	202.7	217.6	227.2	231.8
Manufacturing	82.3	86.2	101.0	106.0	117.2
Electricity, gas and water	16.0	19.8	27.2	30.4	38.0
Construction	52.1	51.1	56.6	61.0	59.1
Wholesale and retail trade	91.3	87.5	88.5	95.0	120.0
Hotels and restaurants	12.0	12.3	12.8	12.1	12.0
Transport, communication and storage	39.8	47.5	43.9	45.1	44.0
Financial institutions and insurance	18.0	18.9	17.8	20.7	19.3
Real estate	25.0	30.0	27.6	29.7	34.5
Business services	12.6	15.1	17.0	20.5	19.8
Community, social and personal services	129.2	137.2	148.8	132.4	136.4
Import duties	25.1	23.0	23.3	19.4	21.2
Less imputed bank services charges	6.4	6.7	6.3	7.4	6.9
Total GDP	845.3	842.8	905.0	923.5	975.0

Source: GRZ, *Monthly Digest of Statistics*, February 1977, 51.

4.6. Conclusion

This chapter analysed statistical development in Zambia in the period 1964-74 as a contribution to debates on numerical data production in Africa in the aftermath of independence. It has argued that the independence euphoria stimulated elaborate national development plans, extensive public service delivery and Zambianisation, which combined with external forces to shape statistical development. As the Zambian leadership sought to develop a modern state, they began to build a statistical service that would collect data on the social and economic progress of the Zambian people. They enacted a statistics legislation that spelt out the organisation of the statistical service and its functions. However, data collecting institutions largely did not enforce the legislation in terms of punishing non-compliant data providers.

The chapter also argues that the United Nations was a crucial contributor to statistical development in Zambia as it helped to fund recruitment of expatriate personnel, train Zambian statistical staff

and organise international conferences, meetings and seminars that facilitated the sharing of information on statistical organisation, concepts, methods and challenges faced. Also, the World Census of Population and Agriculture organised by the United Nations stimulated the conduct of the 1969 population and housing census, the 1970 countrywide census of agriculture and various other surveys and most datasets were compiled under its framework. At regional level, the strained relations between Zambia and the white regimes in Rhodesia and South Africa thwarted the possibility of help from the two countries in developing a statistical service. In view of this situation, Zambia turned to the United Nations to help develop a statistical system.

A survey of various datasets sustains the argument that the production of statistics increased in the independence aftermath as Zambia held various censuses and surveys in the sectors of population, agriculture, industrial production, mining, labour and national accounts. Zambia also began to collect data on external trade and balance of payments after the collapse of the federal monetary area. However, the collection of data continued to face challenges of late responses, non-response, shortage of personnel and inadequate equipment that often delayed the processing of data and compromised their quality. Despite the surge in statistics, the quality of the figures was weakened by such challenges and the fragile application of some concepts resulting from lack of suitable data. The chapter also noted that the capacity to compile statistics depended largely on technical experts from the United Nations who were specialised in various fields. Therefore, it is concluded here that the development of statistics in the aftermath of independence had a fragile footing that would succumb to the strain of the economic crisis that hit the country from the mid-1970s to the 1990s. The impact of the economic crisis on statistical development in Zambia constitutes one of the major aspects examined in the next chapter.

Chapter Five

The Slowdown in Statistical Development in Zambia during the Lost Years, 1975-90

5.1. Introduction

Africa experienced a slowdown in the production of statistics mainly in the late 1970s and the 1980s due to the economic crisis and political instability that hit most of its countries. Lehohla and Jerven both argue that the gains made in data production in the decade up to the mid-1970s dwindled drastically as the economic crisis led to curtailment of funding to statistical offices and caused a reduction in personnel, equipment and data collection.¹ Consequently, statistics became scanty and they were usually issued later than they were required. Similarly, Kratke and Byiers argue that the post-independence improvement in the quality and availability of quantitative data in Africa fell remarkably in the 1980s due to the declining statistical infrastructure.² Despite their significant contribution to the discourse on statistical development, the above works lack detailed analysis of the actual enquiries held and how they were differently affected by the decline.

This chapter analyses the production of statistics in Zambia during the slowdown in order to provide a nuanced understanding of the nature of the decline in data. It begins in 1975 when the oil crisis seriously hit the Zambian economy with consequences on the statistical system and ends in 1990 which marked the end of the one-party state and the beginning of efforts to revive data production. It demonstrates that the economic crisis and the political setting negatively affected statistical development in Zambia. While the government and United Nations agencies continued

¹ Morten Jerven, *Poor Numbers: How We are Misled by African Development Statistics and What to Do About it* (Ithaca and London: Cornell University Press, 2013), 45-7 and Pali Lehohla, 'Statistical Development in Africa in the Context of the Global Statistical System', Paper for the Thirty-Ninth Session of the United Nations Statistical Commission (UNSO), 26-29 February 2008, 2-5.

² Florian Kratke and Bruce Byiers, 'The Political Economy of Official Statistics: Implications for the Data Revolution in Sub-Saharan Africa', PARIS21 Discussion Paper No. 5, 2014, 9.

to support some statistical works, their support declined in overall terms. The chapter also examines the reorganisation of the statistical service and the major works it undertook. It explores the nature and extent of the slowdown in various enquiries and datasets, and partly attributes the decline in statistics to the weak footing and the work backlog that started in the previous period and became insurmountable for most datasets by the mid-1980s. The chapter further argues that the decline in data was neither uniform nor universal as some works were sustained and new enquiries introduced as a participation in international programmes. However, the overall decline in data weakened the legibility of socio-economic ills and the effectiveness of policy interventions.

5.2. The Economic Crisis

In the period 1975-90, statistical development was disrupted by the economic crisis that began with the 1973 increase in oil prices and the collapse of copper prices by 1975, which shook the Zambian economy off balance. Fried and Schultze argue that a series of oil tremors that started in 1973 seriously affected the world economy.³ By the end of 1974, the price of oil had quadrupled its pre-crisis peak and the result, as Tims explains, was a recession in industrialised countries that caused a reduction in exports and foreign exchange earnings and depressed the capacity to import and support domestic investment.⁴ The effects of the oil price shocks were even more devastating for developing African countries, which saw a reduction in their terms of trade and a sustained impairment of their capacity to import as prices of exports tumbled down by the end of 1975. In relation to Zambia, Larmer remarks that ‘the copper price peaked at £1,400 per ton in April 1974 before collapsing in 1975 to £500-£600 per ton. Copper values never recovered in real terms until

³ Edward Fried and Charles L. Schultze, ‘Overview’, in Edward R. Fried and Charles L. Schultze (eds.), *Higher Oil Prices and the World Economy: The Adjustment Problem* (Washington, DC: The Brookings Institution, 1975), 1.

⁴ Wouter Tims, ‘The Developing Countries’, in Edward R. Fried and Charles L. Schultze (eds.), *Higher Oil Prices and the World Economy: The Adjustment Problem* (Washington, DC: The Brookings Institution, 1975), 169.

the boom of the first decade of the twenty-first century.’⁵ Thus, copper revenue remained low and affected other economic sectors. As Mulenga explains, the period from 1975 onwards witnessed a drastic contraction of the Zambian economy that resulted from the reduced demand for industrial and construction inputs.⁶ Besides, the fall in export prices and rise in import prices triggered high deficits in the balance of payments and national budgets. To sustain its imports, the government engaged in borrowing from the international community and this led to a huge debt burden.⁷

The above problems negatively affected the production of statistics in Zambia. Amidst the economic crisis, many public institutions had to adjust their work to suit the changing times and by the end of 1975, the CSO began to adjust its works to suit the new exigencies.⁸ During the crisis, the government apparently sustained its responsibility for the welfare of its citizens and continued to provide essential services like education and health freely using funds mobilised through external borrowing. To provide such services, the government required a sound statistical base to inform its decisions. Therefore, the CSO had to furnish the requisite navigational guide that the government needed ‘to captain the economic ship into safer waters.’⁹ Generally, in the period 1975-84, various statistical enquiries continued to be held, but with a growing backlog. It was mainly during the years 1985-93 that many enquiries became erratic, though new others were initiated in the sectors of labour, demography and health. The economic dilemma also exposed the

⁵ Miles Larmer, ‘Historical Perspectives on Zambia’s Mining Booms and Busts’, in Alastair Fraser and Miles Larmer (eds.), *Zambia, Mining, and Neoliberalism: Boom and Bust on the Globalised Copperbelt* (New York: Palgrave Macmillan, 2010), 38-9. Similarly, Fraser observes that copper prices remained at rock bottom until the twenty-first century. See Alastair Fraser, ‘Introduction: Boom and Bust on the Zambian Copperbelt’, in Alastair Fraser and Miles Larmer (eds.), *Zambia, Mining, and Neoliberalism: Boom and Bust on the Globalised Copperbelt* (New York: Palgrave Macmillan, 2010), 2.

⁶ Friday E. Mulenga, ‘Crises of Expectations: Workers’ Struggles in Zambia, 1964-2011’, PhD Thesis, University of Zambia, 2017, 129. Also see GRZ, *Department of Census and Statistics Annual Report for year ended December, 1975* (Lusaka: CSO, 1977), 1.

⁷ Ibid.

⁸ GRZ, *Department of Census and Statistics Annual Report, 1975*, 1.

⁹ Ibid.

fragile footing of the statistical system and ‘brought to the fore the many weaknesses that the Zambian Statistical Service suffers.’¹⁰ Among other issues, the CSO noted that Zambia lacked sufficient analytical know-how in various fields and so required a well-coordinated statistical system so that available staff could be used in various institutions. This triggered the government’s attempt to create a unified statistical system in 1976 and influenced the CSO to advocate for strengthening its human resources in order to reduce dependence on expatriates.¹¹

Besides, Zambia pursued its development agenda through national development plans, though they were only partially executed and their results were unimpressive due to the drastic contraction of the economy. The country partially implemented its Third National Development Plan in 1979-83 and started the Fourth National Development Plan in 1989 but discontinued it in 1990 before it could reach its final year in 1993.¹² The Third Plan envisaged ‘a major shift in the investment pattern in favour of three productive sectors - agriculture, industry and mining - within the economy in order to reduce the country’s heavy dependence on imports and establish a self-sustaining economy.’¹³ Yet, the implementation of the plan faced challenges in view of low copper prices that considerably reduced revenues and limited the available funding. The formulation of these plans required statistics and so, the statistical service attempted to sustain the collection of quantitative data. Thus, despite the harsh conditions engendered by the economic crisis, the CSO continued to hold most of the enquiries during the Third National Development Plan but could not sustain some of them beyond the period of the plan due to the prolonged shortage of funding.

¹⁰ *Ibid.*

¹¹ *Ibid.*

¹² For details, see Chipungu, *State, Technology and Peasant Differentiation*, 204 and Steve Kayizzi-Mugerwa, ‘Growth from Own Resources: Zambia’s Fourth National Development Plan in Perspective’, *Development Policy Review*, 8, 1 (1990), 59-76.

¹³ GRZ, *Third National Development Plan*, iv.

5.3. The Political Environment

The main aspect of the political setting in which data producers worked was the one-party system of democracy that was introduced in 1973, whose effects became serious from the late 1970s and persisted to the early 1990s. A number of factors, outside the scope of this chapter, made the UNIP government to introduce the one-party state in Zambia.¹⁴ On 25 February 1972, Kaunda announced that the UNIP government had resolved to make Zambia a one-party state. After a process of constitutional change facilitated by the Chona Commission, Zambia was proclaimed a one-party state on 13 December 1972.¹⁵ Consequently, the independence constitution, which instituted the multi-party system, was replaced with a new constitution in August 1973. In the new setup, the party and the state were merged in a hierarchical leadership in which all power was vested in the president of UNIP who was also the republican president and head of state.¹⁶ Ollawa comprehensively explores the dominance of UNIP and its president over other institutions and the politicisation of top positions in government and parastatal institutions, which were filled with party supporters.¹⁷ Besides, personnel heading government institutions and parastatals were dismissed immediately they were suspected of being disloyal to the party.

This study notes that the political transformation to the one-party system to some extent influenced the reporting of statistics in Zambia. Statisticians were made to depict the CSO as primarily serving “the party and its government” and they incorporated the language of the UNIP regime in their

¹⁴ For details, see C.M. Chabatama, ‘The Untold Story: Experiences of Zambians in a One Party State’, in Y.A. Chondoka, B.J. Phiri and C.M. Chabatama (eds.), *Zambia: Forty Years after Independence, 1964-2004* (Lusaka: UNZA History Department, 2007), 45, Miles Larmer ‘Enemies Within? Opposition to the Zambian one-party state’, in Jan-Bart Gewald, Marja Hinfelaar and Giacomo Macola (eds.), *One Zambia many histories: Towards a postcolonial history of Zambia* (Laiden and Boston, MA: Brill, 2008), 100 and Patrick E. Ollawa, *Participatory Democracy in Zambia: The Political Economy of National Development* (Devon, UK: Arthur Stockwell Ltd., 1979), 229-60.

¹⁵ Ollawa, *Participatory Democracy in Zambia*, 260-61.

¹⁶ Chabatama, ‘Untold Story’, 52.

¹⁷ Ollawa, *Participatory Democracy in Zambia*, 66, 261-70.

reporting. The CSO repeatedly remarked in its annual reports that it rendered statistical services to ‘the Party and its Government.’¹⁸ This phrase was used by other government institutions to show allegiance to Kaunda and his regime. It was not difficult for the government to exert this influence because the CSO was by 1973 already in the hands of local Zambians as directors of the CSO as part of the policy of Zambianisation. In 1970, F.M. Walusiku replaced D.H. Bhate who had been at the helm of the CSO since 1965 to become the first Zambian to serve as Director of Census and Statistics (1970-75). He was followed by M.S.C. Mulenga (1975-81) and J.P. Banda (1981-91).¹⁹ These were beneficiaries of the training schemes undertaken under the support of the United Nations and they were qualified in various statistical fields. In contrast with the expatriate director who primarily advanced the interests of the United Nations, the local directors would abide by the demands of the one party state as other institutions did.

Meddling in the work of statistical offices was common in socialist countries. In the Soviet Union, Heleniak and Motivans note that state officials fudged the data released by the *Goskomstat* to paint the picture that their policies were working.²⁰ Restrictions of data circulation in order to maintain secrecy partly triggered the non-publication of some statistics in Zambia, with financial challenges being a convenient excuse. In 1984, two academics, Ncube and Seshamani noted that concealment of statistics in developing countries made them inaccessible.²¹ In this vein, Likando Kalaluka, Member of Parliament for Senanga, lamented during parliamentary debates in 1986 that ‘in this country, it is very difficult to obtain information on certain subjects because each department strictly guards its own information. As a result, a number of people ... who want to find out the

¹⁸ See, for example, GRZ, *Department of Census and Statistics Annual Report for 1981* (Lusaka: CSO, 1983), 1.

¹⁹ GRZ, *Department of Census and Statistics Annual Reports 1975 and 1981* and GRZ, *Department of Census and Statistics Annual Report for the year 1994* (Lusaka: CSO, 1994), 3.

²⁰ Tim Heleniak and Albert Motivans, ‘A Note on Glasnost and the Soviet Statistical System’, *Soviet Studies*, 43, 3 (1991), 473-5.

²¹ *Zambia Daily Mail*, Thursday, 3 May 1984, 3.

real position of Zambia's economic development have difficulties.'²² Similarly, Heleniak and Motivans argue that in pre-*glasnost* Soviet Union, government departments hid most of their data with the result that statistics largely became inaccessible as their circulation was limited to few officials and academics.²³ Therefore, this study upholds the argument that the political setting partly shaped statistical development in socialist states. The limited dissemination of data was a means through which government power was partly asserted during the one-party state.

As a result of the economic and social challenges that Zambia faced in the 1980s, Kaunda and his UNIP government became unpopular in the entire country and after a series of demonstrations, he was forced to return Zambia to multi-party democracy in 1990 and lost the subsequent 1991 elections. Chabatama states that some 'courageous Zambians capitalised on Kaunda's growing unpopularity and [the] socio-economic decay of the country and formed the Movement for Multi-Party Democracy which ... won the 1991 Parliamentary and Presidential elections.'²⁴ The return to multi-party democracy changed the political context in which statistical development occurred as Chapter Six demonstrates. The following section explores the role of the United Nations.

5.4. The Role of the United Nations Organisation

The United Nations continued to contribute to statistical development in Zambia through funding to the CSO directed mainly to personnel training and statistical enquiries. In 1975, the UNECA launched the Statistical Training Programme for Africa, which operated up to 1993, through which staff from African statistical offices were sponsored to take courses at regional training centres and universities.²⁵ Thus, a number of Zambian statistical staff were sent annually to the East

²² *Parliamentary Debates*, 27 February 1986, 2082.

²³ Heleniak and Motivans, 'Note on Glasnost and the Soviet Statistical System', 473-90.

²⁴ Chabatama, 'Untold Story', 52.

²⁵ UNECA, 'Towards Self-reliance in the Development of Statistical Manpower', Fourth Session of the Joint Conference of African Planners, Statisticians and Demographers, Addis Ababa, 3-12 March 1986, 5-12.

African Statistical Training Centre in Tanzania for diploma courses, the Institute of Statistics and Applied Economics at Makerere University in Uganda for degree training and the Regional Institute for Population Studies at the University of Ghana for postgraduate courses.²⁶ The training programmes helped to increase the pool of local personnel who were qualified in statistics and related fields though they remained insufficient for major enquiries and, as already observed, some of them found themselves in other institutions through transfers, promotions or desertions.

In addition, the UNDP started in-service training courses at the CSO in 1975 for staff in both public and private sectors. Such a scheme was initially held in 1966-8 with the help of the United Nations. It involved two six-month courses held in 1966-7 and trained ten officers at executive and clerical ranks in elementary mathematics and statistics.²⁷ The scheme was repeated in 1968 but it was suspended until 1975 as most of the available staff had been trained and the CSO wanted to concentrate on the 1969 population and housing census. The renewed scheme provided training in statistics at primary level for six months and intermediate level for nine months to officers at sub-professional level. By 1983, eight primary and four intermediate level intakes had been held and the two had trained 166 and 85 students, respectively.²⁸ When the UNDP stopped sponsoring the programme in 1984, the Zambian government took over and funded it up to 1993 after which the British Overseas Development Agency sponsored it for a year. The government's decision to fund the scheme was influenced by its resolve to staff the statistical service with Zambian personnel, especially with the departure of most expatriates in the 1980s. At its end in 1994, the scheme had held 15 primary and 8 intermediate level sessions that trained a total of 304 and 223 personnel,

²⁶ Ben Kiregyera and J.P. Banda, 'Challenges of a Central Statistical Office in a Developing Economy: The Case of Zambia', *Journal of Official Statistics*, 2, 1 (1986), 41.

²⁷ GRZ, *Department of Census and Statistics Annual Reports, 1967 & 1968*, 1 and GRZ, *Department of Census and Statistics Annual Reports, 1969-74*, 2.

²⁸ GRZ, *Department of Census and Statistics Annual Report for the year 1983* (Lusaka: CSO, 1985), 12.

respectively.²⁹ It introduced participants to major concepts, questionnaire design, data collection, processing and analysis, with the intermediate level having a field project component. Yet, the programme was not very inclusive of the private sector as most of its trainees were drawn from the government institutions and parastatal companies.³⁰

In its evaluation of the local in-service courses, the CSO explains that the programme improved the quality of data from government and parastatal bodies that participated because their staff were trained to complete questionnaires. It noted that forms ‘were now better filled because the staff had been empowered.’³¹ However, with the general reduction in enquiries, low response rates and delays in reporting, it is unlikely that there was a major boost in the overall quality of data. A positive result of the in-service scheme was career progression for some of the participants who completed the intermediate level and gained entry into statistical institutions abroad. From the programme, 13 Zambians went for intermediate courses in India, 29 for a diploma level at the East African Statistical Training Centre and nine for degree courses at Makerere.³² Others progressed to universities in the United Kingdom and the International Statistics Training Centre in the United States for postgraduate studies. As one informant remarked, many of the staff trained abroad proceeded into managerial posts at the CSO and ministerial statistical units.³³

The UNECA also provided technical assistance to the CSO in support of Zambia’s participation in various statistical programmes such as the African Census Programme, the African Household Survey Capability Programme and the International Comparison Programme that sought to

²⁹ See GRZ, *Central Statistical Office Strategic Plan, 2003-2007* (Lusaka: CSO, 2003), 39-41.

³⁰ GRZ, *Department of Census and Statistics Annual Report, 1983*, 12.

³¹ GRZ, *Central Statistical Office Strategic Plan, 2003-2007*, 39-41.

³² *Ibid.*

³³ Interview with Mubita Sitwala, Cartographer, Copperbelt Regional Statistical Office, Mpelembe House, Ndola, 21 June 2019.

improve data on various sectors.³⁴ Lehohla notes, for example, that the African Household Survey Capability Programme was aimed to boost the statistical capacities of participating countries through a multi-purpose integrated scheme of household surveys that collected data on a continuing basis.³⁵ In this vein, the UNECA helped to formulate concepts and classifications adapted to Africa, provided advisory services, prepared handbooks and manuals and coordinated technical cooperation.³⁶ Zambia was also one of the 25 participants in the International Comparison Programme initiated in 1975 by the United Nations Statistical Office, the University of Pennsylvania and the World Bank. The programme collected data for comparing the incomes and purchasing power and thus helped the country to develop data on the two sectors.³⁷

5.5. Reorganisation of the Zambian Statistical Service

A notable development in the statistical organisation was the operation of a unified statistical service in Zambia in the period 1976-93.³⁸ However, the Zambian statistical system remained characterised by weak bonds that existed in the unified service and tension between some ministries and the CSO. This illustrates the poor coordination that existed in most statistical services in Africa. The background to this system goes back to 1974 when a staff inspection of the CSO and other statistical bodies proposed a restructuring of the service. It was suggested that ‘all statistical personnel in government should come under a common cadre ... under the overall direction of the Director of Census and Statistics.’³⁹ After studying the proposal, the government created the unified service in 1976 comprising the CSO and statistical units of sectoral ministries

³⁴ GRZ, *Central Statistical Office Strategic Plan, 2003-2007*, 56.

³⁵ Lehohla, ‘Statistical Development in Africa’, 7.

³⁶ GRZ, *Central Statistical Office Strategic Plan, 2003-2007*, 56.

³⁷ GRZ, *Department of Census and Statistics Annual Report, 1975*, 3.

³⁸ Kiregyera and Banda, ‘Challenges of a Central Statistical Office’, 36 and GRZ, *National Strategy for the Development of Statistics (NSDS) 2014-2018: National Statistical System Strategic Plan* (Lusaka: CSO, 2014), 4.

³⁹ GRZ, *Department of Census and Statistics Annual Report, 1974*, 6.

that were envisioned to work collectively as the Department of Census and Statistics.⁴⁰ These changes were aimed to enhance coordination and cost-effectiveness in data production. The CSO explains that unification was envisaged to ‘ensure that there was an effective and coordinated framework for the collection, processing and dissemination of all socio-economic statistical information related to Zambia.’⁴¹ This was to be done through the use of standard concepts, definitions and classifications across the service to ensure comparability and integration of all data. Under the new organisation, the CSO recruited statisticians, posted them to all sections of the service and coordinated their transfers and promotions.⁴² Thus, the department comprised staff at CSO headquarters, provincial centres and ministerial units. One weakness of the organisation was the sustained exclusion of major data providers like parastatals and the private sector and this worked against efforts to improve efficiency in data collection.

The CSO claimed that in the unified statistical service, coordination and collaboration with sectoral ministries improved due to the presence of staff it out-posted/seconded to the ministries. It explained that the out-posted staff fostered collaboration and coordination in the service because they became focal points that tailored the statistical work of the ministries to the overall CSO schedule.⁴³ The CSO also noted that unification helped to improve statistical work in the ministries because the out-posted staff were trained in statistics and so collaborated with those at the headquarters to design questionnaires and analyse data.⁴⁴ Yet, this chapter notes that the unified statistical service faced serious challenges as some ministries undermined the role of the CSO and

⁴⁰ Kiregyera and Banda, ‘Challenges of a Central Statistical Office’, 36, GRZ, *Central Statistical Office Strategic Plan, 2003-2007*, 14 and GRZ, *Department of Census and Statistics Annual Report, 1976-9*, 1.

⁴¹ GRZ, *Workbook on Demographic Analysis* (Lusaka: CSO, 1984), 2. Also see GRZ, *National Strategy for the Development of Statistics*, 4.

⁴² GRZ, *Central Statistical Office Strategic Plan, 2003-2007*, 14 and GRZ, *National Strategy for the Development of Statistics 2014-2018*.

⁴³ *Ibid.* Also see GRZ, *Workbook on Demographic Analysis*, 3.

⁴⁴ *Ibid.*

operated in isolation. This caused duplication of work and delays in the appointment of personnel, the very challenges that unification was intended to ameliorate.⁴⁵ An example was the Ministry of Agriculture that held its own surveys without much involvement of the CSO, as illustrated in Section 5.7. It is in this regard that Kiregyera and Banda argue that coordination in the Zambian statistical service remained weak as the CSO did not receive co-operation from some of the institutions in the system.⁴⁶ Therefore, it is concluded here that the Zambian statistical service did not function as a truly unified system.

Within the statistical service, the CSO remained the prime producer and publisher of data for the government. It operated in broad divisions that were divided into subject-specialised branches and was reorganised over the years to improve its efficiency and cope with exigencies of the economic decline.⁴⁷ By the end of 1993, it comprised three broad divisions; the agriculture, fisheries and environment division, the economic and finance division and the social and cultural division. Also, the CSO's staffing expanded over the years from 150 in 1975, to 297 in 1983 and 400 in 1986 before dropping to 303 in 1993 after retrenchment.⁴⁸ Despite the increase in staffing, these numbers remained inadequate and from the late 1970s the CSO began to engage non-appointed staff to help with some projects and cushion its manpower deficit. In 1994, the number of non-appointed staff had reached 1,097.⁴⁹ Although they were supposed to be contracted on temporary basis, non-appointed personnel usually served for quite longer periods averaging as much as fourteen years in 1993 because the CSO needed them. This demonstrates that although there was

⁴⁵ GRZ, *Workbook on Demographic Analysis*, 3.

⁴⁶ Kiregyera and Banda, 'Challenges of a Statistical Office', 36-42.

⁴⁷ See, for example, GRZ, *Department of Census and Statistics Annual Report, 1981*, 3-5.

⁴⁸ Appendices to GRZ, *Department of Census and Statistics Annual Report, 1975*, GRZ, *Department of Census and Statistics Annual Report, 1983* and GRZ, *Department of Census and Statistics Annual Report, 1994*, 3. Also refer to Kiregyera and Banda, 'Challenges of a Central Statistical Office', 35.

⁴⁹ GRZ, *Department of Census and Statistics Annual Report, 1994*, 3.

an expansion in the number of trained personnel in the country, the CSO was constrained to recruit them full-time due to inadequate resources and opted to engage them as non-appointed staff under an arrangement in which they were given a token of appreciation rather than a full monthly salary.

5.6. Uneven Conduct of Statistical Works

Existing scholarship asserts that the collection of statistics in Africa drastically declined during the lost decades without considering differences in specific sectors and so portray a picture of uniform reduction in data.⁵⁰ This section analyses developments in specific sectors and unveils the varying ways in which they were affected by the decline. It argues that while the production of statistics significantly reduced, some enquiries were sustained in sectors like population, labour, prices and external trade. However, they also faced delays and backlogs of work. Therefore, this section concludes that the decline in data was uneven as some works were sustained and some new enquiries were introduced as a participation in international programmes.

5.6.1. Challenges at the Government Printer

One crucial point to note about the period under discussion was the problem of lack of printing facilities at the CSO. The office relied on the Government Printer for printing and binding its reports.⁵¹ However, as the Government Printer served various other state ministries and institutions and became overwhelmed by the heavy load of work in the 1970s. With the reduced funding from the late 1970s, the Government Printer accumulated a serious backlog of work. This resulted in the irregular publication of reports and seriously affected the CSO's dissemination of data. A similar state of affairs prevailed in Ghana. Jerven notes that 'the Ghanaian Statistical Services ceased publishing its annual economic survey in 1985 due to lack of funding and qualified

⁵⁰ Jerven, *Poor Numbers*, 45-7 and Lehohla, 'Statistical Development', 2-5.

⁵¹ GRZ, *Department of Census and Statistics Annual Report for the year 1980* (Lusaka: CSO, 1982), 2.

personnel.’⁵² In fact, up to the year 2004, the publication of the annual economic survey in Ghana was not reinstated. Thus, the problem of lack of data dissemination was not unique to Zambia.

The Zambian CSO explains that the irregularity in publishing its documents was mainly because the Government Printer did not prioritise the printing of statistical reports during the crisis. In 1980, the CSO lamented the ‘difficulties in publishing some of the regular and specialised reports as the Government Printer, in view of his many important undertakings, unintentionally gives lower priority to statistical jobs.’⁵³ As a result, many statistical reports prepared in the period 1975-90 were either issued very late or not published at all. It is in this regard that in 1984, Ncube and Seshamani lamented that ‘in most cases recent and timely information was not available, not because it had not been collected but because of problems of lack of stationery, printing equipment and materials [and] computing capacity.’⁵⁴ Thus, they argued that by the time the data got published, they had lost a significant part of their quality and usefulness.

The above scenario explains why there was a reduction in the amount of published statistical documents in the late 1970s and 1980s in particular. For example, the *Statistical Year Book of Zambia* remained unpublished since 1971 and annual reports of the CSO for the late 1970s were all compressed into a single small document that was published in 1980. In addition, the *Monthly Digest of Statistics* that was used to disseminate statistics on most of the data generated by the CSO was no longer issued every month despite maintaining its name. From 1975, the digests were erratic, sometimes published bi-annually but mostly on a quarterly basis covering all months after

⁵² Jerven, *Poor Numbers*, 45.

⁵³ GRZ, *Department of Census and Statistics Annual Report, 1980*, 2.

⁵⁴ *Zambia Daily Mail*, Thursday, 3 May 1984, 3.

the previous issue.⁵⁵ As a result, it was not uncommon to find that statistics were not available to data users at the time they were required. Another affected report was the *National Accounts and Input-Output Tables*. Its annual publication could not be sustained. As a result, for example, national accounts data for 1980-3 were all published in one report in 1984.⁵⁶ It was from 1987 that the CSO began to publish the *National Accounts Statistical Bulletin* annually but again this faced a similar fate in the early 1990s due to inadequate printing facilities and resources.⁵⁷ The ensuing sections analyse the nature of the decline in statistical enquiries and demonstrates its unevenness.

5.6.2. Population and Vital Statistics

These categories illustrate the non-uniform nature of the decline in data. While vital statistics (or data on births, marriages and deaths) reduced, population statistics were collected in line with the World Population Census rounds of 1980 and 1990. This unevenness arose from the fact that external agencies supported the collection of population data and not vital statistics. As a result, the collection of vital statistics reduced drastically and their publication that began in 1973 ceased by 1983 with the deterioration of the vital registration system.⁵⁸ Vital statistics were underreported in Zambia due to the limited number of registration centres and the weak application of the law that required vital events to be registered. Kambole and Silanda argue that ‘even though the law to enforce the civil registration is there, it is not harsh for people to fear.’⁵⁹ Thus, only events reported

⁵⁵ See GRZ, *Monthly Digest of Statistics*, July-September 1978, 50-55, GRZ, *Monthly Digest of Statistics*, July-December 1981, 48-53, GRZ, *Monthly Digest of Statistics*, January-March 1984, 46-51, GRZ, *Monthly Digest of Statistics*, April-June 1988, 60-65 and GRZ, *Monthly Digest of Statistics*, October-December 1988, 52-7.

⁵⁶ GRZ, *National Accounts and Input-Output Tables, 1980* (Lusaka: CSO, 1984).

⁵⁷ See *National Accounts Statistics Bulletin*, No. 1, February 1987 and *National Accounts Statistics Bulletin* No. 2, 1988 as listed in GRZ, *Monthly Digest of Statistics*, October-December 1988. Also see GRZ, *National Accounts Statistics Bulletin*, 1989.

⁵⁸ K. Kambole and E.M. Silanda, ‘The Current Status of Civil Registration and Vital Statistics Systems in Zambia’, Paper presented at the UNECA African Workshop on Strategies for Accelerating the Improvement of Civil Registrations and Vital Statistics Systems in Africa, Addis Ababa, Ethiopia, 5-9 December 1994, 15-20.

⁵⁹ Ibid, 16.

voluntarily by households were recorded by the District Registrars and forwarded to the National Registration Department in Lusaka. Besides, transport challenges, inadequate manpower and poor funding inhibited data collection. This weakened the coverage of vital statistics and caused the CSO to stop publishing them in the 1980s.⁶⁰ The challenge was not peculiar to Zambia as vital statistics declined or remained poor in most African countries. In Malawi, for example, Palamuleni notes that as late as 1990, the vital registration system remained incomplete and unreliable with no compulsory reporting of vital events on Africans.⁶¹

In contrast, the Ministry of Health continued to record and report data on health. In fact, among the government ministries, the Ministry of Health had the largest statistical organisation. In 1981, its statistical unit was staffed by a Senior Statistician, G. Joseph, two senior statistical officers, 13 statistical officers and 30 assistant statistical officers.⁶² It is not clear why the ministry was loaded with statistical staff when other ministries had none or almost none. The ministry reported statistics in the *Ministry of Health Annual Report* but mainly in the *Bulletin of Health Statistics*, a bi-annual report that was initiated in 1978 and published in the 1980s.⁶³ The data were assembled from monthly returns of various government, mission and mine health facilities. The bulletin reported figures on various aspects of ‘morbidity and mortality, maternal and child health, demographic and health facility statistics.’⁶⁴ The data were used to identify priority areas in the health sector to guide decision making and planning. It should be noted that the initiation of the bulletin was done

⁶⁰ Ibid, 16-19.

⁶¹ M.E. Palamuleni, ‘Population Dynamics of Malawi: A Re-examination of the Existing Demographic Data’, PhD Thesis, University of London, 1991, 39.

⁶² GRZ, *Department of Census and Statistics Annual Report, 1981*, 13-14.

⁶³ GRZ, *Bulletin of Health Statistics 1985-1986: Major Health Trends, 1976-1986* (Lusaka: Ministry of Health Information Unit, 1986) and GRZ, *Bulletin of Health Statistics 1987-1988: Major Health Trends, 1978-1988* (Lusaka: Ministry of Health Information Unit, 1990).

