FACTORS INFLUENCING POPULATION GROWTH ON THE ECONOMY OF KENYA

A CASE STUDY OF NAIROBI COUNTY

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DECLARATION

This project is my original work and has not been presented for a degree in any other University.

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This project has been submitted for examination with the approval of the university supervisor

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DEDICATION

This research project is dedicated to my parents, guardian and friends for the support they have given me in my pursuit for further education.

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ABSTRACT

This study investigates the factors influencing population growth and its impact on the economy of Kenya, focusing on Nairobi County as a case study. The research was prompted by the increasing concern over rapid population growth in Nairobi and its associated economic implications, including strain on resources, infrastructure, employment, and service delivery. The primary objectives of the study were to identify the key determinants of population growth in Nairobi County, examine their effects on the local and national economy, and recommend practical measures to mitigate negative outcomes. A mixed-methods approach was employed, incorporating both quantitative and qualitative data collection techniques. Data was gathered through structured questionnaires administered to residents, interviews with key informants including county officials and economists, and review of relevant secondary data from government reports and academic literature. Major findings revealed that rural-urban migration, high fertility rates, and declining mortality rates are the leading drivers of population growth in Nairobi. These demographic trends were found to contribute to unemployment, housing shortages, environmental degradation, and pressure on public services, thereby impeding sustainable economic development. The study recommends the implementation of comprehensive urban planning policies, increased investment in family planning and reproductive health services, promotion of decentralization to reduce rural-urban migration, and enhancement of public education on population management. In conclusion, the research underscores the urgent need for integrated policy frameworks and multi-sectoral collaboration to address population growth challenges in Nairobi County and to harness its potential for positive economic transformation. The findings contribute significantly to the discourse on urban population dynamics and economic planning in Kenya, offering valuable insights for policymakers, researchers, and development practitioners.

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ACRONYMS AND ABBREVIATIONS

GDP	**:**	Gross Domestic Product
KNBS	**:**	Kenya National Bureau of Statistics
KIPPRA	**:**	Kenya Institute for Public Policy Research and Analysis
NCPD	**:**	National Council for Population and Development
UN	**:**	United Nations
UNDP	**:**	United Nations Development Programmed
WB	**:**	World Bank
IMF	**:**	International Monetary Fund
M&E	**:**	Monitoring and Evaluation
NGO	**:**	Non-Governmental Organization
SDGs	**:**	Sustainable Development Goals
MOH	**:**	Ministry of Health
MOE	**:**	Ministry of Education
KICD	**:**	Kenya Institute of Curriculum Development
NACOSTI	**:**	National Commission for Science, Technology and Innovation
TVET	**:**	Technical and Vocational Education and Training
CBD	**:**	Central Business District
SPSS	**:**	Statistical Package for the Social Sciences
TSC	**:**	Teachers Service Commission
PPP	**:**	Public-Private Partnership

ICT : Information and Communication Technology

HH : Household

TFR : Total Fertility Rate

CPD : Continuous Professional Development

KPIs : Key Performance Indicators

SME : Small and Medium-sized Enterprises

OPERATIONAL DEFINITION OF TERMS

Economic Growth refers to the rise in the value of Nairobi County's produced goods and services, which is usually gauged by variations in the Gross County Product (GCP) over time. Productivity and general improvements in living standards are reflected in it. (National Bureau of Statistics of Kenya [KNBS], 2021).

Urbanization refers to the growing population density in Nairobi's metropolitan districts, which is frequently accompanied by modifications to the city's infrastructure, economic activity, and land usage. It is one of the main causes of population expansion. (World Bank, 2020)

Migration refers to the migration of individuals from other areas or nations into Nairobi County in search of work, education, or other socioeconomic possibilities. Both internal (inside Kenya) and external (international) migration are taken into account in this study. (IOM, 2019) International Organization for Migration

Fertility Rate The average number of children born to a woman during her lifetime is known as her fertility rate. High fertility rates in Nairobi County, particularly in informal settlements, fuel population increase. In 2022, the Kenya Demographic and Health Survey (KDHS)

Employment Opportunities This is a reference to Nairobi's employment opportunities, which draw individuals looking for greater financial opportunities. One pull element affecting migration and urban settlement is employment. In 2021, the African Development Bank

Dependency Ratio	The percentage of people not in the labor force (usually children under 15 and adults over 64) relative to those in the productive age group (15–64 years) is known as the dependence ratio. Nairobi's high dependency rates could put a pressure on the city's public services and economic expansion. (World Bank, 2021).
Economic Burden	refers to the financial burden that rapid population growth has placed on the county's economy, including the rise in demand for housing, infrastructure, healthcare, and education. In 2020, the National Economic and Social Council [NESC]
Informal Settlements	are neighborhoods with homes built without proper urban planning or legal land title; they are frequently characterized by a lack of access to basic amenities like clean water and sanitary facilities. There are a lot of these places in Nairobi, and they expand as more people move there. UN-Habitat, 2021
Human Capital	The economic worth of a workforce's health, education, and abilities is represented by human capital. The impact of population expansion on productivity in Nairobi County is influenced by the caliber of human capital. (1993) Becker, G. A Theoretical and Empirical Study of Human Capital. Chicago University Press.)
Infrastructure Strain	the strain Nairobi's rapidly expanding population is placing on physical infrastructure, such as the city's roads, water supply, and sewer system. Both quality of life and economic efficiency may be hampered by this. (Economic Affairs Institute [IEA Kenya], 2020)

Youth Bulge refers to a disproportionately high proportion of the population that is made up of youths between the ages of 15 and 35. The youth bulge in Nairobi has an impact on economic involvement, crime, and employment rates. H. Urdal (2006). An Intergenerational Conflict? Political Violence and Youth Bulges. International Studies Quarterly, 50(3), 607–629

Cost of Living This phrase describes the sum of money required to pay for necessities including housing, food, taxes, and medical care in Nairobi. Urban economic pressure and migration may be impacted by increased living expenses. (KNBS, 2021)

Service Delivery involves the county government providing public services like healthcare, education, and sanitation. In order to manage the effects of population expansion, effective service delivery is essential. (Kenyan Government, 2020)

Demographic Transition is the transition when a nation progresses from high birth and death rates to low birth and death rates. Economic planning and demographic dynamics are impacted by Nairobi County's current transitional period. (J. C. Caldwell, 1976). In the direction of restating the notion of demographic change. 321–366 in Population and Development Review, 2(3/4)

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This chapter shall discuss history, problem statement, objectives, specific goals, research questions, study rationale or significance, scope and chapter summary.

1.1 Background of the Study

There has been an increasing trend of the growth of the population at a rapid pace, on a global scale. The high rate of population growth is straining the resources and social service and infrastructure of many as well as in the developing world. This growth of population poses great challenges to job employment, food security, sustainable development, and environmental protection at the global level. It is much more dismal in Sub-Saharan Africa where the rate of population growth remains the highest in the world. This population pressure causes poverty to increase, and the effects of this population pressure are also felt in educational and health systems, which hinder the development of the economy in long run.

