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**The Impact of Education Policy on Human Capital Development;
A Case of Nigeria**

MA thesis

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Author's declaration

I have written this Master's thesis independently. All viewpoints of other authors, literary sources, and data from elsewhere used for writing this paper have been referenced.

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ABSTRACT

One dividing line that has edged the developed countries above the developing countries is the calibre of human capital stock developed for national productivity. This study examines the impact of education policy on human capital development in Nigeria. Government expenditure on education (GEE) and Tertiary Education Trust Fund (TETF) were used to measure education policy in Nigeria, while Human Development Index (HDI) was used to measure Human Capital Development. Secondary time series data on the employed variables sourced from the Central Bank of Nigeria Statistical Bulletin, World Bank Data bank, and Federal Inland Revenue Service annual reports for 2011 to 2021 were employed in the study. With the aid of an Econometric View, descriptive statistics, stationarity test, and Autoregressive Distributed Lag (ARDL) techniques were used as data analysis methods. The findings reveal that GEE and TETF positively impact HDI, although the influence is not statistically significant. This implies that an increase in GEE and TETF promotes the stock of human capital in Nigeria, although at a nominal rate. The study concludes that education policy enhances human capital development positively. Therefore, for a significant impact of education policy on human capital development, the study recommends, among others, that education policy actors at various strata should increase the quantum of funds allocated to tertiary education. The government should also be committed to improving the quality of education by providing adequate financial resources to educational institutions and encouraging research and development.

LIST OF ABBREVIATIONS

ARDL: Autoregressive Distributive Lag

CEE: Capital Expenditure on Education

EFA: Education for All

GEE: Government Expenditure on Education

HCD: Human Capital Development

HCT: Human Capital Theory

HDI: Human Development Index

MDGs: Millennium Development Goals

NEEDS: National Economic Empowerment and Development Strategy

NERDC: Nigerian Educational Research and Development Council

OECD: Organisation for Economic Co-operation and Development

REE: Recurrent Expenditure on Education

TETFund: Tertiary Education Trust Fund

UBE: Universal Basic Education

UNESCO: United Nations Educational, Scientific and Cultural Organization

VECM: Vector Error Correction Model

WDI: World Development Indicators

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INTRODUCTION

Every country's government strives to achieve or improve economic growth and development, which necessitates an increase in the quality and quantity of productive activities. Human Capital Development (HCD) is essential for sustained economic growth and development in any economy, prompting many nations to invest heavily in its development. According to the classical school of thought, human capital is a powerful tool for a competitive advantage when subjected to appropriate training, education, and skills development to acquire knowledge (Nwokoye et al., 2020). Therefore, education is essential for the advancement of human capital. Accordingly, this study will empirically investigate the impact of education policy on human capital development.

The importance of education in any society as a means of capital formation through knowledge creation, transfer and skills acquisition for the workforce cannot be underestimated. A nation's skill acquisition, knowledgeability and proficiency mainly depend on its education system (Sanubi & Akpotu, 2015). The formulation and successful implementation of education policy can promote literacy rates, increase the productive labour force, and create a favourable environment for raising awareness of healthy living and health services, providing employment and profit-making opportunities (Clark, 2015). Rosha (2022) posits that the success of education policies yields the success of other sectors of the economy and vice versa." Thus, education is a sine qua non for human capital development. Investment in education (from education policy) is a necessary human development strategy (Patel & Annapoorna, 2019).

Musisi (2015) acknowledges that "education policies are the gross policies in which all other policies are embedded." So, we can assert that a country may not grow beyond its education policies. The Organisation for Economic Co-operation and Development [OECD] (2015) identified areas of education policy to include: …, funding and assessment mechanisms, among others. Also, Innocent (2012) buttresses that for education to be successful, "it requires huge investments in policies and implementation, infrastructures… and of course funds, including the application of

all these to get the desired goal." This underscores the prime role of funding education to attain the desired goals of an education policy (Adeyinka Michael, 2017).