⁶⁴ GRZ, *Bulletin of Health Statistics 1985-1986*, 5.

at a time when statistical reports on some sectors were becoming erratic. Thus, health statistics actually expanded in the 1980s, illustrating the contrasting effects of the slowdown.

A further contrast related to works on population and demographic data. These were sustained by the CSO as it conducted the census of population and housing in 1980 and 1990 and the Zambia Demographic and Health Survey in 1992. These enquiries were held as participation in global programmes and were sponsored by the United Nations and other international agencies that sustained their role in statistical development. Prior to the 1980 census, the CSO held a mapping exercise that delineated Zambia into provincial and district census regions as well as standard enumeration areas. Kiregyera and Banda argue that the enumeration areas had ‘well-defined boundaries and population sizes between 300 and 600 [people].’⁶⁵ This was an improvement from the 1969 census whose enumeration areas were larger with about 3,000 people each. The changes were meant to reduce the workload of enumerators and improve the quality of the census. Then followed a pilot census in March 1980, a sensitisation campaign, logistical arrangements and the appointment and training of census personnel.⁶⁶

The actual census was held from 25 August 1980 by 12,593 enumerators who worked under 2,841 team leaders, 580 supervisors, 126 senior supervisors, 60 district census supervisors and 24 provincial census officers.⁶⁷ It yielded data on individual persons, household and housing units, which included ‘name, relationship, sex, age, marital status, country of citizenship, place of birth, place of residence, ... length of residence in district, attendance and educational level attained, and

⁶⁵ Kiregyera and Banda, ‘Challenges of a Central Statistical Office’, 41. Also see M.S.C. Mulenga, ‘Zambia’, in *Population Size in African Countries* (Paris: Groupe de Demographie Africaine, 1986), 345 and GRZ, *1980 Census of Population and Housing: Administrative Report* (Lusaka: CSO, 1988), 13.

⁶⁶ For details on the preparations made, see GRZ, *Government Gazette*, 16, 91, Friday, 1 August 1979, 837, GRZ, *Government Gazette*, 16, 94, Friday, 8 August 1980, 862 and GRZ, *Government Gazette*, 16, 99, Friday, 22 August 1980, 904.

⁶⁷ GRZ, *1980 Census of Population and Housing*, 13.

disability.’⁶⁸ For persons aged 12 years and above, it also gathered data on economic activity, employment, occupation and industry. For females aged 12 years and above, it also collected data on fertility that included age at marriage, age at first birth, children ever born, births in the previous twelve months and date of last child born alive. In addition, for each household, the census gathered information on ‘type of house being lived in, occupancy, type of ownership/tenancy, number of persons in house, material of construction of house used, number of living rooms and bedrooms, kitchen facilities, lighting and type of fuel used for cooking and heating, main source of water supply [and] type of toilet facilities in use’⁶⁹ Looking at its coverage, this census collected more data than did previous enquiries and contributed to the increase in population data in decades when many datasets deteriorated with the general reduction in statistics.

The next population and housing census was held in 1990. Four years earlier, the CSO set up a mapping unit, recruited cartographers and then conducted a mapping exercise to further reduce the enumeration areas and sampling frames to manageable sizes.⁷⁰ After other usual preparations, the census was held in the two weeks starting on 20 August 1990 by 16,000 enumerators, mostly Grade 12 pupils, and about 4,000 teachers as supervisors while CSO staff entered, processed and analysed the data.⁷¹ School pupils were engaged as enumerators because the permanent field team was far below the requirements for a national census. Though they received some training, pupils were certainly not suitable to serve as enumerators. On a positive note, however, it was in this census that for the first time, the CSO processed population data on computers and this quickened the exercise. The census estimated the population of Zambia at 7,383,097 comprising 3,617,577

⁶⁸ GRZ, *Government Gazette*, 16, 28, Friday, 14 March 1980, 323.

⁶⁹ *Ibid.*

⁷⁰ Kiregyera and Banda, ‘Challenges of a Central Statistical Office’, 39-41 and Interview with Mubita Sitwala, Copperbelt Regional Statistical Office, Ndola, 21 June 2019.

⁷¹ GRZ, *Zambia Census of Population, Housing and Agriculture 1990* (Lusaka: CSO, 1995), i.

males and 3,765,520 females and its annual growth rate between 1980 and 1990 at 2.7 percent.⁷² Out of the total population, 4,477,814 or 60.6 percent lived in rural areas and 2,905,283 or 39.4 percent in urban areas. The CSO took advantage of the census to collect data on other sectors such as agriculture, health, education, labour, women, children and youths.⁷³

Potts argues that the census data disproves the claim by the World Bank and the International Labour Organisation (ILO) that Zambia was the most urbanised country in Sub-Saharan Africa in the 1980s and early 1990s with 50 percent of its population living in urban areas compared with the average of 31 percent for Sub-Saharan Africa.⁷⁴ Contrary to World Bank and ILO figures, the 1980 census report actually shows that 60 percent of the population lived in rural areas while 40 percent lived in urban centres. The 1990 census report indicates that about 61 percent of the population was in rural areas with 39 percent in urban areas.⁷⁵ Furthermore, the 1980 census report shows that there was a dispersal of the urban population away from the line-of-rail provinces to other provinces. It is in this regard, therefore, that Potts contends that urban in-migration ceased or was reversed leading to the decline of urbanisation in Zambia in the 1980s and 1990s.⁷⁶

The CSO evaluated the 1990 census in order to assess its coverage and accuracy. It noted that in comparison with earlier censuses, there was improvement in the coverage and quality of data collected. For example, compared to the 1980 census, there was a significant decline in the number of persons who did not report their age.⁷⁷ The percentage of such persons decreased more than five times for both males and females in both urban and rural areas. The decline entails great

⁷² *Ibid.*

⁷³ *Ibid.*, 3-6, 90-97.

⁷⁴ Deborah Potts, 'Counter-Urbanisation on the Zambian Copperbelt? Interpretations and Implications', *Urban Studies*, 42, 4 (2005), 589.

⁷⁵ GRZ, *1980 Census of Population and Housing*, 13 and GRZ, *Census of Population, 1990*,

⁷⁶ Potts, 'Counter-Urbanisation on the Zambian Copperbelt', 589.

⁷⁷ GRZ, *Census of Population, 1990*, 24.

improvement in the number of people who had an idea about their numerical age. Despite the improvement in age reporting, ‘there was age misreporting and under or over-coverage for certain age groups especially among females.’⁷⁸ This was particularly for the 0-4 and 5-9 year age groups. The observation correlates with Palamuleni’s argument in the case of Malawi that ‘the reported age statistics are highly distorted and that the nature and pattern of age misreporting are similar to those found in other developing countries.’⁷⁹ The situation can be attributed to low levels of education and literacy and lack of birth records. Table 5.1 shows the comparative population figures for the 1980 and 1990 population censuses giving the total count, population density, percentage distribution and annual growth rate.

Table 5.1: Population of Zambia by Province in 1980 and 1990

Province	Population		Density per square kilometre		Percentage distribution		Percentage growth rate per year	
	1980	1990	1980	1990	1980	1990	1969-80	1980-90
Central	511,908	720,627	3.4	7.6	9.0	9.8	3.3	3.5
Copperbelt	1,251,178	1,427,545	39.9	45.6	22.1	19.3	4.0	1.3
Eastern	650,902	965,967	9.4	14.0	11.5	13.1	2.3	4.0
Luapula	420,966	525,160	8.3	10.4	7.4	7.1	2.1	2.2
Lusaka	691,054	987,106	31.7	45.1	12.2	13.4	6.3	3.6
Northern	674,750	855,177	4.6	5.8	11.9	11.6	2.0	2.4
North-Western	302,668	387,552	2.4	3.1	5.4	5.2	2.5	2.5
Southern	671,923	907,150	7.9	10.6	11.9	12.3	2.8	3.0
Western	486,455	606,813	3.9	4.8	8.6	8.2	1.6	2.2
Zambia	5,661,801	7,383,097	7.8	9.8	100.0	100.0	3.1	2.7

Source: GRZ, *Census of Population, 1990*, 2.

⁷⁸ *Ibid*, 23.

⁷⁹ Palamuleni, ‘Population Dynamics of Malawi’, 191.

Working with the Ministry of Health and the University of Zambia, the CSO held the first Zambia Demographic and Health Survey in 1992 as a participation in the World Demographic and Health Survey that aimed to yield data for identifying health problems and aiding the provision of health services. Funded by external bodies like the United States Agency for International Development and UNDP, the Zambia Demographic and Health Survey was a nationwide sample survey based on the frame of the 1990 population and housing census.⁸⁰ The external origin of the survey explains why it has since 1992 been held regularly under donor support. This contributed to the reliance on donor-aided enquiries. The sample was selected in three stages. First, 262 supervisory areas were selected with probability proportional to size. Then, one standard enumeration area was selected from each supervisory area, again with probability proportional to size.⁸¹ After household listing, a systematic sample of 6,709 households were selected out of which 6,209 were canvassed, the shortfall arising from some dwellings that were vacant at the time of visitation.

Fieldwork was done by ten interviewing teams consisting of ten supervisors, ten field editors, and 43 interviewers comprising 34 women and nine men.⁸² The survey used two questionnaires, one household and the other individual, both following a model designed for countries with low contraceptive use as it was undertaken within the framework of the United Nations. In terms of content, the survey yielded data on fertility, family planning, breast feeding, antenatal care, child health, nutrition, immunisation, survival and childhood diseases.⁸³ It should also be noted that the survey gathered data on women and children only while men were included in later episodes. Like the population census, this survey helped to increase data on the sectors covered.

⁸⁰ *The Statistician*, 2014, 6.

⁸¹ *Zambia Demographic and Health Survey, 1992*, 8-9.

⁸² *Ibid.*

⁸³ *Ibid.*

5.6.3. Agriculture Statistics

This section demonstrates that the CSO did some work on agricultural statistics in the lost decades but with a reduction in data due to suspension of some enquiries. Also, the Ministry of Agriculture separately compiled data on agriculture and this led to conflicting figures. The CSO held the agricultural and pastoral census of commercial farms, the non-commercial farms survey and the crop forecast survey. The government continued to attach importance to agricultural statistics because it used the contribution of agriculture to GDP for assessing rural development.⁸⁴ However, a glimpse on government documents shows that the enquiries were sometimes aborted due to inadequate staffing, equipment and funding.⁸⁵ Also, in 1980 and 1990, the CSO could not hold the enquiries as it gave priority to the census of population, housing and agriculture to which most of the available personnel, equipment and funding were channelled.

Litschauer and Rowe observe that the CSO held the annual agricultural and pastoral census in the period 1975-90.⁸⁶ The census was done through forms sent to registered commercial farmers who supplied data on farm employment, land use, crop area, production, sales and expenses. It also gathered data on livestock kept, sales, slaughters and losses, poultry raised and sales made and on the purchase and use of fertiliser, manure and chemicals.⁸⁷ However, the census faced challenges of late responses and delays in the collection, processing and publishing of data. For example, in 1975, printing delays held up the dispatch of questionnaires to farmers and slowed down the whole process.⁸⁸ Similarly, though the enquiry was held in 1978, it was slow due to staffing challenges

⁸⁴ GRZ, *Third National Development Plan 1979-83* (Lusaka: NCDP, 1979), 35.

⁸⁵ GRZ, *Department of Census and Statistics Annual Report, 1975*, 21.

⁸⁶ John Litschauer and J.S. Rowe, 'Zambia's Agricultural Data System: A Review of the Agricultural Time Series Data', in Michael Roth and S.G. Smith (eds.), *Land Tenure, Land Markets, and Institutional Transformation in Zambia* (Madison: University of Wisconsin-Madison, 1995), 232.

⁸⁷ GRZ, *Government Gazette*, 17, 113, Friday, 18 September 1981, 1133.

⁸⁸ GRZ, *Department of Census and Statistics Annual Report, 1975*, 21.

that seriously delayed the dispatch of questionnaires while the late arrival of source documents from the National Agriculture Marketing Board held up the preparation of the census frame.⁸⁹

The census of agricultural and pastoral production was suspended in 1979 to facilitate preparations for the 1980 population and housing census. Kiregyera and Banda observe that though schedules were prepared, enumeration was not done due to the commitment of staff in preparing for the population and housing census.⁹⁰ Besides, the processing and tabulation of data for the previous two years was suspended. The enquiry remained suspended in 1980 and it was only resumed in 1981. Nevertheless, the outstanding backlog postponed during the population and housing census was cleared in the latter year.⁹¹ The CSO continued to hold the pastoral and agricultural census in the 1980s and published the data in the *Monthly Digest of Statistics* though it continued to face problems. For example, Cochrane and Roth note that a report made to the United States Agency for International Development in 1990 indicates a response rate of as low as 20 percent, which yielded questions about the essence of the exercise and this explains why it was discontinued in the 1990s.⁹² Again, no farmers were prosecuted for not responding to the census despite provisions made in the Census and Statistics Act.

The agricultural and pastoral survey of non-commercial farms was also held erratically and with problems of delays. Litschauer and Rowe indicate that it was conducted in 1975-8, suspended in 1979-81, resumed in 1982-6 and then suspended in 1987-90.⁹³ In 1975, forms for the previous year

⁸⁹ GRZ, *Department of Census and Statistics Annual Reports, 1976-9*, 14.

⁹⁰ Kiregyera and Banda, 'Challenges of a Central Statistical Office', 37-8.

⁹¹ GRZ, *Department of Census and Statistics Annual Report, 1981*, 9 and *Parliamentary Debates*, 10 March 1981, 2753-4.

⁹² J.A. Cochrane and M.J. Roth, 'Land Use Patterns and Growth in Commercial Input Use, Productivity, and Profitability by Farm Size Category', in Michael Roth and S.G. Smith (eds.), *Land Tenure, Land Markets and Institutional Transformation in Zambia* (Maddison: University of Wisconsin-Maddison, 1995), 201.

⁹³ Litschauer and Rowe, 'Zambia's Agricultural Data System', 232. For the methodology of the survey, see Cochrane and Roth, 'Land Use and Growth', 202.

were scrutinised and edited, punching and data entry were done and area measurement and crop cutting were completed. In 1977, the CSO started work on the previous year and on completed forms from eight provinces. In North Western Province, the survey ended late ‘due to transport problems for some of the basic areas that were selected in that province.’⁹⁴ For example, it was only in 1978 that the CSO finalised the report for the 1972-3 agricultural season. This was indeed a serious delay that affected other statistics like national accounts that relied on input data from other sources. The survey was also suspended in 1979-81 and 1987-90 to pave way for preparations and work on the 1980 and 1990 census of population and housing, respectively.

The CSO also conducted an annual crop forecast survey to predict how much of each main crop would be produced. In 1976, Minister of Finance, L.J. Mwananshiku, stated that ‘every year after the planting has been done, our people go round ... to find out what we have planted so that we can make some forecast of what we are likely to have.’⁹⁵ However, the survey also faced challenges and suspensions. In 1977, coding and editing of data for the previous year was done after which other activities were suspended to pave the way for work on the 1978 agricultural and pastoral survey. The suspended works were done in 1979 after which the results were compiled.⁹⁶ The *Government Gazette* shows that the CSO sustained the crop forecasts in the 1980s as part of an early warning project. The survey was held through interviews and in some cases, selected fields were measured and crops harvested from them. It collected data on farm work done, cropped area, production and sales.⁹⁷ The survey also collected data livestock held, losses, purchases, slaughters

⁹⁴ GRZ, *Department of Census and Statistics Annual Reports, 1976-9*, 9.

⁹⁵ *Parliamentary Debates*, 25 February 1981, 2028.

⁹⁶ GRZ, *Department of Census and Statistics Annual Reports, 1976-9*, 18.

⁹⁷ GRZ, *Government Gazette*, 19, 84, Friday, 30 September 1983, 933, GRZ, *Government Gazette*, 20, 74, Friday, 21 September 1984, 672, GRZ, *Government Gazette*, 21, 83, Friday, 16 August 1985, 772, GRZ, *Government Gazette*, 22, 94, Friday, 12 September 1986, 731 and GRZ, *Government Gazette*, 23, 125, Friday, 23 October 1987, 1141.

and sales as well as on farm employment, expenses, machinery, yield rates and consumption. Like other enquiries, crop forecasts were weakened by various challenges. These included:

- (i) The inadequacy of training received by enumerating staff in some Provincial Statistical Offices in view of the low caliber of supervisory staff
- (ii) The wastage of experience gained by enumerators caused by the non-permanency of enumerating staff resulting into fresh recruitment of field staff for each year
- (iii) The inadequacy of technical supervision of field work due to lack of transport facilities in most provinces
- (iv) The severe bottleneck in early computer processing of the survey data due to non-availability of experienced systems personnel coupled with high attrition of these personnel at the Data Centre.⁹⁸

In view of the above challenges, especially poor training and low caliber of enumerators involved, it is asserted here that the crop forecast survey did not yield accurate information. Worse still, the supervision of such enumerators was inadequate. The figures obtained from this exercise were certainly not good enough for early warning purposes.

In 1990-92, the CSO finally held the countrywide census of agriculture besides the population and housing census. After the first such agricultural census in 1970-71, an attempt to repeat the exercise in 1982-3 proved futile due to lack of funding even after holding a pilot census.⁹⁹ The 1990-2 agricultural census itself was sponsored by the Netherlands government and FAO in support of the Early Warning Project, illustrating the incapacity of the CSO to hold largescale enquiries without external help. The census was designed to yield data for creating a database with facilities for

⁹⁸ GRZ, *Department of Census and Statistics Annual Report, 1975*, 22.

⁹⁹ *Parliamentary Debates*, 10 March 1981, 2754 and *Zambia Daily Mail*, Monday, 5 October 1981, 5.

making updates, consistency checks and retrievals.¹⁰⁰ It covered small, medium and large scale holders in all districts and yielded important data on the production and sale of crops, vegetables, fruits, livestock, poultry and fish and on farm implements, draught animals, employment, inputs, expenses and extension services.¹⁰¹ The census yielded more substantial data as compared to all previous enquiries on agriculture despite being held in a period of a general data decline.

Besides data generated by the CSO, the Ministry of Agriculture also collected agricultural statistics using its statistical unit. However, the unit was poorly staffed and for that reason, it suspended the compilation of all agricultural statistics in the years 1976-81. In 1981, it was headed by Senior Statistician, I.T. Patel, and had only six other statistical staff.¹⁰² That the unit was headed by an expatriate illustrates the continued dependence on foreign technical experts in some sections of the statistical service. The ministry itself described the unit in 1982 as a 'one man shop run by an expatriate statistician assisted by six non-professional Zambians.'¹⁰³ It was only from 1982 that it resumed the collection of data on agriculture mainly through an annual crop forecast survey and a survey of agricultural credit.¹⁰⁴ The ministry started the crop forecast survey in 1982 to collect statistics that would serve as a basis for early warning and construction of the national food balance sheet.¹⁰⁵ The enquiry consisted of a preliminary survey held in January/February and a final survey in March/April just before harvest.

The irony for data users was that from 1982, both the Ministry of Agriculture and the CSO held crop forecast surveys despite being in a unified statistical service in which they could have worked

¹⁰⁰ GRZ, *National Census of Agriculture, 1990-92*, 2.

¹⁰¹ *Ibid.*, 3.

¹⁰² *Ibid.*

¹⁰³ GRZ, 'An Appraisal and Suggestions for Strengthening the Planning Division', Report for the Eastern Africa Projects Department, Southern Agriculture Division, 6 December 1982, 10.

¹⁰⁴ *Ibid.*

¹⁰⁵ GRZ, *Central Statistical Office Strategic Plan, 2003-2007*, 19.

together. This duplicated work and resources. Besides, they used different methods to hold the surveys and so, they produced conflicting datasets that were confusing to planners and policy-makers.¹⁰⁶ Litschauer and Rowe note that maize production data from the Ministry of Agriculture and the CSO varied by between 75 and 108 percent, with some CSO figures being higher and others lower than those of the ministry.¹⁰⁷ The problem of lack of collaboration emanated partly from the lack of clarity in the legislation and from disagreement over methods and concepts. While the Statistics Act, 1964 authorised the CSO to collect all statistics required by the government, the Agricultural Statistics Act, 1964 gave the Ministry of Agriculture responsibility over agricultural data. Thus, in the wake of delays by the CSO to produce crop forecast data, the ministry began to hold its own crop forecast survey under FAO's sponsorship. Hence, FAO was part of the problem because it funded the ministry to conduct a survey that was already being held by the CSO under UNECA guidance. Jerven notes a similar confusion in Nigeria where the Federal Office of Statistics and the Central Bank produced conflicting agricultural data in the 1970s and 1980s.¹⁰⁸ In the Zambian case, the problem also unveils the weak bonds that existed in the unified statistical service and the tension between the ministry and the CSO. More broadly, it illuminates the weak coordination that prevailed in most African statistical systems.

5.6.4. Industrial and External Trade Statistics

These sectors also illuminate the unevenness of the decline in data. With regard to industrial data the CSO continued to obtain them from the industrial census and administrative sources. However, there were issues of delays and high non-response partly due to government inefficiency during the economic crisis. In the late 1970s, considerable printing delays held up the dispatch of

¹⁰⁶ *Ibid.*

¹⁰⁷ Litschauer and Rowe, 'Zambia's Agricultural Data System', 245.

¹⁰⁸ Jerven, *Poor Numbers*, 63-4.

questionnaires to firms. Even in cases where forms were sent in time, non-response was common and the CSO had to make follow-ups.¹⁰⁹ This perpetuated incomplete data and delayed the processing of statistics. Thus, revisions often had to be made after obtaining more data. Though this improved the estimates, it complicated the compilation of statistics and increased the workload and backlog. Thus, in some cases, the CSO used interviews in place of mailed questionnaires.¹¹⁰

The CSO also held a series of production surveys on mining, manufacturing and construction in the late 1970s to fill gaps in the existing data. These yielded the number and capacity of plant and machinery and were used to estimate the capital required for planning.¹¹¹ The data were collected using self-filled forms but the CSO faced challenges. Despite the follow-ups made, the surveys continued to face low response rates that perpetuated the inaccuracy of the figures and delays in reporting. Also compiled were statistics on electricity that were issued in the *Monthly Digests*. The data were obtained from Zambia Electricity Supply Corporation. The CSO stated that ‘no problems were experienced as the figures were obtained from administrative records.’¹¹² This illustrates the unevenness in the accessibility of data as some corporations supplied information without challenges while others did so only after several reminders. Consequently, the production of data was also uneven. The CSO also collected data on mineral production, treated ores, prices and values of minerals produced.¹¹³ They were sourced from the Mines Department, or the mining companies in cases of delay by the former that at times did not have the data.

¹⁰⁹ GRZ, *Department of Census and Statistics Annual Report, 1975*, 16 and GRZ, *Department of Census and Statistics Annual Reports, 1976-9*, 7.

¹¹⁰ *Ibid*, 17 and GRZ, *Department of Census and Statistics Annual Report, 1981*, 5.

¹¹¹ *Ibid*, 18 and GRZ, *Department of Census and Statistics Annual Reports, 1976-9*, 3.

¹¹² GRZ, *Department of Census and Statistics Annual Reports, 1976-9*, 3.

¹¹³ *Ibid*, 17 and GRZ, *Department of Census and Statistics Annual Report, 1981*, 6.

The CSO also continued to work on the index of industrial production. In 1975, for example, it revised and published the indices with the 1969 base year to make them more accurate. Constant revision and rebasing were necessary because distortions occurred in a relatively short period owing to the small industrial base.¹¹⁴ Without revision, some industrial groups would remain unrepresented in the base year. Also, whenever new industrial units emerged, price relatives would not account for the economic changes that occurred.¹¹⁵ In 1977, the CSO introduced computer analysis and computerised the index system and managed to reduce the time lag. Thus, in 1981, it worked on data for the previous two years and compiled the two series that used 1969 and 1973 as respective base years, which commenced in the previous period.¹¹⁶ The CSO continued to work on the index throughout the 1980s and issued the data in the *Monthly Digests*.

Although the CSO compiled industrial data during the lost decades, the works were let down by the reduction in the publication of specialised reports. After the six *Industry Monographs* of the late 1970s, reporting of industrial data became very erratic and issuing of data for the 1980s depended on the *Monthly Digests*.¹¹⁷ This reduced the availability of these statistics. Delays in the collection, processing and publication of data also held up reports to external organisations. It should be noted that industrial statistics were also reported to the UNECA, whose statistical office compiled the figures at continental level.¹¹⁸ The UNECA lamented that most African countries

¹¹⁴ GRZ, *Department of Census and Statistics Annual Report*, 1975, 4.

¹¹⁵ *Ibid.*

¹¹⁶ GRZ, *Department of Census and Statistics Annual Report*, 1981, 5-6.

¹¹⁷ GRZ, *Industry Monograph Number 1: Food, Beverages and Tobacco Industries* (Lusaka: CSO, 1975), GRZ, *Industry Monograph Number 2: Textile and Leather Products* (Lusaka: CSO, 1975), GRZ, *Industry Monograph Number 3: Wood, Wood Products and Furniture Industries* (Lusaka: CSO, 1976) and GRZ, *Industry Monograph Number 4: Paper, Paper Products, Printing and Publishing Industries* (Lusaka: CSO, 1976). Also see GRZ, *Monthly Digest of Statistics, June-July 1985*, 25-7, GRZ, *Monthly Digest of Statistics, January-June 1989*, 28-30 and *Monthly Digest of Statistics, July-October 1991*, 37-9.

¹¹⁸ UNECA, 'Report on Statistical Activities (1984-1985) and Examinations of Work Programme (1986-1989) with Consideration of the Objectives, Problems to be Addressed and Strategy for the Period 1990-1995', Fourth Session of the Joint Conference of African Planners, Statisticians and Demographers, Addis Ababa, 3-12 March 1986, 10.

had a time-lag in reporting industrial data despite having held enquiries on the sector. In 1986, for example, it observed that ‘the time-lag between an enquiry period and the publication of the results vary generally from two to four years.’¹¹⁹ The late availability the data also meant that industrial contributions to Gross Domestic Product for the 1980s and the formulation and working of various programmes continued to be based on preliminary figures.

The mines continued to serve as sources of data for the CSO and ministries dealing with mining, labour and commerce. They compiled various reports that government institutions used and supplied data in response to CSO enquiries. In contrast to the sporadic and untimely publications of the CSO, the mines published their statistics more regularly and timely, particularly through annual reports.¹²⁰ The data were sourced from administrative records as various sections of each mine submitted reports to mine secretaries who consolidated them into company reports that included statistics. In the period 1975-83, the Copper Industry Service Bureau collected and compiled data on the whole mining industry for Nchanga Consolidated Mines Limited and Roan Consolidated Mines Limited.¹²¹ In 1982, the Zambia Consolidated Copper Mines (ZCCM) was formed by merging Nchanga Consolidated Mines and Roan Consolidated Mines to create a bigger mining unit that would withstand the challenges caused by the economic crisis.¹²² ZCCM was a state parastatal that held 51 percent of shares in the mining companies on behalf of the Zambian government. Thus from 1982, ZCCM published annual reports that included statistics. This study

¹¹⁹ *Ibid.*

¹²⁰ ZCCM 8.13.4C NCCM Mining Statistics - Comparison with Target Ore delivered to Mill, 1977. In the same file, refer to NCCM Centralised Services Division Provisional IPM Schedules - Primary Copper Production, 14 October 1977 and Memorandum on Divisional Mining Statistics, 22 December 1987.

¹²¹ The Nchanga division comprised the Chingola, Konkola, Nkana, Broken Hill and Central Services divisions while the Roan division comprised the Luanshya, Mufulira, Chibuluma, Ndola Copper Refinery and Central Services. *Zambia Mining Year Book 1976* (Kitwe: Copper Industry Service Bureau), 20-36.

¹²² Hyden Munene, ‘A History of Rhokana/Rokana Corporation and its Nkana Mine Division, 1928-1991’, PhD Thesis, University of the Free State, 2018, 147.

notes that data on mining continued to be produced as part of the operations of the mines and did not decline.¹²³ It is concluded here that during the economic crisis, statistics from surveys declined more than those obtained routinely from administrative sources as the latter did not require much funding. Where funds were needed, ZCCM provided them from its own revenues.

External trade data were sustained without serious problems up to around the mid-1980s when a backlog accumulated. In the late 1970s, foreign trade statistics were part of the data that informed the formulation of the Third National Development Plan.¹²⁴ They were generated mainly from administrative sources that included data supplied monthly by importers and exporters to the Customs and Excise Department. In addition, data on copper exports were obtained every month directly from the state-owned mining companies while those on copper prices were extracted from quotations sourced from the London Metal Exchange.¹²⁵ In the late 1970s and early 1980s, the CSO increased the quantity of data on external trade and as a result, it published the *Annual Statement of External Trade* in two volumes.¹²⁶ It also made changes to its methodology and classifications in a bid to improve the quality of the tables and adhere more closely to international standards. Some of the measures taken were the adoption of the BTN-SITC correspondence listing in 1978 and the Customs Co-operation Council Nomenclature - Standard International Trade Classification in 1981, which were used to classify trade items.¹²⁷ These changes also illuminate the continued influence of the United Nations on statistics in Zambia. Each time changes were

¹²³ See *Zambia Consolidated Copper Mines Limited Annual Reports for the years 1984-90* (Kitwe: ZCCM).

¹²⁴ GRZ, *Third National Development Plan*, 8-9.

¹²⁵ GRZ, *Annual Statement of External Trade*, 1977, 13-14. Also see GRZ, *Department of Census and Statistics Annual Report*, 1983, 8.

¹²⁶ GRZ, *Department of Census and Statistics Annual Reports*, 1976-9, 2.

¹²⁷ *Ibid*, 7& 12-16, GRZ, *Department of Census and Statistics Annual Report*, 1981, 6 and GRZ, *Department of Census and Statistics Annual Report*, 1983, 8.

made to the classification system, the CSO adopted them and attempted to adapt them to local conditions under the guidance of the UNECA that coordinated such works in Africa.¹²⁸

Although the CSO sustained the compilation of external trade data was sustained beyond the mid-1980s, the issuance of specialised reports was irregular. From around 1984, the publication of foreign trade statistics began to face backlog. The publication of two volumes of the *Annual Statement of External Trade* could not be sustained. Hence, in the late 1980s, the CSO reverted to a single report that was renamed *External Trade Bulletin*. Other data on the sector were issued in the *Monthly Digests* and included in other documents like the *Economic Reports*.¹²⁹ Table 5.2 illustrates the exports and imports figures of Zambia for selected years in the period 1975-90.

Table 5.2: Total Exports and Imports of Zambia (K'000), 1975-90

Year	Total exports (f.o.b)	Total Imports (c.i.f)	Trade balance
1975	521,049	597,611	-76,562
1977	708,016	529,970	178,046
1979	1,090,006	593,640	496,366
1981	976,609	923,048	53,561
1983	1,047,545	693,174	354,371
1985	1,508,208	2,133,172	-624,964
1987	8,058,653	6,627,473	1,431,180
1989	18,434,040	12,600,537	5,833,503
1990	39,143,330	36,553,687	2,589,643

Source: GRZ, *Monthly Digest of Statistics*, June-July 1985, 17 and GRZ, *External Trade Bulletin* 1994, 2.

¹²⁸ GRZ, *Department of Census and Statistics Annual Report*, 1975, 19, GRZ, *Department of Census and Statistics Annual Reports*, 1976-9, 2 and GRZ, *Annual Statement of External Trade*, 1977, 14.

¹²⁹ GRZ, *External Trade Bulletin* 1994 (Lusaka: CSO, 1994). Also see GRZ, *Monthly Digest of Statistics*, June-July 1985, 17-22, GRZ, *Monthly Digest of Statistics*, October-December 1988, 18-25 and GRZ, *Monthly Digest of Statistics*, July-October 1991, 27-34.

5.6.5. Labour Statistics and Price Indices

The situation for labour statistics and price indices was that the usual enquiries were held but with the same challenges faced with other datasets. However, new surveys were introduced on these aspects in the 1970s and 1980s. Attention to these datasets was stimulated by the negative effects of the economic crisis on people's livelihood that caused discontent among Zambians, indicating the influence of internal conditions. On the labour sector, the employment and earnings enquiry was held but with a perpetual backlog.¹³⁰ The CSO also held a special enquiry on employment and earnings for the period from June 1975 to March 1978 to meet the needs of the Turner Mission that was appointed by the government to investigate incomes, wages and prices amid growing concerns about the deterioration of people's livelihood.¹³¹ As reports on employment and earnings became erratic in the 1980s, the data were issued in the *Monthly Digest of Statistics*. They included numbers of employees and their earnings in the public, parastatal and private sectors.

The CSO attempted to increase data on labour by introducing a quarterly manpower survey from 1975 to the mid-1980s. The survey was held using mailed questionnaires based on a register of establishments compiled by the CSO and the Ministry of Commerce. Monographs of the survey and annual reports of the CSO documented the works held in relation to the survey.¹³² In the period 1979-81, the CSO and the ministry updated the register after which the survey was based on the new list. The coverage of the manpower survey extended beyond the employment enquiry and yielded substantial data in line with the ISIC.¹³³ Yet, the classification had to be modified to make

¹³⁰ GRZ, *Department of Census and Statistics Annual Report, 1975*, 25-6.

¹³¹ GRZ, *Department of Census and Statistics Annual Reports, 1976-9*, 1, 6 & 11, GRZ, *Department of Census and Statistics Annual Report, 1983*, 6-7 and GRZ, *Department of Census and Statistics Annual Report, 1994*, 2.

¹³² See, for example, GRZ, *Manpower Surveys for 1976 and 1977* and GRZ, *Department of Census and Statistics Annual Report, 1981*, 7.

¹³³ *Ibid.*

it applicable to the Zambian situation, indicating the compromise between external frameworks and the internal environment.

In the late 1980s, the CSO held the Labour Force Survey, which covered a sample of households in selected areas throughout Zambia.¹³⁴ It was held as a participation in the National Household Survey Capability Programme of the United Nations. This shows the role of the global organisation in statistical development. The survey was first held in 1986 and its sample frame was drawn from the 1980 population census.¹³⁵ It yielded data on literacy, economic activity, income, expenditure and consumption that were used to assess the labour force size, labour market, effects of state policies on employment and adherence of employers to labour laws.¹³⁶ It also gathered data on women and child labour in the formal and informal economy.¹³⁷ The data were used to assess the economic contribution of these groups and informed the government on the rise of the employment of children. The government was concerned that children were dropping out of school due to economic hardship and getting involved in the informal sector. These issues gained international concern in Africa from the 1980s with the expansion of the informal sector.