Kenya rapid population growth is especially affecting the Nairobi County and other major regions. Usually, the capabilities of the government to support the expanding requirements of the people within the city with regard to the provision of public transport, housing, medical care, and education are often inadequate. This growth worsens urban poverty, informal settlements, unemployment, and the youth in particular. Moreover, the pressure on infrastructural facilities and natural resources is a threat to the sustainability of economic prosperity of the county. Kenya cannot afford to ignore and address the impacts its soaring population growth is taking both at the national and local levels in hoping that it will still achieve its development goals, not to mention the improvement of the living standard of its population. Economists have always adhered to the view that high population growth in one way or the other leads to economic growth. Malcolm Forbes Jr.and Julian Simon endorse the concept that a rapid rate of population growth would stimulate expenditures thus leading to the rise in economy. Ansley Coale of Princeton University notes that there is an apparent connection between high growth rates and poor economic performance of the emerging countries (Coale 1963). The large number of children to be supported on the wages of a few working adults means that a lot of individual and national earnings are needed in order to furnish the bare necessities of sustaining life of clothes, food, and shelter. This affects the economies of most emerging countries, especially those in Africa adversely. There is therefore very marginal money left to invest. The severe increase in the number of job seekers further contributes to lack of investment capital that contributes to high levels of unemployment and low development in the industrial productivity. Sundquist asserts that things are being made even worse in the big cities due to the mass rural to urban migration in the developing world which is giving rise to slums devoid even of the most primitive water and sanitation services. The median income per capita is the actual indicator of the economic welfare. Several developing countries representatives held the position that development is the greatest contraceptive at the 1974 World Population Conference. The empirical observation that fertility levels declined in North America and Europe over the past 200 years was used as a reason why developing nations were inevitably to undergo a population transformation of this nature in response to heightened levels of economic growth. The key results of the Demographic and Health Survey which incorporated 18 African countries found that in lowly developed countries, the level of fertility wanted and realized was higher when compared to the countries with immense levels of development. It is evident that a low fertility rate translates into a more economic development. Sundquist asserts that things are being made even worse in the big cities due to the mass rural to urban migration in the developing world which is giving rise to slums devoid even of the most primitive water and sanitation services. The median income per capita is the actual indicator of the economic welfare. Several developing countries representatives held the position that development is the greatest contraceptive at the 1974 World Population Conference. The empirical observation that fertility levels declined in North America and Europe over the past 200 years was used as a reason why developing nations were inevitably to undergo a population transformation of this nature in response to heightened levels of economic growth. The key results of the Demographic and Health Survey which incorporated 18 African countries found that in lowly developed countries, the level of fertility wanted and realized was higher when compared to the countries with immense levels of development. It is evident that a low fertility rate translates into a more economic development. Other examples used by Abernethy are the fact that the fertility rate in Sudan dropped by 17 percent in the late 1980s when its economy was worst, and that in Brazil, the correlation between the reduction of fertility rate and the deteriorated economic situation particularly prevailed. The fact remains also that by 1970 when the Great Depression was triggered, US fertility had reached the lowest level it has until then. According to Robley, Rutstein, and Morris (1993), one of the best examples of this rejection of the hypothesis that economic growth should precede fertility is Bangladesh. It is one of the poorest and oldest agrarian countries of the world. There is low social status of women, high infant mortality rate, and most families depend on their children to earn an income. Meanwhile, the fertility rates dropped by 21 percent within 1970 to 1991. The percentage of married women in the reproductive age having used any form of method of contraception increased during this time, which was 3% to 40%. The above implies that economic suffering can make individuals less keen towards giving birth to children but the economic prosperity can improve the fertility. Prosperity as a factor causing declining fertility is not enough to understand many circumstances in rich as well as developing worlds. It can be concluded based on the findings that economic development is characterized by a decline in the number of families and that it will transform the lives of the people as well. The differences in fertility rates in countries of comparative economic development indicate that economic well-being could be a far less determining factor of the number of children in the end family compared to other factors, including access to family planning services as well as the social perceptions of how many children should be born. High population growth, which is a growing concern in Kenya in general, poses a challenge to the economy of the counties. Kenya has been estimated by Kenya National Bureau of statistics (KNBS) to have a population of 57.8 million people by the year 2030. The population of Kenya was 55,339,003 in 2023. The figure has grown by 1.93 percent in Kenya as it has increased the population density to 93.09 persons per square kilometer in 2022, compared to 2021. The population density of Kenya rose 1.96 percent in 2020, and now is 91.33 persons per square kilometer. The four million Kenya citizens live in eighteen of the forty seven Kenyan counties. Nairobi County has the largest county population in Kenya with 9.22 percent of the total population of Kenya notified by the 2023 census. The population Is 2,373,354 men and 2,376,702 women by 2023. The population of the capital city and the neighboring lands is greater than 4.3 million. The population of this Nairobi County has experienced an increase over the last few decades Nairobi, the capital city of Kenya is projected to have a growth rate of population at 2.09% annually. In 2024 the metropolitan area of Nairobi should reach 5,541 000 people, which is 4.06 more than in 2023. The three main factors that influence heightening population are the levels of births (as well as fertility level), deaths (also mortality level), and migration. Also, the determinants of the economic position of the county will be analyzed, i.e. GDP, quality of labor, levels of unemployment or inflation rates, interest rates, disposable income, growing or declining economy in general. The aim of the research is how the existence of a growing population can be passed as either beneficial to the economy, e.g. supply of labour, productivity, consumption and life standards, or as adverse to the economy i.e. rise of unemployment, food security, environmental degradation, infrastructure, rise of conflicts and risk of disasters and pandemics. The study group of the factors affecting population growth on the economy of the country in the twenty-first century will be the economists and development professionals who employ data collection and analysis, including the demographic data provided by the Kenya national Bureau of Pen (KNBS), surveys, and vital registration, to gather and analyze information that will inform the relationship that exists between population growth and the Kenya economy (Nairobi). Economic data analysing economic indicators like the GDP, income distribution, the rate of employment, and poverty. One of the concepts of economic models is the demographic transition theory which explains the effects of high birth rates in the occurrence of deaths and the impact of low birth and death rates on society in terms of economical effects. Additional target groups of this study will include community and non-governmental organizations, Nairobi citizens, employers and owning businesses, urban migrants, policy-level officials and government officials..

1.2 Statement of the problem

Population growth is one of the factors that affect the rapid urbanization of the economy of cities like Nairobi. The central problem is that the population explosion is being experienced in Nairobi and along with it the opportunities as well as the challenges are being dragged to the economy of the city, the second part of which often supersedes the former due to improper planning and management of the city as a whole. Its economy faces a hard task. This growth has been due to many factors such as fertility rates, mortality rate, rural-urban migration, etc. The Nairobi economy has been challenged by the effects of population growth when it comes to disproportions and tensions within the social and economic structures of the city. It is also under pressure because of an ever growing population that is demanding more on what is available in terms of food, energy, and water supplies. This may lead to scarcity and any increase in prices of this need, especially when the supply is not more than the demand. Also, the infrastructure of the city is strained because of the rapid growth rate of the population, which presents a challenge. Those areas include housing which has created many slums in Nairobi, transportation which has been congested, and sanitation which is poor and has led to the outbreak of cholera, occasioned by sewerage and poor sanitation.Nairobi economy is challenged by labor market due to the rapid population growth since there is slow creation of available jobs. This implies that the economy will not be in a position to generate sufficient employment to accommodate the growing population and this causes underemployment and unemployment leading to crime rate increase due to laziness and poverty of individuals in most families. Also, in bumper wage suppression whereby the number of individuals seeking employment drives wages down leading to low income earned and low purchasing power hence the economic growth of Nairobi is stalled. Population growth has been fast in Nairobi leading to social and economic inequalities in the economy..The lack of resources available to the different constituents of the County could exacerbate the current inequalities in access to opportunities and other resources. This has culminated into social challenges, conflicts as well as death. Moreover, population growth results in the accumulation of poverty in certain areas of the County and complicates the process of managing the root causes of monetary issues. Due to the population growth, there is now pressure on the public services. The available social services are understaffed which increases the demand of the available public services hence healthcare, education as well as other social welfare programs. This may lead to the squeeze in the resources of County Government, and quality of these public services may be affected. Blasts and misplaced places to dwell in. Lack of affordable housing means that a high urbanization rate often leads to emergence of slums and informal settlements. Such residential areas usually do not have access to basic amenities such as water and the living conditions are underdeveloped, a factor that aggravated social and health issues. Many statistics and data that have been supported with evidence have been done to prove the effects of population growth in County of Nairobi. It is reported that the population of Nairobi has grown tremendously in the past few decades as reported by Kenya National Bureau of Statistics (KNBS). To illustrate, the census figures put the population of the city at more than 4.3 million as of the 2019 census being an increment of more than 3.1 million as of the year 2009. Nairobi is heavily populated during the day due to the mode of transportation that people use to travel to work. This rapid urbanization creates pressures on the public services, housing and infrastructure. The population of Nairobi is supposed to grow with an average annual rate of approximately 4 % which is higher than the national level. The leading causes of this increase are natural population growth and rural-urban migration. Nairobi is the economic hub of Kenya; hence, a location where the people would come to find job opportunities. The lack of resources available to the different constituents of the County could exacerbate the current inequalities in access to opportunities and other resources. This has culminated into social challenges, conflicts as well as death. Moreover, population growth results in the accumulation of poverty in certain areas of the County and complicates the process of managing the root causes of monetary issues. 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1.3 Objectives

1.3.1 General Objectives

The general purpose of the study was to determine the causal relationship between population growth on the economy of Nairobi County.

1.3.2 Specific objectives

The study aimed at achieving the following objectives;

1. To determine if the relationship between population growth and Economic growth in Kenya is a short term/ long term phenomenon.

2. To determine the response of population growth due to shocks on economic growth in Kenya.

3. To investigate the economic impacts of population growth.

4.To provide policy recommendations for managing population growth and economic development.

5. To analyze the effects of population growth on urbanization and economic development.

1.4 Research Questions

Due to these divergent views among scholars and researchers on whether it is population growth that drives economic growth and vice versa the following research questions emerged;

1. Is the relationship between population growth and economic development a short term or a long-term phenomenon?

2. What is the response of population growth due to shocks of economic growth?

3. What are the impacts of population growth on the economy?

4. What are the policy implications from the study findings for Managing Population growth and economic development?

5. How does population growth influence urbanization and economic development in Kenya?

1.5 Significance of the study

It is observed that the main aim of the research is to find out the rate in which the economy of the entire city of Nairobi suffers due to population growth. Population growth plays a greater role in the development and expansion of any county of a nation. With the issue of divergence in the impact of population growth on economic development, the study will be an important contribution to research because it will present information on the topic at Nairobi, Kenya. The report will also serve as a resource since it will provide government authorities and policymakers with relevant information about the issue.