In this study, the empirical study of the impact of education policy on human capital development will be examined in Nigeria, one of the developing countries in Africa. The assessment conducted by the African Union's Dakar Commitment on Education for All (UNICEF, 2021) recommends that governments allocate at least 20% of their resources to education. Most countries in West and Central Africa are not meeting this recommendation. The exceptions are Sierra Leone, Burkina Faso, Senegal, Togo and Sao Tome, which allocate up to 20% of their total budget to education. Nigeria is also not exempted from having low expenditure commitments to education; for instance, in 2020, 2021, and 2022, education accounted for 6.9%, 6.7%, and 5.4% of the National Budget. UNESCO's benchmark for education is 20% of the annual national budget, yet Nigeria has not met this requirement.

The consequences of inadequate funding for key institutions or projects in an economy are far-reaching. It is especially true for Nigeria, where the education sector has suffered from a lack of resources. Shortage of resources has resulted in a lack of infrastructure, irregular teacher remuneration, inadequate staffing and a failure to provide timely and appropriate gratuity and pensions to retired teachers. This has led to regular strikes by unions such as the Nigerian Union of Teachers (NUT), Academic Staff Union of Polytechnics (ASUP), Academic Staff Union of Universities (ASUU), and Non-Academic Staff Union of Universities. These strikes have a detrimental impact on the quality of educational services, leading to an increase in illiteracy and a decrease in the marginal productivity of workers, which has exacerbated social ills such as kidnapping, rape, cultism and internet fraud.

Based on the extant literature, several researchers have conducted studies on topics such as the policy of the education system and its implications for nation-building (Ibukun & Aboluwodi, 2010; Nweke et al., 2021; Sanubi & Akpotu, 2015; Vincent & Pont, 2017), the impact of education on living standards (Akande, 2016), education expenditure and economic growth (Divine, 2020; Irughe & Edafe, 2020), and the challenges of implementing education policy (Chukwuemeka, 2022; Jacob & Samuel, 2020). Additionally, the drivers of human capital development, with education expenditure being one of them, have also been studied (Nwokoye et al., 2020).

However, none of these studies has used the Tertiary Education Trust Fund (TETFund) as a proxy for education policy in Nigeria. This gap in the literature and the prevalent challenges motivated this study to empirically examine the impact of education policy on human capital development in Nigeria. This research project aims to address these pertinent research questions;

    i.   What kind of relationship exists between education policy and human capital development?

    ii.   To what extent does education policy impact human capital development?

This study examines the relationship between education policy and human capital development. Therefore, the specific objectives include, among others, to:

i) determine the nature of the relationship between education policy and human capital development.

ii) examine the impact of education policy on human capital development in Nigeria.

Modernisation theory and Human Capital Theory (HCT) are the study's theoretical underpinnings. Modernisation theory postulates that education changes a person's worth, conviction and conduct (Adelakun, 2011). Advocates of this theory believe that current qualities are being instilled in individuals when they are exposed to present-day foundations, for example, schools, online media, the web and factories (Ita, 2020). The Modernisation theory relates well to this study in that our society is global. The influence of globalisation, winged by technological advancement, information and communication technology, and transnational trade, ushers in present-day activities and technologies that education will transmit into human capital.

On the other hand, the Human Capital Theory advocates that eradicating poverty and promoting economic growth require education on human capital. Human capital formation through expenditure on education was practically linked to future growth (Divine, 2020). The HCT emphasises the significant influence of education, training, skills, experiences, and health on workers' efficiency and productivity. This efficiency of workers happens as the above elements increase their cognitive, affective and psychoactive skills (Nwokoye et al., 2020, p. 19). As a study that anchors on human capital development, this theory reveals the need for relevant

education policy that can produce the expected number and quality of human capital for the economy's growth.

As quantitative research characterised by secondary data from reputable institutions, Autoregressive Distributive Lag (ARDL) technique was adopted to estimate the empirical relationship between education policy and human capital development for the period under study (2011 - 2021) through the aid of Econometric Views software. While government expenditure on Education and Tertiary Education Tax Fund (TETFund) will be employed to proxy education policy (Gbarato et al., 2020), the human development index will be used to measure human capital development (Ita, 2020). The application of the Autoregressive Distributed Lag (ARDL) model is motivated by its ability to assess the impact of educational policy on human capital development in the short term.