Other labour data were sourced from the mines, which continued to be crucial for assessing the labour force and conditions of workers in the mining industry. The government prioritised the prevention of industrial unrest in the 1980s, especially after the 1981 wave of strikes. Mulenga elucidates that in 1981, there were 30 strikes on the Copperbelt and they spread to other towns and economic sectors.¹³⁸ The strikes emerged over inadequate wages and salaries and government

¹³⁴ GRZ, *Government Gazette*, 22, 67, Friday, 27 June 1986, 508.

¹³⁵ Interview with Gerson Banda, Head of Labour Statistics Branch, CSO Headquarters, Lusaka, 13 August 2019.

¹³⁶ *Ibid.*

¹³⁷ Dennis Kaputo, 'How Zambian Households Survive the Economic Crisis', *The Weekly Post*, 3-9 July 1992, 5. It yielded data similar to that collected by a Labour Force Survey of Lusaka that was held in 1985 as a preparation for the 1986 survey. GRZ, *Lusaka Urban Labour Force Survey 1985* (Lusaka: CSO, 1987) and GRZ, *Government Gazette*, 22, 42, Friday, 25 April 1986, 280.

¹³⁸ Mulenga, 'Crises of Expectations', 103-104.

repressive action against trade unions. The mines also supplied data on employment, safety and housing to the Ministry of Labour. In addition, mine secretaries improved the *Monthly Labour Returns* that they submitted to the chief inspector of mines and the secretariat of ZCCM.¹³⁹ The surveyed reports indicated an improvement in the completeness of the returns as they revealed no unfilled gaps unlike those before 1975.¹⁴⁰ In relation to this, Jerven argues that parastatal companies and state marketing boards were crucial sources of statistics in Zambia and Tanzania in the 1970s and 1980s as they controlled the bulk of the economy. He remarks that the compilation of mining statistics was done more consistently than that of other datasets and the figures were likely to be more reliable.¹⁴¹ This can be attributed to nationalisation of the mines whose implication was that statistics on the sector were also nationalised and brought under government control. Besides, mining continued to be the bedrock of the Zambian economy.

Price indices were also sustained due to their importance in assessing the impact of the economic crisis on people's livelihood. As noted by Mort, price data are crucial because as 'price changes have a major impact on the economic well-being of all economic players; consumers, companies, governments, and others.'¹⁴² The CSO held household budget surveys in the 1970s and 1980s to yield data for compiling price indices. It also initiated a departmental system of price statistics in order to expand data on consumer prices, wholesale prices and prices of durable goods.¹⁴³ Besides, the CSO collected price data as a participation in the International Comparison Programme that investigated price changes and purchasing power.¹⁴⁴ Generally, household budget surveys declined

¹³⁹ ZCCM 12.2.9D Roan Consolidated Mines Monthly Labour Returns, April 1975, September 1977, December 1981, January 1983 and July 1985.

¹⁴⁰ ZCCM 3.2.3B NCCM Luanshya Division Annual Report for the years 1976-84 and Roan Consolidated Mines Monthly Labour Returns, July 1985.

¹⁴¹ Jerven, *Poor Numbers*, ix-x & 44.

¹⁴² David Mort, *Understanding Statistics and Market Research Data* (London: Europa Publications, 2003), 37.

¹⁴³ GRZ, *Department of Census and Statistics Annual Report*, 1975, 24.

¹⁴⁴ *Ibid* and GRZ, *Department of Census and Statistics Annual Report*, 1981, 8.

in Africa from the late 1970s. In Uganda, Muwonge notes a dearth of household data in the 1970s and 1980s as no budget survey was held in that country up to 1988.¹⁴⁵ Similarly, no budget survey was conducted in the Democratic Republic of Congo (former Zaire) from the 1980s up to 2004. In contrast, Kenya held household budget surveys in the years 1974-84 as a participation in the National Household Survey Capability Programme supported by the UNECA.¹⁴⁶ Like Kenya, Zambia undertook longitudinal household budget surveys in 1975-6 and 1981-3 in order to assess changes in income and expenditure. These examples demonstrate that the decline in statistics in Africa was uneven, a point largely ignored in the existing literature.¹⁴⁷

Zambia's 1975-6 longitudinal survey covered the urban areas of Lusaka, Ndola, Kitwe, Chingola and Kabwe while the towns of Kafue and Kapiri Mposhi were chosen as semi-urban areas, and rural households were selected from two randomly picked basic areas per province.¹⁴⁸ Besides statistics on income, consumption and expenditure, the survey gathered data on housing, rent, wages and prices using pre-coded forms that obviated intermediate data scrutiny prior to computer analysis.¹⁴⁹ After enumeration and processing, the data were issued in a monograph and used to calculate consumer price indices with 1975 as the base year. Thereafter, another longitudinal survey was undertaken in 1981-3 in Lusaka, Ndola and Kitwe and used to prepare consumer price indices from 1985. They were used to assess and monitor the effects of the monthly inflation on

¹⁴⁵ For details on Uganda, see J. Muwonge, 'The Role of Household Surveys in Poverty Reduction Efforts: A Case of the Ugandan National Household Survey Programme', *African Statistical Journal*, 3 (2006), 116 and for a discussion on the Democratic Republic of Congo, consult Wim Marivoet and Tom De Hertz, 'Reliable, Challenging or Misleading? A quantitative account of the most recent national surveys and country statistics in the DRC', in Morten Jerven (ed.), *Measuring African Development Past and Present* (New York: Routledge, 2010), 110.

¹⁴⁶ Ben Kiregyera, 'Some Sources of Non-sampling Errors in African Census and Survey Work: A Review', *International Statistical Review*, 50, 3 (1982), 312-13.

¹⁴⁷ See, for example, Jerven, *Poor Numbers*, 45-7 and Lehohla, 'Statistical Development in Africa', 2-5.

¹⁴⁸ GRZ, *Department of Census and Statistics Annual Report, 1975*, 24.

¹⁴⁹ GRZ, *Department of Census and Statistics Annual Reports, 1976-9*, 3.

people's livelihood.¹⁵⁰ With these new surveys, price indices were successfully sustained during the economic decline. Table 5.3 shows the indices for 1985-90 with 1985 as the base year.

Table 5.3: Consumer Price Indices by Income Groups, 1985-90

Year	Total	Low Income Group	High Income Group
1985	100.0	100.0	100.0
1986	154.8	154.0	160.1
1987	227.6	224.3	250.3
1988	350.6	346.9	375.8
1989	800.4	693.5	847.1
1990	1677.2	1674.4	1696.0

Source: GRZ, *Consumer Price Index, May 1994* (Lusaka: CSO), 1.

As the above indices indicate, there was a rapid rise in inflation during the late 1980s. In view of the drastic price increases and the deterioration of the living conditions, especially in urban areas, the government introduced a mealie meal coupon system in 1989. Through the scheme, urban people considered to be the poorest were to be identified and given coupons for free mealie.¹⁵¹ On paper, the scheme was intended to subsidise people in the low income group to buy mealie meal at a subsidised price to cushion them against the brunt of the economic crisis. Yet, it is difficult to see how an inefficient Zambian government of the 1980s would locate the target group without proper data. In practice, the mealie meal coupon system served as a political tool meant to appease the general populace and sustain UNIP's hold on power. However, UNIP lost the subsequent elections in 1991 to the Movement for Multi-Party Democracy which then discontinued the coupon system as it proved to be costly, inefficient and ineffective.¹⁵²

¹⁵⁰ Kiregyera and Banda, 'Challenges of a Central Statistical Office', 37 and GRZ, *Department of Census and Statistics Annual Report 1983* (Lusaka: CSO, 1985), 9 and Cochrane and Roth, 'Land Use and Growth', 202.

¹⁵¹ Mulenga, 'Crises of Expectations', 136.

¹⁵² Ibid.

5.6.6. National Accounts Statistics

It should be noted from the outset that national accounts are derived from most of the datasets discussed in this section. As a result, the challenges faced in the production of other statistics had a ripple effect on the compilation of national accounts. However, data were also collected through the national accounts enquiry. A survey of annual reports and *Monthly Digests* indicates that the CSO compiled national accounts during the years 1975-90.¹⁵³ From the reports, it is evident that there was a huge backlog in this sector. To illustrate the seriousness of the problem, reference is made to the 1983 annual report which indicates that the CSO was working on the accounts for each of the years 1974-83 at different stages. In that year, ‘work on the finalisation of the National Accounts publication for 1974 was [still] in progress. Most of the production accounts [were] prepared except for the agricultural sector and local government enterprises, due to the delay in the availability of the relevant statistical data.’¹⁵⁴ Ironically, the inadequacy of data had delayed the publication of the 1974 report by nine years, meaning that government decisions such as those relating to the Third National Development Plan were based on incomplete statistics.

Jerven argues that the methods used to compile Zambia’s national accounts in the 1980s were not reported by the CSO.¹⁵⁵ Yet, in its national accounts report that was issued in 1984, the CSO notes that it used each of the three approaches for compiling national accounts, namely, the production, income and expenditure methods.¹⁵⁶ It reveals that the production method was used for formal sector estimates, particularly national aggregates, consolidated accounts and tables on production,

¹⁵³ See, among many others, GRZ, *Department of Census and Statistics Annual Reports, 1975-83*, GRZ, *National Accounts Statistics Bulletin No. 3, 1989* (Lusaka: CSO, 1990) and GRZ, *Department of Census and Statistics Annual Report, 1994*.

¹⁵⁴ GRZ, *Department of Census and Statistics Annual Report, 1983*, 6.

¹⁵⁵ Morten Jerven, *Economic Growth and Measurement Reconsidered in Botswana, Kenya, Tanzania and Zambia, 1965-1995* (Oxford: Oxford University Press, 2014), 150.

¹⁵⁶ GRZ, *Department of Census and Statistics Annual Report, 1980*, 2.

consumption expenditure, capital formation, and income and outlay accounts. The CSO used the income approach ‘for producers of government services, and their value added derived as the sum of their factor cost and net indirect taxes.’¹⁵⁷ It used the expenditure method for data on government final consumption, other services, gross fixed capital formation and the informal sector, with private consumption obtained as a residual.¹⁵⁸ In theory, these approaches are supposed to be used independently, and not collaboratively, as a way of checking their accuracy.

By 1986, the use of the three approaches to compile national accounts was abandoned and the CSO resorted to economic and social indicators following a country study on socio-economic and demographic indicators held in Zambia under the auspices of the United Nations in 1982 and 1984.¹⁵⁹ Socio-economic indicators were piloted in Zambia and this partly explains why the CSO turned to the use of the indicators for GDP estimation and from the early 1990s issued an annual publication on socio-economic indicators.¹⁶⁰ The *National Accounts Statistics Bulletin* published in 1990 with data for 1985-8 states that ‘For the most recent years, estimates are based on carefully selected indicators. These indicators are compiled ... more frequently than annually, [that is], monthly, quarterly and in the case of employment ... bi-annually.’¹⁶¹ The indicators included the index of industrial production, the consumer price index, the wholesale price index and the building materials price index, among others. The GDP estimates continued to use 1977 as the base year while the socio-economic indicators used 1985. Table 5.4 below illustrates the GDP at constant 1977 prices for selected years during the period 1977-90.

¹⁵⁷ *Ibid.*

¹⁵⁸ *Ibid.*

¹⁵⁹ *A Country Study on Socio-economic and Demographic Indicators on Zambia 1984* (Lusaka: NCDP) and GRZ, *Selected Socio-economic Indicators 1992* (Lusaka: CSO, 1992), 1.

¹⁶⁰ GRZ, *Selected Socio-economic Indicators, 1992*.

¹⁶¹ GRZ, *National Accounts Statistics Bulletin, 1989*, 1.

Table 5.4: GDP by Kind of Economic Activity (K'million) for selected years at 1977 Prices

Activity	1977	1979	1981	1983	1985	1986	1987	1989
Agriculture, forestry and fishing	325.6	309.7	328.7	314.6	343.8	373.8	385.6	424.5
Mining and quarrying	233.7	195.1	214.8	221.7	185.8	176.5	184.2	175.6
Manufacturing	353.0	392.9	430.2	384.5	421.5	425.3	462.9	554.2
Electricity, gas and water	47.6	63.4	71.0	72.2	72.7	71.1	62.2	51.9
Construction	113.7	89.0	78.9	88.6	77.1	81.1	77.3	53.3
Wholesale and retail trade	189.3	176.7	195.2	171.8	174.7	174.4	181.5	188.9
Restaurants and hotels	34.4	34.2	53.4	55.8	51.3	46.9	46.5	54.7
Transport, storage and communications	131.4	123.9	118.3	119.4	100.2	110.1	114.5	110.3
Financial institutions	81.6	73.7	65.0	66.2	60.6	56.8	50.8	61.4
Real estate and business services	120.2	133.3	153.3	168.3	179.0	178.6	189.2	190.8
Community, social and personal services	329.4	328.6	391.9	355.7	365.6	358.1	370.6	375.6
Import duties	49.0	37.1	36.4	18.5	19.9	22.5	23.1	16.0
<i>Less (minus) imputed banking services</i>	22.5	20.6	18.2	18.5	16.8	15.8	14.1	17.1
Total GDP	1986.4	1937.0	2118.9	2018.8	2044.5	2059.3	2114.3	2250.1

Source: GRZ, *National Accounts, 1980*, 16-17, GRZ, *National Accounts Bulletin No. 3*, 8-9 and *Zambia in Figures* (Lusaka: CSO, 2014), 9.

5.7. Conclusion

This chapter has examined the slowdown in the production of statistics in Zambia as a contribution to debates on the decline in data in Africa in the lost decades. It argued that the economic crisis, the one-party state and the United Nations shaped statistical development. The economic crisis and the one-party system exerted pressure on the statistical service and triggered a reduction in the production of data, which occurred in two phases. In the period 1975-83, there was a growing backlog in the collection, processing and publication of data that became insurmountable for many datasets. Thus, from 1983, some enquiries became irregular. For those sustained, the publication of reports became problematic due to inadequate funding and printing facilities. Besides, some

statistical enquiries were disrupted during the population and housing censuses of 1980 and 1990 as the two censuses were prioritised partly because they were funded by external agencies.

The chapter has also contended that the decline in statistics was not universal as suggested in some of the literature.¹⁶² Datasets on population, labour, prices and external trade were sustained, though with challenges. In some cases, new enquiries were introduced as a participation in international statistical programmes and with support from donors like the UNECA and bilateral countries, such as the United States. In this regard, data on population, demography, prices and labour were collected in the 1980s through the World Census Programme, the National Household Survey Capability Programme and the International Comparison Programme. Statistics relating to these programmes were compiled in other participating countries. Hence, the international community, especially the United Nations, continued to shape statistical development. Besides, the global organisation supported the training of Zambians in statistics and complementary fields.

Furthermore, the chapter has argued that the government attempted to improve the organisation of the statistical system by creating a unified service coordinated by the CSO. Nonetheless, the unified service failed to produce proper coordination and harmony as some ministries operated their statistical units and conducted their enquiries with little or no involvement of the CSO, leading to the duplication of work and the compilation of conflicting datasets. Yet, some ministries collaborated with the CSO and held a number of enquiries together. The organisation of African statistical services and the extent of their collaboration and coordination is largely overlooked by the existing literature, despite its potential to illuminate how problems among various components of statistical systems affected the quality of data produced and their availability.

¹⁶² Among others, see Jerven, *Poor Numbers*, 45-7 and Lehohla, 'Statistical Development in Africa', 2-5.

Chapter Six

A Limited Revival: The Development of Statistics in Zambia in the Period 1991-2004

6.1. Introduction

In the 1990s, political and economic strife began to ease in much of Africa. Lehohla argues that the return of political stability and democracy created conducive environments and spurred a revival of statistical work that increased data production.¹ Similarly, Kratke and Byiers elucidate that international efforts were made to improve statistical capacity and promote data usage.² More importantly, there was a drastic shift in the context in which statistics were collected as most governments abandoned development planning, which ceased to be the central thread in data production. Instead, statistical development was now pursued in the context of poverty reduction efforts in response to the adverse effects of the Structural Adjustment Programme (SAP), which was championed by international bodies like the World Bank and the IMF. Besides, various international agencies also promoted the production of gendered statistics with which to champion the welfare and role of women in development.

While there are studies charting the revival of statistics in Africa in general, there is a paucity of works at country level, especially on the impact of the SAP and the Poverty Reduction Strategy on statistical development. Hence, this chapter analyses the production of statistics in Zambia during the years 1991-2004. The period is unique in the history of Zambia's statistical development because it was then that the country abandoned the practice of implementing major national development plans and, instead, radically executed the SAP followed by the Poverty Reduction

¹ Pali Lehohla, 'Statistical Development in Africa in the Context of the Global Statistical System', Paper for the Thirty-Ninth Session of the United Nations Statistical Commission, 26-29 February 2008, 2 & 10-12.

² Florian Kratke and Bruce Byiers, 'The Political Economy of Official Statistics: Implications for the Data Revolution in Sub-Saharan Africa', PARIS21 Discussion Paper No. 5, December 2014, 9.

Strategy. Thus, the chapter investigates the effects of these programmes on statistical development. It examines the SAP, the Poverty Reduction Strategy, gender advocacy and international efforts aimed at reviving data production. It argues that the SAP and poverty reduction agenda created a contradictory environment that hindered a rounded revival of statistics. The need to resuscitate data collection was identified and efforts were initiated to revive statistics. However, the SAP and Poverty Reduction Strategy instigated budgetary restrictions and staff curtailments that limited the conduct of statistical enquiries. Consequently, most statistical programmes were not adequately implemented and this constrained the revival of data production. As a result, it was difficult for various stakeholders to assess the successes of these programmes and the effects of government policies and activities of non-governmental organisations on people's livelihood.

The chapter argues that donor priorities tilted data production towards the requirements of the anti-poverty effort. During this period, a lot of donors were actively engaged in social and economic sectors such as health, education, agriculture, water and sanitation, social security, as well as agriculture, among others, in a bid to improve livelihoods and reduce poverty. Some of the major donors were international organisations such as the World Bank, IMF, African Development Bank, FAO and World Health Organisation, and developed countries such as the United States, Britain, Norway, Sweden and Ireland, among others.³ With their involvement in various anti-poverty schemes, these donors actively supported the collection of statistics on poverty through multi-purpose surveys at the expense of the previously favoured macro-economic data. The result was that while data on poverty increased, other statistics remained scanty. Hence, this chapter challenges the notion of a revival of statistics in the 1990s.

³ See, for example, GRZ, *Zambia Demographic and Health Survey, 1996* (Lusaka: CSO, 1997), xiii.

6.2. Radical Implementation of the Structural Adjustment Programme

The Structural Adjustment Programme was an economic reform package drawn by the World Bank and IMF in the 1980s to rescue the collapsing economies of developing countries and foster their growth.⁴ The SAP dominated the development debate in the 1980s and 1990s as championed by neo-liberal countries like the United States, Germany and Britain.⁵ It followed loss of faith in government central planning and the ascendancy of neoliberalism to the global stage. Mkandawire and Soludo explain that the SAP was aimed ‘to unleash markets so that competition can help to restore the allocation of resources getting the price signals right and creating a climate that allows businesses to respond to those signals in right ways that increase investment.’⁶ It endorsed drastic reduction in the role of the state in economic management. SAPs compelled countries to restructure their economies, embrace liberalisation policies like market deregulation and privatisation and effect currency devaluation, wage reductions and public spending cuts. Most African countries adopted the SAP and introduced the reforms. Mlambo explains, for example, that Zimbabwe’s operation of the SAP between 1991 and 1995 involved the abolition or commercialisation of parastatals and deregulation of the marketing of agricultural products to forestall competition in the economy and stimulate growth.⁷ However, the measures were unable to restore the economy and only worsened the debt and balance of payments position.

⁴ L.A. Sulaiman, S.O. Migiyo and O.A. Aluko, ‘The Structural Adjustment Programme in Developing Countries: Pain or Gain? Evidence from Nigeria’, *Public and Municipal Finance*, 3, 2 (2014), 44.

⁵ Walter Eberlei, Peter Meyns and Fred Mutesa, ‘Introduction’, in Walter Eberlei, Peter Meyns and Fred Mutesa (eds.), *Poverty Reduction in a Political Trap: The PRS and Neopatrimonialism in Zambia* (Lusaka: UNZA Press, 2005), 4 and Sulaiman, Migiyo and Aluko, ‘Structural Adjustment Programme’, 44.

⁶ Thandika Mkandawire and Charles C. Soludo, *Our Continent, Our Future: African Perspectives on Structural Adjustment* (Dakar: CODESTRIA, 1998), 42.

⁷ A.S. Mlambo, *The Economics of Structural Adjustment: The Case of Zimbabwe, 1991-1995* (Harare: University of Zimbabwe Publications, 1997), 13.

Several scholars have examined the adoption of the SAP in Zambia. Mulenga notes that as the economy declined massively by 1980 with the fall of export receipts and the rise of import prices that created severe balance of payments deficits, the country borrowed heavily from external sources to finance imports.⁸ Amidst the economic imbalance, Zambia resorted to the Structural Adjustment. However, in the 1980s, the adoption of the SAP took a start-stop approach with its suspensions caused by internal opposition due to its effects on people's livelihood.⁹ Zambia entered its first SAP in 1983 with a devaluation of the Kwacha, a five percent limit on wage increases, liberalisation of prices and removal of subsidies.¹⁰ This caused riots and strikes that led to abortion of the SAP in 1987. Nevertheless, the government failed to rectify the economic chaos and returned to the SAP in 1990 with similar consequences and widespread unrest that made President Kenneth Kaunda to abandon the one-party state and return to multi-party politics. This resulted in his ousting from the presidency in 1991 and his replacement by Frederick Chiluba of the Movement for Multiparty Democracy (MMD).¹¹

With the change of government and the return to multiparty democracy, Zambia unsparingly adopted the SAP as the new leaders sought to resuscitate the economy under the IMF and World Bank. From 1992, Zambia rapidly undertook 'liberalization of trade, prices, interest and foreign exchange rates, removal of subsidies, privatization, reduction in public expenditure, public sector

⁸ Friday E. Mulenga, 'Crises of Expectations: Workers' Struggles in Zambia, 1964-2011', PhD Thesis, University of Zambia, 2017, 129.

⁹ Miles Larmer, 'Historical Perspectives on Zambia's Mining Booms and Busts', in Alastair Fraser and Miles Larmer (eds.), *Zambia, Mining and Neoliberalism: Boom and Bust on the Globalised Copperbelt* (New York: Palgrave Macmillan, 2010), 46-8 and Christopher S. Adam and Anthony M. Simpasa, 'The Economics of the Copper Price Boom in Zambia', in Alastair Fraser and Miles Larmer (eds.), *Zambia, Mining and Neoliberalism: Boom and Bust on the Globalised Copperbelt* (New York: Palgrave Macmillan, 2010), 63-4.

¹⁰ Chin Kwan Lee, 'Raw Encounters: Chinese Managers, African Workers, and the Politics of Casualization in Africa's Chinese Enclaves', in Alastair Fraser and Miles Larmer (eds.), *Zambia Mining and Neoliberalism: Boom and Bust on the Globalised Copperbelt* (New York: Palgrave Macmillan, 2010), 130.

¹¹ Lee, 'Raw Encounters', 130, Jerven, *Poor Numbers*, 169 & 173 and Alastair Fraser, 'Introduction: Boom and Bust on the Copperbelt', in Alastair Fraser and Miles Larmer (eds.), *Zambia Mining and Neoliberalism: Boom and Bust on the Globalised Copperbelt* (New York: Palgrave Macmillan, 2010), 10.

reforms and liberalization of the marketing and pricing of agricultural produce.’¹² This drastically reduced the economic role of the state and increased that of the private sector. In 1992, the government started the privatisation process to forestall economic competition and efficiency and this led to the closure of some enterprises and the entry of new (foreign) firms.¹³ Several public enterprises and parastatals were privatised to stimulate recapitalisation. In mining, for example, ZCCM was divided into seven units and sold to private investors mainly from Canada, Britain, India, Switzerland, South Africa and China.¹⁴

The SAP was a major factor in statistical development in the period 1991-2004. The consequence of liberalisation was that many of the privatised companies were liquidated while some new firms emerged.¹⁵ For the statistician, this implied the need to radically and regularly update the establishments register but this was not frequently done due to inadequate funding. Privatisation also expanded casualisation as the state was increasingly unable to regulate the private sector. It also increased unemployment since many workers were laid off from ailing enterprises and this expanded the informal sector where many victims of job losses found alternative means of sustenance.¹⁶ These imperatives increased the need for data on the informal sector, labour and living conditions with which to assess the effects of the SAP on people’s livelihood. This stimulated data on poverty, the very figures that the United Nations stressed in the 1990s in its quest to assess the performance of anti-poverty measures.¹⁷ Besides, as Jerven notes, there was need for statisticians to assess the contribution of the informal sector to national output and socio-

¹² GRZ, *Central Statistical Office Strategic Plan, 2003-7* (Lusaka: CSO, 2003), 2.

¹³ *Ibid.*

¹⁴ Lee, ‘Raw Encounters’, 130.

¹⁵ John R. Craig, ‘State Enterprise and Privatisation in Zambia, 1968-1998’, PhD Thesis, University of Leeds, 1999, 149-51.

¹⁶ GRZ, *Central Statistical Office Strategic Plan, 2003-7*, 3.

¹⁷ *Ibid.*

economic development.¹⁸ However, though efforts were made to collect data on the informal sector, they were unsuccessful due to problems of lack of data sources.

With the return to multi-party politics, statisticians identified other needs for data. For example, they noted that the frequent conduct of elections required updated data for demarcations of constituencies and wards and for accountability purposes.¹⁹ With multi-party democracy came demands for good governance and for the administration to be accountable. Hence, there was need to collect timely, relevant and reliable statistics in order to assess performance regularly. It was also noted that leaders at various levels required data ‘for the decision making process that is guided by existing statistical indicators that support politicians in advocacy activities and in resource mobilisation.’²⁰ As a result, data collectors attempted to assemble statistics for evaluating government policies and programmes.

Arguably the most serious impact of the SAP on the statistical service was the drastic reduction of its capacity to collect data. In 1992, the Zambian government began the Public Service Reform Programme that aimed to downsize the public service and curtail government expenditure in line with the SAP.²¹ This was done partly through a retrenchment exercise that seriously affected the Zambian statistical service. Retrenchment began in 1993 and reduced the strength of the service, including non-appointed staff, from 1,340 in 1993 to 656 in 2000.²² This crippled the capacity of the CSO to revive the production of statistics and meet the identified data needs. Besides, it

¹⁸ Morten Jerven, *Poor Numbers: How We are Misled by African Development Statistics and What to Do About it* (Ithaca and London: Cornell University Press, 2013), 3.

¹⁹ GRZ, ‘Zambia’s Report for the Third Meeting of the UNECA Committee on Development Information’, 10-16 May 2003, Addis Ababa, 4. Also see Lehohla, ‘Statistical Development in Africa’, 9.

²⁰ GRZ, ‘Zambia’s Report for the Third Meeting of the UNECA’, 4.

²¹ CSO, ‘Reaction of the Zambian Central Statistical Office to Mr. Morten Jerven’s Book – Poor Numbers: How We are Misled by African Development Statistics and What to Do about It’, Paper presented at the 20th SADC Statistics Committee Meeting, Pemba, Mozambique, 28-30 May 2013, 6.

²² Ibid.

complicated the implementation of international statistical programmes as the CSO lost many of its experienced personnel. In some cases, the CSO had to seek consultancy services from its former staff. These events illustrate the contradictory environment that the Structural Adjustment instigated in Zambia.

While statistics were required for assessing the effects of the SAP, resources for collecting data were inadequate due to budget restrictions.²³ Hence, some statistical enquiries remained sporadic and the state continued to depend on external donors to sponsor major surveys and censuses while the government provided funds to meet the regular expenditure of the CSO. It is thus concluded that in the absence of good data, decisions related to the SAP itself were not well informed. Jerven asserts that the IMF and World Bank did not provide sufficient resources to ensure the collection of data required and that they did not reform African statistical offices to capacitate them to collect data for purpose of the SAP.²⁴ In relation to that, it is noted here that much as the IMF and World Bank guided the implementation of the SAP, these institutions did not provide direction to local statisticians on the data requirements. Thus, Mkandawire and Soludo argue that the Bretton Woods institutions employed data of dubious quality in the working and evaluation of the SAP.²⁵

6.3. The Poverty Reduction Strategy

In the 1980s and 1990s, Zambia continued to accumulate a huge debt in a bid to sustain funding of her imports. While her debt stood at US\$3.2 billion in 1980, it rose to US\$4.6 billion in 1985, US\$6.6 billion in 1987 and US\$7.2 billion in 1989.²⁶ When the MMD government took over in 1991, the external debt was US\$6.7 billion and it rose to US\$7.2 billion in 1996. The mass debt

²³ Jerven, *Poor Numbers*, 35.

²⁴ *Ibid.*

²⁵ Mkandawire and Soludo, *Our Continent, Our Future*, 37.

²⁶ Mulenga, 'Crises of Expectations', 137.

contraction had negative effects on people's livelihood and contributed to worsening poverty. This was because debt servicing hindered service delivery and development efforts as it took a chunk of national budgets. Such was the situation for many countries on SAP and it was clear by the mid-1990s that the programme had complicated development and poverty reduction efforts.²⁷

Poverty reduction became central in the development agenda following the World Social Summit held in Copenhagen in Denmark in 1995. As a result, the World Bank and IMF designed the Highly Indebted Poor Countries (HIPC) Initiative under which the concerned countries would receive debt relief to enable them set aside resources for development and fighting poverty. It also culminated in the Poverty Reduction Strategy Paper (PRSP) in 1999 under the World Bank and IMF to combat poverty, reduce debt and improve living conditions.²⁸ PRSPs were the functional basis for debt relief to low income debt burdened countries under the HIPC initiative. They outlined the macro-economic, structural and social policies and programmes that a country would pursue in order to promote sustained growth and reduce poverty.²⁹ Resources to be freed from debt servicing were to be directed towards poverty reduction measures.

Zambia reached the HIPC decision point in 2000 after meeting the criteria under the SAP that included the completion of privatisation of the major mining assets and the formulation of the PRSP.³⁰ In contrast to the SAP that was prepared entirely by Bretton Woods institutions, PRSPs were drawn by respective governments with the participation of local and international stakeholders. The notion of country ownership and civil society participation also made the PRSP differ from the SAP. However, Imboela argues that PRSPs were not necessarily locally owned as

²⁷ Mlambo, *The Economics of Structural Adjustment*, 2-3.

²⁸ Eberlei, Meyns and Mutesa, 'Introduction', 5-6.

²⁹ Atieno Ndomo, 'PRSP Rhetoric: Sugar-coated Structural Adjustment Reality?' International Institute for Environment and Development, Paper No. 51, April 2005, 21.

³⁰ Eberlei, Meyns and Mutesa, 'Introduction', 7.

they were in some cases prepared by the World Bank and IMF and legitimated using cosmetic country consultations.³¹ Ndomo notes that in some countries, such as Malawi, even when the PRSPs were drawn locally, governments excluded from the consultation processes groups such as trade unions and women's movements that they deemed to be critical of their policies.³²

In Zambia, the PRSP was drawn by the government with the involvement of the civil society and representation from Bretton Woods institutions. Mpepo and Seshamani explain that in 2000, various non-governmental organisations combined to form the Civil Society for Poverty Reduction (CSPR) to spearhead their participation in the PRSP. Hence, the CSPR aired its views and made inputs to the PRSP document.³³ Ndomo argues that the inclusion of the civil society in the PRSP process in Zambia and Uganda made the programme legitimate.³⁴ After drawing the PRSP, the government signed the Poverty Reduction and Growth Facility with the World Bank and IMF, which outlined parameters for measuring progress towards the HIPC completion point. Like for other countries, the initiative aimed to reduce the debt to sustainable levels and through it, a number of external creditors pledged to cancel Zambia's debt once the country reached the HIPC completion point.³⁵ Indeed, after Zambia reached the HIPC completion point in 2005, the World Bank, IMF and donors in the Paris Club gave the country a debt relief of \$6.6 billion in 2006, cutting the public debt from 104 percent of GDP in 2005 to 25 percent of GDP in 2006.³⁶

The PRSP had a bearing on statistical development in Zambia as it increased the need for data on poverty to support its formulation and functioning. The CSO explains that in Sub-Saharan Africa,

³¹ Bruce L. Imboela, 'Poverty Reduction in Zambia: A Conceptual Analysis of the Zambian Poverty Reduction Strategy Paper', *Bulletin of Science, Technology and Society*, 25, 5 (2005), 434-37.

³² Ndomo, 'PRSP Rhetoric', 22.

³³ B.P. Mpepo and V. Seshamani, 'Zambia's PRSP Process: From Exclusion to Inclusion, Confrontation to Cooperation', International Institute for Environment and Development, Paper No. 51, April 2005, 59.

³⁴ Ndomo, 'PRSP Rhetoric', 25.

³⁵ *Bank of Zambia Annual Report, 2004*, 4.

³⁶ World Bank, 'How Zambia Can Borrow Without Sorrow', Zambia's Economic Brief No. 10, December, 2017, 10.

Zambia was chosen for a study on poverty data because it had substantial household survey statistics.³⁷ It was one of the few countries with data on poverty at rural, urban, provincial and district levels and this provided strong justification for it to be studied before the PRSP. This was also possible because Zambia engaged in the most robust SAP and economic reforms in Africa in the 1990s. As Mulenga notes, Zambia executed economic reforms ‘more rapidly than ... any other African government ... earning the reputation of a model liberalising economy.’³⁸ The reforms had a debilitating effect on people’s livelihood. The removal of subsidies on mealie meal, fertiliser and fuel led to high commodity prices that impoverished many Zambians. Hence, the deterioration of poverty provided good ground for the study. Besides, Zambia had a poverty reduction unit in its Ministry of Finance that already identified areas requiring attention. These included economic growth, social indicators and cross-cutting issues like governance, HIV/AIDS prevalence, infrastructure, water, sanitation, environment and gender issues.³⁹

Imboela explains that the PRSP process in Zambia included among others a national summit that discussed the production and usage of poverty data.⁴⁰ Key indicators to be tracked and used for determining poverty trends, expected output, anticipated effects and the success rate of anti-poverty efforts were identified.⁴¹ As poverty is multi-dimensional, data producers attempted to collect statistics from a variety of sources including administrative records, management information systems, the population and housing census, the Living Conditions Monitoring Survey and the Zambia Demographic and Health Survey, explored later in this chapter.⁴² However, donor

³⁷ *Data Requirements for the PRSP – Zambia* (Lusaka: CSO, 2001), 1.