Second, it provides information about the impact of population growth and its influence on the Nairobi, the economic development of Kenya. To enhance the desired level of economic growth, policymakers will find the findings of the study useful because it will give them useful insights on a number of explaining variables that can be pursued in the evaluation of changes to policy and the introduction of new policy. The study can be a good source of information in developing programs and projects that will balance population and economy growth to public and the privately owned organizations.

1.6 Scope of the Study

The paper will be conducted in Nairobi City County and the surrounding economically integrated districts in the period of August to November 2025. In that respect, comparisons on the national scale will be drawn. It will focus on the aspects of population growth and the impacts on the economy between 2000 and 2023 considering the estimates about the future. Populations of interest are birth and death rates, migration trends, age structure, dependency rates, and economic factors such as economic growth, level of educational and access to healthcare, poverty, and housing. The target population is comprised of Nairobi residents, policy makers, urban migration, scholars, development experts, experts in the health and educational sectors, and non government organizations.

1.7 Chapter Summary

This chapter has presented the implication of population growth as regards the economy in Nairobi County. The chapter gives a summary of the background of the study, problem statement, aims, and significance as well as scope. The research questions of the study revolved around the causal issue between the economy of Kenya and population growth in Kenya (Nairobi).

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter has presented the implication of population growth as regards the economy in Nairobi County. The chapter gives a summary of the background of the study, problem statement, aims, and significance as well as scope. The research questions of the study revolved around the causal issue between the economy of Kenya and population growth in Kenya (Nairobi).

2.1 Theoretical literature Review

According to theoretical literature, there has been a complex interrelationship between the development of the economy and growth of population particularly in urban areas such as Nairobi County. Our investigation would be based on the following theories: Malthusian theory, human capital theory, dependency theory and demographic transition theory.

2.1.1 The Malthusian Theory of population Growth

The research is anchored on the Malthusian Theory of Population a theory that was formulated by Thomas Robert Malthus in the year 1798. Nonetheless, as noted by Malthus, starvation, disease and war are some of the unavoidable checks that balance the system in the event that population growth outstrips the growth of food. The theory offers a simplistic outline on how to comprehend the ethical issues that are raised by high population growth rates, inequality in society, and resource imbalance. It poses profound ethical challenges of sustainability, justice in sharing resources, the responsibility of governments and the society to abate the negative realities of uncontrolled human population.

As well as the Malthusian Theory, the work also encompasses the ideas expressed in the Utilitarian Theory (or often Utilitarian Theory of Happiness), also suggested by Jeremy Bentham in 1789 and further elaborated by John Stuart Mill. This theory is concentrated on the actions which lead to happiness of the most numerous people. Utilitarianism can serve to provide ethical perspectives on part of measures and policies that endeavor to find a balance amid societal well-being and the population trend in the context of population growth. According to this view ethical consultations would place more emphasis on actions that will contribute to the overall good of the society including universal healthcare access, education, and good economic prospects.

Malthus, in his Essay on the Principle of Population (1798) suggested that due to the high degree of attraction between the sexes, population could possibly multiply twice in every 25 years. He argued that at some time population would increase to the extent that there would be no more food to consume it. The growth of terrestrial food was not able to match the human procreation levels. Population, as Malthus went on to assert, rose geometrically when it was not kept in check. The increase of subsistence is nothing but an arithmetical proportion. Malthus was of the opinion that the rise in the number of people in the world was rising faster than the food source. As far as he is concerned, the food supply grows arithmetically whereas the population grows geometrically. In his view, several growth may lead to doubling of the population every 25 years. As he phrased it, the global population and food supply imbalance would only become even greater as time progressed. There will not be sufficient food to feed the rising population although there will be more of it. Moreover, famine and other natural calamities bring all round organizing and augment the loss of life which is the balancing act of nature to population growth. The necessity of having food and sexual stimulation which are some of the fundamental human traits to keep humans alive, gave birth to the theories of Malthus. It was the latter which caused people to marry rather early in life and would so multiply births as to work the population into doubling in a few years unless curtailed by ills and vices.

To maintain the population at a desired level, Malthus listed two types of checks, positive checks, which comprised famine/hunger, disease or war, plague, and inhumanity about women. Among those he also demanded negative means, artificial birth control was asked to be used and instead he suggested the decreasing the birth rate through preventive measures such as chastity (abstinence), moral constraint and late marriages (marriage at a later stage). He claimed the world without such restrictions would be highly impoverished, hungry and suffering. The causes of the reducing overpopulation that are already in place, the so-called positive and preventive restraints on human population, are related to the practices that can influence births and deaths respectively. Malthus avers that most aspects of human suffering were the result of the struggle between population and resources. Nevertheless, he did not advocate the use of contraceptives due to lack of similar motivation to work hard associated with postponing marriage. Preventive checks almost never fare well in a case where auto checks are very successful and vice versa. However, certain checks are instilled in any culture, at any rate with varying levels of success. Nevertheless, Malthus believed that overpopulation was inevitable since the growth of food supply would never be able to match that of the population. There have been a number of reasons behind the objections to Malthus theories. The main critics of his concept are as follows: his critics have raised the question concerning the accuracy of his two ratios sets. Arithmetically multiplied means of production and geometrically consequent increase of population, we are told, are extremely rare. Malthus failed to realize the role of the preventative expanses such as family planning and other forms of contraception and focused overmuch on the positive check. Neo-Malthusists advocated against birth control in the conjugal relationships. The innovations in the fields of agriculture, health, nutrition, and birth control have highly contributed to the aspect of achieving a balance between human reproduction and food availabilities. Another major criticism that Malthus had to contend with was his failure to consider the impact of the changing technology on the socioeconomic framework of a society. He did not quite understand the extent to which vast numbers of people could be supported by improved crop fertilization and farming technology. The neo-malthusians agree that these resources such as food, energy, and others are limited in absolute terms. Further, they argue that this problem is exacerbated by the unfair distribution of the resources among supposedly developed (industrialized) activities. This pessimistic attitude says high population growth is a long-term limiting position of economic development.

2.1.2 The Demographic Transition Theory

Demographic transition In 1929-Warren S. Thompson and 1945-Frank W. Notestein used the phrase in a historical process of change explanation that denotes the trends of births, deaths (mortality), and population growth that have taken place in the modern industrialized civilizations, particularly in Europe. This migration started in the late part of the 18 th century. The aim of the demographic transition concept is to identify broad rules that outline how the process of industrialization brings transformations in the quantity and structure of the population of human beings. It is widely agreed as an appropriate usefulness in the description of the historical demographics of a country. The hypothesis holds that in case a civilization moves through a transition of high fertility and high mortality towards low fertility and low mortality there is a pattern in demographic change notwithstanding the underlying differences in causes. Conventional wisdom holds that there are three phases to the process: a society changes its socioeconomic base concurrently with its demographic change; the rate of immortality falls prior to the rate of fertility; and fertility ultimately falls in line with mortality.

The concept of demographic transition is characterized by different transformational stages. The pre-transition stage is among the three states that constitute the transition between high and low birth and death rates, and it is characterized by variable and high death and birth rates accompanied by low population increment. As per the concept, pre-industrial societies had stable population numbers and their demographic growth was evidenced by high birth and death rates. It eschews population growth and makes suppositions. This premise argues that when the rates of birth are higher, this condition will decrease later as compared to high death rates that are typical of poor regions.In the initial phase of transition, birth rates start falling partly due to the rise in the level of public health and sanitation, and through advances in nutrition and musik store food. Coale and

Hoover go further to give insights on how modernization/development affects the shift in demographic behavior by arguing that a peasant economy is one that is characterized by the extremely high birth and mortality rates. The poor sources of nutrient-rich foods, poor conditions, and inability to prevent and treat the illnesses are the major causes of many deaths. Conversely, high birth rates make sense in response to high mortality rates [especially among infants and young children]. In the contemporary world, that would have been the case at any time, different countries are in different phases of the demographic transition. This is largely due to the dual nature of man as opined by Glenn Trewartha (1969). He states that Although biologically, people all over the world are the same and reproduce, culturally, there are differences in different regions of the world. The cultural diversity of man is what results in different fertility patterns in different locations, and gives rise to the different phases of demographic transitions as earlier explained. The theory of demographic transition has, on the other hand, been challenged due to several reasons despite the wide acceptance by the demographers. This thesis has its sole basis on empirical facts or experiences of Europe, America and Australia. Second, it is not predictive and it does not involve its phases being segmented and inevitable. Third, the significance of human technological progress, at least, in such an aspect as medicine, cannot be overstated since it has the potential to prevent the number of deaths. Fourthly, it fails to identify the most important influencing factors of the decline in fertility, neither does it provide a simple explanation of the entire process. Fifth, it fails to indicate the length of time, a country takes to complete one step to the other. Finally, it cannot be used to describe the developing countries of the world whose population, in the recent past, has expanded exponentially owing to sudden decline in death rates. It is likely that there is a stronger population growth and economic development connection in the short run because of the limits in urban infrastructure but could be stable in the long run with careful infrastructure and technological investments, as shown in studies that focus on urban economies, including the Nairobi County.