This research aims to assess educational policy's impact on human capital growth in Nigeria. The findings from this study will immensely benefit researchers, academics, and educational regulatory bodies in the West Africa region. It will provide an understanding of the fundamentals of education policy and its influence on human capital development, including its conceptual and theoretical frameworks and empirical research. The results of this work will be of great use to educational institutions, as it can be an addition to the institution's library and provide other researchers with literature related to the topic. Furthermore, the study will be relevant to educational policy ators in both public and private sectors to further their commitment to the educational sector. Finally, the ultimate goal of education policy is to improve the quality and quantity of skilled personnel needed for productive economic activity. Thus, we hope this study's outcomes will benefit society and lead to reductions in poverty, unemployment, crime, and other social vices, as well as an increase in productive capacities.

This thesis is organised into three sections. The first chapter provides a theoretical overview of critical concepts and theories related to education policy. The second chapter outlines the research design, including the case background, data source, data collection method, variable measurement, model specification, data analysis method, and study limitations. Detailed analysis of the collected data and an interpretation of

the findings are discussed in the third chapter. The paper concludes with a summary of the research.

1.0 THEORETICAL BACKGROUND

1.1 Education Policy and Human Capital Development Nexus

The basic skills needed to change raw materials and capital into goods and services emanate from education. Skills such as numeracy, literacy, cognitive, and analytical skills can be acquired through Education (Nwaogwugwu & Evans, 2019, p. 7). Nidahib (2000) posits that "education creates technological progress, and literate and knowledgeable workers can do their job efficiently."

Relating the prospect envisaged for Nigeria as a country estimated to be the world's 3rd most populous country by 2050 (Nwaogwugwu & Evans, 2019, p. 2), human capital development (HCD) is the backbone of its rapid economic growth and development.

Investment in education improves the quality of labour as well as the productivity of the workforce and leads to economic growth. The result is a more skilled and knowledgeable workforce who can contribute to developing new technologies and processes. Furthermore, education makes people more employable and increases their income, thus reducing poverty (Akande, 2016)

Bell and Stevenson (2006, p. 41) argue that the increasing effect of globalisation has induced nation-states to improve the level of skills of their labour force. Moreover, thus, this development arising from external influence has encouraged comprehensive reviews of nations' education policies to beef up the trend in human capacity and productivity. It is not a surprise that education is often regarded as a potent tool for resolving a number of social challenges, such as enhancing economic productivity and promoting economic growth. It is viewed as a social and individual-beneficial investment in human capital. In addition to giving people the knowledge and skills needed to thrive in the workforce, education can also have broader economic benefits for society as a whole, such as increased economic output and higher living standards. (Levin & Kelly 1997, p. 240)

In Nigeria, human capital development has been hampered by the imposition of short-sighted education policies by relevant authorities in power, as Nwaogwugwu and Evans (2019) observed.

The relationship between education policy and human capital development is pivotal as its effect has individual and national concerns. This has charged several researchers

to investigate their nexus. Here are some of the extant related empirical studies that will help give credence to this study.

Akande (2016) studied the impact of education on living standards in Nigeria from 1981 to 2013. Times series data from the Central Bank of Nigeria Statistical Bulletin was employed. Johanson Co-integration Test, as well as Vector Error Correction Model (VECM), were used for the analysis to examine the relationship between education and standard of living. While government expenditure on education and health was used to proxy education, per capita real GDP was used to measure the standard of living in Nigeria. The results show the incidence of a long-run relationship between the variables, implying a rapid adjustment towards equilibrium. This research is directly relevant to the study, as it sheds light on the effect of education policy on living standards, an essential component of the Human Development Index.