³⁸ Mulenga, ‘Crises of Expectations’, 139.

³⁹ GRZ, *Central Statistical Office Strategic Plan, 2003-7*, 10.

⁴⁰ Imboela, ‘Poverty Reduction in Zambia’, 434-37.

⁴¹ GRZ, *Central Statistical Office Strategic Plan, 2003-7*, 10.

⁴² *Ibid*, 11.

aided enquiries generated more substantial data than the exclusively government sponsored works because the latter were hampered by budgetary limitations.

Furthermore, in the 1990s, HIV/AIDS began to receive attention in statistics. Following reports of the disease in America and Europe in 1981, the first case of HIV/AIDS in Africa was confirmed in Uganda in 1982.⁴³ The disease rapidly spread across the continent and by the 1990s, it had become a major global health challenge, especially in developing countries.⁴⁴ Besides claiming many lives, the disease was directly linked to the rising poverty levels as many families lost their breadwinners or had their productivity reduced. Negin argues that HIV/AIDS had ‘a vicious, circular, rippling effect through an economy as it initially feeds off poverty and weak health systems and then perpetuates that poverty and continues to overburden health care schemes.’⁴⁵ In order to curtail its spread and reduce its impact on livelihoods, African governments including Zambia incorporated the collection of statistics on the pandemic in their PRSPs, leading to increased attention to data on HIV/AIDS in the 1990s and 2000s.

6.4. International Statistical Programmes as Missed Opportunities

This section argues that international statistical programmes introduced at global, continental and regional levels influenced plans and efforts to rejuvenate the production of data in Zambia but their significance was limited by inadequate implementation. While Zambia participated in several programmes in solidarity with international efforts, at national level her involvement was motivated by the fact that statistical schemes usually came with funding and technical support.⁴⁶

⁴³ See A.S. Balogun, ‘HIV/AIDS Epidemic in the History of Nigeria, 1986-2007’, *Journal of the Historical Society of Nigeria*, 19 (2010), 167.

⁴⁴ Joel Negin, ‘Assessing the Impact of HIV/AIDS on Economic Growth and Rural Agriculture in Africa’, *Journal of International Affairs*, 58, 2 (2005), 267.

⁴⁵ *Ibid*, 278.

⁴⁶ IMF, ‘Guide to the General Data Dissemination System (GDDS)’, March 2002, 3 and *Strategy for the Harmonisation of Statistics*, 5.

Thus, the CSO participated in them partly to take advantage of the accompanying support and complement the meagre resources availed locally.⁴⁷ Yet, the funding was in most cases inadequate and not always forthcoming while the programmes were not well coordinated and this resulted in the multiplication of effort and funding requirements. As a result, the schemes were largely unsuccessful and could not improve the availability and quantity of data. Hence, they constitute a missed opportunity for a rounded revival of statistical activities.

The first of these programmes was the Addis Ababa Action Plan for Statistical Development in Africa which was devised in 1990 under the auspices of the UNECA to reverse the decline in statistics and lay a foundation for improving their quantity, quality and timeliness.⁴⁸ The plan sought to create elaborate national databases, to attain national self-sufficiency in the production of data and to strengthen relevant training.⁴⁹ It was also envisaged to enhance the organisation and autonomy of national statistical services and improve the coordination of all efforts aimed to improve statistics. Lehohla notes that though the plan was adopted by the UNECA in 1991 to guide statistical development in Africa, it was shelved until the late 1990s due to lack of resources.⁵⁰ Thus, it was only from the late 1990s that Zambia began to implement the plan but even then faced funding challenges due to SAP-related budgetary constraints. This illustrates the mismatch between the need to collect statistics and the limited capacity to do so. The failure by donors to fund the programme and by Zambia to implement the plan was indeed a missed opportunity in the attempt to improve the production of statistics.

⁴⁷ Some of the programmes adopted provided funding to the participating countries. See, for example, Kratke and Byiers, 'Political Economy', 10.

⁴⁸ *Strategy for the Harmonisation of Statistics*, 4.

⁴⁹ Lehohla, 'Statistical Development in Africa', 9-10.

⁵⁰ *Ibid*, 9.

This was followed by the General Data Dissemination System (GDDS) that was initiated by the IMF in 1997 to improve the production and dissemination of statistics. The programme funded several donor projects that were implemented between 1998 and 2008 in order to ‘guide member countries in the publication of comprehensive, timely and accessible statistics.’⁵¹ Thus, the GDDS supported participating countries to formulate their statistical development plans in order to improve the coverage, timeliness and periodicity of data publications. The availability of funding for this programme was a strong motivation for the CSO to join it and improve its datasets. Within Southern Africa, South Africa participated in the Special Data Dissemination Standards as a basis for reforming the statistical service and improving the quality, timeliness and accessibility of data, which remained weak in the apartheid era when data collection had a serious racial bias.⁵²

Zambia began to participate in the GDDS in 2001 with the result that in 2003, the CSO began to issue some data through *The Monthly*, which replaced the *Monthly Digest of Statistics*, the latter having disappeared in the early 1990s due to lack of resources.⁵³ Since its inception, *The Monthly* has been published consistently. Also started in the early 2000s was the dissemination of reports using emails and the CSO website and this improved the timeliness and accessibility of data. In fact, the IMF noted that by the end of 2004, most of Zambia’s data dissemination followed GDDS standards, with the exception of the external sector where data on public debt were issued on a semi-annual rather than quarterly basis.⁵⁴ The participation of African countries in the GDDS was supported by the IMF and the World Bank. With funding from the British Department for

⁵¹ Kratke and Byiers, ‘Political Economy’, 10, GRZ, *Central Statistical Office Strategic Plan, 2003-7*, 56 and IMF, ‘Guide to the General Data Dissemination System’, 3.

⁵² Pali Lehohla, ‘Statistics South Africa in Transition: Reflection on a Decade of Statistical Practice (1994-2004)’, *African Statistical Journal*, 1 (2005), 55. Also see GRZ, *Central Statistical Office Strategic Plan, 2003-7*, 56-7 and IMF, ‘Zambia: Report on Observance of Standard Codes - Data Module’, January 2005, 4.

⁵³ See, for example, *The Monthly*, April 2003.

⁵⁴ IMF, ‘Zambia: Report on Observance of Standard Codes’, 4.

International Development, the two institutions initiated the GDDS Anglophone Africa Project in 2002, which helped Anglophone African countries to identify areas that required attention and establish processes for formulating and implementing statistical development plans.⁵⁵ The project provided 15 countries, including Zambia, with technical help to prepare metadata and formulate the plans. As a result of the GDDS, Zambia prepared the Statistical Strategic Plan and attempted to execute it in the period 2003-2007.⁵⁶ Nevertheless, with little funding and lack of political support, the plan was largely shelved. The lack of full actualisation of the plan was a missed opportunity in that the scheduled reorganisation of the statistical service that sought to give autonomy to the CSO and to revise the Statistics Act to strengthen the office's role in coordinating the Zambian statistical service were not actualised.

Another package was the International Comparison Programme for Africa or ICP-Africa. It was launched in 2002 and executed in 48 countries under the coordination of the African Development Bank in partnership with donors and regional organisations.⁵⁷ Framed within the global context, this multipurpose package aimed to enhance statistical capacity by building a reliable database for national and international use and collecting data for developing effectiveness indicators and evaluating anti-poverty efforts.⁵⁸ It sought to yield data for cross-country comparison of prices and real economic aggregates and attempted to strengthen consumer price indices, gross domestic products and purchasing power parities.⁵⁹ In the area of national accounts, ICP-Africa attempted to help countries implement the 1993 SNA.⁶⁰ Zambia began to implement this SNA in the late 1990s and received a boost through technical assistance and training. However, the inadequacy of

⁵⁵ *Strategy for the Harmonisation of Statistics*, 5.

⁵⁶ GRZ, *Central Statistical Office Strategic Plan, 2003-7*, 67.

⁵⁷ *Strategy for the Harmonisation of Statistics*, 6.

⁵⁸ *Ibid.*

⁵⁹ Kratke and Byiers, 'Political Economy', 10.

⁶⁰ *Strategy for the Harmonisation of Statistics*, 30.

data continued to prevail, forcing the CSO to implement it gradually. In addition, budgetary and staffing constraints caused by the downsizing of the CSO and made it very difficult to regularly collect data for compiling national accounts.

The 1990s ushered a new source of international influence on statistical development in Zambia as regional groupings, namely COMESA and SADC, began to play a role in the production of data. This was mainly because they required data on socio-economic conditions of their member states and so coordinated some activities. Within the framework of SADC and COMESA, Mozambique led the harmonisation of national accounts, South Africa coordinated population and housing censuses, Zambia led in external trade data while Zimbabwe coordinated classification systems.⁶¹ In the 1990s, SADC began to build a regional database and thus required a regular supply of data from its members. Hence, in the area of agriculture, for example, it offered ‘technical and logistical support for generation of Early Warning Information for food security and agricultural statistics.’⁶² SADC also spearheaded the creation of agricultural information management systems in sectoral ministries and helped to standardise food balance sheets. In this vein, it provided training platforms that encouraged member states to standardise the preparation of national food balance sheets and the methodology for estimating crop output.⁶³

Similarly, COMESA has since 1998 been trying to harmonise the external trade statistics of its members. It is worth noting that COMESA was intended to operate as a free trade area and common market and these statistics were crucial to its work. COMESA maintained a regional database that required data from its members. Besides, it helped the CSO with computers and a statistical software package called EUROTRACE, used globally to manage and process foreign

⁶¹ *Ibid*, 34.

⁶² MACO and CSO, *Zambia Panorama Report 2009*, 32.

⁶³ *Ibid*.

trade data.⁶⁴ The software was developed under the auspices of the European Commission's Statistical Office. Besides, COMESA provided training to CSO staff in the external trade branch on the use of the software and this enabled the institution to improve access to trade data and circumvent the repetitive manual calculations earlier used to prepare the figures.⁶⁵ The software helped the CSO to detect and reduce recording errors, to curtail the time taken to produce provisional data and to improve the management of historical data.⁶⁶ Clearly, these organisations attempted to boost the production of statistics in their member countries. Yet, the attempts were frustrated by staffing and funding constraints that contributed to the missed opportunity for an all-round resurgence of statistics.

6.5. Gender Advocacy and Statistical Development

The international community also promoted the production of gendered data from which statistics on women were required to enhance their role in development and advocate for improvement of their welfare but the efforts were largely unsuccessful. The 1990s saw increased interest in data on women and their economic contribution, especially their labour and participation in the informal sector. This was due to the rise of a women-centred gender activism in the early 1990s and the 1995 Beijing Conference on Women that promoted gender equality and stimulated the creation of non-governmental organisations promoting women's welfare and representation. On the local scene, for instance, the Zambia National Women's Lobby Group was formed in 1991 in response to 'growing concerns about the role and participation of women in the socio-economic and political

⁶⁴ Interview with Daniel Chipaila, Statistician, External Trade Branch, Central Statistical Office, Lusaka, 13 August 2019.

⁶⁵ GRZ, *Central Statistical Office Strategic Plan, 2003-7*, 56-7.

⁶⁶ *Ibid.*

spheres.’⁶⁷ Phiri notes that the group was concerned that though women constituted 52 percent of the Zambian population, they faced discrimination and exclusion from power. Hence, it sought to promote equal participation of women and men at all levels of decision making through advocacy, lobbying, capacity building and enlightening policy makers on gender issues.⁶⁸

Although non-governmental organisations like the lobby group did not directly collect statistics, their advocacy increased the need for gendered data. In advancing its cause, the group required data on women but found it hard to obtain them in the required form and disaggregation.⁶⁹ This was mainly because before the 1990s, very few surveys and censuses provided statistics that were disaggregated by gender. However, as a result of persistent requests by the lobby group and other stakeholders, including the government, the CSO attempted to increase the production of gender-disaggregated statistics. Elemu notes that the government stressed ‘the importance of gender-disaggregated information in order to ensure effective gender targeting of poverty reduction programmes and activities.’⁷⁰ Hence, the CSO created a gender statistics unit to coordinate the collection of gender-disaggregated data on poverty and other areas of concern so as to meet the needs of institutions responsible for gender mainstreaming, including gender focal points in government ministries and provinces.⁷¹

Gender activism also spurred the creation of the Gender in Development Division at Cabinet Office in 1996 to coordinate the national gender policy and resource mobilisation for a gendered

⁶⁷ Bizeck J. Phiri, ‘Gender and Politics: The Zambia national women’s lobby group in the 2001 tripartite elections’, in Jan-Bart Gewald, Marja Hinfelaar and Giacomo Macola (eds.), *One Zambia, Many Histories: Towards a History of Post-colonial Zambia* (Lusaka: Lembani Trust, 2009), 262.

⁶⁸ Phiri, ‘Gender and Politics’, 262 and GRZ, *Central Statistical Office Strategic Plan, 2003-7*, 33.

⁶⁹ GRZ, *Central Statistical Office Strategic Plan, 2003-7*, 33.

⁷⁰ Derrick Elemu, ‘Localising Gender Mainstreaming in a PRS Process - A View from Luanshya District’, in Walter Eberlei and Fred Mutesa (eds.), *Poverty Reduction in a Political Trap? The PRS Process and Neopatrimonialism in Zambia* (Lusaka: UNZA Press, 2005), 223.

⁷¹ *Ibid.*

approach to poverty reduction.⁷² As the division coordinated players involved in gender advocacy, it created a statistics unit that collated gender-related data from administrative sources and gender focal points.⁷³ The data were issued in the *Annual Gender Statistics Report*. However, with inadequate funding and personnel, the unit lacked the capacity to hold its own surveys and relied on CSO data.⁷⁴ With such problems, the publication of the *Annual Gender Statistics Report* was irregular as most CSO data were highly aggregated at national and provincial levels and seldom incorporated relevant gender issues. The CSO itself lacked elaborate historical data to measure change over time. For instance, data on trade were not disaggregated by gender and did not differentiate the contributions of men and women to national wealth.⁷⁵ This was largely because the questionnaire was not drawn within the framework of gender. Similarly, on the labour sector, the 1969 and 1980 censuses did not distinguish between men and women in the labour force making the data unavailable. Thus, it is concluded here that the CSO's gender statistics branch was not effective and this illustrates a missed opportunity to effectively deal with the persistent problem of inadequate gendered statistics. Despite the drastic increase in gender advocacy and the creation of gender-inspired institutions, these bodies did not collect regular and adequate data.

6.6. Organisation of the Statistical Service

During the SAP and the PRSP, the CSO remained the prime producer of statistics with others being sectoral ministries and the Bank of Zambia. The loosely organised unified statistical service slowly disintegrated in the 1990s as the CSO recalled its staff from the ministries during the restructuring

⁷² GRZ, *Central Statistical Office Strategic Plan, 2003-7*, 29.

⁷³ *Ibid*, 30.

⁷⁴ *Ibid*.

⁷⁵ *Ibid*.

and retrenchment schemes done under the Public Service Reform Programme.⁷⁶ The CSO collected some of the data on its own but others were compiled in conjunction with other public and private bodies. Like in the previous period, co-operation between some ministries and the CSO was good while others had issues with the statistical office. Moreover, some works were delegated to statistical units in other government institutions to reduce the workload of the CSO and take advantage of their specialisation.⁷⁷ This was the case with balance of payments that were transferred to the Bank of Zambia. Sectoral ministries and the Bank of Zambia increased their involvement in data production in response to the incapacity of the CSO to collect all the required data amidst the growing demand for statistics.⁷⁸ Besides, other institutions faced challenges in using statistics from the CSO because of their incompleteness and lack of timeliness. Yet, it is observed here that even the other institutions faced the SAP-induced problems that affected their operations and made the revival of many datasets problematic.

In the non-government sector, the major sources of data included the civil society and private enterprises. However, their data were not necessarily treated as official and were not always influenced by international standards. The most active civil society grouping in producing statistics was the Jesuit Centre for Theological Reflections (JCTR) that collected data on urban living conditions.⁷⁹ In the private sector, mining companies continued to generate data on mining and related activities. However, privatisation created more difficulties for the government to access statistics as compared to data from government parastatals before privatisation. Thus, this section

⁷⁶ Interview with Mubita Sitwala, Cartographer, Copperbelt Regional Statistical Office, Mpelembe House, Ndola, 21 June 2019.

⁷⁷ MACO and CSO, *Zambia Panorama Report*, 2009, 6.

⁷⁸ *Ibid*, 14-26.

⁷⁹ See Miniva Chibuye, 'Interrogating Urban Poverty Lines: The Case of Zambia', Human Settlements Working Paper Series, March 2011, <https://pubs.iied.org/10592IIED.html>, Accessed on 22 July 2020.

upholds Jerven's assertion that the dissolution of parastatals limited access to statistics.⁸⁰ Although private companies compiled their own data, they were sometimes unwilling to share them with the government and hesitated to respond to enquiries. This was worsened by the fact that some data exposed the flouting of labour laws by some companies.

6.7. The Major Statistical Activities

The following sections elucidate the main statistical works held and includes the contributions of the CSO, sectoral ministries, the Bank of Zambia and the mining industry. They demonstrate that during the SAP and PRSP, statistical enquiries were sustained in few sectors and multi-sectoral surveys were introduced to collect data on various categories. However, the revival of most datasets was slow and limited while the quality of data largely remained poor as some of the previously regular enquiries became spontaneous while others were not held at all.

6.7.1. Population and Demographic Statistics

Despite the general failure to revive statistics, work on population and demographic data were sustained through enquiries held with the support of the international community. Again, the sector continued to be heavily influenced by external forces. The main enquiries held were the Zambia Demographic and Health Survey (ZDHS) in 1996 and 2001-2 and the Census of Population and Housing in 2000. The enquiries helped to improve the quality of population statistics. Potts argues that Zambia's postcolonial population census data are sufficiently accurate and that there is not much reason to doubt them.⁸¹ This section maintains that though the quality of population statistics

⁸⁰ *Ibid.*

⁸¹ Debora Potts, 'Counter-Urbanisation on the Zambian Copperbelt? Interpretations and Implications', *Urban Studies*, 42, 4 (2005), 589.

was not fool-proof, it was enhanced over the years by improvements in census frames and the adoption of various technologies used to collect and analyse data.

The ZDHS was held every four to five years as participation in the worldwide Demographic and Health Survey.⁸² The Ministry of Health mobilised the funding and other resources required for the ZDHS while the CSO held the survey. Like other developing countries worldwide, Zambia held the survey with funding, technical and material support from various donors, namely, the United States, Japan, Denmark, the UNDP and the UNFPA.⁸³ This underscores the point that the survey was initiated by the international community and that the countries were only participating in an international initiative from which of course they benefited as they also used the data. Using the 2001-2 ZDHS, the following two paragraphs examine the methodology and conduct of the survey, its contribution to the production of statistics and the extent of donor involvement.

The ZDHS was a nationally representative survey with the 2001 edition comprising a sample of 7,658 randomly selected women aged 15-49 years and 2,145 men aged 15-59 years. They were enumerated using three questionnaires (for women, men and households, respectively), all based on a model for countries with low contraception.⁸⁴ In consultation with local and international agencies, the CSO modified the model questionnaire to adapt it to local conditions, indicating that external frameworks were affected by the internal environment. The household questionnaire listed the usual members and visitors of selected households and collected data on age, sex, height, weight, education, water sources, type of toilets, flooring material and was also used to identify

⁸² GRZ, *Zambia Demographic and Health Survey, 1996*, 2.

⁸³ For details, see GRZ, *Zambia Demographic and Health Survey, 2001-2002* (Lusaka: CSO, 2003), xix & 5 and Wim Marivoet and Tom De Herdt, 'Reliable, Challenging or Misleading? A Quantitative Account of the most Recent National Surveys and Country Statistics in the DRC', in Morten Jerven (ed.), *Measuring African Development Past and Present* (New York: Routledge, 2015), 111-12.

⁸⁴ GRZ, *Zambia Demographic and Health Survey, 2001-2*, 5-6.

persons for individual interview.⁸⁵ The women questionnaire gathered data on education, media exposure, family planning, fertility preferences, antenatal and delivery care, infant and child feeding, vaccinations, illnesses, mortality, marriage, sexuality and women's work.⁸⁶ The data were used to update social indicators on health and demography. From 2001, the survey included data on gender-based violence, syphilis, HIV and discrimination of people with AIDS as part of the PRSP effort.⁸⁷ The male questionnaire collected data similar to that on women but excluded reproduction, maternal and child health, nutrition and mortality. Clearly, the survey collected human-centred data as compared to macroeconomic statistics as the government and its development partners considered the former to be more relevant to the anti-poverty fight.

The actual conduct of the ZDHS was also done with the help of technical experts from external organisations along international standards. The survey was held by twelve interview teams, each comprising a supervisor, a field editor, three/four female interviewers, a male interviewer, a nurse and a laboratory technician.⁸⁸ Their training was overseen by technical experts. Also, while enumerators were supervised by CSO personnel who were helped by staff from the Tropical Diseases Research Centre and UNZA, the Opinion Research Macro (ORC Macro) Inc., an international research corporation based in Maryland, United States, took part in measuring height and weight and testing blood.⁸⁹ Compared with enterprise-based surveys, the ZDHS had higher response rates because individuals, unlike business firms, were more willing to supply data. The

⁸⁵ *Ibid*, 6.

⁸⁶ *Ibid*.

⁸⁷ *Ibid* and GRZ, *Central Statistical Office Strategic Plan, 2003-7*, 49. For details on the data collected on the discrimination of people living with HIV and AIDS see, for example, *The Monthly*, December 2003, 6-7.

⁸⁸ GRZ, *Zambia Demographic and Health Survey, 2001-2*, 9-10.

⁸⁹ ORC Macro Inc. is specialised in research, information technology and social marketing and does research for governments. It has been active in Demographic and Health Surveys on behalf of the USAID. For more details, see <https://www.referenceforbusiness.com/history2/84/Opinion-Research-Corporation.html#ixzz70ZklkF00>, Accessed on 14 July 2021. Also see GRZ, *Zambia Demographic and Health Survey, 2001-2*, 9-10.

reason for this, as one interviewee explained, was that ‘many respondents accepted that the survey was designed to collect data required to address their challenges.’⁹⁰ In 2001-2, for example, 98 percent of the selected households were successfully canvassed. With its high response rates, the ZDHS produced better data than establishments-based surveys that had poor response rates.

In 2000, Zambia sustained its participation in all rounds of the World Population Census and held its fourth population and housing census since independence. This record was facilitated by the peace that it enjoyed and donor support to the census. Countries that faced political strife, such as Nigeria, Angola, Ethiopia and the DRC, could not participate in most of the census rounds. By 2013, for example, Angola and the DRC had last held their censuses in 1975 and 1984, respectively.⁹¹ The Zambian CSO held the 2000 census with financial, material and technical aid from development partners like the UNFPA, the United States, Britain, Japan and Norway.⁹² Thus, the donors continued to influence what was counted and how the counting was done. Their support to the census also underscores their preference of data on households and individuals rather than establishments. The census engaged a manpower of about 30,000, with grade eleven pupils as enumerators and primary school teachers as supervisors while CSO staff did the more technical work. The use of pupils illustrates the persistent inadequacy of the CSO’s permanent field team to hold the mammoth exercise. Despite the training they received, school pupils were obviously not suited for the task and they perpetuated challenges of poor enumeration. The enumerators visited and identified the characteristics of all buildings and households and enumerated persons directly

⁹⁰ Interview with Alfeyo Chimpunga, Regional Statistician for Luapula Province, NAPSA Building, Mansa, 26 July 2019.

⁹¹ Marivoet and Herdt, ‘Reliable, Challenging or Misleading?’ 102, Shantayanan Devarajan, ‘Africa’s Statistical Tragedy’, *Review of Income and Wealth*, 59 (2013), 11.

⁹² See J.O. Onsembe and James P.M. Ntozi, ‘The 2000 Round of Censuses in Africa: Achievements and Challenges’, *African Statistical Journal*, 3 (2006), 13-14 and the Preface to GRZ, *Summary Report on the 2000 Census of Population and Housing*, Vol. 10 (Lusaka: CSO, 2001).

or by proxy counting *de jure* members and visitors who spent the previous night within the household.⁹³ Though proxy respondents provided some data on the persons they represented, they were not always sufficient and this weakened the quality of the figures they supplied.

The 2000 census put Zambia's population at 9,885,591 comprising 4,946,298 males and 4,939,293 females and the annual growth rate between 1990 and 2000 at 2.5 percent.⁹⁴ It collected data up to ward level on demographic features, life expectancy, child mortality, fertility, migration, housing, education, labour force, employment, occupation and economic dependency, which were used to derive social indicators.⁹⁵ Also, the 2000 census report contains statistics on poverty and gender issues in response to new data needs. Despite the limitations noted, a 2001 post-enumeration survey indicated that the data were more complete than those of previous censuses. International methods were used to assess the quality of data indicating the dominance of external forces. The CSO noted that 'age-sex data shows an improvement over the 1980 and 1990 age-sex data as evidenced by the decline in the age-sex accuracy index from 39.9 in 1980, to 31.7 in 1990 and 28.7 in 2000.'⁹⁶ The quality of data on age was reported to have improved as measured using Meyer's Index recommended by the United Nations. In theory, the index ranges from zero to 90 with figures below ten indicating good responses. The index showed improved responses on age as it dropped from 7.4 in 1980 to 7.1 in 1990 and 7.0 in 2000.⁹⁷ However, the improvement was uneven as some flaws were noted. Firstly, there was age heaping that the CSO had to smoothen using the AGESMTH software also developed and recommended for that purpose by the United

⁹³ GRZ, *Summary Report on the 2000 Census of Population and Housing*, 1.

⁹⁴ *Ibid.* Also see *The Monthly*, April 2003, 4.

⁹⁵ GRZ, *Report on the 2000 Census of Population and Housing* (Lusaka: CSO, 2001), 73 and GRZ, *Summary Report on the 2000 Census of Population and Housing*, Vol. 10.

⁹⁶ GRZ, *Report on the 2000 Census of Population and Housing*, 11 & 25.

⁹⁷ *Ibid.*

Nations.⁹⁸ Secondly, under- and over-enumeration were reported for some age groups namely the 0-4 years and 5-9 years old, indicating unevenness in the quality of data. Table 6.1 shows the population of Zambia per province and growth rates from 1990 to 2000.

Table 6.1: Zambia's Population and Growth Rates, 1990-2000

Province	2000 population			Average growth rate 1990-2000
	Male	Female	Total	
Central	510,501	501,756	1,012,257	2.8
Copperbelt	799,402	781,819	1,581,221	0.8
Eastern	648,676	657,497	1,306,173	2.7
Luapula	387,825	387,528	775,353	3.2
Lusaka	705,778	685,551	1,391,329	3.5
Northern	629,976	628,720	1,258,696	3.1
North Western	290,856	292,494	583,350	2.9
Southern	601,440	610,684	1,212,124	2.3
Western	371,844	393,244	765,088	1.8
Zambia	4,946,298	4,939,293	9,885,591	2.5

Source: GRZ, *Summary Report for the 2000 Census of Population and Housing*, 6.

6.7.2. Agricultural Statistics

The 1990s witnessed improved collaboration between the CSO and Ministry of Agriculture in the production of statistics as they began to conduct some enquiries together. The main requisite data were obtained from administrative sources, crop forecasts and post-harvest surveys. Firstly, the ministry used the extractive system involving its network of extension officers who prepared reports periodically on land use, rainfall, crop planting, production and livestock.⁹⁹ They collected data according to camps and blocks. Each district was divided into agricultural blocks manned by

⁹⁸ *Ibid.*

⁹⁹ GRZ, *Central Statistical Office Strategic Plan, 2003-7*, 19.

block officers and the blocks were divided into camps in which camp officers collected data from households.¹⁰⁰ Data from camps were sent to the district for aggregation and then to the province where they were collated and forwarded to the headquarters. Litschauer and Rowe question the quality and completeness of data from extension officers noting that at camp and district levels, they were subject to error as the figures were compiled manually.¹⁰¹ The duo notes that in practice, camp officers did not collect data from all households but used their initiative to select some kind of sample from which they collected them. With no practical standard practice, their figures were not comparable. The ministry conceded that the system had numerous constraints ‘chief of which is the lack [of] any empirical method by which to assess the quality of the data. It is not possible to estimate confidence level of data collected using this method.’¹⁰² Also, the ministry was affected by the downsizing of staffing during the Public Service Reform Programme that left some camps and blocks unmanned leading to serious data gaps during aggregation.

Besides flaws in the methods and sources used, the role of political mendacity in weakening the data cannot be ruled out. Jerven elucidates how politicians infiltrated agricultural statistics in India, Nigeria and Malawi. In the case of Malawi, for example, he argues that agricultural production was inflated to deceive the electorate that subsidies were fruitful so as to mobilise votes for Bingu Wa Mutharika.¹⁰³ As for Zambia, Litschauer and Rowe contend that ‘since the summaries [were] subject to review and possible manipulation at several administrative levels, the potential for politically motivated self-servicing adjustments should be recognised by all individuals who wish

¹⁰⁰ MACO and CSO, *Zambia Panorama Report, 2009*, 35.

¹⁰¹ John Litschauer and J.S. Rowe, ‘Zambia’s Agricultural Data System: A Review of the Agricultural Time Series Data’, in Michael Roth and Steven Smith (eds.), *Land Tenure, Land Markets, and Institutional Transformation in Zambia* (Madison: University of Wisconsin-Madison, 1995), 234.

¹⁰² MACO and CSO, *Zambia Panorama Report, 2009*, 35.

¹⁰³ Morten Jerven, ‘The Political Economy of Agricultural Statistics: Evidence from India, Nigeria and Malawi’, Simons Papers in Security and Development, No. 18, Simon Fraser University, March 2012, 1-20.

to use the data as a time series.’¹⁰⁴ In practice, compiling data involved political processes as statisticians had to make choices and decisions that were not free from biases. Kalpagam elucidates that although statistics are derived from enumerative processes, they are not devoid of the biases of their producers.¹⁰⁵ With the above weaknesses, it is held here that statistics arising from these sources must not be accepted at face value but utilised cautiously by data users.

Agricultural statistics were also collected through annual crop forecast and post-harvest surveys held jointly by the CSO and Ministry of Agriculture. Crop forecasts yielded data on area planted, expected sales and fertiliser utilisation, which were used to assess the food security situation and prepare the national food balance sheet.¹⁰⁶ The data were vital for strategic planning and decision making, especially on crop marketing, imports and exports and estimating the sector’s GDP contribution. From the 1990s, there was improved collaboration between the ministry and the CSO in crop forecasting. The confusion in which they held separate crop forecasts ended in 1994 when they began to hold the survey together as members of the national early warning system.¹⁰⁷ The Agricultural Statistics Act mandated the ministry to collect and analyse data on agriculture while the CSO contributed manpower. Nevertheless, as crop forecasts were financed by the government, they were underfunded during the SAP and PRSP that instigated drastic government expenditure cuts. Consequently, the conduct of preliminary forecasts was abolished in 2001 from whence only one crop forecast was held annually in March-April just before the main crop matured.¹⁰⁸ Thus undoing the cross-checking advantage of holding the preliminary and final crop forecasts.

¹⁰⁴ Litschauer and Rowe, ‘Zambia’s Agricultural Data System’, 234.

¹⁰⁵ U. Kalpagam, ‘The Colonial State and Statistical Knowledge’, *History of the Human Sciences*, 13, 2 (2000), 44.

¹⁰⁶ *The Statistician*, 2014, 10.

¹⁰⁷ GRZ, *Central Statistical Office Strategic Plan, 2003-7*, 19.

¹⁰⁸ *Ibid.*

Crop forecast data were also weakened by methodological inadequacies. The ministry and the CSO noted that the survey was held as a self-reporting enquiry in which ‘[the] enumerator does not directly observe the crops or livestock but relies on the respondent’s own recall.’¹⁰⁹ This method deviated from similar surveys held by the CSO before the 1990s that included crop cutting and area measurement due to poor funding that limited the recruitment of enumerators. Clearly, it compromised the quality of data. The CSO reported that the coverage of the survey was increased over the years so that in 2002, it covered ‘all large-scale farmers and sampled about 13,000 small and medium scale farmers.’¹¹⁰ It is argued here that increasing the sample size while struggling to engage enough enumerators and resorting to a second best method of enumeration did not help to improve the quality of the data from the survey. Therefore, even the collaboration of the two institutions did not help much to improve the quality of agricultural statistics. Moreover, it did not overcome the central problem of inadequate funding from the government and donors.

Furthermore, the CSO held the post-harvest survey while the ministry mobilised funding from local and international sources. Apart from serving as input in national accounts, data from the survey were used to evaluate the impact of government policies such as the liberalisation of agricultural markets. The survey was funded by the World Bank from 1996 to 2000 after which the burden fell squarely on the Treasury but it was hard to get funds from there amidst budget restrictions and this caused delays. For example, due to lack of funding, the 2002-3 survey was delayed for seven months until June 2004 when the United States Agency for International Development financed it.¹¹¹ After that, funding became a challenge and the survey was erratic until the 2010s. This illustrates the perpetual dependence of Zambia on external resources for statistical

¹⁰⁹ MACO and CSO, *Zambia Panorama Report*, 2009, 33.

¹¹⁰ From 2004, the survey was expanded to cover more than 14 crops that were used to estimate the contribution of crop production to GDP. GRZ, *Central Statistical Office Strategic Plan*, 2003-7, 19.

¹¹¹ GRZ, *Post-Harvest Survey*, 2002-3, 1 and GRZ, *Central Statistical Office Strategic Plan*, 2003-7, 19.

enquiries. Besides, external funding itself was inconsistent and provided for only a limited period and so, there was recurring need to look for new donors.

The post-harvest survey methodology was similar to that of crop forecasts except that it was held towards the end of each year in October/November and asked for the actual rather than anticipated harvest.¹¹² The survey collected data on crop production, livestock and marketing, which were compared with crop forecast figures and used to generate indicators of change from one season to another for small- and medium-scale farmers.¹¹³ However, with delays such as those experienced in 2003 as highlighted above, the data were more likely to be inaccurate because they relied on memories of respondents most of whom had no records. Besides, as Litschauer and Rowe explain, low response rates were a challenge partly due to respondent fatigue resulting from the crowded questionnaire.¹¹⁴ The congestion of the post-harvest questionnaire was largely due to the absence of an agricultural census that necessitated the extension of the coverage of the survey to incorporate aspects that would have been covered by the census. Thus, the absence of an agricultural census militated against a full-time revival of agricultural statistics.