2.1.3 Human Capital theory

The human capital hypothesis, which was formulated by Adam Smith, Garry Becker (1964), and Theodore Schultz (1961), pays attention to the contribution of skills, education, and health to the economic production. The belief is the belief is that injecting human capital in healthcare systems, education and training increases living standards and boosts the rate of economic growth. It is argued by Becker (1964) that any spending on education would increase the productivity of the workforce. Nonetheless, poor synchronization between education institutions and demands in the labor market explains the high levels of unemployment rates among the educated individuals. The result of inappropriate relationship between skills and employments is that economic growth is slowed because educated individuals are still not employed or underemployed. Schultz (1961) discusses urbanization as a factor that promotes economic growth being one of developments that comes with human capital development. The impacts of such a rapid population growth have aggravated unemployment, informal housing, and economic inequality due to the impacts of this population growth in terms of housing, infrastructure, and public services. Even though cheap labor available as a result of overpopulation is attractive to corporations, it reduces wages and raises the poverty level.

Economic growth is promoted by healthy population since more production is made possible. According to the human capital theory, a healthier workforce can be obtained in the event that healthcare investments are completed. High population growth rates, however, have brought about pressure on health care facilities resulting to increase in sickness conditions to the society, an increase in child mortality rates and reduction in productivity of the workers. Where there are informal settlements, poor access to health care lowers overall economic potential since ill employees or those who are not able to work efficiently will not accomplish much. Innovation and technology are inseparable in modern economies and they have direct relationship with human capital. The technological development only benefits little number of people leaving at large number of population unskilled. There is also the issue of fact that technology is taking the positions held by low skilled workers in such sectors as banks and retailing, which contributes to unemployment.

2.1.4 Dependency Theory

Dependency theory came about with the works of Raul Prebisch, Andre Gunder Frank, and Immanuel Wallerstein in the late 1950s and early 1960s to challenge the modernization theory that argued that all countries were supposed to develop in a similar way. Argentine economist Raul Prebish is widely given the credit of establishing the rudimentary ideas around Dependency Theory during the late 1950s due in large part to his work with the United Nations Economic Commission for Latin America and the Caribbean (ECLAC).

The thesis argues that the skewed trade relations, multinational companies and international financial organizations allow the rich countries to take advantage of the poor counterparts and it is not possible to allow sustainable growth in the global south. It began as an attack on the modernization thesis, which held that every nation could progress in the same way. Dependency theory comes under criticism of not considering internal contributory factors to underdevelopment as well as its overdependency in deterministic nature. Other scholars such as Peter Bauer and Deepak Lal argue that economic stagnation in the developing world is mostly linked to poor governance, corruption, and fallacies in institutions.

With increasing globalization and participation in the global markets it has been questioned that dependency is a permanent thing. It brings out the world inequalities, and it gives no special plan of ending the dependency. All over Latin America and Africa, import substitution industrialization and the other policies shaped by this strategy were adopted; however, they often resulted in economic inefficiencies, declining competitiveness, and growing indebtedness to foreign lenders. Open market access to foreign countries may at times accelerate development and the presence of foreign direct investments and other new developments in the economy are related to this. The attacks on the dependence theory would show that a more developed view of development is required, even though it might continue to be useful in the sense of comprehending global inequality. Developing nations might embrace measures that strike a balance between self-sufficiency and selective participation in international commerce and investment, as opposed to completely rejecting global integration.

2.2 Empirical Literature Review

2.2.1 Urbanization and migration trends

Many researchers have examined the effect of rural to urban migration on population growth of Nairobi County. Mberu and White (2016) relied on household surveys and census to study the role of internal migration in the population increase of Nairobi. They examined the trends of migration and their impact on the urbanization and economy expansion of Nairobi County. The authors analyzed the data related to the population censuses of Kenya of 1999 and 2009 to observe migration movement and the way it affected the distribution of the population. In their study, the entry of migrants into Nairobi owes itself to economic opportunities that beckoned the residents in rural areas to migrate into the city, leading to Urban sprawl and subsequently an increased demand of social amenities and housing. The impacts on the public services and infrastructures within the urban planning were also considered whereby the city had problems in regulating resources, supply of housing units, and social organization due to rapid urbanization. Njenga (2019) used a mixed-methods research (that is to say, an investigation based on both qualitative interviews and quantitative survey) to analyze the role of informal settlements in accommodating migrants. His study focused on the role that trends of urbanization have played, both caused by rural urban migration, as well as inter-urban migration. Njenga raised the matter of migration and its central role in shaping the urbanization patterns of Kenya through his work, and Nairobi has emerged as one of the main centers of this growth. To adequately deal with the impacts of migration and urbanization, he emphasized the need to have better urban planning and policy interventions. Findings pointed to the fact that, though the living conditions were not satisfactory, rural job opportunities attracted people to Nairobi. These studies are effective at discussing the migration trends, but they are not particularly detailed in regards to the impacts of specific policies (affordable housing projects or rural development programs, to name a few) on population growth and migration trends within Nairobi.

2.2.2Fertility rates and demographic changes

Omondi et al. (2018) studied the fertility rates of Nairobi based on the data of Demographic and Health Survey (DHS). In their study, it was discovered that it was mainly the better access to contraception and the better-educated women who were the underlying factors that Nairobi showed decreased reproduction compared to the rural setting. Longitudinal research was carried out by Kimani and Mutua (2021) on reproductive health trends and the researchers found that fertility rates were decreasing, but adolescent pregnancies in informal settlement areas were still a problem and boosted population growth. These studies discuss demographic trends, yet they fail to analyze economic impacts of the changing fertility rates on the labor markets, health care expenditures and social services in the Nairobi County at large.

2.2.3 Impact of population growth on economic development

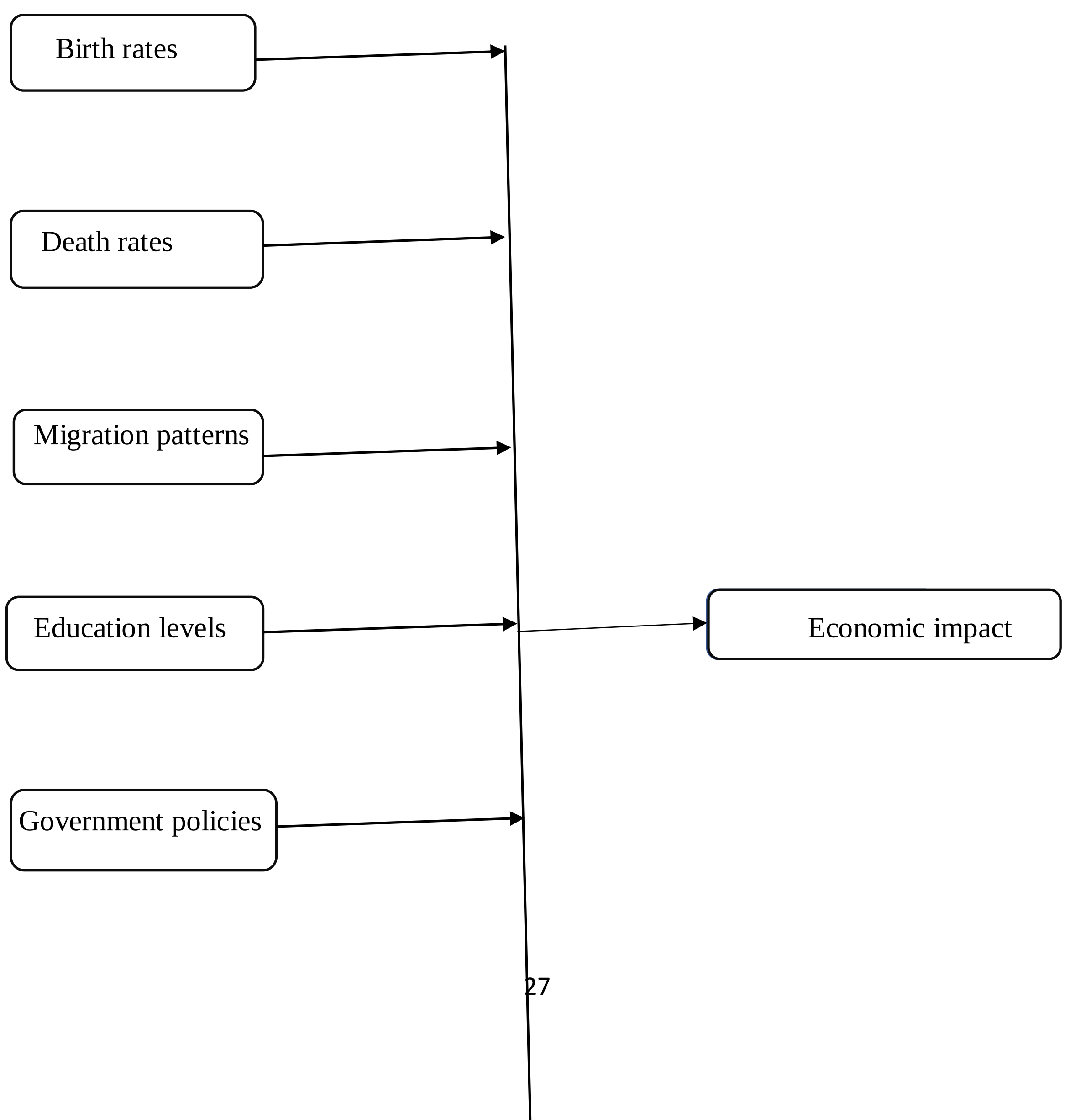
Wambui (2020) used time-series data and econometric modeling (OLS regression) to examine the relationship between population increase and economic productivity in Nairobi. According to the study, an expanding population had a favorable impact on the work force but also put a pressure on public services, housing, and transportation, which decreased productivity overall. Maina and Mwangi (2017) used a survey of 500 Nairobi homes to examine how urban unemployment is affected by population expansion. According to their findings, youth unemployment rose as a result of formal employment possibilities not growing at the same rate as population expansion, which boosted the labor supply. These studies focus on productivity and employment, but they don't examine how Nairobi's fiscal policies, public debt, and expenditures in social infrastructure are impacted by the city's fast population increase..Several approaches have been used in this study on Nairobi's population increase and economic development, including Quantitative Approaches: Statistical study of time-series data, econometric models, and census data to investigate the connections between economic conditions and population growth. Qualitative methods like case studies and interviews to learn about the real-life experiences of Nairobi's citizens with reference to employment, fertility, and migration trends. Mixed-Methods: For a more comprehensive knowledge of demographic and economic trends, surveys and statistical data can be combined. The voids found that the majority of research concentrate on past data rather than using predictive modeling to project future population patterns and their effects on Nairobi's economy. Absence of policy effect analysis: Few studies examine the ways in which Nairobi's population expansion is impacted by government policies including housing, infrastructure, and financial incentives. Insufficient economic effect studies mean that current research mostly concentrates on labor markets and unemployment, leaving out the financial strain on public services like healthcare and education. Future Population Projections: In Nairobi County, future population growth and economic impacts are rarely estimated using predictive modeling approaches like machine learning and geographical analysis. Research on the effects of population expansion on various industries, such as manufacturing, technology, and unorganized companies, is scarce.