Imandojemu et al. (2020) analyse the determinants of human capital development in Nigeria. Among the determinants of HCD employed in the study was government expenditure on education for the period 1990 to 2018. The HCD was proxied by the human development index for the period under study. In the study, it was assumed that HCD is influenced by the employed determinants of which education policy was part. The data were sourced from the Central Bank of Nigeria Statistical Bulletin and World Development Indicators (WDI). In estimating the nature of the relationship among the dependent and independent variables, the Autoregressive Distributed Lagged Model (ADRL), through the aid of EViews, was used. From the results, among others, it was found that the relationship between government expenditure on education and human capital development was positive and significant. Imandojemu et al. (2020) subsequently recommended an increase in education budget allocation in Nigeria. This study is similar in that it also examines the influence of government expenditure on education on HCD, as measured by the HDI.

In the study of Divine (2020), the relationship between education expenditure and economic growth in Nigeria was examined for the period 1981 to 2018, using time series and secondary data obtained from the World Bank and Central Bank of Nigeria statistical bulletin. The study incorporated E-views, where the relationships between education expenditure and economic growth were tested using the Ordinary Least Square (OLS) analysis and Granger Causality test. The results showed that education

expenditure has no causal connection with economic growth. Moreover, education expenditure portrayed a negative and inconsequential relationship with economic growth by the OLS result. Divine (2020) found that the weak correlation between expenditure on education and economic growth may be caused by factors like strategy inefficiencies, poor financing, and misallocation of resources during the analysis period. The study recommended institutional reform, clear strategy definition, correct implementation, and tracking of financial resources. Though the study concentrated on the relationship between education expenditure and economic growth, this research will examine the relationship between education policy (as measured by expenditure on education) and human capital development. This demonstrates that if expenditure on education is managed effectively, it can be a driver of human economic growth.

Ifejika (2017) argues that a significant factor in explaining Nigeria's predicaments is her inability to develop the right human capital mixes. Against this backdrop, Ifejika primarily examines Nigeria's significant barriers to human capital development. The study employed a theoretical and qualitative approach, utilising predominantly secondary data. The findings of this study indicate that Nigeria's attempts to cultivate a robust human capital are hindered by certain deficiencies in the education and health sectors, including underfunding, lack of infrastructure, corruption, examination malpractice, "Brain drain", and other issues. Consequently, it was recommended that Nigeria prioritise human capital development in its national development plan, revise its education and health policies to comply with UNESCO and WHO standards, and increase budgetary allocations for these two important sectors.

Using primary data, Nweke et al. (2021) examine the implementation of education policies in universities in Enugu State, Nigeria. The descriptive survey design was used in the study. The study population was 440 staff comprised of 80 staff from Enugu State University of Science and Technology; 70 from Coal City University; 90 from Caritas University; and 200 from the University of Nigeria, Nsukka. The sample size was identical to the population of the study. The data was obtained using a structured questionnaire. The authors employed the mean and standard deviation in answering the research questions. The study revealed that the government's effort towards implementing education policy yielded little or no results due to faulty policy

implementation that was brought about by a lack of basic amenities for practical teaching and a lack of instructional materials to facilitate an effective learning process. The study's findings also revealed the problem of poor planning due to political instability and poor remuneration of lecturers, among others, which are harmful to the implementation of education policy. The study's findings suggest that it is advisable to implement the proposed measures. Proper planning should be taken to make provisions for instructional materials needed for effective learning and proper implementation of education policy in Nigeria. The current study expands on earlier work by examining the implementation of educational policies but utilises time series data instead of structured questionnaires for analysis.

1.2 Concept of Education Policy

The definition of policy, given by Wadi (1995), is one or more decisions that can be used to guide future decisions, initiate or delay actions, or guide the implementation of earlier decisions. Equally, Manganese (2015) conceptualises policy as anything that is done by a person or authority in order to guide the operation of a given undertaking to achieve predetermined goals.

Researchers and institutions have defined and analysed the 'Education policy' concept. However, the central elements that run through the plethora of definitions of education policy are that education policy is a planned activity for targeted goal(s) and a definite change in the quality of life and national economy. Education policies determine the direction of a regional/country's education activities. Some of these definitions can be examined in Table 1.1 below.