6.7.3. Labour and Price Statistics

In the 1990s and early 2000s, labour and price statistics were compiled by the CSO using data from the quarterly employment and earnings enquiry, the 1993-4 household budget survey and the Living Conditions Monitoring Survey (LCMS).¹¹⁵ Yet, due to persistent lack of funding, it did not hold a labour force survey, the last one having been held in 1986. This substantiates the claim that the SAP and PRSP hampered an all-round revival of statistics. Thus, for labour statistics, the CSO

¹¹² MACO and CSO, *Zambia Panorama Report*, 2009, 34.

¹¹³ GRZ, *Central Statistical Office Strategic Plan, 2003-7*, 20.

¹¹⁴ Litschauer and Rowe, 'Zambia's Agricultural Data System', 241.

¹¹⁵ See, for example, *The Statistician*, 2014, 6-7 and GRZ, *Quarterly Employment and Earnings Enquiry: First Half 1995* (Lusaka: CSO, 1995).

relied on a quarterly employment and earnings enquiry that covered a panel of the largest firms and a sample of smaller enterprises both in the formal sector.¹¹⁶ The enquiry covered only the formal sector and reported the number, percentage and earnings of employees that were disaggregated by gender in response to the demand for data on women. It covered government, parastatals and private sectors reporting on redundancies, vacancies and job seekers.¹¹⁷ The datasets were crucial in the light of mass job losses resulting from privatisation. They showed that privatisation hit the workers hard with employment halts, redundancies and retrenchment. Yet, the enquiry faced problems and its reports were irregular due to inadequate resources. Therefore, whenever a report was published, it included statistics for all the pending quarters and years.¹¹⁸

On the informal sector, the CSO gathered some data on labour through the LCMS, which contained a module on employment in informal non-farm household enterprises.¹¹⁹ For each industry, it captured the number and percentage of employees, apprentices and hired labourers. Also reported was the percentage distribution of employees by sex, rural/urban categories, province and for small, medium and large scale strata.¹²⁰ In response to calls for gendered data, the survey gathered statistics on women in the informal sector and the incidence of poverty among them. A mixture of these datasets were used to assess the size and distribution of the labour force in the informal sector and its prospective tax revenue yield. The data would normally have been collected by the labour force survey and they were not detailed due to inadequate space on the LCMS questionnaire.

¹¹⁶ *Ibid.*

¹¹⁷ GRZ, *Quarterly Employment and Earnings Enquiry: First Half 1995*, 1-11, GRZ, *Quarterly Employment and Earnings Survey Report 1997-8* (Lusaka: CSO, 2000), 1-12.

¹¹⁸ *Ibid.*

¹¹⁹ GRZ, *The Non-Farm Informal Sector in Zambia, 2002-2003*, 1.

¹²⁰ *Ibid.*, 11-25 and *The Monthly*, December 2004, 3.

In the 1990s, there was an increase in the collection of living conditions statistics. In Southern Africa, other countries also began to collect or revived the collection of these datasets. Hunter, *et al*, note that South Africa commenced household-based enquiries in the late 1990s to gather data on labour, living conditions and prices.¹²¹ Besides participating in international programmes, it was expanding its national statistics to rectify racial gaps in data and resolve the wealth inequalities perpetuated during apartheid. The Zambian CSO also compiled data on living conditions to assess poverty levels. The data were collected using the Social Adjustment Surveys or Priority Surveys I and II held in 1991 and 1993, respectively (under funding from the Norwegian government), which gathered substantial data on social and economic welfare.

The Priority Surveys were evolved into the LCMS that was first held in 1996 (and thereafter every two years) to assess and counter the effects of the SAP on people's welfare.¹²² On the basis of data obtained from the LCMS, the government introduced welfare schemes such as the Social Cash Transfer in 2003 and the Zambia Social Investment Fund in 2004 with donor funding to improve the lives the poor.¹²³ The LCMS was supported by World Bank technical expertise, equipment, funding and training workshops. The dependence on the World Bank is evident from remarks by one respondent who noted: 'they have been a permanent feature of our work. We never did the survey without them and in fact we were like the World Bank Poverty Group of Zambia. It took a long time for us to begin holding the survey on our own.'¹²⁴ Also, the British Department for

¹²¹ South Africa held a Household Budget Survey in 1994 and 1999, an Income and Expenditure Survey in 1995 and 2000, the Population Census in 1996-2001 and a six monthly Labour Force Survey that commenced in 1999. Nina Hunter, Julian May and Vishnu Padayachee, 'Lessons for PRSP from Poverty Reduction Strategies in South Africa', Third Meeting of the African Learning Group on the PRSP, Addis Ababa, Ethiopia, 3-5 December 2013, 14.

¹²² Interview with Lovemore Zonde, Principal Statistician, Living Conditions Monitoring Branch, Central Statistical Office, Lusaka, 14 August 2019 and GRZ, *The Statistician*, 2014, 7.

¹²³ See, for example, J.N. Zulu, 'The Living Conditions Monitoring Survey', Paper presented at the Global Forum on Gender Statistics, Accra, Ghana, 26-28 January 2009, 14.

¹²⁴ Interview, Zonde, Central Statistical Office, Lusaka, 14 August 2019.

International Development provided extra funding and technical aid in the initial years of the survey. Thus, the donor community and their priorities continued to shape statistical work. In this period, their priority was on data related to the anti-poverty effort. The danger of reliance on donors, as Devarajan asserts, was that it diluted the responsibility of the statistical staff to domestic policy makers.¹²⁵ That is, as long as funding for enquiries came from donors, statisticians felt more liable to them than to the government, especially with the presence of technical experts.

Though the LCMS was a multi-sectoral enquiry, it was biased towards data on households and human welfare rather than macro-economic data. It classified urban households into high, medium and low density/cost areas and rural households based on the scale of their involvement in agriculture (either small, medium or large scale) or their engagement in raising broilers and other special livestock breeds.¹²⁶ The survey was held over a 12 months period using a rolling sample on which interviews were administered collecting data on demographic, education, labour and economic aspects, including household income and non-farm enterprises. It also gathered data on health, household assets, water supply, sanitation, child health and nutrition, employment, unemployment and energy used.¹²⁷ As these statistics were integral in anti-poverty interventions, they occupied centre stage in development efforts from the 1990s, especially with the failure of macroeconomic data to unveil the actual living conditions of individuals.

Under prices statistics, the main datasets were consumer price indices that were based on data from the 1993-4 household budget survey that provided the weighting profile.¹²⁸ After the survey, other data were collected monthly and used to update the indices. Thus, consumer price indices for 1994-

¹²⁵ Devarajan, 'Africa's Statistical Tragedy', 13.

¹²⁶ GRZ, *The Non-Farm Informal Sector in Zambia, 2002-2003* (Lusaka: CSO, 2006), 1.

¹²⁷ *Ibid*, 10-18, Zulu, 'Living Conditions Monitoring Survey', 6-14 and GRZ, *Living Conditions Monitoring Survey Report, 2004* (Lusaka: CSO, 2005), 13-186.

¹²⁸ GRZ, *Consumer Price Index, April 1999* (Lusaka: CSO), 1 and *The Monthly*, December 2003, 1.

2004 used 1994 as the base year. Besides composite series, the CSO developed separate indices for the metropolitan low income group, metropolitan high income group and non-metropolitan income group.¹²⁹ These groups were drawn from ten major towns while the non-metropolitan group comprised households derived from small rural towns. The indices were issued through monthly reports and they included data on prices of food, clothing, footwear, rent, household energy, medical care, transport, communication, recreation and education.¹³⁰ Thus, they depicted changes in the cost of living of households. Unlike previous indices that centred only on urban areas, they were more inclusive and captured prices from rural areas as well.

Table 6.2 shows that consumer prices rose rapidly between 1994 and 2004. Yet, the government sometimes disregarded the data in their decisions due to the political connotations they carried. In 1997, for example, Minister of Finance, Ronald Penza, expressed disappointment that workers were calling for a substantial tax relief and stated that they were asking for too much considering the low levels of inflation.¹³¹ Thus, the government did not grant workers any tax relief. His argument was not accurate because inflation rose by 240 percent between 1994 and 1997 and this negatively affected the livelihoods of workers. Of course, the decision was influenced by the budgetary restrictions under the SAP. The trade unions did not agree with Penza and they argued that since 1995, his policies were not inspiring hope to workers.¹³²

¹²⁹ GRZ, *Consumer Price Index, April 1994* (Lusaka: CSO), 1, GRZ, *Consumer Price Index, April 1999*, 1, GRZ, *Consumer Price Index, October 2000* (Lusaka: CSO), 1 and GRZ, *The Monthly, December 2004*, 3-4.

¹³⁰ GRZ, *Consumer Price Index, October 1994* (Lusaka: CSO), GRZ, *Consumer Price Index, March 1995* (Lusaka: CSO), GRZ, *Consumer Price Index, June 2001* (Lusaka: CSO) and GRZ, *Consumer Price Index, August 2003* (Lusaka: CSO).

¹³¹ Mulenga, 'Crises of Expectations', 141.

¹³² Ibid.

Table 6.2: Consumer Price Indices by Income Group, 1994-2004

Period	Total	Metropolitan low income group	Metropolitan high income group	Non-metropolitan group
1994	100	100	100	100
1995	134.9	135.8	135.3	134.2
1996	193.0	192.8	188.3	196.3
1997	240.2	237.8	235.1	235.0
1998	298.9	295.9	292.3	305.1
1999	379.0	372.3	373.5	386.6
2000	477.7	462.7	482.5	483.3
2001	579.9	554.8	587.4	589.6
2002	708.8	690.3	697.7	727.0
2003	860.5	847.1	852.5	873.6
2004	1,015.1	988.8	1,011.8	1,032.4

Source: GRZ, *Consumer Price Index: April 2006 Release* (Lusaka: CSO), 7.

The civil society also began to collect data on living conditions as a result of their distrust of government statistics. This was also facilitated by the liberalisation agenda that allowed for their participation in the social and economic discourse. The main player was the JCTR, a faith based non-governmental organisation formed in 1988 to analyse the Zambian socio-economic situation from a theological perspective through research and advocate for better welfare and social justice.¹³³ In 1991, the JCTR began to collect data for championing ‘change in policies and/or practices that inhibit attainment of sustainable livelihoods.’¹³⁴ It compiled the food basket cost in Lusaka and, by the mid-1990s, it was the most active civil society organisation in the production of data on living conditions. From 1996, it consistently held a monthly food basket survey to determine the cost of feeding a family of six.¹³⁵ The basket comprised basic items like mealie meal,

¹³³ Chibuye, ‘Interrogating Urban Poverty Lines’, 1.

¹³⁴ Ibid.

¹³⁵ Ibid.

eggs, bread, vegetables, cooking oil and soap but was extended in 2002 to include non-food essentials like housing, water and electricity in order to improve its accuracy.¹³⁶ The JCTR developed the basket primarily as an advocacy tool to support the plight of the poor in line with its objective to promote economic and social justice. It unveiled conditions of the poor and urged the government to address them. Also, the food basket provided a window into the food security situation in urban areas through comparison of wages, incomes and costs of food required.¹³⁷

The JCTR worked out the cost of the basket using prices from retail outlets that it computed into averages, which it then summed up to obtain the monthly cost.¹³⁸ This procedure was too simplistic and lacked an articulate scientific basis. Also, the scope of the survey was too narrow as it covered few towns. It was only in 2004 that it was extended to other urban areas outside Lusaka. Thus, the data it generated did not account for wide differences among Zambian families. Despite its limitations, the basket was used by various interest groups, including the government, civil society and external bodies, demonstrating the political nature of statistics. For instance, a committee of permanent secretaries that met prior to negotiations with public service unions referred to the basket as a source of data even when the Bank of Zambia and CSO held similar surveys. They used JCTR data to assess the basis of the arguments of the unions. The JCTR explains that:

the Zambia Union of Financial Institutions and Allied Workers ... used the basket in negotiations with 22 institutions during the first part of 2003 As for civil society organisations, Women for Change found the basket a useful tool in helping villagers understand why teachers go on strike. Within the broad sector of

¹³⁶ CSO, 'Data Requirements for the PRSP', 9 and JCTR, 'The Basic Needs Basket (1991-2001): A Comprehensive Overview', Lusaka, February 2005.

¹³⁷ Ibid.

¹³⁸ CSO, 'Data Requirements for the PRSP', 10-11.

international organisations, an exceptional example of [its] impact is found in the Finnish government that took into account the JCTR Basket in determining its level of support to Zambia's Poverty Reduction Strategy¹³⁹

Clearly, the JCTR was a critical player in the production of poverty data. During the formulation of the PRSP, it was one of the major non-government participants. It was chosen to lead the CSPR because of its experience in advocating for social justice and poverty eradication and its activeness in poverty data collection.¹⁴⁰ While the civil society took part in drawing the PRSP, the government was 'unwilling to give [them] more than an advisory role in the implementation and monitoring of PRSP measures.'¹⁴¹ Hence, they had very little involvement in its execution. In response, the CSPR engaged in tracking government budget to assess the actual resources going towards poverty reduction and prepared a report on the 2002 and 2003 budgets. It indicated that excess funds were released to sectors with little connection to poverty such as Cabinet Office, State House and Offices of the President and Vice President.¹⁴² Sectors that had a more direct link with poverty reduction, such as health, energy, water development and agriculture received less than their allocations. Thus, the CSPR doubted government's commitment to poverty reduction and argued that the problem of Zambia was not inadequate resources but misplaced priorities.¹⁴³

6.7.4. Education Statistics

As a legacy of colonial rule, education statistics continued to be collected and compiled by the sectoral ministry. The ministry attempted to resuscitate the data partly in the context of the anti-poverty effort. Seshamani notes that poverty was no longer defined only in relation to people living

¹³⁹ JCTR, 'The Basic Needs Basket', 7.

¹⁴⁰ CSO, 'Data Requirements for the PRSP', 2.

¹⁴¹ Eberlei, Meyns and Mutesa, 'Introduction', 17.

¹⁴² Mpepo and Seshamani, 'Zambia's PRSP Process', 61.

¹⁴³ *Ibid.*

below a money metric but also in terms of deprivation of requisites of wellbeing like education, health, safe water, sanitation and decent housing.¹⁴⁴ Thus, education was identified as one of the key sectors in the fight against poverty, which exhibited itself partly in form of low enrolment and learner progression, high dropout rates as well as poor learner environment, attendance and performance. Rweyemamu posits that data on the above aspects were crucial for deriving some of the non-income poverty indicators in Tanzania.¹⁴⁵ Similarly, Zambia's Ministry of Education compiled education indicators in an effort to inform education-based anti-poverty efforts and to plan and evaluate developments in the sector.¹⁴⁶

Due to the recognised need for education statistics, the sector was incorporated in the LCMS, a multi-sectoral survey. Although this was a chance to revive the collection of data on the sector, it was ineffective due to the limited questionnaire space. Hence, there continued to be data gaps on the out of school population, education expenditure and prevalence of HIV/AIDS among teachers.¹⁴⁷ The ministry also tried to expand the annual school census to yield data on pupils, staff, infrastructure, finances and books. Initially limited to government-aided schools, the census was extended in 2001 to cover all schools regardless of ownership.¹⁴⁸ For pupils, it yielded data on age, grade, gender, nationality, impairment, repeaters, dropouts, deaths and pregnancies while for teachers, it gathered data on gender, qualification, appointment and employment status.¹⁴⁹ Head teachers filled in the forms and sent them up the hierarchy to the ministry headquarters where the data were processed and issued in the *Education Statistics Bulletin*.

¹⁴⁴ Venkatesh Seshamani, 'The Same Old Wine in the Same Old Bottle? Content, Process and Donor Conditionalities of the Poverty Reduction Strategy', in Walter Eberlei, Peter Meyns and Fred Mutesa (eds.), *Poverty Reduction in a Political Trap: The PRS Process and Neopatrimonialism in Zambia* (Lusaka: UNZA Press, 2005), 119.

¹⁴⁵ Rweyemamu, 'Strategies for Growth and Poverty Reduction', 23.

¹⁴⁶ GRZ, *2004 Education Statistical Bulletin* (Lusaka: Ministry of Education, 2005), 1.

¹⁴⁷ CSO, 'Data Requirements for the PRSP', 15.

¹⁴⁸ GRZ, *Central Statistical Office Strategic Plan, 2003-7*, 15-16.

¹⁴⁹ *Ibid.*

However, the census faced several problems some of which were caused by the SAP and PRSP themselves. One of them was staff shortage in the statistics unit, which worsened in the late 1990s when the CSO withdrew its staff from the ministry during retrenchment.¹⁵⁰ In 2002, the unit had only one qualified statistician, the understaffing being partly due to excessive downsizing during the Public Service Reform Programme.¹⁵¹ There were also issues of low response rates, poor responses and lack of timeliness. Initially, heads of government schools were trained to complete the forms to ensure that they were properly filled in.¹⁵² Nonetheless, due to underfunding, by 2002, the training scheme was limited to District Education Board Secretaries who were tasked to mobilise resources and train head teachers in their districts. Their inevitable failure to do so perpetuated problems of non-return of forms, submission of incomplete returns and inconsistent responses.¹⁵³ These challenges seriously delayed the publication of the bulletin. As can be noted, there was a policy contradiction within the PRSP. While education was viewed as critical in poverty alleviation, not enough resources were provided for data collection and the ministry was unable to publish timely statistics, thereby weakening the PRSP effort.

Another challenge was poor collaboration between the ministry and the CSO. In 2002, the two held the Zambia Demographic and Education Survey, the first nationwide enquiry on education.¹⁵⁴ Though the ministry funded the survey, it was displeased that the CSO designed and conducted it with very limited participation of the ministry. Besides, the ministry was sidelined from the education component of the LCMS. The CSO briefly explains that contests between the two institutions arose over definitions and concepts used to collect education data.¹⁵⁵ Such contests

¹⁵⁰ Interview with Sitwala, Mpelembe House, Ndola, 21 June 2019.

¹⁵¹ GRZ, *Central Statistical Office Strategic Plan, 2003-7*, 16.

¹⁵² *Ibid*, 15-16.

¹⁵³ *Ibid*, 15.

¹⁵⁴ *The Monthly*, April 2003, 7 and GRZ, *Central Statistical Office Strategic Plan, 2003-7*, 17.

¹⁵⁵ CSO, 'Data Requirements for the PRSP', 15.

demonstrate the weak coordination of the statistical service and the fragile collaboration between the CSO and some other data collectors. This challenge also prevailed in other countries. In Mauritania, Samuel notes that in 2003-2005, lack of collaboration made it hard for government departments to share data among themselves. Some departments kept their information secret and it was hard for the national statistical office to obtain data from them.¹⁵⁶ Thus, interpersonal relations, friendships and even tribal links became the basis for sharing data in that country.

6.7.5. Industrial Statistics

The situation in this sector was that the datasets were also weakened rather revived in the 1990s and early 2000s. This sapped the state's knowledge about industrial development and its capacity to increase revenue from the sector. The main statistic computed was the index of industrial production. It covered mining, manufacturing and electricity sectors, which were enumerated by a quarterly enquiry that collected data on production and sales from selected establishments.¹⁵⁷ The enquiry was held using local resources and so, it faced challenges of delayed or inadequate funding. Thus, though the CSO strove to compile the indices using global standards like the United Nations ISIC-Rev. 2, the process was weakened by the scarcity of data. Also, due to scanty data, the CSO continued to use 1980 as the base year since it was then that the last industrial census was held. Considering the changes in the industrial structure since 1980, such as the collapse of manufacturing industries, the relative significance of some firms and products changed and made the weights very outdated.¹⁵⁸

¹⁵⁶ Boris Samuel, 'Economic Calculations, Instability and (in)formalisation of the State in Mauritania, 2003-2011', in Morten Jerven (ed.), *Measuring African Development Past and Present* (New York: Routledge, 2015), 81.

¹⁵⁷ GRZ, *Index of Industrial Production 1996 and First Quarter 1997* (Lusaka: CSO, 1997), 1.

¹⁵⁸ *Ibid.*

Besides, data on some industrial groups suffered from low response rates such that the CSO had to use some figures for previous quarters to make estimates. Certainly, such estimates were inaccurate as production levels varied from quarter to quarter while some firms completely closed down.¹⁵⁹ Also, the index was based on an often outdated establishments register due to the frequent collapse of firms, and the entry of others, which meant that the register included some firms and products that had disappeared and excluded new ones. This challenge was not peculiar to Zambia as sample frame issues were common in Africa. In South Africa, for example, the degeneration of the sample frame for economic surveys concerned departments to discard the establishments register and develop a new one in the late 1990s.¹⁶⁰ It should also be mentioned that the lack of integration of data providers in statistical systems constrained the access of data collectors to information from the former and weakened efforts to collaborate with them.

With regard to the mining industry, it is argued here that privatisation adversely affected the production of statistics and consequently reduced the legibility of the sector. In 1997-2000, the most important conditionality of IMF and World Bank loans to Zambia under the SAP was ‘the sale of the country’s strategic mining conglomerate ZCCM.’¹⁶¹ During privatisation in the 1990s, ZCCM compiled statistics on the procession of privatisation in the mining sector, chief among which were data on cash flows.¹⁶² They included receipts from sales and loan drawdowns and data on salaries, bonuses, contractors, electricity, taxes, import duty, loans and royalty.¹⁶³ The data were compiled on a monthly basis on each mine division and also indicated consolidated figures. They

¹⁵⁹ *Ibid.*

¹⁶⁰ Lehohla, ‘Statistics South Africa in Transition’, 55.

¹⁶¹ Jan-Bart Gewald and Sebastian Soeters, ‘African Miners and Shape-shifting Capital Flight: The Case of Luanshya/Baluba’, in Alastair Fraser and Miles Larmer (eds.), *Zambia, Mining, and Neoliberalism: Boom and Bust on the Globalised Copperbelt* (New York: Palgrave Macmillan, 2010), 157.

¹⁶² ZCCM 2.5.3C Zambia Consolidated Copper Mines Privatisation Cash Flows, 1991-1997.

¹⁶³ *Ibid.*

were important in the management of privatisation because the financial position of ZCCM influenced the pace of privatisation and the prices at which the mines were sold.¹⁶⁴ ZCCM also generated statistics on other aspects of the mining industry as it did before privatisation.

In 2000, the government formed the Zambia Consolidated Copper Mines Investment Holdings (ZCCM-IH) to resolve the liabilities of the dissolved ZCCM and spearhead public-private partnerships. The holding company also collected statistics.¹⁶⁵ However, the dissolution of ZCCM and the entry of foreign private firms limited the state's access to data on mining. One respondent noted that 'the companies hid a lot from government and trade unions, including their flouting of labour laws and contribution to environmental degradation.'¹⁶⁶ Lee observes that privatisation increased casualisation and Chinese investors, in particular, were accused of paying slave wages and subjecting their workers to hazardous conditions.¹⁶⁷ Therefore, their labour practices were detested. In these circumstances, it was harder for the state to access correct data on mine labour, production and profits than it was in the years when the mines were state-controlled. Privatisation worsened non-response to establishments-based enquiries. 'The response rates were very low due to the sensitive nature of statistics on income and labour. Some firms feared that the government would use the data to increase taxes and to punish those that did not adhere to labour laws.'¹⁶⁸ In this vein, mining companies often under-declared figures on production and profits. With its inability to collect accurate statistics, the state found it difficult to make appropriate policies for

¹⁶⁴ Ibid. These included Luanshya, Nchanga, Nkana Mufulira, Konkola and Nampundwe mines. Also see ZCCM 5.12.2E Zambia Consolidated Copper Mines Limited Official Estimates of Production, 1996-7.

¹⁶⁵ ZCCM-IH Annual Report of Directors and Financial Statements for the Year ended 30 June 2004, 25-46.

¹⁶⁶ Interview with Gerson Banda, Head of Labour Statistics Branch, CSO, Lusaka, 13 August 2019.

¹⁶⁷ Lee, 'Raw Encounters', 130-31 & 147.

¹⁶⁸ Interview with Gerson Banda, Head of Labour Statistics Branch, CSO, Lusaka, 13 August 2019.

maximising its revenue. While state revenue from the mines grew in the 2000s, thanks to the boom in copper prices, more could have accrued to state coffers had the sector been more legible.

An assessment of mining statistics reported in 2001 reveals a lot of gaps, the available records were not up-to-date and the data reported lacked timeliness. This shows that privatisation adversely affected the production of the datasets. Thus, Jerven's assertion that mining statistics were among the more consistently compiled and reliable datasets does not hold for this period.¹⁶⁹ The situation also illuminates the argument that the revival of statistics was limited. It is unfortunate that data on mining deteriorated during the SAP when the demands of workers were heightening in response to job losses, salary cuts and wage freezes that caused misery for many families. This was a missed opportunity for the government to collect data required to interpret reality in the industry. Yet, the government itself contributed to the deterioration of data by not enforcing the Statistics Act to punish firms that did not respond to enquiries. Besides, it could have made the regular publication of data by the mining companies a condition when the mines were privatised.

6.7.6. External Trade Statistics

External trade data underwent some improvement due to the introduction of new technologies in the sector. However, as this section argues, such developments were facilitated by external agencies and they were limited to the formal sector. The CSO compiled foreign trade data to facilitate policy making and decisions on representation to regional economic groupings and private companies used them to assess the favourability of markets.¹⁷⁰ The data were also used by researchers and non-governmental organisations. Besides, they were used by the Bank of Zambia

¹⁶⁹ Jerven, *Poor Numbers*, ix-x & 44.

¹⁷⁰ Interview with Daniel Chipaila, Statistician, External Trade Branch, Central Statistical Office, Lusaka, 13 August 2019.

to compute balance of payments. The main source of data was Zambia Revenue Authority, which obtained them from customs bills of entry completed by importers, exporters and clearing agents.¹⁷¹ Global technological advancements continued to shape the methods used to collect and process data. In the early 2000s, Zambia Revenue Authority used the Automated System for Customs Data (ASYCUDA) to collect data from automated customs stations and convey them to the CSO on a monthly basis.¹⁷² On the other hand, manual customs returns were used to gather data from non-automated ports. Besides, some transactions were not under customs surveillance and data on them were obtained from non-customs sources. For instance, data on electricity exports were sourced from Zambia Electricity Supply Corporation whereas that on cash crops came from Zambia Export Growers Association and Export Board of Zambia.¹⁷³

Sorting of forms and data entry were done for ports that were not yet automated and not captured by the software. For automated ports and stations, data from the ASYCUDA were transferred from Zambia Revenue Authority directly to EUROTRACE, a software that was used to synchronise and analyse data, conduct validity checks and manage them before dissemination.¹⁷⁴ The adoption and use of EUROTRACE was supported by COMESA, whose interest in trade data increased. This demonstrates the emergence of these regional bodies as new sources of external influence on the production of data. Technological changes, as Lehohla notes in the case of South Africa, ‘radically altered the way in which statistics were collected, processed, analysed and disseminated.’¹⁷⁵ With the acquired software packages, it was easier for the CSO to collect, process and disseminate external trade statistics. Taking advantage of technological changes and in line with the GDDS, it

¹⁷¹ GRZ, *External Trade Statistical Bulletin, 2004* (Lusaka: CSO, 2004), 1.

¹⁷² *Ibid.*

¹⁷³ *Ibid.*

¹⁷⁴ *Ibid.*, 2 and Interview with Daniel Chipaila, Central Statistical Office, Lusaka, 13 August 2019.

¹⁷⁵ Lehohla, ‘Statistical Development in Africa’, 53.

began to disseminate the data using floppy diskettes, CD-ROMs and electronic mails. This was besides statistics issued in *The Monthly* from 2003.¹⁷⁶ External influence was also exerted through international frameworks. Foreign trade data were compiled using the United Nations SITC-Rev. 3 and the Harmonised Coding System that outlined concepts, groupings and data entry codes.¹⁷⁷ Also, the CSO began to publish data on trade with countries in economic groupings like the Preferential Trade Area (now COMESA) in 1994 and the European Union and SADC in 2004.¹⁷⁸ The data were featured in the *External Trade Statistics Bulletin*, which was only issued in 1994, 1999 and 2004 due to the inadequate resources.

Despite the progress made on external trade statistics, the data also had flaws. The problem of lack of coverage of informal traders was worsened as many people lost their jobs and turned to various trading activities that evaded data capture. The World Bank notes that the data were underestimates since they continued to exclude informal cross-border trade with neighbouring countries like the Democratic Republic of Congo, Tanzania, Malawi, Zimbabwe and Namibia that evaded customs points and went unrecorded.¹⁷⁹ The Famine Early Warning Systems Network that was the leading provider of statistics on informal trade in Africa indicated that the volume of Zambia's informal trade was quite considerable as compared to formal trade. As an example, it indicated that informal exports of grain to neighbouring countries amounted to tens of thousands of tonnes per year in the 2000s.¹⁸⁰ Missing such figures weakened the data. Therefore, although new technologies led to improved efficiency in collecting external trade data, the increase in smuggling caused by the loss of sources of livelihood as a result of privatisation expanded the uncounted component of foreign

¹⁷⁶ *The Monthly*, December 2003, 3-5.

¹⁷⁷ GRZ, *External Trade Statistical Bulletin*, 1994 (Lusaka: CSO, 1994), 1-16.

¹⁷⁸ *Ibid*, 7, GRZ, *External Trade Statistical Bulletin*, 2004, 14-15 & 21 and *The Monthly*, December 2003, 3-5.

¹⁷⁹ The World Bank Group, 'The Republic of Zambia Diagnostic Trade Integration Study (DTIS) Main Report', <https://www.oecd.org/aidfortrade/countryprofiles/dtis/Zambia-DTIS-2014>, Accessed on 17 July 2020.

¹⁸⁰ *Ibid*, xii.

trade. Consequently, Zambia's negative trade balance recorded in the early 2000s was most likely overstated in statistics as a considerable amount of grain exports was not captured. Table 6.3 illustrates the values of Zambia's exports and imports in the period 1991-2004.

Table 6.3: Zambia's Exports and Imports (K' Million), 1991-2004

Year	Total Exports (free on board)	Domestic Exports	Re-exports	Imports (cost, insurance and freight)	Trade Balance
1991	69,607	69,522	85	51,773	17,834
1992	129,475	129,303	172	144,109	-14,634
1993	374,052	373,853	199	366,291	7,761
1994	620,453	617,870	2,583	397,672	222,781
1995	898,643	895,979	2,664	604,791	271,252
1996	1,252,666	1,250,112	2,559	1,004,236	248,430
1997	1,387,447	1,386,547	900	1,055,833	331,614
1998	1,421,470	1,420,470	1,000	1,301,025	120,451
1999	2,327,900	2,316,245	11,045	1,673,816	654,084
2000	2,716,557	2,680,166	36,390	2,751,563	-35,005
2001	3,537,206	3,523,388	13,818	3,900,496	-363,289
2002	4,069,916	4,045,881	24,035	4,725,224	-655,307
2003	4,626,000	4,598,081	27,918	7,423,450	-2,797,449
2004	7,526,280	7,460,408	65,872	11,466,669	-1,853,759

Source: GRZ, *External Trade Statistics 2004*, 17 and GRZ, *Zambia in Figures 1964-2014* (Lusaka: CSO, 2014), 14.

6.7.8. National Accounts Statistics

This section argues that the CSO compiled some national accounts statistics but was troubled by inadequate government support and insufficient input data. Thus, the availability and quality of the figures remained weak. In the late 1970s, the United Nations became frustrated that national economic growth masked the conditions of the world's poorest people.¹⁸¹ Hence, in the 1980s and

¹⁸¹ M.D. Morris, *Measuring Conditions of the World's Poor: The Physical Quality of Life Index* (New York: Pergamon Press, 1979), 1.

1990s, it promoted equity and human needs, especially with the negative effects of the SAP on people's welfare. The increased emphasis on poverty data and the drastic reduction of the economic role of the state complicated efforts intended to revive national accounts as they altered data priorities. Yet, some data were compiled and issued in the *National Accounts Statistical Bulletin*¹⁸² and, from 2003, included in *The Monthly*.

The data used to compile the accounts were derived from enquiries held by various branches of the CSO. The public finance branch provided data on government final consumption expenditure, the living conditions branch on private final consumption expenditure, the agriculture branch on agriculture and the external trade branch on exports and imports.¹⁸³ Others came from sectoral ministries. The CSO used 1994 as the base year due to availability of data from the 1993-4 household budget survey that were used to benchmark GDP, especially the contribution of the informal sector.¹⁸⁴ From the mid-1990s, the compilation of data was modelled on the 1993 System of National Accounts in an attempt to adhere to international practices.¹⁸⁵ However, the adoption of the new system took a piecemeal approach due to data inadequacy. In preparing GDP estimates, the CSO utilised economic and social indicators to extrapolate the 1994 data. The total GDP was then computed on the production side by aggregating the value added for each economic activity to obtain the Gross Value Added to which taxes were added and then subsidies subtracted. On the other hand, private final consumption expenditure was obtained as a residual while real GDP was calculated by deflating GDP at current prices using a relevant price index.¹⁸⁶

¹⁸² See, for example, GRZ, *National Accounts Statistical Bulletin, 1994-1997* (Lusaka: CSO, 1998), GRZ, *National Accounts Statistical Bulletin, 1994-1999* (Lusaka: CSO, 2000) and GRZ, *National Accounts Statistical Bulletin, 2005* (Lusaka: CSO, 2006).

¹⁸³ GRZ, *National Accounts Statistical Bulletin, 2005*, 3.

¹⁸⁴ GRZ, *The Non-Farm Informal Sector in Zambia, 2002-2003*. Also see Jerven, *Poor Numbers*, 157-8.

¹⁸⁵ GRZ, *National Accounts Statistical Bulletin, 1994-1997*, 1-2 and GRZ, *National Accounts Statistical Bulletin, 1994-1999*, 16-20. *System of National Accounts, 1993* (New York: United Nations Statistical Commission, 1993).

¹⁸⁶ GRZ, *National Accounts Statistical Bulletin, 1994-1999*, 16.

The coverage of national accounts had several omissions that caused underestimations. The CSO claims that in principle, the data included all institutional units and economic activities. However, in practice, the informal sector was inadequately covered since industries pre-dominated by small firms, such as small-scale mining, manufacturing, construction and retail trade, were largely excluded from enquiries as they operated informally.¹⁸⁷ Thus, indirect estimates had to be made based on data from the 1993-4 household budget survey. Also, data on local governments were inadequate and the CSO had to make imputations. Such substitutes, as Marivoet and Herdt argue in the case of the DRC, involved a large amount of guessing.¹⁸⁸ The CSO also claims that the geographical scope of the accounts covered the whole country. This is untrue because most data sources centred on major cities where much of the economic activities occurred while the coverage of rural areas was almost limited to agriculture.¹⁸⁹ Also, no estimates were made for illegal activities like the informal cross-border trade, which was quite substantial. With these inadequacies, it is highly likely that the national accounts data were understatements.