2.3 Summary and Research gaps

Most of the research presented above deals with the inherent variables influencing the economy of Nairobi County due to the population growth. Nairobi County has experienced a rapid population growth as it was estimated to have had 290,000 inhabitants in 1960 and is projected to have 5 million at the close of 2023. This boom has resulted in more than 60 percent of the population living in informal settlements which is high compared to the 33 percent recorded forty years ago. Although there had been a series of research works on the issue of urbanization, the comprehensive understanding of the vast processes behind this increase is absent. Considering the above instance whereby, study has addressed problems such as migration and urban poverty, little information is available to an extent to which these two problems interact to influence the population dynamics in Nairobi informal settlements. More so, there is very minimal understanding of the intricate relationships, which exist in Nairobi between the trends in population, economic opportunities and the development in infrastructure. The literature currently under publication is often mentioned independent of one another and without their collective effect on the growth of a population. Such difference complicates the production of overall strategies towards effective management of urban sprawl. Research needs to be carried out to inform policies that focus on an achievable urban growth within the county of Nairobi by taking into consideration the feature characteristics mentioned above.

2.4 conceptual framework

Independent variables **Dependent Variables**



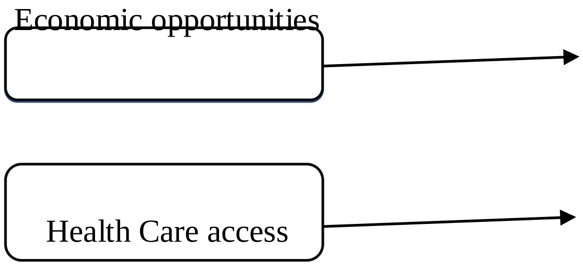


Figure 2.1: Conceptual Framework

2.5 Operationalization of Research Variables

VARIABLE	INDICATOR	MEASUREMENT
INDEPENDENT		
Birth rates	Number of births per 1000 people	Closed-ended Questions
Death rates	Number of deaths per 1000 people	Closed- ended Questions
Migration patterns	Internal migration and external Migration.	Closed-ended Questions
Education levels	literacy rate, school enrollment	Closed–ended Questions
Government policies	population control policies	Closed-ended Questions
Health care access	Number of hospitals per population	Closed-ended Questions
DEPENDENT		
Economic Growth	GDP growth rate in Nairobi	Closed-ended Questions

Unemployment rate	% of unemployed population	Closed-ended	Questions
Cost of living	inflation rate, rent prices	Closed -ended	Questions
Poverty rate	% of population below poverty line	Closed-ended	Questions
Infrastructure	Number of new roads, housing projects	Closed-ended	Questions
Income levels	Household income	Closed-ended	Questions

Table 1: Operationalization of Variables

2.6 Chapter Summary

Subtopics that comprise the foundation of Chapter 2 include the conceptual framework, definition of operational variables, utilitarian review and the review of theoretical literature. In the study, the following theories were used; Malthusian Theory and Demographic Transition Theory. The empirical review of the given study covers the topics which are: migration trends and urbanization, demographic changes and fertility, and economic growth with reference to population growth. It demonstrated significant drivers of the economy in the areas of gaps between the studies. The study is summarized in the form of a graphic that portrays the relationship between independent and dependent variables on the conceptual framework. The conceptual framework of the study is provided by the operational variables that indicate a narrative of the study at the end of the chapter.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.0 Introduction

In this chapter, the most attention is paid to the following subsections: Data collection instruments, such as questionnaires we used in the current research; sampling methods; data analysis procedures, which are the steps that are followed toward transforming raw data into usable information that the users can use when making decisions; research design that is applied to arrive at answers to the research problems; and target population which is all the people or things to which the researchers wish to draw general conclusions.

3.1 Research Design

According to Silva (2007), research design is the way, strategy or plan that is applied to address concerns in the line of inquiry. Descriptive research design was used in the study in order to develop an effective understanding of the interrelationships between economic advancement and population growth in Kenya. Descriptive research aims at finding out what, where and how a phenomenon is (de Vaus, 2011). The findings of the study were generalized to the economy of all the other Kenyan countries.

Research design refers to the plan of modalities and the processes to gather the essential data. Research design is employed to demonstrate the relationship between the important aspects of the study namely the controls, variables and samples or attempt to answer the main research questions. The data was collected through a descriptive survey method whereby a group of members of the population was studied to establish the current status of the population concerning one or more factors (Mugenda, 2003).

3.2 Target population

Population was described by Mugenda (2003) as all individuals, objects or instances that have identifiable attributes in common. The study aimed population comprised of employees of Kenyatta National Bureau of Statistics, Nairobi County residents and Kenyatta National Hospital Management. The author states that due to the visible attributes, the researcher generalizes the study outcomes for the target population. With this consideration the population is seen as homogeneous. The goal of a 200 variance was avoided.

Category	frequency	percentage
Nairobi residents	100	50.0
Kenyatta National Hospital management	60	30.0
Kenya National Bureau of Statistics staff	40	20.0
Total	**200**	**100.0**

Table 2: Target population

3.3 Sample and Sampling Technique

Sampling is one of the methods that apply probability to choose a sample of elements in the population to represent the entire population so as to attain a representative level of dependability in the region chosen. Mugenda (2003). Random stratified sampling was applied as the group was heterogeneous, and the researcher did not want the members of the target population to have unequal probability of taking part in the research. The stratified sampling plan proved to be the most effective sampling plan adopted in the study given that it reduced research bias. The standard protocol is to sample a stratified sample size after which the results can be aggregated to obtain the desired stratified samples. After selecting the respondents, samples would be taken in each of the strata. The researcher utilized a sample size that was 25 percent of the respondents.

Population Category	**Target Population**	**sample size**	**percentage**
Nairobi Residents	100	30	10.0
Kenyatta National Hospital Management	60	15	30.0
Kenya National Bureau of Statistics Staff	40	5	10.0
Total	**200**	**50**	**100.0**

Table 3: sampling size

3.4 Data Collection Instrument

This investigation relied on primary data that was obtained through questionnaires. The reason why the questionnaire was selected is due to the fact that it was cheap, capable of anonymity, one in which standardised questions could be employed, subjected to same protocols and allowed subjects time to think before responding, to its easiness to grade. The questionnaires consisted of both open-ended and Likert items so as not to over-rigidize the study (Kothari, 2004). The researcher managed to gather sufficient data through these techniques but not with observations and interviews. Some of the published sources that were used to collect secondary data included journals and magazines.