Table 1.1: Various Definitions of Education Policy

S/N	Definitions of Education Policy	Author
1	Education is a distinctive way society inducts its young ones into full membership. So, every modern society needs some education policies to guide it in the process of such initiation.	Mba & Ugwulashi (2020)
2	Education policy is a statement of intentions, expectations, goals and standards for quality education delivery	NERDC (2014)

3	Education policy consists of the principles and government policies in the education sphere and the collection of laws and rules that govern the operation of education systems.	UNESCO (2015)
4	Education policies are programmes developed by public authorities, informed by values and ideas, directed to education actors and implemented by administrators and education professionals.	Rayou and van Zanten (2015)
5	Education policy can be formally understood as the actions taken by governments in relation to educational practices and how governments address the production and delivery of education in a given system.	Vincent and Pont (2017)
6	Education policy can be sum to be the policies designed and formulated by the government for the administration and management of education in the local government, states and country. Education policy is the policies approved by the government for directing the affairs of education.	Jacob and Samuel (2020, p. 4)
7	Education policies are the driving forces for actualising the predetermined national objectives because all other policies of the sectors of the economy depend heavily on education to succeed	Falalu (2020)
8	Education policies are the principles or formulated laws and rules that govern the operation of every education system at all levels.	Enyiazu (2022, p. 6)
9	Education policy is a policy that is related to education or a policy that is directly meant for education.	Rosha (2022)

Source: Author's Compilation

The plethora of definitions of education policy itemized above emphasises the importance of education policy in the economy. Notably, this study adopts the definition in item 7 that education policies are the driving forces for actualising the predetermined national objectives because all other policies of the sectors of the economy depend heavily on education to succeed (Falalu, 2020). It is evident from this definition that education policy aims to improve individuals' economic, social, political, psychological, and medical well-being in the country. Therefore, human capital development depends on the nature of education policy. This implies that the

type of education policy and its implementation level are determinants of the population's well-being in a given nation. Rosha (2022) argues that the effectiveness of education policies is closely related to the success of other segments of the economy and vice versa. Similarly, Musisi (2015) states that "education policies are the overarching policies in which all other policies are embedded." This demonstrates that a country cannot progress beyond its education policies. Consequently, the type of education policy and its implementation level are critical factors in the relative differences in the economic growth and development of various countries.

The varying definitions of education policy demonstrate that there are numerous areas and issues embedded in education policy, contingent upon the goal and target of the country at a given time. Enyianzu (2022) states that "education occurs in many different forms for many purposes and through many institutions." OECD (2015) identified these areas of education policy to include: equity in literacy, far-reaching quality of learning outcomes, as well as school and learning environment, creating a system to prepare the students for future demands, effective governance or evaluation, funding, and assessment mechanisms, among others. However, in this study, much attention and focus are given to funding, considering its primary role in implementing education policy.

It is noteworthy that the terms education policy, education programmes, and education reform can be used interchangeably, particularly in the context of this study, as Pont (2017) provides justifications for both. From the definitions above, it is evident that a structured education programme is essential for any modern society to shape it according to its needs. Education policy acts as a beacon of light, illuminating the path to the country's future if it is well-crafted and adequately implemented.

The benefits of successful and positive education policy permeate every sector of the economy. Aberu and Lawal (2022) posit that "education holds the master key that unlocks a country's potential towards national transformation and sustainable human national development". The ability to participate in and benefit from economic progress is made possible for poor men and women by education. (Ravallion, 2004). Falalu (2020) and Rosha (2022) identified some rationales for quality education policies, including:

i) **Pursuit and attain national goals**: Attaining national goals is paramount to the national interest. Education policies are a critical avenue to achieving these objectives, which can explain why there are differences between nations. For example, some countries prioritise technological proficiency; others prioritise security and military strength, and some focus on industrial development. Consequently, the type of education policy adopted reflects a country's national goals.

ii) **Shaping the nation's future**: A nation can be far from what it should be. However, its realisation alongside concrete long-term education policy will earn that country to its desired objectives. This was the rationale for Millennium Development Goals (MDGs), Sustainable Development Goals (SDGs), and Vision 2020.

iii) **Controlling the quality of Education**: Implementing a quality education policy is essential to regulate the quality of education in a nation, as both public and private educational institutions exist. Without such a policy, there is likely to be a significant variation in the curriculum used by these institutions. Thus, education policy serves to unify the curriculum used by both public and private educational institutions.