Besides the above limitations, the CSO rightly notes that constraints such as high non-response rates, time lags and under-reporting adversely affected the completeness of input data and compromised the timeliness, accuracy and reliability of the accounts.¹⁹⁰ As a result, the figures reported in each year were only provisional as they were based on partial data. Ironically, those were the statistics used as a basis for decision making on crucial engagements such as the annual national budget, despite their weaknesses.¹⁹¹ Therefore, the preparation of the annual national budget and other important documents were not well informed statistically and it was no wonder

¹⁸⁷ *Ibid.* Also see Morten Jerven, *Africa: Why Economists get it Wrong* (New York: Zed Press, 2015), 103.

¹⁸⁸ Marivoet and Herdt, 'Reliable, Challenging or Misleading', 10.

¹⁸⁹ GRZ, *National Accounts Statistical Bulletin, 1994-1999*, 16.

¹⁹⁰ GRZ, *National Accounts Statistical Bulletin, 2005*, 3.

¹⁹¹ *Ibid.*

that, other factors notwithstanding, gaps between budgetary allocations and actual expenditure were usually huge. Table 6.4 illustrates Zambia's GDP figures by kind of economic activity for the years 1994-2004 at constant 1994 prices in billions of Kwacha.

Table 6.4: GDP at Constant 1994 Prices by Kind of Economic Activity (K'billion), 1994-2004

Kind of Economic Activity	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Agriculture, forestry and fishing	302.2	403.0	400.4	379.9	384.6	423.3	429.9	418.9	411.7	432.5	450.8
Mining and Quarrying	373.9	270.9	278.5	284.5	213.0	160.3	160.4	182.9	212.9	220.2	250.9
Manufacturing	219.3	218.4	230.6	242.2	246.7	253.7	262.7	273.7	289.4	311.4	325.5
Electricity and Water	72.2	71.1	67.1	69.9	70.3	72.1	72.9	82.1	77.8	78.1	76.8
Construction	111.5	107.8	95.9	123.7	112.4	116.0	123.6	137.8	161.8	196.8	237.1
Wholesale and Retail Trade	332.1	296.8	395.0	412.7	427.2	446.2	456.6	481.2	505.4	536.4	563.1
Restaurants, Bars and Hotels	36.1	38.0	41.2	44.1	45.8	43.0	48.2	60.0	62.9	67.2	71.5
Transport and Communications	133.8	125.0	134.5	134.2	145.7	154.0	157.7	162.1	165.1	173.0	184.1
Financial Institutions and Insurance	182.8	218.1	200.1	200.7	201.6	206.7	205.4	205.6	212.7	220.0	227.7
Real Estate and Business Services	113.0	115.2	141.1	158.9	179.0	203.7	238.2	246.6	257.4	267.6	278.2
Community, Social and Personal Services	178.7	176.6	182.4	183.1	178.8	193.7	192.8	203.9	207.3	210.5	211.7
Taxes on Products	289.6	261.6	276.3	286.4	271.0	258.9	272.4	291.4	271.6	264.1	256.0
<i>Less FISM</i>	105.0	125.3	115.0	115.4	115.8	118.8	121.8	124.9	128.1	131.3	134.6
Total GDP at Market Price	2,240.2	2,177.2	2,238.1	2,404.9	2,360.3	2,412.8	2,499.0	2,621.3	2,707.9	2,846.5	2,999.2

Source: CSO, *National Accounts Bulletin* 2005, 6.

In 1996, balance of payments statistics were transferred to the Bank of Zambia, though the CSO legally remained responsible. The move was based on the perceived technical ability of the central

bank to access and collect the data from the banking sector.¹⁹² The main sources of data for the Bank of Zambia were commercial banks and other financial institutions, the Ministry of Finance, the CSO and Zambia Revenue Authority.¹⁹³ Data on capital account, current account, financial account and balance of payments were compiled from sources within the Bank and from the IMF. Jerven argues that central banks were better placed than statistics offices to collect data and provide timely and useful advice to policy makers as the former had modern facilities and high salaried employees.¹⁹⁴ Even so, the staff downsizing programme hit most public institutions and did not spare the central bank. The Bank of Zambia itself faced a serious staff shortage caused by the restructuring done in the early 2000s that increased its workload, reduced the frequency of surveys and created a time lag.¹⁹⁵ Also, the Bank used data from other institutions though it deemed them to be inaccurate and lacking timeliness.¹⁹⁶ The very fact that central banks still used problematic data from statistical offices worked against the attempt to improve the quality of the figures.

6.8. Conclusion

This chapter analysed the production of statistics in Zambia from 1991 to 2004. It challenges discourses by Lehohla, Kratke and Byiers who generally assert that statistical development in Africa bounced back with the return of political and economic stability. It argues that external factors like the SAP and PRSP brought new data needs and created conditions that hindered a rounded revival of statistics as they limited resources for holding enquiries. International agencies made efforts to revive data production through donor-aided schemes but they were not well

¹⁹² IMF, 'Zambia: Report on Observance of Standards and Codes - Data Module, Response by the Authorities, and Detailed Assessment using Data Quality Assessment Framework', Country Report No. 5/30, January 2005, 93.

¹⁹³ *Ibid*, 94. Also see *Bank of Zambia Annual Report, 2004*, 23-7.

¹⁹⁴ Jerven, *Poor Numbers*, 91.

¹⁹⁵ IMF, 'Zambia: Report on Observance of Standards and Codes', 95.

¹⁹⁶ GRZ, *Central Statistical Office Strategic Plan, 2003-7*, 26. The IMF explains that none of the data providing institutions supplied data in time and so, Bank of Zambia staff had to make extra effort to acquire them. IMF, 'Zambia: Report on Observance of Standards and Codes', 94.

coordinated and adequately funded. Thus, most of them were not fully implemented and constitute missed opportunities to revive statistics. International efforts were also biased towards data required to combat poverty and they supported only multi-purpose enquiries like the ZDHS, LCMS and the population and housing census. Hence, most enquiries remained irregular under government funding that was limited by the SAP and PRSP while others like the agricultural census, industrial census and labour force survey were not held. In addition, although regional bodies, namely SADC and COMESA, emerged as new forces in statistical development as they coordinated some activities and helped with technology for collecting and processing data, their efforts were largely unsuccessful because of the scarcity of input data.

Internal dynamics also contributed to hindering the revival of statistics. This chapter examined specific enquiries held by the CSO, sectoral ministries, the Bank of Zambia and the JCTR looking at their data sources, methods and limitations. It argues that from the 1990s, government and non-government bodies attempted to increase the production of data in response to the incapacity of the CSO to compile timely statistics and to benefit from their specialisation. However, these institutions also suffered from staff shortages, insufficient funding and inadequate data sources that weakened the quality and timeliness of statistics. Hence, overall, the revival of statistics in Zambia was limited. The JCTR scaled up the production of statistics on urban living conditions but its data were weakened by the inadequacy of its methodology and its limited coverage.

The evidence provided in this chapter clearly contradicts the neo-liberal notion of the return of stability in Africa in the 1990s owing to liberalisation, and suggests that there was a period of protracted social and economic problems. The prolonged social and economic instability adversely affected statistical development and complicated efforts by the state, the international community and the civil society to make the Zambian society legible through numbers. As a consequence, it

frustrated the execution of government policies and international anti-poverty schemes. For example, with inadequate data, it was difficult to implement the SAP and PRSP and to measure their social and economic effects. Even the execution and assessment of donor-aided social schemes, such as the Zambia Social Investment Fund, suffered from poor implementation and evaluation. Therefore, knowledge of the effects of such schemes on the livelihood of the Zambian people remains peripheral. The chapter concludes that while the SAP and PRSP hindered statistical development, the lack of data itself hampered the implementation of these programmes.

Chapter Seven

The Renewed Development Agenda and the Production of Statistics in Zambia in the period 2005-2018

7.1. Introduction

In 2005, Zambia reverted to national development planning. This coupled with the ongoing efforts towards the attainment of the United Nations Millennium Development Goals (MDGs) increased the demand for data. Statistics were required for tracking progress towards national and international development goals. As Menberu and Sanga argue about Africa in general, there was need to develop statistical capacity in order to ensure the production of data for planning, monitoring and evaluating the outcomes of development initiatives.¹ Hence, at continental level, calls emerged in 2005 for the restoration of the statistical unit of the UNECA that had disappeared during the lost decades and its statistician posts that had been occupied by other professionals were revived.² Thus, the UNECA rejuvenated its role in the coordination of all efforts targeted to improve statistics in Africa.

While there are studies charting the new development efforts and the rise in the demand for data, they lack analysis of their impact on statistical development.³ Hence, this chapter examines the contributions of the internal and external development efforts to the production of statistics in Zambia. It explores how the revived development plans, the MDGs and international statistical

¹ Miekael Menberu and Dimitri Sanga, 'Invigorating the African Statistics Day: Lessons Learned from the 2006 Edition', *The African Statistical Journal*, 4 (2007), 114.

² Pali Lehohla, 'Statistical Development in Africa in the Context of the Global Statistical System', Paper for the Thirty-Ninth Session of the United Nations Statistical Commission, 26-29 February 2008, 14.

³ See, for example, Menberu and Sanga, 'Invigorating the African Statistics Day', 114-118, Lehohla, 'Statistical Development in Africa', 2-15, Florian Kratke and Bruce Byiers, 'The Political Economy of Official Statistics: Implications for the Data Revolution in Sub-Saharan Africa', PARIS21 Discussion Paper No. 5, December 2014, 11 and Morten Jerven, *Poor Numbers: How We are Misled by African Development Statistics and What to Do About it* (Ithaca and London: Cornell University Press, 2013).

programmes shaped the production of data. The chapter argues that external forces mainly the United Nations and other agencies influenced statistical development as they provided technical expertise, funded multi-purpose enquiries and shaped data priorities. However, internal forces contributed to the making and circulation of statistics. Within the country, national development plans spurred the need for data some of which the state collected. In addition, the government resisted some external influences and promoted its own interests. The chapter also analyses the main enquiries held and unveils the priorities, sources of data and methods used to produce and circulate them. It argues that the production of quality data was constrained by insufficient funding, inadequate data sources and weak coordination of the statistical service. The consequence of this was that it complicated the government's attempt to accurately measure progress towards the implementation of national development plans, other state policies and the MDGs.

7.2. Renewal of National Development Planning

One of the crucial lessons derived by the Zambian leadership from the 1990s experiences was that even in a liberalised economy, some form of government involvement was necessary. During the hiatus in development planning, the political leadership realised that the government still required to engage in national development planning to guide priority setting and resource allocation.⁴ In the absence of development plans in the 1990s, there was a tendency for the government to stress short-term and narrow sectional interests. This denied the country an opportunity to pursue broad-based social and economic development.⁵ Planning was also required to define and articulate national, provincial and district priorities for government action and resource allocation. Hence, the Levy Mwanawasa government returned Zambia to national development planning in the early

⁴ GRZ, *Fifth National Development Plan, 2006-2011* (Lusaka: Ministry of Finance and National Development Planning, 2006), 1.

⁵ *Ibid*, 1.

2000s in the context of the MDGs. The return to development plans started with the Transitional National Development Plan in the period 2002-2005 besides the PRSP. The plan pursued sustained economic growth, employment creation and poverty reduction and reverse the deteriorating living conditions.⁶ Though economic growth was recorded during the plan period, there was no parallel improvement in people's living conditions.

Then followed the Fifth National Development Plan in 2005-2010. The plan was crafted within the vision to make Zambia a flourishing middle income economy by 2030 and focused on broad-based wealth and job creation as well as accelerating economic growth and bettering the lives of the rural masses.⁷ The plan proposed reducing the dependency on mining by stressing agriculture as the engine of income growth for improving livelihoods. This was perhaps because in the late 1990s and early 2000s, as Table 6.4 illustrates, the annual contribution of agriculture, forestry and fishing to GDP was consistently higher than that of mining and quarrying. However, the government also paid attention to mining, tourism, infrastructure, manufacturing and energy. For each of these sectors, key indicators were identified and compiled over the years to assess sectoral performance. Some of the major indicators were percentage of sectoral contributions to GDP, exports and employment.⁸ The data compiled in for the Fifth Plan were reviewed in the Sixth National Development Plan. It is noteworthy that the Fifth Plan suggested major revisions to Zambia's economic statistics in order to improve their quality and suitability for planning and policy making. These included 'national accounts, balance of payments, consumer price index, producer price index, industrial production index and employment data.'⁹ The government noted that the inadequacies of these datasets had for some time hindered sound economic analysis.

⁶ GRZ, *Central Statistical Office Strategic Plan, 2003-2007* (Lusaka: CSO, 2003), 9-10.

⁷ GRZ, *Fifth National Development Plan*, i.

⁸ CSPR, *An Easy Look at Zambia's Fifth National Development Plan, 2011-2015* (Lusaka: CSPR, n.d.).

⁹ GRZ, *Fifth National Development Plan*, 40.

Therefore, as proposed in the Fifth Plan, consumer price indices and national accounts data were revised and rebased to 2009 and 2010, respectively.

Poverty persisted in Zambia despite the efforts made during the implementation of the PRSP. In fact, the incidence of poverty remained high as it only reduced from 73 percent in 1998 to 68 percent in 2004.¹⁰ In order to reduce poverty levels, the Fifth National Development Plan included safety nets, social protection and care of people living with disability.¹¹ It allocated funds for improving education, skills development, employment, health services, housing, water and sanitation as well as staffing and requisite equipment in the education and health sectors.¹² In order to monitor the progress of the anti-poverty effort, the government and the civil society, particularly the JCTR compiled data on living conditions. The government mainly obtained the data from the LCMS and monthly price surveys while the JCTR held a survey on the cost of the basic needs basket.

Zambia implemented the Sixth National Development Plan in 2011-2016. The plan continued to pursue the National Vision 2030 that sought to transform Zambia into a middle income country by 2030. After coming to power in 2011, the Patriotic Front government under President Michael Sata revised the plan to strengthen its focus on rural areas and job creation in line with the party's aspirations to attain inclusive growth.¹³ However, the revised plan (2013-16) did not differ much from the initial one and it appears that, to some extent, the new government was only trying to undo the legacy of its predecessor. The main investment areas of the plan were skills development, science and technology, agriculture, livestock, fisheries, energy, infrastructure, water, sanitation,

¹⁰ *Ibid*, 1.

¹¹ *Ibid*, ii.

¹² *Ibid*, 5.

¹³ GRZ, *Revised Sixth National Development Plan, 2013-2016* (Lusaka: Ministry of Finance and National Development Planning, 2014), 1.

education and health. Its macroeconomic focus was on ‘improving the livelihoods of the Zambian people through promoting growth in manufacturing and tourism and [ensuring] stability in the prices of goods and services.’¹⁴ During the plan, the government again compiled key performance indicators on various sectors and used them to evaluate progress. The Seventh National Development Plan (2017-21) provides an analysis of the progress made during the Sixth Plan using the sectoral performance indicators.¹⁵ However, this chapter notes inadequacies in the availability of data on some sectors that was perpetuated by insufficient attention to them.

The revival of national development planning increased the demand for statistics in Zambia. The Ministry of Finance reported that decisions relating to the Fifth National Development Plan, for example, were based on statistics collected from the LCMS, the Zambia Demographic and Health Survey and the Census of Population and Housing.¹⁶ In response to the demand for data, the government tried to create a system of data production involving district, provincial and national levels to facilitate functioning of development plans.¹⁷ This led to increased participation of other players and the production of disaggregated statistics, such as the construction of provincial GDP estimates. Besides, though statistics continued to be biased towards poverty-related data, the revival of development planning stirred some attention to macro-economic statistics.

Under international influence and in order to meet the demand for data, the CSO drew the Strategic Plan of 2003-7 that sought to create a viable national statistical system with its coordination role enhanced by revised legislation.¹⁸ The plan also stressed capacity building and work programming to meet user priorities. In short, it was designed to be a roadmap for statistical development in

¹⁴ *Ibid*, 5.

¹⁵ GRZ, *Seventh National Development Plan, 2017-2021* (Lusaka: Ministry of National Development Planning, 2017).

¹⁶ GRZ, *Fifth National Development Plan*, 23.

¹⁷ GRZ, *Central Statistical Office Strategic Plan, 2003-2007*, 10.

¹⁸ *Ibid*, 1.

Zambia. Similar plans were drawn in other countries with Nigeria, for example, having prepared its Statistical Master Plan in 2003 to create an autonomous statistics bureau with state-of-the-art facilities. However, the plan was only executed in 2007-9 after delays in the enactment of requisite legislation.¹⁹ The Zambian CSO faced a similar frustration. In spite of government pledging commitment to the plan and despite support from the British Department for International Development and Zambia Social Investment Fund, the Strategic Plan was largely unimplemented by the end of 2007 due to insufficient funding and delays in amending the Statistics Act, which remained unrevised until 2018.²⁰ Table 7.1 illustrates the extent of the inadequacy of funding to the CSO during the years 2008-2012 despite the overall improvement recorded. The CSO was underfunded for most of the years save for 2010 when the census of population and housing was held and some of the funding for that year came from external sources.

Table 7.1: CSO Budget and Actual Funding for the years 2008-2012

Year	CSO budget (Kwacha)	Actual funding (Kwacha)	Percentage of funding released
2008	53,013,496	12,323,788	23.25
2009	40,229,238	26,990,261	67.09
2010	253,892,828	250,122,960	98.52
2011	45,931,277	31,759,601	69.15
2012	51,077,610	40,127,296	78.56

Source: GRZ, *National Strategy for the Development of Statistics, 2014-2018* (Lusaka: CSO, 2014), 8.

It is surprising that the CSO was not fully financed in the 2000s. This is because the fiscal resources of the Zambian government increased during the period due to economic growth resulting mainly from the boom in copper prices that stimulated production and consequently increased exports and

¹⁹ O.A. Olubusoye, K.G. Oluwatoyin and O.A. Keshinro, 'Nigerian Statistical System: The Evolution, Progress and Challenges', 8, <https://www.researchgate.net/publication/283715250>, Accessed on 22 February 2018.

²⁰ GRZ, *Central Statistical Office Strategic Plan, 2003-2007*, 1.

tax revenue.²¹ In the 2000s, the Zambian economy grew at an increasing rate.²² The total government revenue rose from K4,258.9 billion in 2002 to K6,181.3 billion in 2005, K12,345.7 billion in 2008, K15,344.7 billion in 2010 and K23,134.6 billion in 2012.²³ These figures indicate that the government's revenue nearly doubled during the years 2008-2012 while it continued to underfund the CSO. This illustrates the lack of prioritisation of statistics by the government.

7.3. Influence of the United Nations Millennium Development Goals

At the September 2000 Millennium Summit held at the United Nations, world leaders from 189 countries, including Zambia, pledged their support to a global effort to fight poverty, improve living conditions and build a prosperous and equitable world.²⁴ They committed themselves to the Millennium Declaration that 'called for halving by the year 2015, the number of people who live on less than one dollar a day.'²⁵ This was to be done through action towards attainment of eight "measurable" MDGs by 2015. These were to eradicate extreme poverty and hunger, achieve universal primary education, promote gender equality and empower women, reduce child mortality, improve maternal health, combat HIV/AIDS, malaria and other diseases, ensure environmental sustainability and develop a global partnership for development.²⁶ The MDGs became the framework for international development as well as national development planning and poverty reduction efforts in the period up to 2015.

²¹ *Bank of Zambia Annual Report for 8.*

²² Fison Mujenja, 'Zambia's Economic Performance: A More Positive Verdict from Zambians', Afro-Barometer Briefing Paper No. 132, March 2014, 1 & 8.

²³ *Bank of Zambia Annual Reports for 2005-2012.*

²⁴ Ben Kiregyera, 'Statistics for Managing for Results: Challenges, New Initiatives and Prospects for Improving Statistical Systems in Africa', *African Statistical Journal*, 5 (2007), 137.

²⁵ Edwin Magoti, 'Did Tanzania Achieve the Second Millennium Development Goal? Statistical Analysis', *Journal of Education and Practice*, 7, 8 (2016), 58.

²⁶ See United Nations, *The Millennium Development Goals Report 2015* (New York: 2015), 5-7, GRZ, *Central Statistical Office Strategic Plan, 2003-2007*, 10 and E.P.F. Pamen, P.A. Gankou and D.B. Yakono, 'Measuring Progress towards Attainment of Health-related Millennium Development Goals in Cameroon', *African Statistical Journal*, 18 (2015), 54.

The functioning of the MDGs contributed to the production of statistics in Zambia because their implementation required assessment using numerical data. Kiregyera and Jerven both observe that the development agenda was tailored towards the attainment of the MDGs and this stimulated the collection of data.²⁷ In particular, Kiregyera notes that the MDGs were drawn in the context of “managing for results”, a global effort that sought to ‘better define, measure and report on development outcomes.’²⁸ Such an effort required a good system for measuring and monitoring progress. Also, the MDGs were accompanied by 23 targets and 60 socio-economic indicators that were used to track progress.²⁹ In this vein, resources were mobilised from external agencies and bilateral countries for collecting and reporting data on social indicators, which were issued yearly to provide information on progress made.³⁰ They were compiled using data from multi-purpose surveys, particularly the ZDHS and the LCMS.

Jerven explains that as a result of emphasis on MDGs indicators, statistics on social development improved while economic data remained poor.³¹ Indeed, efforts towards attainment of the MDGs perpetuated the social statistics bias as ‘donors were focusing much of their financial assistance on the MDGs agenda, whose evaluation is largely dependent on social statistics’³² The United Nations maintained a Millennium Development Indicators Database that included data from individual countries. In order to update the database, the United Nations obtained statistics from

²⁷ Kiregyera, ‘Statistics for Managing for Results’, 135.

²⁸ *Ibid.*

²⁹ Pamen, Gankou and Yakono, ‘Measuring Progress towards Attainment of Health-related Millennium Development Goals’, 54.

³⁰ See, for example, GRZ, *Selected Social Economic Indicators 2004-2005* (Lusaka: CSO, 2006), GRZ, *Selected Social Economic Indicators 2010* (Lusaka: CSO, 2011), GRZ, *Selected Socio-economic Indicators 2013* (Lusaka: CSO, 2013) and GRZ, *Selected Socio-Economic Indicators Report 2015* (Lusaka: CSO, 2015).

³¹ Jerven, *Poor Numbers*, x.

³² CSO, ‘Reaction of the Zambian Central Statistical Office to Mr. Morten Jerven’s Book – Poor Numbers: How We are Misled by African Development Statistics and What to Do about It’, Paper presented at the 20th SADC Statistics Committee Meeting, Pemba, Mozambique, 28-30 May 2013, 10.

its member countries.³³ Also, individual countries with the aid of the UNDP and other partners, periodically evaluated progress towards the MDGs. In Zambia, the UNDP aided the review of progress towards the MDGs in 2003, 2005, 2008, 2010 and 2013.³⁴ Thus, the country continued to compile social indicators. The 2013 progress report indicated that out of 23 indicators that Zambia set for 2015, ‘7 are on track to be achieved or have been achieved, another 7 can be achieved with acceleration and 9 would require significant reforms and investments in 2015.’³⁵ It showed that more interventions were required on childhood and maternal mortality, secondary education and environment sustainability. Despite efforts made to improve economic data, donor help on the sector mostly came through technical assistance and not actual funds. However, as this chapter later shows, economic statistics were gathered using some surveys and the economic census of 2011-2012. Besides, though multipurpose surveys captured living conditions and demographic data, they included some economic statistics.

7.4. International Statistical Programmes

The international community contributed to the development of statistics in Zambia through programmes that aimed to improve the availability and quality of data. However, as this section illustrates, the results of such schemes were mixed as some yielded positive results while others were ineffective. Among the programmes was the GDDS, which started in the previous period and sought to improve the production and dissemination of statistics for policy makers and other stakeholders. The first phase of the GDDS ended in 2006 while the second phase ended in 2009.³⁶

³³ Kiregyera, ‘Statistics for Managing for Results’, 142.

³⁴ See, for example, GRZ, *Zambia Millennium Development Goals Progress Report, 2008* (Lusaka: Ministry of Finance and National Development Planning, 2008) and GRZ and UNDP, *Millennium Development Goals Progress Report, 2013*, 56.

³⁵ *Ibid.*

³⁶ *Strategy for the Harmonisation of Statistics*, 5.

By the end of the programme, more than 80 percent of African countries including Zambia had prepared and disseminated their metadata and some were updating them regularly. In Zambia, some data series such as consumer price indices were more regularly issued through *The Monthly* as part of the GDDS.

The major new programmes Zambia participated in were the African Charter on Statistics, the Strategy for the Harmonisation of Statistics and the National Strategy for the Development of Statistics (NSDS). The Charter served as a policy framework that outlined guiding principles for statistical development in Africa and a code of ethics and practices for professional statisticians.³⁷ It was drawn in 2009 under the auspices of the African Union. The Charter urged the use of statistics in policy making, monitoring and evaluation and promoted adherence to the United Nations Fundamental Principles of Official Statistics. It promoted the production of quality data, professional independence of data producers, protection of data sources and co-operation among data producers and users.³⁸ The Charter also sought to improve comparability of data and coordination of statistical works at national, subregional and continental levels. Notably, it was loaded with a lot of programmes and achieving all its objectives would be a mammoth task. Kratke and Byiers note that a 2012 evaluation of 25 countries indicated a lag in its actualisation.³⁹ Partly in an effort to adhere to the Charter, statisticians in Zambia urged the government to revise the Statistics Act and provide for an autonomous statistics agency but this dragged until 2018.

The Strategy for Harmonisation of Statistics was drawn by African countries in 2010 as an action plan for improving the capacity and integration of their statistical systems.⁴⁰ It promoted reform

³⁷ Kratke and Byiers, 'Political Economy', 11.

³⁸ *Ibid.*

³⁹ *Ibid.*

⁴⁰ *Strategy for the Harmonisation of Statistics.*

of national statistical systems in order to build a sustainable institutional capacity. The Strategy aimed at ‘strengthening cooperation among institutions, establishing effective coordination mechanisms and defining statistical priorities.’⁴¹ Besides, it promoted the creation of an effective technological environment that would enhance the production of quality statistics. It should be noted that the Strategy included activities that were pursued by other schemes like the GDDS and the Charter on Statistics.⁴² Thus, there was replication of effort which illustrates that the programmes were not well coordinated. They largely concentrated on the same aspects and one scheme would commence before the completion or evaluation of the others.

The NSDS was an international plan that served as a framework for national statistical reform. It followed the 2004 Marrakech Action Plan that outlined its aim and called for statistical development plans that integrated all sectors and stakeholders and proposed the preparation of NSDSs for low-income countries.⁴³ It sought to assess the changing data needs and enhance the use of statistics. The NSDS arose from the need for holistic approach to statistical development as opposed to focusing on separate parts of the system.⁴⁴ However, Menberu and Sanga note that little was done by 2006 and so, the African Statistics Day of that year was dedicated to ‘raising awareness of the importance of the NSDS as a new benchmark in statistical planning aimed at facilitating the development of statistics in a coordinated manner’⁴⁵ Chen *et al* posit that its success varied from one country to another with inertia resulting from lack of funding, inadequate

⁴¹ Kratke and Byiers, ‘Political Economy’, 11.

⁴² *Strategy for the Harmonisation of Statistics*.

⁴³ Menberu and Sanga, ‘Invigorating the Celebrations of the African Statistics Day’, 117.

⁴⁴ *Strategy for the Harmonisation of Statistics*, 7-8.

⁴⁵ *Ibid*.

staffing and incomplete statistical reform. They cite Cameroon where inadequacy of statistical staff constrained the execution of the NSDS.⁴⁶

In Zambia, the NSDS was adopted as a strategic plan for setting up a national statistical system. It was designed by a team of data producers, users, training institutions and donors. Zambia began its NSDS process in March 2008 through a situational analysis and needs assessment followed by the design of the Strategy.⁴⁷ The NSDS attempted to provide a holistic, coherent and detailed plan for developing statistics, bridging data gaps, increasing the availability and cost effectiveness of statistics and developing data management capacity.⁴⁸ It also stipulated the long-term vision, mission, core-values and actions for developing statistics, addressing institutional, organisational and technical constraints and improving data sub-systems. The benefits of the NSDS to Zambia included the rebasing of consumer prices indices and national accounts data to 2010, the holding of the economic census in 2011 and the enactment of a new Statistics Act in 2018.⁴⁹ Yet, it should be noted that the drawing of the NSDS took unnecessarily too long. From 2008, the formulation of the plan was only completed in 2014 and it ran up to 2018. Hence, some of the works it proposed such as the rebasing of datasets were actually done before the plan was fully drawn.

7.5. Inertia in the Reorganisation of the Zambian Statistical Service

This section demonstrates that the Zambian political leadership had a major say in shaping the organisation of the statistical service as it, for a prolonged period, resisted efforts at reform by Zambian statisticians and the international community. Thus, the problem of data production extended beyond the inadequacy of resources to lack of political commitment to the reorganisation

⁴⁶ S. Chen, F. Fonteneau, J. Jutting and S. Klasen, 'Towards a Post-2015 Framework that Counts: Developing National Statistical Capacity', PARIS21 Discussion Paper No. 1, December 2013, 9.

⁴⁷ GRZ, *National Strategy for the Development of Statistics*, v.

⁴⁸ *The Statistician*, 2014, 2.

⁴⁹ CSO, 'Reaction of the Zambian Central Statistical Office to Morten Jerven's Book', 7.

of the statistical service. Despite repeated calls to reorganise the statistical system, no major changes were made (save for staff retrenchment) until 2018 when a new Statistics Act was passed. Hence, the organisation of statistical activities largely remained the same. On the government sector, the main data collector was the CSO, others being statistical units of sectoral ministries and public bodies like the Bank of Zambia.⁵⁰ The persistent incapacity of the CSO to meet the vastly increased demand for statistics combined with factors such as the public distrust in some official datasets and the promotion of participation in national development prompted other stakeholders to get more involved in collecting data. In the non-government sector, the JCTR and the mining companies continued to be sources of important statistics.⁵¹ However, coordination among data producers remained weak partly because the legislative framework was inadequate in providing for the coordination role of the CSO.

Attempts to reorganise the statistical service and make it efficient after the lost decades started in 1994 when UNECA experts in national statistical organisation visited Zambia and followed up with another trip in 1996. In both visits, they recommended the creation of a national statistical service coordinated by an autonomous bureau.⁵² This was to involve large scale structural changes that included substantial reform of the statistics legislation. Though the political leadership often sounded committed to legislative change, successive governments were reluctant to enact a new Statistics Act perhaps for political reasons since they feared to weaken their say on numbers and strengthen that of the proposed bureau.⁵³ Hence, the political will of the national government was influential in shaping statistical development. This also underscores the argument that the role of

⁵⁰ *The Statistician*, July 2017, 16.

⁵¹ For details on the role of the JCTR in particular see Miniva Chibuye, 'Interrogating Urban Poverty Lines: The Case Zambia', Human Settlement Working Paper Series, No. 30, March 2011.

⁵² Parmeet Singh, *Mission Report on Review of Arrangements for Transforming Central Statistical Office into an Autonomous Agency, 24 June - 5 July 1996* (Addis Ababa: UNECA, 1996), 1-5. Also see appendices to the report.

⁵³ 'CSO Restructuring Timely', *Zambia Daily Mail*, Wednesday, 19 November 2014.

international influences was sometimes limited. Although the Statistics Bill was drawn in the early 2000s and included in the 2003-2007 Strategic Plan, the actualisation of the reforms continued to drag, especially because the plan was largely unimplemented due to lack of funding.

The proposed changes to the statistical service were later included in the NSDS that was mainly implemented in 2014-2018. In the Sixth National Development Plan, the government expressed awareness that the statistical service was largely unable to collect, compile and publish quality and timely data. Thus, it included the proposed reforms in the NSDS to provide the framework within which the proposed agency would ‘coordinate, harmonise and standardise the production of official statistics among data producers, suppliers and users in a coherent manner for both public and private sectors.’⁵⁴ Yet, the CSO continued to bemoan the lack of commitment to statistical reform. It identified the major constraints to the NSDS as ‘lack of political and senior management support, failure to enact a new Statistics Act, failure to put in place an appropriate institutional and organisational arrangement, inadequate provision of financial resources and failure to develop and sustain adequate human resources.’⁵⁵ A mixture of these constraints explains the persistent inertia in reforming the Zambian statistical service. This was a crisis because while the need for good data was clearly recognised by all stakeholders, the lack of genuine political will and the inadequate financial support hampered the development of a sound statistical service.

However, the long-pending Bill was finally passed into the Statistics Act in 2018, which transformed the CSO into Zambia Statistics Agency (ZamStats) headed by the Statistician General. Under the reforms, the Census and Statistics Act of 1964 was radically revised to provide for the creation of a modern integrated national statistical system and overcome challenges arising from

⁵⁴ GRZ, *Revised Sixth National Development Plan*, 16.

⁵⁵ GRZ, *National Strategy for the Development of Statistics*, 24.

the simplicity and lack of detail of the repealed Act.⁵⁶ The Statistics Act of 2018 set up the national statistics system, defined its constituents and provided mechanisms for coordinating, collecting, managing and disseminating statistics. It also provided for promotion of the use of statistical data at individual, institutional, national and international levels.⁵⁷ The Act elevated the Statistician General in order to enhance the coordination of the national statistics system by ZamStats. Besides, it set up the ZamStats Board and defined its functions in order to facilitate the harmonisation of statistics. In line with the NSDS, the Act incorporated the United Nations Fundamental Principles of Official Statistics and the Principles of the African Charter on Statistics to ensure transparency, impartiality and protection of personal data.⁵⁸ In addition, the Agricultural Statistics Act of 1964 that had over the years caused confusion between the CSO and Ministry of Agriculture was repealed. The eventual reformation of the statistical service can be partly attributed to the role of the international community in initiating the NSDS, providing the framework for its implementation and persistently urging the government to enact the changes.

7.6. Statistical Activities Conducted, 2005-2018

This section analyses the main activities in the collection of statistics in Zambia during the years 2005-2018. It examines the major enquiries in each sector indicating the main players, their data sources and methods, the challenges they faced and the changes initiated. It focuses on population, agricultural, labour, prices, industrial, external trade and national accounts statistics. It argues that in response to the increased demand for data, various stakeholders attempted to step up their activities. This was also partly due to mounting criticism from various quarters, including scholars,

⁵⁶ *The Statistician*, 2014, 2.

⁵⁷ GRZ, *The Statistics Act, 2018, Act No. 13 of 2018*.