3.5 Pilot Study

When a researcher pre-tests a selected research tool, it is known as a pilot study (Silva, 2017). The purpose of the investigation was to conclude on the elements of the study population and the analytical unit. The pilot study participation included five personnel of the Ministry of Foreign Affairs in the County of Nairobi or 10 percent of the sample size. The main study excluded the subjects that participated in the pilot study (Kothari, 2004). The pilot study was significant because it enabled the researcher to understand more about the location of the subject matter. The pilot project was useful in budgeting, identification of the problems, and testing of data collection approach employed in the research.

3.5.1 Validity

Kothari (2004) defines validity as the accuracy and importance of inferences made from research findings. It is the degree to which conclusions drawn from data analysis faithfully capture the subject under investigation. Before the research questionnaire was finally sent, the researcher thoroughly examined it to ensure the validity of the study. To make sure the questions were clear and measured the intended outcomes, any that were confusing or ambiguous were clarified with the help of the study supervisor.

3.5.2 Reliability Test

A test is considered credible when its measurement remains consistent across several evaluations of the same individual under the same conditions (Kothari 2004). Test-retest reliability was employed in this study since it is a gauge of study dependability. This implies that the identical exam was administered repeatedly over time to a different group of respondents. The reliability was evaluated using Cronbach alpha, a statistic that shows the internal consistency of a set of items (Taber, 2017). This scale is considered reliable. A pre-test study with five respondents was conducted to identify components of the study population and unit of analysis in an attempt to remove uncertainty and achieve a high degree of precision. The final study did not include the pre-tested people. This is a test's internal reliability. The study's measurement tool, a questionnaire, was used in the experiment since it was crucial to gauge its dependability. Because it repeats the results at the same population and under the same conditions, the method was also favored.

3.6 Data collection Procedure

While data collection instrument refers to the equipment used to collect data, data collection is an option for methodically obtaining data from multiple sources for a specific goal (Mugenda, 2011). With the use of structured questionnaires, primary data was gathered. Sections of the questionnaires were separated based on the goals. The researcher used the school letter to identify himself when he went to the head of the Kenya National Bureau of Statistics. The questionnaires were then personally given to the Kenyatta National Hospital department workers. Additionally, he distributed the surveys at random to Nairobi County inhabitants in the CBD.

3.7 Data Analysis and Presentation

Both qualitative and quantitative analysis were used in this. The act of collecting, modeling, and transforming data in order to emphasize pertinent information, recommendations, and conclusions and aid in decision-making—thus converting unprocessed data into designs that can be understood—is known as data analysis. Mugenda (2003). The validity of questionnaires as data collection instruments was checked to make sure they were accurate and comprehensive for data analysis. Simple qualitative and quantitative statistical techniques were used to analyze the data, and tables, charts, and figures were used to display the results.

3.8 Ethical Considerations

3.8.1 Informed Consent

In an attempt to obtain the researcher respondents' voluntary participation, they provided their informed consent. Respondents received guarantees of complete secrecy and anonymity foor the data they submitted. The researcher delivered a thorough and persuasive description of the study's objectives, including why and how it was carried out and why the target respondents were appropriate for the investigation.

3.8.2 Voluntary Participation

Respondents have the freedom to choose whether or not to take part in the research procedure both before and throughout the study's execution. Furthermore, the subjects' free will was the only assurance that the researcher did not, at any moment before or during the entire study, coerce them into taking part.

3.8.3 Confidentiality

Since workplace confidentiality is a delicate subject, the researcher generated a research letter from the Management University of Africa to confirm that the study was being carried out solely for academic purposes.

3.8.4 Privacy

In order to protect study participants' privacy, the author showed them that all field data collected and recorded was disassembled after processing to keep it from being accessed by unauthorized individuals not involved in the study.

3.8.5 Anonymity

Respondents were assured of absolute anonymity and confidentiality of the information that was provided as the study required them to disclose their identity whatsoever.

3.9 Chapter Summary

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This chapter describes the methodology used by the study to conduct the research as a descriptive search. Target population included the population in Nairobi, administration in Kenyatta National Hospital, and the Kenya National Bureau of Statistics employees. Stratified sampling was adopted in selecting the responders in each group. Data were obtained based on the matching of objectives of the study using the structured questionnaires which were adopted. The main study did not involve the same participants as the pilot, the latter having been conducted to allow the researcher to familiarize him/herself with the study site. Pilot study also investigated the validity and reliability of the instruments. The assessment has been done by both qualitative techniques and quantitative techniques and data presented was in tables, charts and figures. To ensure the safety and rights of the participants, informed permission, voluntary participation, confidentiality, privacy and anonymity formed part of the ethical considerations in this research.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSION

4.0 Introduction

This chapter entails presentations of research findings, limitations of the study and chapter summary.

4.1 Presentations of Research Findings

The raw data collected through questionnaires, interviews, and secondary sources have been analyzed and presented in tables and figures. Key independent variables analyzed include birth rate, migration, urbanization, education level, and unemployment. These are evaluated in relation to economic indicators like GDP per capita, employment rate, and infrastructure development.

4.1.1 Demographic characteristics of respondents

The respondents were asked to provide their background information which included their gender, age level and education level.

Table 4 : Demographic characteristics of Respondents (N =100)

Variable	Category	Frequency	Percentage (%)
Gender	Male	58	58%
	Female	42	42%
Age	18–25	30	30%
	26–35	40	40%
	36–45	20	20%

Variable	Category	Frequency	Percentage (%)
	46 and above	10	10%
Education Level	Primary	15	15%
	Secondary	40	40%
	Tertiary	30	30%

Table 4.1 shows that the majority of the respondents were aged between 26 and 35 years (40%), and most had secondary or tertiary education. This supports the idea that Nairobi has a youthful and educated population, a factor linked to urban migration and employment-seeking behavior.

4.1.2 Key independent variables

Table 5 : Population Growth factors

	Strongly	Agree	Agree	Neutral	Disagree	Strongly Disagree
Birth Rate	45		30	10	10	5
Migration	60		25	5	5	5
Urbanization	50		30	10	5	5
Unemployment	55		25	5	10	5
Education	40		35	10	10	5

Table 4.2 shows that migration, unemployment, and urbanization were identified as major contributors to population growth in Nairobi County. 60% of respondents strongly agreed that migration affects population growth, consistent with literature reviewed which indicated that Nairobi is a major recipient of rural-to-urban migration.

4.1.3 Economic Effects of Population Growth

Figure 4.1 Economic impacts of population growth

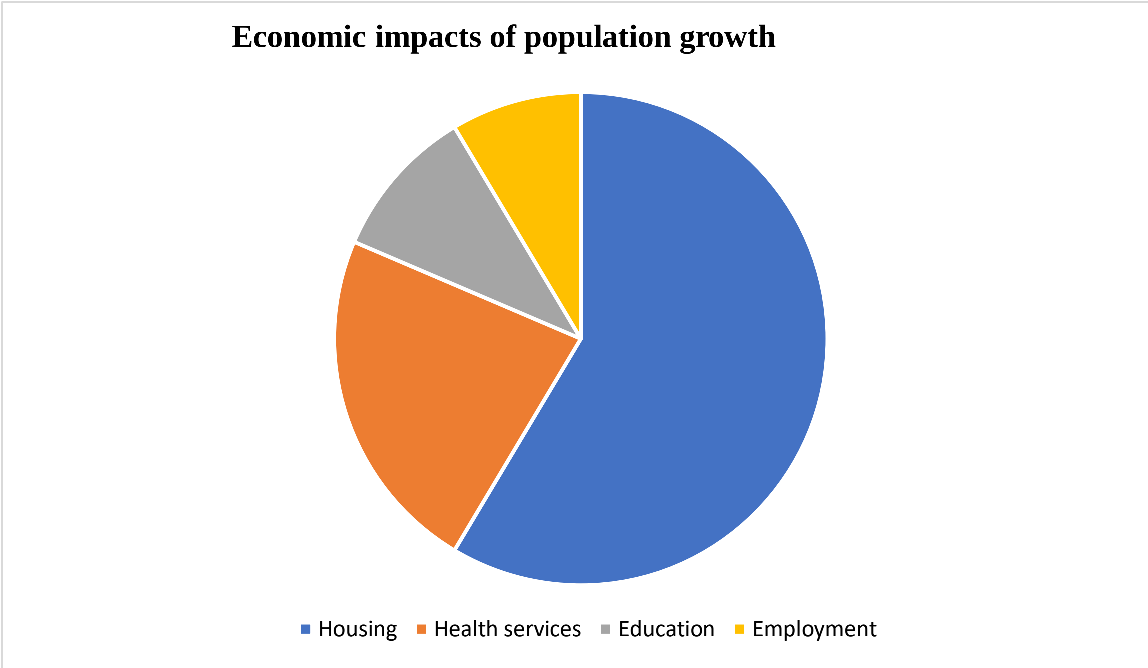

Figure 4.1 shows a significant number of respondents noted increased demand in housing, health services, and education due to population growth. Employment opportunities, however, were not growing at a matching rate, leading to higher unemployment and informal sector growth. This supports earlier findings by the Kenya National Bureau of Statistics (KNBS, 2023).

4.1.4 Correlation Analysis Between Population Growth and Economic Indicators

Table 6 : correlation between independent variables and economic growth (GDP growth rate.

Variable	Correlation Coefficient (r)	Significance (p-value)
Birth Rate	-0.32	0.045

Variable	Correlation Coefficient (r)	Significance (p-value)
Migration	0.55	0.002
Urbanization	0.60	0.001
Unemployment	-0.40	0.030
Education	0.35	0.022

Table 4.3 shows the correlation analysis reveals that urbanization and migration have a strong positive relationship with economic growth in Nairobi. Birth rate and unemployment show a negative correlation, indicating strain on economic resources. These findings are consistent with the reviewed studies by Ouch (2017) and Kimalu (2020).

4.2 Limitations of the Study

4.2.1 Data accessibility issues

One of the major challenges was accessing recent and reliable statistical data. While institutions such as the Kenya National Bureau of Statistics (KNBS) and Nairobi County Government provide census and economic data, some crucial demographic and economic indicators were either outdated or incomplete. This limitation affected the ability to analyze population trends and their precise impact on economic sectors comprehensively. Additionally, some key stakeholders and government departments were unwilling or too slow to respond to data requests, which delayed data collection.

4.2.2 Limited financial resources

Budgetary constraints significantly affected various aspects of the research process, including transportation, data collection tools, printing of questionnaires, and logistical support for fieldwork. Due to limited funds, the sample size had to be reduced, and the study could not reach some informal settlements or suburban areas where population growth might be more pronounced. This limitation may have introduced sampling bias and affected the representativeness of the results.

4.2.3 Time constraints

The study was conducted within a limited academic timeframe, which placed pressure on completing the research activities efficiently. Due to time limitations, some data collection activities were rushed, leading to possible omissions or reduced accuracy in responses. It also restricted opportunities for conducting follow-up interviews or verifications, particularly with key informants and economic experts.

4.2.4 Respondent fatigue and reluctance

In the process of collecting primary data through questionnaires and interviews, a notable number of respondents displayed reluctance to participate. Some residents, especially in informal settlements, were skeptical about the purpose of the research and feared their information might be misused. Others exhibited fatigue or disinterest, leading to incomplete responses or inaccurate information. In some cases, respondents expected financial or material compensation, which was not feasible within the scope of the research.

4.2.5 Dynamic nature of population and economic trends

The study focused on variables that are highly dynamic in nature. Population growth and economic performance are influenced by a wide range of factors, including migration, policy changes, political stability, and global economic trends. Capturing these shifting dynamics within a single study period limited the ability to make long-term projections or generalizations. Some economic effects of population growth may not be immediately observable, especially in sectors like infrastructure development, education, and healthcare.

4.2.6 Language and communication barriers

While conducting fieldwork in diverse parts of Nairobi County, language barriers were occasionally encountered. Some participants were more comfortable responding in their native languages, which required translation. In such cases, subtle meanings or explanations may have been lost or misunderstood during translation, affecting the quality of responses and analysis.

4.2.7 Limitations of research tools

The study relied heavily on self-reported data through structured questionnaires and interviews. This method is subject to biases such as exaggeration, misreporting, or selective memory. Furthermore, the absence of longitudinal data limited the researcher's ability to track trends or changes over time, reducing the depth of causal analysis.

4.3 Chapter Summary

Using Nairobi County as a case study, this chapter examined research on the factors influencing population increase and how they affect Kenya's economy. Tables and figures were used to display the data gathered from primary and secondary sources, and then interpretations were provided. The study determined the main causes of population expansion, including high birth rates, urbanization, rural-to-urban migration, and job possibilities. Housing, infrastructure, health, education, and employment are just a few of the economic sectors that are greatly impacted by these issues. Although market expansion and the labor supply are positively impacted by population growth, public resources and services are also under pressure. Examining the connections between migration, fertility rates, and urban growth revealed significant economic ramifications. Respondent tiredness, time and money limits, and out-of-date data were among the limitations encountered. Nevertheless, the findings provide meaningful insights into population dynamics shaping Nairobi's economy, preparing for final conclusions and recommendations.

CHAPTER FIVE

SUMMARY, RECOMMENDATIONS AND CONCLUSIONS

5.0 Introduction

This chapter entails summary of findings, recommendations and conclusion.

5.1 Summary of Findings

The study focused on key drivers of population growth and examined how this demographic change influences critical sectors of the economy such as employment, housing, infrastructure, education, and health. The findings were derived from both primary and secondary data sources, complemented by statistical analyses and literature comparisons.

5.1.1 Key findings on factors influencing population growth

The study found that rural –urban migration is the most significant factor contributing to population growth in Nairobi. According to the Kenya National Bureau of Statistics (KNBS, 2022), over 60% of new residents in Nairobi originate from rural counties, drawn by perceived employment and education opportunities. This migration has increased pressure on city infrastructure and services.

Despite a national trend toward fertility decline, Nairobi still records high birth rates, particularly in low-income settlements. Findings from health facilities and census data (KDHS, 2022) reveal that limited access to family planning, early marriages, and cultural preferences for larger families are driving this trend.

The population growth is also attributed to reduced infant and maternal mortality rates due to improved healthcare services. Increased life expectancy has contributed to a growing population, as confirmed by data from the Ministry of Health (2023), which showed a decline in mortality rates by over 30% in the last two decades.

Government initiatives such as Vision 2030 and affordable housing programs have encouraged population concentration in Nairobi. The construction of new estates and expansion of slum areas like Kibera and Mathare indicate the strong correlation between housing policies and population inflows.

Economic opportunities in Nairobi, especially in the informal sector, were identified as significant pull factors. The city contributes over 21.7% of Kenya’s GDP (World Bank, 2023), and this economic magnetism encourages continuous migration.

5.1.2 Economic implications of population growth in Nairobi County

Nairobi's population growth has directly impacted the labor market. While it has increased the available labor pool, it has also led to high unemployment and underemployment level in Informal sector jobs, often lacking security and benefits, have become the primary employment source for new urban dwellers (ILO, 2023).

The city's infrastructure transport, sanitation, and housing are strained due to rapid and unplanned population growth. Roads are congested, water supply is unreliable, and waste management is overwhelmed. The Nairobi City County Integrated Development Plan (2023) indicates that only 56% of residents have access to proper sanitation.

Increased population has also overwhelmed educational and health facilities. Classrooms are overcrowded, and the pupil-to-teacher ratio exceeds the national average of 1:40. Similarly, hospitals and clinics are experiencing a surge in patient numbers, compromising service quality.

The proliferation of informal settlements is another consequence. According to UN-Habitat (2023), over 60% of Nairobi residents live in slums. These areas lack proper infrastructure, which undermines the quality of life and economic productivity.

Income disparities have widened as population growth has not been matched with adequate job creation. This economic divide fuels social unrest, crime, and public dissatisfaction, posing a threat to sustainable urban development.

5.1.3 Comparative Analysis with Literature

These findings align with earlier studies, including those by Owuor and Mbatia (2018), who observed that unchecked population growth in urban areas of Kenya leads to the emergence of informal economies and pressure on public goods. Similarly, Mberu et al. (2020) noted that unless infrastructure development is aligned with demographic trends, the economy will struggle to absorb urban population increases.

5.2 Recommendations

Based on the findings of this study, it is evident that population growth in Nairobi County has profound implications on housing, employment, infrastructure, and service provision, all of which collectively impact economic development. Therefore, practical and strategic recommendations are essential to mitigate negative effects while leveraging population growth for economic gain. The recommendations are outlined below under key categories: research, policy, practice/training, and education.

5.2.1 Implications for Research

Further empirical research is crucial to continuously monitor and respond to emerging trends related to population growth and economic outcomes. The study recommends the establishment of longitudinal research programs that examine migration patterns, fertility rates, urbanization, and labor market shifts within Nairobi County. Activities involved include the following; establish a population research observatory center in partnership with local universities and Kenya National Bureau of Statistics (KNBS), launch biennial studies and population-economic surveys to evaluate the changing socio-economic impacts of population growth, develop GIS-based models to track urban sprawl and slum expansion. The persons responsible include the following; local universities (e.g., University of Nairobi, Kenyatta University), Kenya National Bureau of Statistics (KNBS), National Commission for Science, Technology and Innovation (NACOSTI). Timelines for the research should be 6–12 months to set up the observatory and after every two years for longitudinal surveys. Monitoring and Evaluation Strategies include the following; establish peer review panels for research outputs, develop key performance indicators (KPIs) such as publication output, policy uptake, and stakeholder engagement, annual audits by NACOSTI to evaluate research quality and societal impact.