⁵⁸ *Ibid.*

who were critical of the role of various data producers in Africa's statistical tragedy.⁵⁹ Despite efforts made to improve the quality, statistics continued to be weakened by lack of reliable sources as some enquiries remained irregular. Therefore, it is argued here that while there was an increase in the production of statistics, the quality of the data did not improve much. Hence, the new development initiatives were based on weak data and their assessment was quite difficult.

7.6.1. Population and Demographic Statistics

Works on population and demographic statistics illustrate the sustained influence of global forces on the production of data in Zambia through financial and technical support and the use of new technologies. Though the data showed improvement over previous statistics, there were some problems that were encountered. Data on population and demography were collected by the CSO but the Ministry of Health was involved in enquiries on health. The main source of population and demographic data was the 2010 Census of Population and Housing. Before the census, the CSO held a mapping exercise using the Global Positioning System in rural areas and the High Resolution Satellite Imagery in urban areas.⁶⁰ These major technological changes were facilitated by external agencies and they helped the CSO to upgrade its census frame. Besides, there was improvement in the technology used for data processing. The CSO utilised the Optical Mark Reading and the Intelligent Character Recognition, which quickened the processing of figures and curtailed human errors since it drastically reduced manual data handling.⁶¹

The 2010 census estimated the population of Zambia at 13,092,666 as compared to 9,885,591 in 2000, representing an average growth rate of 2.8 percent per annum.⁶² Out of the total population,

⁵⁹ Shantayanan Devarajan, 'Africa's Statistical Tragedy', *Review of Income and Wealth*, 59 (2013), 9-15 and Jerven, *Poor Numbers*.

⁶⁰ Interview with Andrew Phiri, Head of Geographic Information System, CSO, Lusaka, 12 August 2019.

⁶¹ GRZ, *Zambia 2010 Census of Population and Housing National Analytical Report* (Lusaka: CSO, 2012), 3.

⁶² *Ibid*, 6.

60.5 percent were in rural areas while 39.5 percent were in urban areas. The census collected data on various categories covered in 2000 and went further to include albinism, orphanhood and fosterhood.⁶³ Data on gender and poverty were also collected in order to facilitate assessment of efforts made towards the MDGs. Table 7.2 shows the population distribution of Zambia per province. It should be noted that a new province called Muchinga Province was created in 2011 by the Patriotic Front government from some districts in Northern and Eastern Provinces. Hence, the 2000 population figures for the two provinces were adjusted downwards as data for Muchinga Province were isolated from them.

Table 7.2: Population of Zambia by Province and Sex in 2010

Province	Male	Female	Total
Central	648,465	658,646	1,307,111
Copperbelt	981,887	990,430	1,972,317
Eastern	784,680	807,981	1,592,661
Luapula	488,589	503,338	991,927
Lusaka	1,082,998	1,108,227	2,191,225
Muchinga	349,872	361,785	711,657
Northern	546,851	558,973	1,105,824
North Western	358,141	368,903	727,044
Southern	779,659	810,267	1,589,926
Western	433,505	469,469	902,974
Zambia	6,454,647	6,638,019	13,092,666

Source: *Zambia 2010 Census of Population and Housing National Analytical Report*, 7.

Despite scoring on the use of technology, the nature of the personnel used in the census continues to attract criticism. The 2010 census enumeration was held by school leavers as part of an attempt by the MMD government to provide some work to the unemployed. In this regard, ‘field staff included about 25,000 school leavers ... as Census Enumerators and about 8,400 Census

⁶³ *Ibid*, 3.

Supervisors who were mostly teachers and other civil servants.’⁶⁴ The use of these groups shows the persistent inadequacy of the CSO’s permanent field team and undermined the quality of the census. The brief training they received obviously did not make them as effective as specially trained field staff. Another challenge related to inadequate funding that ignited protests by enumerators and delayed the census in some provinces. In the Copperbelt, for example, hundreds of enumerators who were unemployed school leavers protested in Lufwanyama and Ndola Districts over the inadequacy of training and enumeration allowances and resented the decision by the government to defer payment of part of the latter allowance to the end of enumeration.⁶⁵ They boycotted training and threatened not to begin the census if their demands were not met. A representative of the enumerators in Lufwanyama remarked that:

These people should stop treating us like babies. They are saying that they will give us K1.5 million as census payment, and this money is too little. We are demanding that they increase it to K5 million because this is a mammoth task. We [will not] go back to class until we receive a positive response, and if they cannot meet our demands we are ready to go home.⁶⁶

In response, the CSO dismissed the leaders of the protestors and proceeded to hold the training and enumeration. Though the problem was eventually quelled, it demonstrates the inadequacy of funding to the CSO and substantiates Jerven’s assertion that poor countries had low quality statistics as they availed little resources for statistical activities.⁶⁷ Such incidents as the one cited

⁶⁴ GRZ, *Zambia 2010 Census of Population and Housing National Analytical Report*, 2.

⁶⁵ For details, see *The Post*, Tuesday, 5 October, 2010, 2 and *Times of Zambia*, Tuesday, 12 October, 2010, 3.

⁶⁶ *The Post*, Tuesday, 5 October, 2010, 2 and *Times of Zambia*, Friday, 15 October, 2010, 3. In that year, the Kwacha to United States Dollar averaged K4,798.36, implying that K1.5 million was equivalent to US\$312.61. They demanded that the figure be increased to US\$1,042.02.

⁶⁷ Morten Jerven, ‘Research Note, Africa by Numbers: Reviewing the Database Approach to Studying African Economies’, *African Affairs*, 115, 459 (2016), 346.

above weakened the training of enumerators, their performance and the data. Despite the evident financial woes, the government claimed that it provided enough funds for the census. On 29 October 2010, Dr. Situmbeko Musokotwane, then Minister of Finance, reported that the ministry had released all the funds allocated to the census. He stated that the government ‘has since provided 100 percent of the allocated funds [K98 billion Kwacha] to the Central Statistical Office, with a further supplementary funding of 80 billion Kwacha. This brings the total so far released towards the census this year to 178 billion Kwacha.’⁶⁸ Therefore, as far as the government was concerned, the 2010 population census progressed well throughout the country.

Another crucial source of data on population and demography was the ZDHS that was held in 2007, 2013 and 2018. The donor community continued to dominate the survey through funding and technical aid while the government provided extra finances.⁶⁹ In an attempt to extend the coverage of the survey, in 2007, the ZDHS began to include data on the prevention, prevalence and treatment of malaria, which were previously excluded, while it maintained focus on previous subjects. The dominance of the donor community was partly stimulated by the fact that they initiated the survey. More importantly, donors were committed to the ZDHS because they used it to yield data for assessing progress towards the MDGs and poverty reduction.⁷⁰ On the other hand, the government’s participation was in view of the fact that besides facilitating the MDGs effort, the data informed the planning and implementation of health policies and services. The Sixth National Development Plan illustrates how data from the survey were used to review performance, policy reforms and implement health schemes.⁷¹

⁶⁸ GRZ, ‘Ministerial Statement by the Honorable Minister of Finance and National Planning Dr. Situmbeko Musokotwane to the National Assembly on the 2010 Census of Population and Housing’, Friday 29 October 2010, 2.

⁶⁹ GRZ, *Zambia Demographic and Health Survey, 2007* (Lusaka: CSO, 2009), 6.

⁷⁰ *The Statistician*, June 2018, 10.

⁷¹ GRZ, *Revised Sixth National Development Plan*, 117-124.

In general, data from the ZDHS were of better quality than those from establishments-based surveys arguably because it was more supported, better organised and had higher response rates than the latter. With external funding and technical expertise, comprehensive training activities were held before the survey started. A total of 122 personnel were trained in field procedures, administering the questionnaire, weighing and measuring children and testing for syphilis and HIV.⁷² These included interviewers, supervisors, field editors and reserve interviewers. Besides, supervisors and field editors received extra training in field coordination, quality control and editing.⁷³ Also, questionnaires were periodically returned to the CSO for coding, data entry and editing during the survey. This enabled the data processing staff to advise the field personnel on problems detected and aided the correction of errors. In addition, the CSO reported that:

To ensure quality control and validity of the test results, two forms of quality control were employed for the survey at TDRC laboratory. During testing, internal quality control was established. Additionally, a selected number of samples were sent to Global Clinical Viral Laboratory for external quality control [in Durban, South Africa].⁷⁴

Despite the strengths of the ZDHS and the significance of the data it yielded, assessment of the MDGs targets still faced data problems. One challenge related to the choice of the baseline year by the international community. While the benchmark was set at 1990, substantial scientifically collected data on HIV/AIDS were first gathered by the 2001-2 ZDHS. This caused difficulties of inadequate baseline figures. Likewise, assessment of progress towards malaria eradication suffered from inadequate data. In 2008, the MDGs assessment team lamented that ‘the latest comparable

⁷² GRZ, *Zambia Demographic and Health Survey, 2007*, 11.

⁷³ *Ibid.* Also see *The Statistician*, 2014, 6.

⁷⁴ GRZ, *Zambia Demographic and Health Survey, 2007*, 10.

data available on malaria is still that provided in the 2001-2 ZDHS. The provisional figures for 2007 do not provide comparable data and so the status as reported in the 2005 [*Millennium Development Goals Report*] still holds.’⁷⁵ Similar problems were faced elsewhere. A study done by the British government in countries with malaria encapsulated a global problem of lack of sound baseline. It revealed that ‘it is impossible to retrospectively measure ... malaria incidence and mortality at the inception of ... the MDG, when data from that era are acknowledged to be universally poor. Without knowing the original condition, it is futile to stipulate either to halve malaria mortality by 2020 or to halt malaria incidence by 2015.’⁷⁶ Thus, Attaran argues that the entire MDGs effort suffered from a serious lack of data and that the subjects were either immeasurable or the measurements inadequate since it was impossible to ascertain improvement trends without the baseline condition.⁷⁷ Consequently, measurement of progress towards the MDGs inescapably involved gap-filling estimates that were not necessarily accurate.

The CSO and the Ministry of Health also co-operated in the Zambia Population-Based HIV Impact Assessment in 2016. This was a household-based national survey funded by the United States government designed to yield data for assessing progress in the fight against HIV/AIDS.⁷⁸ Besides the reliance on external support, the survey illustrates donor interest in data related to the MDGs, in which HIV/AIDS was a key component. Other statistics for assessing progress in the health sector were collated through the extractive system of the ministry and they were published in the *Annual Health Statistical Bulletin* that included data on various diseases focusing on prevalence,

⁷⁵ GRZ, *Millennium Development Goals Progress Report 2008*, 23.

⁷⁶ Amir Attaran, ‘An immeasurable Crisis? A Criticism of the Millennium Development Goals and Why they Cannot be Measured’, *Policy Forum*, 2, 10 (2005), 955.

⁷⁷ *Ibid*, 957.

⁷⁸ *The Statistician*, July 2017, 5.

patient attendance and immunisation.⁷⁹ Yet, Attaran criticises the data used in health-related MDG efforts as inadequate and unreliable and notes that in Sub-Saharan Africa, save for Mauritius, even data on basic life indicators like births and deaths were not directly registered. He posits that in the absence of ‘reliable vital registration systems to track even the existence of births or deaths, naturally, the data for the medical circumstances of those births and deaths - or the lives in between - are unreliable.’⁸⁰ Zambia is an example of African countries whose vital registration systems depreciated in the 1980s and continued to remain weak with many unrecorded births.

Besides the government health sector having its own limitations, it is also noted here that the national health data system did not adequately integrate private health facilities. Thus, while some statistics were collected on the government sector, data on private health services were the more incomplete. Emphasising this point on Africa in general, Kiregyera argues that as a result of the exclusion of data on private health services, there was ‘underreporting on HIV/AIDS cases and other diseases.’⁸¹ Unfortunately, the same datasets were utilised to assess the health aspects of the MDGs and other important national and international schemes. Hence, the progress made towards the achievement of such programmes was not accurately captured.⁸² This illuminates the argument by Attaran that strides made towards attainment of the MDGs were not well accounted for.

7.6.2. Agricultural Statistics

Agriculture received a major focus in development plans as the government sought to use it to spur economic growth and improve people’s livelihoods. It was targeted because over 60 percent of the

⁷⁹ GRZ, *Annual Health Statistical Bulletin, 2009* (Lusaka: Ministry of Health, 2011), GRZ, *Annual Health Statistical Bulletin, 2010* (Lusaka: Ministry of Health, 2011) and GRZ, *Annual Health Statistical Bulletin, 2011* (Lusaka: Ministry of Health, 2014).

⁸⁰ Attaran, ‘An Immeasurable Crisis?’ 955.

⁸¹ Kiregyera, ‘Statistics for Managing for Results’, 146.

⁸² See, for example, GRZ and CSO, *Millennium Development Goals Progress Report, 2013*, 12 for data reported in relation to Zambia’s progress towards the attainment of health aspects of the MDGs.

Zambian population in 2005 derived their livelihoods from that sector and the government targeted agricultural growth in order to enhance food security.⁸³ Cheelo, *et al*, note that the government's previous attempt to make agriculture the engine of the economy as part of its strategy of growth-from-own-resources failed and was abandoned in the 1990s during the Structural Adjustment Programme.⁸⁴ However, by 2005, the government was optimistic that agriculture would stimulate economic growth, reduce dependence on mining and improve the livelihoods of many people if adequately supported.⁸⁵ Hence, in the Fifth and Sixth National Development Plans, the government prioritised agriculture as part of its economic diversification, job creation and rural development agenda. To facilitate efforts made to expand agriculture such as construction of dams, acquisition of equipment and introduction of farmer input schemes, the government recognised the need to collect adequate data for setting targets, devising interventions and monitoring progress.⁸⁶

Thus, the Ministry of Agriculture continued to collaborate with the CSO in the collection of some agricultural statistics. However, despite the identified need for data, the government did not prioritise a full-scale agricultural census and relied on less effective sources of data that included administrative sources, crop forecasts and post-harvest surveys. The ministry continued to use agricultural extension officers, who collected and sent data on land, crops and livestock to the ministry headquarters where they were compiled by the statistics unit.⁸⁷ However, problems of inadequate staffing, insufficient coverage and non-uniform sampling weakened the data. In 2009,

⁸³ GRZ, *Fifth National Development Plan*, 23.

⁸⁴ Caesar Cheelo, Marja Hinfelaar and Manenga Ndulo, *The Development State in Zambia: Plausibility, Challenges, and Lessons from South Korea* (Ithaca: Cornell University Institute for African Development, 2020), 105.

⁸⁵ GRZ, *Fifth National Development Plan*, 23.

⁸⁶ GRZ, *Revised Sixth National Development Plan*, 65-76.

⁸⁷ MACO and CSO, *Zambia Panorama Report, 2009*, 35.

the ministry reported that the system had numerous constraints like staff shortages as some of the camps were unmanned, thereby causing serious data gaps during aggregation.⁸⁸

The CSO and Ministry of Agriculture sustained the joint crop forecast survey. With the continued absence of the agricultural census since 1992, the survey remained the main source of data on the sector.⁸⁹ Enumeration was done jointly by staff from the two institutions and no difficulties were reported in their collaboration. One CSO staff stated that ‘the crop forecast survey was held on a 50-50 basis with the Ministry of Agriculture that funded the survey and supplied half of the enumerators.’⁹⁰ The data were entered at provincial level before questionnaires were sent to Lusaka. In trying to keep pace with technological changes, data on ‘area, production, fertiliser and anticipated sales for all major crops are ... produced in excel. The remaining variables are stored in SPSS and are only used in data manipulation for specific queries’⁹¹ Though crop forecast data did not represent the actual production, in the absence of better data, the country relied on them to compute the national balance sheet and assess the food security situation. They were used in collaboration with those obtained from the post-harvest survey, where available.⁹²

The CSO and the ministry also collaborated in the post-harvest survey that collected data for measuring changes in agricultural production. It provided data for calculating sectoral performance indicators, sectoral contribution to GDP and baseline data for vulnerability assessment.⁹³ For the contribution of agriculture to GDP, see the Appendix. Besides, post-harvest data were used for

⁸⁸ *Ibid.*

⁸⁹ *Ibid.*, 33. Also see *The Statistician*, 2015, 10.

⁹⁰ Interview with Alfeyo Chimpunga, Central Statistical Office, Mansa, 26 July 2019. Also see GRZ, ‘Ministerial Statement by Hon. Given Lubinda, Minister of Agriculture, on the Crop Forecasting Survey for the 2015-2016 Agricultural Season and Food Balance Sheet for the 2016-2017 Marketing Season’, 3 May 2016, 1.

⁹¹ MACO and CSO, *Zambia Panorama Report*, 2009, 33.

⁹² *The Statistician*, 2015, 10.

⁹³ GRZ, *Post-Harvest Survey, 2011-2012 Agricultural Season* (Lusaka: CSO, 2014), 1, GRZ, *Central Statistical Office Strategic Plan, 2003-2007*, 20 and CSO, *National Accounts Statistical Bulletin 2005*, 6.

national development planning, research purposes and formulating strategies to improve food security and mitigate natural disasters. The survey yielded data on crops, livestock and agricultural marketing.⁹⁴ In particular, it collected data on area planted to individual crops, production quantities, sales of produce, income from sales, agricultural inputs, capital formation and other expenses.⁹⁵ Comparison between crop forecast and post-harvest data was not always possible because the latter survey was not always conducted as it was not funded in some years. However, data for years in which both surveys were undertaken shows some variations in the two datasets. For example, the crop forecast survey estimated the total maize production for 2012 at 2,532,800 metric tonnes as compared to the post-harvest figure of 2,541,963 metric tonnes, a difference of 9,163 metric tonnes. The corresponding figures for 2014 were 2,618,221 metric tonnes and 2,916,014 metric tonnes, a difference of 297,793 metric tonnes between the two surveys.⁹⁶ These were large differences that cast doubt on the accuracy of both surveys.

On a positive note, the technology for processing and storing agricultural data improved in the period. For example, three software packages were used to process data. One of them was the Census and Survey Processing System also called CSPro, a Windows-based software developed by the United States Bureau of Census and used to enter very large datasets.⁹⁷ The CSO used the software as the primary data entry package for all its surveys. It explains that the adoption of CSPro stimulated the training of data entry operators and analysts. This helped to develop a pool of staff with skills to handle large data dictionaries and analyse them using other software packages like the SPSS and the Statistical Analysis Software.⁹⁸ The resultant tables were produced in the SPSS,

⁹⁴ MACO and CSO, *Zambia Panorama Report, 2009*, 34 and *The Statistician*, July 2017, 14.

⁹⁵ GRZ, *Post-Harvest Survey, 2012-2013 Agriculture Season* (Lusaka: CSO, 2014), 1 and GRZ, *Post-Harvest Survey, 2014-2015 Agricultural Season* (Lusaka: CSO, 2015), 1.

⁹⁶ GRZ, *Post-Harvest Survey, 2012-2013*, GRZ, *Post-Harvest Survey, 2014-2015* and GRZ, *The Monthly*, May 2013.

⁹⁷ MACO and CSO, *Zambia Panorama Report, 2009*, 22.

⁹⁸ *Ibid.*

converted to Microsoft Excel and distributed to data users in Excel and PDF formats. Despite the use of these technologies, the figures remained weak due to lack of reliable sources, especially on rural small-scale farmers. This complicated the fact that agriculture was envisioned to be a pillar in national development plans. Without good statistics on the sector, it was impossible to get an accurate picture of its contribution to economic diversification and to people's livelihood.

Global forces continued to shape statistical development through technological changes. It should be noted that the adoption of software packages was costly and succeeded only with donor support as it required resources to secure software licenses, procure computers and train staff to use the new technology.⁹⁹ The acquisition of licenses and training of staff were enabled by funding from the United States Agency for International Development. The reliance on donor funding was a common feature of most African countries as governments underfunded statistical works. Chen, *et al*, elucidate that 'in Ethiopia, government budgetary expenditure remained almost constant from 2009 to 2011, while contribution from development partners increased significantly from year to year amounting to almost 65 percent of the total spending of the Central Statistical Agency.'¹⁰⁰ They also note that around the same period, the government of Mozambique met only 40 percent of the budget of the National Statistical Institute and the rest came from donors. It is contradictory that African governments sought to use statistics in their development efforts while not adequately financing data collection and relying on donor funding.

Furthermore, the livestock census through which the CSO and Ministry of Livestock and Fisheries collected some statistics on the respective sector also had funding troubles and it was not held regularly. After the 1991-2 livestock census, the next one was held in 2004 only with funding and

⁹⁹ *Ibid.*

¹⁰⁰ Chen, *et al*, 'Towards a Post-2015 Framework that Counts', 9.

technical aid from FAO and SADC.¹⁰¹ After that, the next livestock census was done in 2017 to yield fresh benchmark data on livestock, fish, poultry and honey that were used to estimate the sectoral Gross Value Added to GDP. As the CSO itself noted, a lot of changes occurred in the livestock sector over the years.¹⁰² Hence, it is inescapable to conclude that they were statistically missed. To cover up for the irregular census, the CSO extended the post-harvest enquiry to include some data on livestock but such were not detailed. Besides, as already noted, post-harvest surveys were not regularly held and so, data on livestock remained scanty.

7.6.3. Industrial, Financial and External Trade Statistics

These categories illustrate the unevenness of statistical development across different subjects. It also argues that industrial data remained weak with problems carried over from the previous period. For instance, with the challenges of inadequate data, the index of industrial production covered only mining, manufacturing and electricity, the sectors on which some data for that purpose were available.¹⁰³ Hence, it excluded other industries suggested for incorporation by the United Nations Statistics Department, namely, gas, air conditioning, water supply, sewerage, waste management and remediation activities.¹⁰⁴ As the Appendix shows, these sectors made some contribution to the economy, and GDP in particular. Although the CSO continued to strive to adhere to international statistical practices, the inadequacy of data remained an obstacle.

Data on the mining sector were also recognised to be weak. The Chamber of Mines admitted that they and the government were aware that industrial statistics used for policy making were poor and that they were both to blame. It elucidates that ‘the government is at fault because it has not

¹⁰¹ MACO and CSO, *Zambia Panorama Report*, 2009, 36.

¹⁰² *The Statistician*, July 2017, 14.

¹⁰³ *The Statistician*, 2013, 4.

¹⁰⁴ *Ibid.*

made sufficient effort to produce, verify and routinely publicise high quality official data; the Chamber of Mines because they have often failed to correct erroneous figures [and] they ... have sometimes treated the public's need for information as a nuisance rather than a necessity.'¹⁰⁵ If the Chamber had trouble in collecting data from its members, the government found it even harder because besides their maneuvers to evade tax, some companies disregarded labour laws and provided poor working conditions.¹⁰⁶ The government lacked the capacity to compel private firms, let alone multinational corporations, to avail the required data. This shows the effects of economic liberalisation. Bwire states that liberalisation in Uganda exacerbated accounting and record-keeping problems as 'comprehensive data were no longer available from state agencies.'¹⁰⁷ This challenge also persisted in Zambia from the 1990s. Following privatisation, coordination of the collection industrial statistics became poor and this resulted in conflicting datasets. In 2013, the UNDP noted that 'there are three distinct datasets on the production of copper, provided by the Central Statistical Office, the Bank of Zambia and the Ministry of Mines'¹⁰⁸ This also generally reflects the lack of sound coordination and harmony in the Zambian statistical service.

On the financial sector, statistics on external debt had major problems. The datasets were mainly produced by the Ministry of Finance but they also featured in reports of the Bank of Zambia and the CSO. Most of the data on external debt were not disseminated regularly, especially in the years from 2011. The accelerated pace of debt accumulation by the Patriotic Front government from that year negatively affected the release of data on the sector. Zambia's external debt rose from US\$ 1.9 billion in 2011 to US\$ 8 billion in 2016 representing an increase from 8.4 percent to 36.5

¹⁰⁵ Chamber of Mines of Zambia, 'Enhancing Mining's Contribution to the Zambian Economy and Society', Report for the Council of Mining and Metals, April 2014, 11.

¹⁰⁶ Interview with Gerson Banda, Head of Labour Branch, CSO, 13 August 2019.

¹⁰⁷ Thomas Bwire, 'Comparing Growth Performance for Uganda Using GDP Data from Alternative Sources', *African Statistical Journal*, 17 (2014), 162.

¹⁰⁸ GRZ, *Millennium Development Goals*, 2013, 13.

percent of GDP in the same period.¹⁰⁹ The World Bank notes that as the debt soared in 2015, ‘the government’s response was to stop publishing debt reports or mentioning the overall debt levels in their official documents. Some numbers were provided but they were never aggregated. It was left to the reader to solve the puzzle.’¹¹⁰ As a consequence, the lack of reliable information paved the way for the circulation of different figures, as few people knew the correct data.

In 2017, the World Bank lamented that Zambia had stopped publishing annual reports on external debt. It states that ‘annual debt reports were last made public on the Ministry of Finance website in 2012, and since then, no quarterly reports have been published. Since 2012, the only published debt numbers have been found in government speeches and other economic reports.’¹¹¹ Hence, the World Bank summarises the statistics crisis as ‘there is consensus that Zambia’s debt levels have soared recently, but there has been an absence of precision on what the exact numbers are.’¹¹² It observes that debt numbers differed across publications and this caused confusion. The confusion arose from the inconsistency in debt reporting that was a deliberate attempt by the political leadership not to declare the figures in the wake of heavy criticism against the escalating levels of public debt. Clearly then, from the year 2011, the quality of available data on public debt weakened as a result of the decision by the Patriotic Front to restrict their circulation. The lack of clear-cut figures on external debt illustrates the political influence of the government in determining which data would be published or concealed. The government chose not to release the figures as they were politically damaging since they showed a drastic rise in debt in the 2010s due to uncontrolled borrowing. It was also a way of evading questions on how the money was spent since the debt surge did not translate to improved livelihoods for many Zambians. Therefore, the purposeful

¹⁰⁹ World Bank, ‘How Zambia can Borrow without Sorrow’, Zambia’s Economic Brief No. 10, December 2017, 22.

¹¹⁰ Ibid.

¹¹¹ Ibid.

¹¹² Ibid.

restriction of the dissemination of external debt statistics signified the level of opaqueness of the Patriotic Front government as it lessened the transparency that accompanied the data.

In contrast, statistics on external trade underwent important developments. The data were compiled by the CSO in collaboration with Zambia Revenue Authority that was the main source of data, others being Zambia Electricity Supply Corporation, Export Board of Zambia, Zambia Export Growers Association and Bank of Zambia.¹¹³ A notable development in the production of foreign trade statistics was the introduction of the Export and Import Price Survey in 2016. The new survey collected data for measuring changes in the pure price component of transactions in goods and services between Zambia and the rest of the world.¹¹⁴ The data were also used for generating export-import price indices that were used to deflate external trade figures, analyse inflation, assess the effects of exchange rates, measure industrial competitiveness, forecast future prices, formulate fiscal and monetary policies and negotiate trade contacts.¹¹⁵

Another important development was the rebasing of the index to 2015 using data from the Export and Import Price Survey. The year 2015 was chosen due to the stability of economic factors such as inflation and the dollar exchange rate that shaped commodity prices.¹¹⁶ The selection of items represented in the index was done using the Harmonised System Codes from the 2015 trade declarations obtained on the basis of share of value in domestic exports and imports and on the regularity of trade.¹¹⁷ A total of 35 exporters and 120 importers were selected and visited every month to collect prices for computing quarterly indices. The CSO determined the product weights from the declarations for the years 2013-2015 and computed the SITC 5 digit indices as a

¹¹³ MACO and CSO, *Zambia Panorama Report*, 2009, 39.

¹¹⁴ *The Statistician*, 2018.

¹¹⁵ *Ibid.*

¹¹⁶ *Ibid.*

¹¹⁷ *Ibid.*

geometric average of price relatives of the basic observations.¹¹⁸ It should be noted that the dissemination of foreign trade data using the *External Trade Bulletin* that disappeared in the 1990s was revived in 2012, thereby increasing the availability of the figures. In the hiatus period, compact discs, flash drives, emails and general periodicals like *The Monthly* were used to disseminate the main figures. This means that the data were compiled but not published consistently. Table 7.3 illustrates the export and import figures of Zambia for the period 2005-2018.

Table 7.3: Imports and Exports of Zambia, 2005-2018

Year	Imports (c.i.f)	Exports (f.o.b)	Trade balance	Exports/Imports
	K' billion	K' billion	K' billion	Index
2005	11,466.70	9,612.90	-1,853.80	0.84
2006	11,049.80	13,410.90	2,361.10	1.21
2007	15,945.30	18,399.10	2,453.80	1.15
2008	18,476.50	18,653.00	176.50	1.01
2009	18,941.10	21,364.80	2,423.70	1.13
2010	25,507.49	34,500.10	8,992.61	1.35
2011	35,440.94	42,915.00	7,474.06	1.21
2012	45,264.56	48,191.20	2,926.64	1.06
2013	56,893.15	57,175.98	282.83	1.005
2014	61,088.44	59,613.36	-1,475.08	0.98
2015	73,318.98	60,782.29	-12,536.69	0.83
2016	77,686.56	67,223.11	-10,463.45	0.87
2017	83,654.87	77,907.69	-5,746.31	0.93
2018	99,258.83	94,487.27	-4,771.56	0.95

Source: GRZ, *The Monthly*, June 2019, 32.

7.6.4. Labour and Consumer Price Statistics

The focus of development plans and the MDGs on poverty reduction and improvement of living conditions partly spurred attention to data on these sectors. The CSO increased the collection of statistics on labour and consumer prices partly through multi-purpose surveys sponsored by external partners with the participation of local players. Besides some of the previously abandoned

¹¹⁸ *Ibid*, 6-7.

surveys were revived. Arguably, the most important development in the labour sector was the resumption of the Labour Force Survey in 2005 after which it was held consistently on an average frequency of three years.¹¹⁹ The CSO held the survey in collaboration with the Ministry of Labour and generated substantial data. These included the size and characteristics of the labour force as well as indicators like labour force participation rate, employment-to-population ratio, employment by sector and occupation, youth unemployment, education attainment, illiteracy, wages and hours of labour.¹²⁰ The data were issued through a specialised report and in *The Monthly*, *The Statistician* and press briefings. The government and other stakeholders like trade unions used the data to evaluate sectoral contributions to employment as espoused by national development plans and to assess the functioning of labour policies.

However, the Labour Force Survey had a methodological weakness. By design, it was a nationally representative household enquiry involving a two-stage sampling procedure. It started with the selection of enumeration areas from the 2010 census sampling frame from which households were listed and some were selected for enumeration.¹²¹ The sample was designed to yield estimates at both national and provincial levels for households in rural and urban areas. Carr-Hill criticises the tendency of household surveys in Africa to omit the homeless, those in institutions, the mobile, nomadic or pastoralist populations and those in areas presenting security risks.¹²² Taking into account the fact that these groups constituted a substantial component of the poor population in some countries, he concludes that their exclusion from sampling frames caused biases in the assessment of progress towards anti-poverty programmes in national development plans and the

¹¹⁹ *The Statistician*, 2014, 6 and *The Statistician*, June 2018, 13. The survey was conducted in 2005, 2008, 2012, 2014 and 2017.

¹²⁰ *Ibid.*

¹²¹ *The Statistician*, 2017, 2.

¹²² Roy Carr-Hill, 'Measuring Development Progress in Africa', in Morten Jerven (ed.), *Measuring African Development Past and Present* (London: Routledge, 2017), 136.

MDGs.¹²³ The Zambian CSO reported that the sample frame of the Labour Force Survey did not include ‘populations in institutions such as correctional facilities (prisons), refugee camps, hospitals or barracks.’¹²⁴ This implies that the argument by Carr-Hill also applies to Zambia.

The Quarterly Employment and Earnings Enquiry was also utilised to collect data on labour, particularly from establishments in the formal sector. It covered private, government and non-governmental enterprises and yielded data on employment and income.¹²⁵ Yet, private firms often resisted the enquiry due to the sensitive nature of the data it requested amidst the political discourse on labour. One informant stated that ‘though the legislation gives us authority to collect the data, it is weak in terms of how to punish those who resisted.’¹²⁶ Hence, the response rates remained lower than those of household surveys like the ZDHS and Labour Force Survey. Due to these challenges and insufficient funding, the enquiry became irregular and was abandoned after 2014 with more focus on the Labour Force Survey.¹²⁷ In part, the resumption of the Labour Force Survey worked against the Employment and Earnings Enquiry as the CSO preferred the former because it collected data that were more relevant to the anti-poverty effort and had better response rates.

On the other hand, the CSO compiled the consumer price index that measures changes in retail prices of a fixed basket of consumed goods and services from one month to another.¹²⁸ The index covered both rural and urban areas highlighting the metropolitan low income, metropolitan high income and non-metropolitan groups. The CSO tried to improve the quality of the index by increasing the coverage of the basket. For instance, it extended the number of retail items in the

¹²³ *Ibid.*

¹²⁴ *The Statistician*, 2017, 2.

¹²⁵ *The Statistician*, 2014, 2.

¹²⁶ Interview with Alfeyo Chimpunga, Central Statistical Office, Mansa, 26 July 2019.

¹²⁷ Interview with Gerson Banda, Head of Labour Branch, Central Statistical Office, Lusaka, 13 August 2019.

¹²⁸ MACO and CSO, *Zambia Panorama Report*, 2009, 43.

basket from 357 in 2009 to 440 in 2018.¹²⁹ This was partly influenced by changes in the definition of poverty that was extended to include other essentials. The CSO also used a classification system based on the United Nations Classification of Individual Consumption by Purpose that comprised eight commodity groups each with an assigned weight.¹³⁰ Therefore, international methods and frameworks continued to shape the compilation of statistics in Zambia.

Despite the CSO's efforts, the quality of consumer price indices was compromised by inadequate sources of data. Up to 2009, the weighting system was based on the household budget component of the 2002-3 LCMS. In the absence of a household budget survey, the CSO used the LCMS as the main source of data.¹³¹ The survey was held in 2006, 2010 and 2015. However, being a multipurpose enquiry, it insufficiently incorporated the prices sector due to limitations of questionnaire space. Consequently, the data it collected were inadequate for effective weighting and benchmarking. Thus, the indices continued to use the outdated 1994 base year until they were rebased to 2009.¹³² Also, critics of the CSO's methodology argue that lack of differentiation between urban and rural areas masked the price differences across the country. Chibuye contends that 'using an average national amount does not make sense in the Zambian context considering the significant disparity between costs of food in rural and urban areas. This disparity is largely [because] urban dwellers typically purchase food items while rural people mainly consume self-produced foods at low cost.'¹³³ Therefore, the methodology did not accurately account for all the sections of the society that lived below the MDGs metric of one dollar a day per person. Besides, the poverty metric was a global phenomenon and did not necessarily reflect the circumstances of

¹²⁹ *The Statistician*, June 2018, 2.

¹³⁰ MACO and CSO, *Zambia Panorama Report, 2009*, 43-4.

¹³¹ *The Statistician*, July, 2017, 2.

¹³² MACO and CSO, *Zambia Panorama Report, 2009*, 43.

¹³³ Chibuye, 'Interrogating Urban Poverty Lines', 6.

life in rural Zambia. Hence, the data did not effectively inform the efforts aimed at bridging the poverty inequality gap between rural and urban areas.

Despite its limitations, the LCMS provided data that were used for making important assessments and estimating the poverty prevalence. Fuente, *et al*, note that data from the 2010 LCMS, for example, were used to ‘assess the living conditions of Zambians, measure progress and results of development, and provide information on indicators contained in the National Development Plan.’¹³⁴ They observe that the multi-purpose survey also yielded data for assessing whether the country was on course to attain the MDGs targets, especially the first one of halving the poverty levels by 2015. Using statistics obtained from the survey and other sources such as the poverty mapping exercise conducted under the auspices of the World Bank from 2013 to 2014, it was determined, for example, that the incidence of poverty in Zambia reduced from 62.8 percent in 2006 to 60 percent in 2010.¹³⁵ As illustrated by the above discussion, the CSO’s effort to improve the production of data on living conditions was influenced by the need to provide statistics for assessing the attainment of the MDGs and development plans.

Besides the indices compiled by the CSO, other statistics on the cost of living were collected by the JCTR. In fact, from 2005, the JCTR transformed its food basket into a basic needs basket and extended it to other towns. However, the data sometimes varied widely from those produced by the CSO despite having almost the same bundle of items they included. In 2006, for example, the basic needs basket compiled by the JCTR for a family of six in Lusaka was K476,250 while that computed by the CSO was only K295,696.¹³⁶ While figures on the cost of food items were very

¹³⁴ Alejandro de la Fuente, Andreas Murr and Erica Rascon, ‘Mapping Subnational Poverty in Zambia’, Report for the World Bank Group, March 2015, 13.

¹³⁵ Ibid, 2.

¹³⁶ Chibuye, ‘Interrogating Urban Poverty Lines’, 13.

close, data on the non-food sector varied widely. Chibuye explains that ‘the main underlying reason for the difference is that while the CSO factors in 30 [percent] of the cost of food to carter for the non-food line, the JCTR has a set of what it calls essential non-food items and conducts price surveys of these.’¹³⁷ The JCTR argued that housing, energy and water were necessary for basic human dignity and included them in the basket. The data were used by the civil society and other non-governmental organisations to advocate for better living and working conditions, especially that the JCTR played the leading role in the Civil Society for Poverty Reduction.

7.6.5. National Accounts Statistics

National accounts data also show that the CSO tried to improve the production of statistics but its efforts were frustrated by various challenges. Besides, the CSO strove to compile the data in line with international standards so as to make them comparable with those of other countries. In the period 2005-2018, one of its major efforts was the implementation of the United Nations SNA for 2008 that it used to compile data for the years 2011-2018 with 2010 as the base year.¹³⁸ The main sources of data for the accounts were the 2011-2012 economic census, the 2014 business survey and administrative sources of Zambia Revenue Authority. Others were crop forecast and post-harvest surveys (on agriculture), income statements of the Bank of Zambia (on the financial sector), financial statements of pension and insurance institutions (on insurance), central and local government reports (on the government sector) and the non-farm informal sector survey.¹³⁹ However, the sources did not yield enough data for implementing the new SNA for some sectors like inventory stocks, construction and military expenditure.

¹³⁷ *Ibid*, 18.

¹³⁸ GRZ, *National Accounts: Gross Domestic Product Report, 2014 & 2015* (Lusaka: CSO, 2016), vi.

¹³⁹ *Ibid*.

From 2010, there was increased advocacy on the international scene to rebase and update GDP estimates in Africa on suspicion that some countries might be richer than they reported.¹⁴⁰ Indeed, the radical revisions made by some countries seem to support this argument and led to questions on how much is known about the wealth of African countries. Jerven and Duncan illustrate this with the example Ghana, which revised its GDP upwards by 60 percent and thus became classified as a middle income country.¹⁴¹ The revision was caused by the inclusion of new data and the use of rebased weights that differed markedly from the outdated data used previously. The duo contends that new surveys held around the base year yielded enormous amounts of data and paved the way for more disaggregated national accounts, which was assisted by the migration from the 1968 SNA to the 1993 SNA.¹⁴² This combined with conceptual and methodological changes to significantly increase the national income. Similarly, Malawi revised its GDP by an increase of 30 percent in 2010 while Nigeria followed suit in 2014 with an upward adjustment of 89 percent of the initial estimate.¹⁴³ The revisions suggested that the countries were richer than previously known and that it was their wealth distribution that was uneven as many people lived in poverty. Similar to the case of Ghana, Zambia was reclassified from a low income to a low middle-income country in 2011 based on its economic data that indicated significant growth, with GDP increasing by 118 percent from K47,404.85 million in 2000 to K103,377.86 million in 2011.¹⁴⁴ As Mujenja elucidates, this elated the then Republican President, Rupiah Banda, who noted that the economy was growing ‘despite continued recession in many parts of the world, thanks to sound government

¹⁴⁰ Jerven, ‘Africa by Numbers’, 347.

¹⁴¹ For details, see Morten Jerven and Magnus E. Duncan, ‘Revising GDP Estimates in Sub-Saharan Africa: Lessons from Ghana’, *The African Statistical Journal*, 15 (2012), 13.

¹⁴² Jerven and Duncan, ‘Revising GDP Estimates in Sub-Saharan Africa’, 16.

¹⁴³ Devarajan, ‘Africa’s Statistical Tragedy’, 10 and Jerven, ‘Africa by Numbers’, 342.

¹⁴⁴ See Fison Mujenja, ‘Zambia’s Economic Performance: A More Positive Verdict from Zambians’, Afro-Barometer Briefing Paper No. 132, March 2014, 1 and GRZ, *Zambia in Figures, 1964-2014*, (Lusaka: CSO, 2014), 11.

policies, and it is good that this is being recorded on the world stage.’¹⁴⁵ Contrary to the case of Ghana, the upgrading of Zambia to lower middle-income status was done before the rebasing exercise was completed. Zambia had since the late 1990s switched to the 1993 SNA for some sectors and was more advanced in that vein by 2010. In fact, from 2010, the CSO began to migrate to the 2008 SNA and had by 2014 rebased the national accounts using data from the 2011-2012 economic census.¹⁴⁶ Other data sources for rebasing were the 2010 LCMS, the 2010 population and housing census, the crop forecast survey, and the non-farm informal sector survey held in 2012-2013.¹⁴⁷ Again, the CSO lamented the lack of resources to frequently hold the non-farm informal sector survey, the last one having been held in 2002-2003. The rebasing exercise itself was done with the help of donors. In this vein, the IMF provided technical support while the International Labour Organisation provided both technical and financial support.¹⁴⁸

Nevertheless, it should be noted that the paucity of data weakened the rebasing exercise. Monyelo-Katoula and Nshimyumuremyi posit that the 2008 System of National Accounts ‘is complex and demanding in terms of the variety of different data sources that must be tapped, developed, and channeled into a regular, institutionalised process of statistical reporting.’¹⁴⁹ Lacking the expertise to maintain elaborate datasets, the CSO faced challenges in the benchmarking exercise. The intention of rebasing was to update the accounts using the 2008 SNA that recommended the use of the Supply and Use Tables (SUT) framework. The CSO reported that:

¹⁴⁵ Mujenja, ‘Zambia’s Economic Performance’, 1.

¹⁴⁶ GRZ, *National Accounts: Supply, Use and Input-Output Tables* (Lusaka: CSO, 2017), 1.

¹⁴⁷ *The Statistician*, 2013, 1.

¹⁴⁸ GRZ, *National Accounts: Supply, Use and Input-Output Tables*, 1.

¹⁴⁹ Michael Monyelo-Katoula and Adalbert Nshimyumuremyi, ‘Toward a Framework for Collaborating among Development Partners in National Accounts Programs’, *African Statistical Journal*, 7 (2008), 12.

The 2008 System of National Accounts ... recommends that National Accounts be benchmarked using the SUT framework. However, due to the pressing demand for results of the rebased Gross Domestic Product ... following the 2011/2012 Economic Census, CSO benchmarked its National Accounts outside the SUT framework. The compilation of the SUTs require quality and comprehensive data from several sources, a lot of resources and may take long to prepare.¹⁵⁰

Noteworthy, the benchmarking exercise came with changes such as the disaggregation of national accounts to indicate provincial contributions to the national economy. The data were used for planning activities at provincial level as a contribution to the national development plans. The CSO also states the data were ‘a very useful tool for regional economic policy development, since it measures the contribution of each province to the total GDP. It is also used to analyse the industrial specialisation of each province and facilitate the diversification of the economy. Therefore, it is used as a basis for balanced industrial development among other things.’¹⁵¹ While the provincial GDP distribution was welcome for its significance in the economic diversification agenda espoused in the national development plans, the methodology for computing the estimates was followed only because of the paucity of data. The CSO explains that:

Firstly, the annual national GDP is estimated, and then using indicators [it] is distributed in the provinces. This is a simplified and sustainable way of estimating GDP for the provinces. In doing this, appropriate provincial indicators are used to

¹⁵⁰ GRZ, *National Accounts: Supply, Use and Input-Output Tables*, 1.

¹⁵¹ *The Statistician*, July 2017, 10.

allocate provincial shares of the total GDP. The indicator used depends on the characteristics of the industry which is being regionalised.¹⁵²

Thus, though figures on provincial GDP became available, they were compromised by the lack of data from which to compile them directly. Therefore, they were only derived from the national estimates. The CSO elaborates that it ‘encountered a lot of challenges in accessing financial accounts at establishment level as reliable data could only be obtained at enterprise level through consolidated accounts.’¹⁵³ Hence, with the increasing demand for provincial GDP estimates, it was decided to disaggregate national level GDP estimates using available provincial indicators to come up with provincial figures. This method, according to the CSO, conformed with the best practices for compiling provincial GDP estimates recommended by the United Nations.¹⁵⁴ The GDP estimates of Zambia at constant 2010 prices for 2010-2018 are shown in the Appendix.

9.0. Conclusion

This chapter has examined the production of statistics in Zambia in the period 2005-2018. It argues that the revival of national development planning and the implementation of the MDGs were crucial factors in the production of statistics as they shaped data priorities. At international level, statistical development was propelled under a global context that was championed by the United Nations. Development partners like the IMF, World Bank and bilateral countries tailored their statistical priorities around the requirements of the United Nations MDGs. Hence, they limited their funding to multi-sectoral enquiries, namely, the ZDHS, the LCMS and the population census, which mostly collected household data. Notably, donor involvement perpetuated the dependence

¹⁵² *Ibid.*

¹⁵³ GRZ, *Research Paper on Provincial Gross Domestic Product* (Lusaka: CSO, 2017), 1.

¹⁵⁴ *Ibid.*, vi.

of Zambia on international funding of and technical assistance to major statistical enquiries. Even with increased state revenue and external borrowing, the country still relied on donors to fund major enquiries. This illuminates the argument that the government did not prioritise statistical development despite pledging to do so. The political leadership, instead, continued to direct state funds to their priority sectors such as infrastructure development. Besides, they were not committed to statistical reform as shown in the reluctance by successive governments to enact a new Statistics Act designed to transform the CSO into an autonomous agency.

However, this chapter also argues that the government played a role in influencing some statistical activities as certain enquiries, especially those on industrial and business establishments, were held using local funding. It also made contributions to some donor funded surveys and censuses and it was the conduit through which external funds were channelled to statistical enquiries. Whereas donors funded surveys on household sectors, the government financed enquiries that collected statistics from business establishments. Thus, there was more data on the former than on the latter sectors. This was partly due to incapacity of the government to compel business companies to avail data to state institutions. In addition, the government sometimes regulated the dissemination of statistics. As demonstrated in this chapter, during the 2010s, the Patriotic Front government concealed data on external debt from other stakeholders. The result was speculation on how much the government owed external lenders and the publication of conflicting datasets, some of which exaggerated the country's debt situation. This purposeful restriction of the circulation of external debt data illustrates the extent of the opaqueness of the Patriotic Front government as it decreased the transparency that accompanied statistical information.

The evidence provided in this chapter suggests that the statistics compiled in the period under discussion were not sufficient for the implementation of programmes included in national

development plans and international efforts such as the MDGs. The data were also not adequate for evaluating progress made towards the attainment of national development plans and the MDGs targets. As argued by Attaran, the inadequacy of data for the MDGs was a global issue. In assessing progress towards the set targets, various international institutions often found that both national datasets and those compiled by the United Nations Statistics Division were incomplete. As a result, they had to make substitute estimates. This casts doubt on the accuracy of the figures and the basis for the allocation of resources to programmes in national development plans, the MDGs agenda and other development efforts. The data were not always available in time and so, these programmes were in many instances assessed using incomplete figures, especially for recent years. Apart from that, the design of multipurpose surveys used to collect data excluded some important sections of the society such as the homeless and those in institutions like correctional facilities, refugee camps and hospitals. This supports Carr-Hill's argument that the omissions and other exclusions caused biases in the assessment of national development plans and the MDGs. Therefore, the successes of these efforts remain difficult to evaluate and understand in the absence of reliable statistics.

Chapter Eight

Conclusion

This thesis set out to examine the trajectory of statistical development in Zambia as a contribution to the discourse on the production of poor numbers. It has analysed the factors that shaped the evolution of statistics, explored the development of the statistical service, examined the main datasets and how they were compiled and investigated the problems faced in the production of numbers. The thesis builds on studies by Jerven, Duncan and Devarajan that analyse the quality of data in Africa without focusing on how international forces combined with local dynamics to shape the evolution of statistics.¹ The central argument of the thesis is that external forces played a dominant role in the development of major statistical series as the British colonial state, and subsequently the United Nations, donor countries and regional organisations influenced data priorities and which enquiries were funded. The United Nations also shaped the formulation of concepts, methods and classifications used to collect, process and compile data. Nonetheless, internal forces were not absent. The local environment determined the availability of requisite data and the application of international frameworks. Besides, locally-based statisticians made critical choices and decisions in data collection and processing while political players censored the circulation of data and the implementation of externally driven statistical reforms.

The production of statistics was initially dominated by the British colonial state that collected data in order to make colonial subjects and their social and economic conditions legible. This was meant to make colonial societies governable and facilitate the colonial state's intervention in their social

¹ Morten Jerven, *Poor Numbers: How We are Misled by African Development Statistics and What to Do About It* (Ithaca and London: Cornell University Press, 2013), Morten Jerven and Magnus Ebo Duncan, 'Revising GDP Estimates in Sub-Saharan Africa: Lessons from Ghana', *The African Statistical Journal*, 15 (2012), 13-22 and Shantayanan Devarajan, 'Africa's Statistical Tragedy', *The Review of Income and Wealth*, 59 (2013), 9-15.

and economic conditions. Furthermore, Southern Rhodesia also contributed to the production of statistics in Northern Rhodesia from 1940 to 1964 by holding enquiries for the latter, thereby adding a regional dimension to the external influence. The white settler government did this in order to facilitate the dominance of Southern Rhodesia in Central Africa. In the postcolonial period, Britain's contribution to statistical development was channelled through the British Department for International Development that rendered support to the CSO through equipment, technical experts as well as funding of some enquiries and training programmes. This aid was channelled either bilaterally or through United Nations agencies like the UNECA.

Global institutions, particularly the United Nations system, had a sustained dominance on international data priorities, which contributed to local statistical priorities. This began in the colonial period. From the 1950s, the United Nations prioritised national accounts and caused a bias towards macroeconomic datasets. This was sustained up to the early 1990s when there was a shift in priority to statistics on poverty and thus engendered a new bias towards data on living conditions. The swing was informed by the fact that macroeconomic statistics generally neglected the impact of government policies on people's livelihoods by stressing national aspects. With the deterioration of livelihoods during Structural Adjustment, there was more attention to human welfare and this stimulated the focus on statistics depicting living conditions. This phenomenon was not unique to Zambia or even Africa. Sabbadini argues that in the 1990s, statistics in Italy shifted their emphasis from economic data to social indicators focusing on health, epidemiology, poverty, deprivation, crime and labour that emphasised human welfare.² These changes reflect the shifting emphasis of the United Nations that began to promote statistics on the quality of life.

² Linda L. Sabbadini, 'The Development of Statistics in Italy with a Life Quality Approach', *Social Indicators Research*, 102, 1 (2011), 39-45.

Furthermore, the United Nations coordinated the development of concepts, definitions, methods and classifications used to collect, process and publish data and thus shaped the context in which statistics were produced and disseminated. Notably, it authored and promoted conceptual and methodological frameworks such as the System of National Accounts, the Standard International Trade Classification and the International Standard Industrial Classification.³ However, these frameworks had their own limits. Often, it was not possible for data producers to collect and process data in compliance with these systems because they were not fully applicable to local conditions. Statisticians used their own initiatives to modify some aspects of the frameworks to suit local conditions. Thus, the internal environment conversely contributed to the evolution of international frameworks that were adjusted from time to time to enhance their suitability. This implies that understanding statistical development requires focus on both international and local forces. Although challenges with the application of international frameworks are alluded to in this study, there is need for more detailed research on the substitutes used and their effects on the quality and comparability of international datasets.

The United Nations also shaped statistical development through its worldwide censuses. It compiled its own statistics using data from different countries to facilitate comparison of national economies. For this reason, it held the World Population Census and the World Agricultural Census and assisted participating countries. It was in this context, the thesis argues, that Zambia participated in various censuses and surveys under the auspices of the United Nations and other donors. The United Nations also spearheaded international meetings on statistical development. In Africa, such meetings were organised by the UNECA from 1958.⁴ In fact, it was the UNECA that

³ See, for example, United Nations, *A System of National Accounts and Supporting Tables, 1953* (New York: UNSC, 1953) and United Nations, *System of National Accounts, 1993* (New York: UNSC, 1993).

⁴ UNECA, *Annual Report to the Economic and Social Council, 7 January 1959 to 6 February 1960* (New York: ECOSOC, 1960).

coordinated the use of international frameworks in Africa and sponsored training schemes for national statisticians. The Commission was active from the late 1950s to the late 1980s, before its role waned considerably from the 1990s up to the mid-2000s. The decline coincides with the abandonment of development planning and the shift to the SAPs and PRSPs. The new programmes were propagated by the United Nations but through the International Monetary Fund and the World Bank and they illuminate the shift in its priorities to emphasis on poverty reduction.

The thesis also illuminates the evolution of the state's dependence on external agencies for the conduct of major statistical enquiries. From 1940 to 1965, Zambia depended on the statistical office in present day Zimbabwe to hold most surveys and censuses and compile data using scientific procedures. This was mainly due to the lack of a statistical office in the former as the latter monopolised statistics in order to exert its dominance in Central Africa. In the postcolonial period, Zambia developed some capacity to collect data but depended on United Nations bodies like the UNECA, the World Bank, the IMF, and FAO as well as donor countries such as Britain, the United States, Norway, Japan and Denmark to provide technical staff, fund major enquiries, sponsor statistical training programmes and finance the acquisition of equipment and technologies like software packages. The dependence of the state on external aid meant that data were often produced to suit donor requirements. For instance, Chapters Four and Five demonstrate that the Zambian CSO concentrated on collecting data on subjects related to national accounts, which were prioritised by the United Nations but also used locally for national economic planning.

Despite the dominance of external forces, the Zambian government retained some influence on the development of statistics in collaboration or competition with external players. For example, from the late 1960s to the early 1990s, the state nationalised the economy and, in this vein, government parastatals that were created in various sectors became important data sources. Hence, it was easier

for the state to access data on the economy, though there were exceptions as some departments and parastatals delayed supplying the required data due to inefficiency and, at times, competing interests. The state of affairs was worsened by the decline in government capacity during the economic crisis in the 1980s. In some cases, data were compiled but reports were not published, or they were issued in small numbers under the influence of the one-party state. Such restrictions were common in socialist countries like the Soviet Union where the government limited the circulation of data to a circle of officials and academics till the enactment of Mikhael Gorbachev's glasnost reforms.⁵ Partly due to the limited circulation of data under the one-party state in Zambia, there was increased distrust in government statistics by other stakeholders. Thus, by 1991, some civil society organisations, particularly the JCTR, began to produce their own data on the cost of living, which they and other non-governmental actors used to advocate for increased government attention to people's livelihoods. This also demonstrates the political nature of statistics.

Besides, in the 2000s, successive governments resisted the attempt by statisticians and external agencies to reform the statistical service and make it more independent. This was because politicians feared that an independent statistical service would pose a danger to their political survival. The government continued to underfund the statistical institution even with increased revenues from the copper boom. Though this demonstrates the government's lack of prioritisation of the production of data, it also illuminates the power of the state to influence the trajectory of statistical development. As argued in Chapter Seven, for example, in the 2010s, the Patriotic Front government avoided publishing statistics on external debt as they would impact negatively on the party's political fortunes. The government's mass debt accumulation did not translate to

⁵ Tim Heleniak and Albert Motivans, 'A Note on the Glasnost and the Soviet Statistical System', *Soviet Studies*, 43, 3 (1991), 473-90.

improvement in people's living conditions while there were issues of imprudent utilisation of public funds as highlighted in various reports of the Auditor General.⁶ The result of withholding data was the emergence of speculative and conflicting debt figures to the extent that even data from government bodies, namely, the CSO, Bank of Zambia and Ministry of Finance, contradicted each other. The government's resort to restricting the circulation of debt data and underreport debt figures clearly shows the political nature of statistics. As Jerven shows in the case of India and Malawi, governments sometimes manipulated the figures that statistical offices produced in order to suit their political rhetoric.⁷ This weakened the extent to which statistics accurately represented the real conditions of society and their use in efforts intended to cure socio-economic ills.

From the colonial to postcolonial period, there was a considerable shift in the attitude of individuals towards state statistical enquiries. Initially, Africans generally resented being counted as they associated the act with the colonial policies of taxation and forced labour recruitment that they detested. Besides, they opposed the formation of the Federation and, in protest, resisted statistical enquiries. As such, many Africans did not want to be enumerated in the 1960 demographic and budget surveys as they equated it to endorsing the continuation of Federation. This was also in solidarity with African nationalist organisations that maintained a policy of non-cooperation with government commissions in 1959 and 1960. After the collapse of Federation and especially after the attainment of independence, Africans became more willing to be counted because they equated that to being considered for benefits of independence. These contrasting attitudes illuminate the significance of the changing political environment and had crucial consequences on the quality of

⁶ See, for example, GRZ, *Report of the Auditor General on the Accounts of the Republic for the Financial Year ended 31 December 2016*, vi.

⁷ Morten Jerven, 'The Political Economy of Agricultural Statistics: Evidence from India, Nigeria and Malawi', *Simons Papers in Security and Development*, No. 18, School for International Studies, Simon Fraser University, Vancouver, March 2012.

statistics. Resentment implied low response rates, which meant that data collectors had to work with insufficient information and make substitutes. On the other hand, the desire to be counted contributed to the improvement of population and household statistics on Africans in the postcolonial period as compared to those of the colonial era.

This thesis differs in approach from most existing works that do not pay attention to the evolution of specific statistical enquiries.⁸ In fact, it is the first major historical record of specific censuses and surveys held in Zambia. By analysing how particular enquiries developed over time, it builds on Jerven's argument that Sub-Sahara African countries produced poor data.⁹ It further illuminates the experiences of statisticians as they held enquiries and processed data. While Jerven focuses particularly on national accounts statistics, this thesis goes beyond to include various other datasets that facilitated decision making pertaining to policy issues, national development plans and public service delivery. The benefit of the approach of this study is that it facilitates a nuanced analysis of the shifting priorities in statistical development and sheds light on other bases of government decision making beyond the national accounts framework. In contrast to studies that limit the debate on statistical development to data collectors, the thesis extends it to data providers. That is, the institutions, individuals and business establishments that supplied information to data collectors. This allows the thesis to demonstrate that the attitudes and responses of data providers towards enquiries were crucial as they could either enhance or compromise data quality. Business establishments, in particular, did not always co-operate with government data collectors and this complicated the processes involved in the production of statistics. Their lack of co-operation weakened the quality of statistics as they perpetuated low response rates, the paucity of data and

⁸ These include Jerven, *Poor Numbers*, Kratke and Byiers, 'Political Economy' and Kiregyera and Banda, 'Challenges of a Central Statistical Office.'

⁹ Jerven, *Poor Numbers*.

the use of second-best estimation methods. Thus, while Jerven attributes the problem of poor numbers to government failure, this thesis adds the resentment by the business community.

The discourse also extends Serra's argument on the non-uniformity of statistical development. It investigates the elements of such unevenness across time and subjects in the colonial and postcolonial periods. It is a truism that the Second World War profoundly influenced the development of statistics in colonial Africa. During and especially after the war, international dynamics spurred the expansion of statistics and the reorganisation of systems and methods used to collect them, namely sample surveys, which were developed in Europe and America and tested in the Rhodesias and Nyasaland to determine their suitability for African countries.¹⁰ Yet, as Serra demonstrates in the case of Ghana, there was spatial and conceptual unevenness in the application of methods. In addition, a notable development in Central Africa was the centralisation of statistical works at Salisbury in Southern Rhodesia where a regional statistical office was established. This move instigated an unevenness in the development of statistical capacity in the region as resources were concentrated at the statistical centre in Salisbury at the expense of building capacity in Northern Rhodesia and Nyasaland as well. This development reflected the uneven power relations and political imbalance that characterised the Federation.

Unevenness also occurred across subjects under statistical investigation. The thesis demonstrates that the postwar expansion of statistics was biased in favour of certain datasets at the expense of others. From the 1940s, statistics on the cost of living and national accounts were given priority by both the international community and the state and this stimulated the production of their

¹⁰ Gerardo Serra, 'Uneven Statistical Topography: The Political Economy of Household Budget Surveys in Late Colonial Ghana, 1951-1957', in Morten Jerven (ed.), *Measuring African Development Past and Present* (New York: Routledge, 2015), 9-27 and Florian Kratke and Bruce Byiers, 'The Political Economy of Official Statistics: Implications for the Data Revolution in Sub-Saharan Africa', PARIS 21 Discussion Paper No. 5, 2014.

requisite data. The unevenness was also evident in the late 1970s and 1980s economic decline. As elucidated in Chapter Five, while data production generally shrank during the lost decades, statistical works were sustained on population, cost of living and labour. It was their circulation, rather than production, that was limited by the economic crisis and the one-party state. This again reflected the preferences of the state and the international community that determined data priorities and influenced the funding of enquiries and the dissemination of statistics.

Although the datasets produced by the Zambian statistical service were generally poor, some of them have undergone much improvement. This was the case with population statistics. Chapters Two and Three demonstrated that in the colonial period, African population data were very poor as no countrywide census was held up to 1963. The state relied on figures collected by District Commissioners during tours and tax expeditions. Such data were scanty due to the irregularity of district tours. While the colonial government collected data through the 1950 and 1960 urban African demographic surveys, even colonial officials themselves doubted their accuracy. Later, the government held a census of Africans in 1963 that collected more detailed data and this was followed by the nationwide census of 1969. Thereafter, censuses of population and housing were held every ten years since 1980 and they helped to improve the availability and quality of data. Zambia participated in all rounds of the decennial World Population Census that was held under the auspices of the United Nations and other donors. Over the years, the methods of collecting and processing data improved with the adoption of new technologies aided by external agencies. Hence, despite the hurdles faced in conducting population censuses, there was improvement over the years. This does not suggest that the improvement in statistics was foolproof as the thesis has highlighted the main weaknesses of some of the major datasets.

Studies by Jerven and Devarajan attribute the problem of poor numbers to inadequacy of resources for conducting enquiries and to the political nature of statistics. This thesis concurs with these explanations but also draws attention to the organisation of the statistical service and the enforcement of the statistical legislation. Building on the work of Kiregyera and Banda, it explores the organisation of the Zambian statistical service and unveils cases of weak coordination, poor collaboration and lack of co-operation.¹¹ Some government ministries operated their statistical units independent of the CSO and often delayed providing it with requisite data, leaving statisticians with no option but to make substitute estimates. Hence, cracks in the organisation of the statistical service weakened the quality of statistics. Similarly, Samuel posits that in Mauritania, divisions among government departments made it difficult for the national statistical office to access requisite data because each department guarded its own figures.¹² This thesis also notes that some ministries held enquiries that the CSO also conducted and this caused confusion to data users as it resulted in conflicting statistics with the institutions not agreeing on which datasets were official. Chapter Five illustrates that in the 1980s, the Ministry of Agriculture held crop forecast surveys independent from those done by the CSO rather than collaborating to hold one survey. This suggests the need for scholars to examine the aspects of coordination and collaboration in the statistical service.

The study raises issues on weaknesses in the application of the statistics legislation. It argues that despite the Statistics Act stipulating various offences committed by data providers who did not supply information requested by the CSO and other data collectors, the law was not strictly enforced. Statisticians argued that the law did not clearly stipulate punishments to be administered

¹¹ Ben Kiregyera and J.P. Banda, 'Challenges of a Central Statistical Office in a Developing Country: The Case of Zambia', *Journal of Official Statistics*, 2, 1 (1986), 35-42.

¹² Boris Samuel, 'Economic Calculations, Instability and (In)formalisation of the State in Mauritania, 2003-2011', in Morten Jerven (ed.), *Measuring African Development Past and Present* (New York: Routledge, 2015), 81.

to offenders. Partly taking advantage of this weakness, some data suppliers, especially private business establishments, continued to resent statistical enquiries and did not respond to censuses and surveys without reminders and follow-ups. The result of this was delay in obtaining information, high non-response rates and gaps in the requisite data, which consequently weakened the quality of statistics. Hence, it is concluded here that the problem of poor numbers extends beyond lack of funding to include organisational and legislative weaknesses.

The findings of the thesis have far reaching implications for both local and international users of statistics. The lack of good and timely statistics negatively affected policy-making, resource allocation and other data-using activities. As argued in this thesis, the formulation of government policies, the delivery of public services and the working of development plans were weakened by lack of timely statistics as they, in many instances, depended on incomplete data. This also applies to global programmes such as the SAP, the PRSP and the MDGs. In the absence of timely and reliable statistics, the formulation and evaluation of these programmes were based on provisional datasets that provided incomplete figures. As a result, the programmes were not well-informed and it is difficult to envision how they would have been successful. This was of course not peculiar to Zambia. Attaran has shown that efforts towards the MDGs faced a serious lack of data globally and it was hard to ascertain whether or not improvement occurred.¹³ With the inadequacy of statistics, the successes or failures of these programmes were not accurately determined.

¹³ Amir Attaran, 'An Immeasurable Crisis? A Criticism of the Millennium Development Goals and Why they Cannot be Measured', *Policy Forum*, 2, 10 (2005), 955-61.

Appendix

Gross Domestic Product (K' million) of Zambia at Constant 2010 Prices, 2010-2018

Kind of Economic Activity	2010	2011	2012	2013	2014	2015	2016	2017	2018
Agriculture, forestry and fishing	9,158.7	9,871.1	10,205.2	9,813.0	9,917.0	9,149.8	9,490.10	11,053.70	8,213
Mining and Quarrying	12,428.7	12,435.7	12,538.0	12,985.2	12,687.2	12,716.7	13,642.80	14,052.10	14,932
Manufacturing	7,367.3	8,148.0	8,540.0	9,070.4	9,663.7	10,203.1	10,382.50	10,837.10	11,278
Electricity, gas, steam and air conditioning supply	1,623.8	1,825.0	1,897.8	2,050.2	2,090.2	2,059.2	1,779.00	2,108.50	2,458
Water supply; sewerage, waste management and remediation	160.2	289.2	317.8	410.2	377.7	352.5	340.50	327.70	344
Construction	9,761.3	9,967.5	10,029.9	9,678.8	10,704.7	12,627.5	13,917.90	14,812.30	15,175
Wholesale and Retail Trade; repair of motor vehicles and motor cycles	17,590.5	21,025.7	22,779.8	27,288.7	28,219.7	28,613.8	28,610.40	28,806.40	29,760
Transportation and storage	5,705.9	4,832.4	5,094.4	4,086.3	4,357.3	4,382.1	4,286.80	4,620.6	4,977
Accommodation and food services	1,599.4	1,641.2	2,193.3	2,275.8	2,367.4	2,371.4	2,395.90	2,539.70	2,582
Information and communication	1,587.5	3,323.5	4,067.8	3,925.3	4,220.5	4,325.2	5,079.60	4,408.60	6,176
Financial and Insurance services	3,977.9	3,736.7	4,032.1	3,764.2	4,331.7	4,854.2	4,739.90	4,771.30	5,517
Real estate	4,012.1	4,113.2	4,156.9	4,059.3	4,166.6	4,295.3	4,431.80	4,558.60	4,707
Professional, scientific and technical services	1,505.5	1,393.2	2,131.9	2,187.8	2,171.4	2,197.2	2,337.30	2,506.90	2,542
Administrative and support services	1,577.7	1,157.9	935.6	1,066.3	1,085.5	1,129.9	1,188.70	1,259.80	1,337
Public administration and defence	3,905.4	3,271.8	4,533.1	5,794.4	6,056.7	6,179.0	6,779.30	6,972.50	7,082
Education	6,818.5	7,115.9	7,856.4	8,325.3	9,232.7	9,281.6	9,719.20	10,371.90	10,866
Human health and social work	1,900.2	1,693.4	1,907.5	1,461.1	1,620.4	1,667.7	1,695.10	1,989.50	2,208
Arts, entertainment and recreation	368.1	322.5	271.3	434.2	497.7	516.8	519.50	498.90	560
Other services	787.7	782.7	823.4	913.2	935.5	964.4	1,000.30	1,028.60	1,062
Taxes less subsidies on products	5,379.6	5,679.0	6,110.4	6,419.6	6,748.5	7,116.2	7,363.50	7,462.70	7,910
Gross Domestic Product	97,215.9	102,625.6	110,422.7	116,009.4	121,452.1	125,003.5	129,699.90	134,987.50	139,688

Source: GRZ, *National Accounts: Gross Domestic Product (GDP) Report, 2014 & 2015* (Lusaka: CSO, 2016), 15 and GRZ, *Zambia in Figures, 2018* (Lusaka: CSO, 2018), 24 GRZ, *Quarterly Gross Domestic Product Estimates* (Lusaka: CSO, 2018), 3.

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