5.2.2 Implications for Policy

Effective policy formulation and implementation are essential to manage Nairobi's demographic dynamics and channel them into productive economic drivers. Urban population growth requires deliberate planning, especially in housing, healthcare, and employment creation. Activities Involved include the following; revise the Nairobi County Urban Planning Act to integrate smart growth principles, develop a population and development policy aligned with Kenya Vision 2030, enforce zoning regulations and invest in vertical housing projects to reduce urban sprawl. Persons Responsible were; Nairobi County Government, Ministry of Lands and Urban Development, Council of Governors, National Assembly Population and Development Committee. Timelines; Policy revision: 12–18 months, Implementation and enforcement: Continuous (ongoing). The monitoring and evaluation strategies were to establish a policy monitoring unit within the County Government, use citizen scorecards and urban satisfaction surveys annually, independent policy reviews every 3 years by experts in population economics

5.2.3 Implications for Practice/Training

The study underscores the importance of empowering practitioners in urban planning, public health, and economic management to respond effectively to the pressures of population growth. A key recommendation is the implementation of continuous professional development (CPD) programs. Activities Involved are to organize capacity-building workshops for urban planners, health officials, and economists, develop training modules on integrated population-economic development strategies, partner with international organizations for technical support and exchange programs. Persons Responsible are; Kenya School of Government, Ministry of Devolution and ASALs, Professional associations (e.g., Town and County Planners Association of Kenya), UN-Habitat and World Bank as technical partners. The Timelines include Module development and pilot should be 6 months, Full-scale training rollout for 12–24 months. Monitoring and Evaluation Strategies are; Trainee feedback and performance assessment reports, annual impact evaluation studies on policy implementation effectiveness, certification audits by professional regulatory bodies

5.2.4 Implications for Education

The findings show that population growth, especially among youth, places immense pressure on the education sector. Thus, expanding access, improving quality, and aligning education with market needs are critical. Activities Involved include to Integrate population and development education into primary and secondary school curricula, expand Technical and Vocational Education and Training (TVET) institutions in Nairobi, promote digital learning and e-resource platforms to cater to the growing student population. Persons responsible includes Ministry of Education, Teachers Service Commission (TSC), Kenya Institute of Curriculum Development (KICD), Nairobi County Education Board. Timelines are curriculum revision which is 12–18 months, TVET expansion which is 2–5 years, digital resource deployment: Continuous, starting within 6 months. Monitoring and Evaluation Strategies include; School enrollment and retention tracking, quality audits and classroom observation by TSC and Quality Assurance Units, periodic tracer studies to assess the employment outcomes of graduates

The interplay between population growth and economic outcomes in Nairobi County demands a multifaceted approach rooted in data-driven research, sound policy, skillful implementation, and responsive education systems. These recommendations aim to create an inclusive and resilient urban economy that accommodates growth without compromising quality of life. A coordinated effort from both public and private stakeholders, with robust M&E frameworks, is imperative to realize these goals sustainably.

5.3 Conclusion

The study aimed to investigate the factors influencing population growth and its implications on the economy of Kenya, with a specific focus on Nairobi County. The objectives of the study included identifying the key drivers of population growth, examining the effects of this growth on economic development, and exploring policy and practical interventions that can be adopted to manage population trends sustainably.

Based on the study findings, several critical factors have been established as central to the rapid population growth in Nairobi County. These include rural-to-urban migration, high birth rates, declining mortality rates due to improved healthcare, and the concentration of economic opportunities in Nairobi as the capital city. The combination of these factors has made Nairobi a major hub for population concentration, leading to demographic pressure on public services, infrastructure, housing, and employment.

The findings have also shown that population growth has both positive and negative effects on the economy of Nairobi County. On one hand, a growing population contributes to a larger labor force, increased market size, and innovation. On the other hand, if unmanaged, it can lead to increased unemployment, strain on infrastructure and social amenities, environmental degradation, and a rise in urban poverty levels. The dual nature of population growth implies that without effective planning and policy interventions, the negative impacts may outweigh the economic benefits.

The data analyzed in Chapter Four revealed that population growth is significantly influenced by socio-economic factors such as access to education, healthcare services, family planning awareness, and employment opportunities. Migration trends also play a vital role, with many individuals relocating to Nairobi in search of better living standards and income opportunities. This has led to overcrowding in informal settlements, inadequate service delivery, and the rise of socio-economic challenges such as crime and informal labor markets.

Additionally, the study observed a mismatch between the rapid urbanization driven by population growth and the capacity of public infrastructure and institutions to cope with this expansion. The inability of urban planning and policy frameworks to keep pace with demographic changes has led to unsustainable development patterns.

The study's objectives were met through the collection and analysis of primary and secondary data. The first objective to identify the factors influencing population growth was achieved through both survey and literature analysis, confirming migration, birth rate, and healthcare improvement as the primary drivers. The second objective assessing the effects of population growth on the economy was achieved by analyzing indicators such as unemployment, GDP contribution, housing, and infrastructure strain. The final objective proposing sustainable strategies was realized in the recommendations section, which provides detailed policy, research, practice, and educational strategies.

Managing population growth in Nairobi County requires a multifaceted and collaborative approach that integrates urban planning, education, public health, and economic development policies. If well managed, Nairobi's growing population can be harnessed as a developmental asset. However, without strategic planning and investment in sustainable systems, the rapid growth could hinder economic progress and reduce the quality of life for residents. Therefore, deliberate action from government, stakeholders, and communities is essential in transforming population growth into an opportunity rather than a burden.

The insights gained from this research contribute significantly to the broader discourse on population dynamics and economic development, particularly in rapidly urbanizing African contexts. The study recommends that further research be undertaken to explore innovative urban solutions and population management strategies that can be adapted to Kenya’s unique socio-economic environment.

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APPENDICES

APPENDIX I: LETTER OF INTRODUCTION

GEOFFREY KEGODE

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29/06/2025

To Whom It May Concern,

RE: REQUEST TO CONDUCT RESEARCH

I am a student at the Management University of Africa currently undertaking a research project as part of the requirements for the award of my degree. My research is titled: "Factors Influencing Population Growth on the Economy of Kenya: A Case Study of Nairobi County."

This study seeks to explore how various population growth factors impact Nairobi County's economy. I hereby kindly request your permission and cooperation in administering the attached questionnaire to gather data for academic purposes only. I assure you that all information obtained will be treated with the utmost confidentiality and will not be used for any other purpose apart from this research.

Your participation and support will be highly appreciated.

Yours sincerely,

Geoffrey Kegode

BEDK/1/00036/2/21

Management University of Africa

APPENDIX II: QUESTIONNAIRE FOR RESIDENTS OF NAIROBI COUNTY

Section A: Demographic Information

1. What is your age?

   - ☐ Below 18
   - ☐ 18–25
   - ☐ 26–35
   - ☐ 36–45
   - ☐ 46 and above

2. What is your gender?

   - ☐ Male
   - ☐ Female
   - ☐ Prefer not to say

3. What is your highest level of education?

   - ☐ No formal education
   - ☐ Primary

- ☐ Secondary
- ☐ Tertiary
- ☐ Postgraduate

4. What is your current occupation?

- ☐ Student
- ☐ Employed
- ☐ Self-employed
- ☐ Unemployed
- ☐ Retired

Section B: Population Growth Factors

5. In your opinion, what are the key contributors to the high population growth in Nairobi County? (Select all that apply)

- ☐ Rural-urban migration
- ☐ High birth rates
- ☐ Immigration

☐ Low mortality rates

☐ Others (please specify): ____________

6. How would you rate the impact of rural-urban migration on the population growth of Nairobi County?

☐ Very high

☐ High

☐ Moderate

☐ Low

☐ Not sure

7. To what extent do cultural or religious beliefs influence population growth in Nairobi County?

☐ Very great extent

☐ Great extent

☐ Moderate extent

☐ Small extent

☐ Not at all

Section C: Economic Implications

8. How has population growth affected the employment opportunities in Nairobi County?

    ☐ Increased job opportunities

    ☐ Decreased job opportunities

    ☐ No significant change

    ☐ Not sure

9. Do you think the population growth has had a positive or negative effect on economic development?

    ☐ Positive

    ☐ Negative

    ☐ Both

    ☐ Not sure

10. What economic sectors have been most affected by the growing population? (Select all that apply)

- ☐ Housing
- ☐ Transport
- ☐ Health
- ☐ Education
- ☐ Employment
- ☐ Security
- ☐ Others (please specify): ____________

11. What strategies would you recommend to manage the effects of population growth on Nairobi's economy?

Questionnaire for Government and Policy Stakeholders

Section A: Personal Details

1. Your department/ministry/organization: ___________________________
2. Position/Designation: ___________________________
3. Years of experience: ___________________________

Section B: Institutional Insights on Population Growth and Economy

4. What measures has your department put in place to address population growth challenges in Nairobi County?

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5. What is the main population-related challenge affecting economic performance in Nairobi County?

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6. Are there current or upcoming policies that address the link between population growth and economic planning?

☐ Yes

☐ No

If yes, please explain

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7. Which sectors are most strained by population increases in Nairobi?

☐ Health

☐ Housing

☐ Education

☐ Infrastructure

☐ Employment

☐ Environment

☐ Others (specify): ______________________

8. In your opinion, how can Nairobi County sustainably manage its population growth to enhance economic performance?

____

Thank you for your cooperation and participation in this study.