iv) **Determining the outcomes and outputs of an education system**: The education system of a nation comprises the designed curriculum, quality or calibre of teachers, educational facilities and infrastructures, and treatment of students and teachers. Therefore, the nature of the education policy determines the outcomes of an education system. A positive relationship prevails when the outcome of an education system concurs with the education policy.

v) **Distributing Education Resources**: A well-planned education policy matches its resources with the population of pupils, students and teachers in the country. Most times, government education policy fails for inadequate knowledge of statistical data of students and workers in the educational system. This renders earlier government efforts fruitless or one-sided in the country, thereby defeating the national or regional goals of the policy.

vi) **Effectiveness and efficiency in schools:** A quality education policy ensures effectiveness and efficiency. These attributes are achievable through unbiased

routine supervision of schools. This supervision involves regular checks on the state of education/instructional facilities and materials, teachers' performance and welfare, and students' performance with desired objectives.

So, the vehicle on which predetermined national objectives are achieved is educational policies (Bashar & Sifawa, 2022). Since the educational system takes several years depending on the education policy of that country, policies on other sectors are anchored into the education policy. This implies that a country aiming to increase health care personnel will gear its education policy towards encouraging students to study science and medical-related courses, similar to other sectors such as industrial, agricultural, security, banking, and legal sectors. Therefore, government investment in a desired quality education is a sine qua non for healthier economic development outcomes (Aberu & Lawal, 2022, p. 10).

1.3 Element of Education Policy

Enyiazu (2022) pointed out core elements of a quality education policy to include: smart policy formulation, inclusive stakeholder involvement, conducive context, and coherent implementation strategy, as a framework recommended by OECD (2017) for implementation advisors or policymakers in the formulation and implementation of education policies whether at the national, regional or local level.

a) Smart policy formulation: OECD (2017) explains smart policy formulation by stating that a policy that presents a logical and practicable solution to the education policy issue would determine whether and how it can be implemented. For example, a financial budget needs to be prepared by the government, whether at the national or local level, if a new school curriculum requires the use of high-technology equipment that is not affordable by schools. Otherwise, the policy may fail in its implementation.

b) Inclusive stakeholder involvement: The due recognition and inclusion of the various "process stakeholders" in the policy formulation and implementation process are vital to its efficiency. For instance, the involvement of teacher unions in education policy discussions right from the start will have a sustainable impact.

c) Conducive institutional, policy and societal context: An effective policy implementation process recognises the influence of the existing policy environment, education governance, institutional settings, and external context.

d) Coherent Implementation strategy: Acknowledging the context upon which the policy will operate gives greater hope and success in the implementation. In order to make a policy operative at the school level, a cogent implementation strategy to reach schools would include precise measures that harmonize all the factors together in a logical manner. (Enyiazu, 2022).

1.3.1 Education Policy-making Process

Education policy emanates from certain sources and undergoes specific processes. Moreover, every section in the process impacts attaining the desired goals.

Table 1.2: Sources of Education Policy

S/N	Nature of Education Policy	Policy Formulators
1	Rhetorical policy refers to broad statements of education goals often found in national addresses of senior political leaders.	Elected or appointed government officials
2	Enacted policies are the authoritative statements, decrees, or laws that give explicit standards and direction to the education sector	The legislators/agencies or the dictators
	Implemented policies are the enacted policies, modified or unmodified, as they translate into actions through systemic, programmatic, and project-level changes	

Source: Adapted from Adams et al. (2001, p. 222)

Two broad categories of education policies are identified in Table 2 – rhetorical policy and enacted policy. While the former emanated from personal drives, happenstance, and emotions of elected or appointed government officials, the latter is a product of a deliberate and determined constitutional process in making a policy. Enacted policies often have long-term effects than rhetorical policies that may produce a short-term effect.

The sequence of policy formulation processes starts with situation analysis, problem identification, policy options formulation, evaluation of policy options, selection of policy options, policy implementation, policy evaluation, and then policy review (Falalu, 2020; Manga, 2010). See the figure below.

Figure 1.1: Chronological Processes of Policy Making in Education
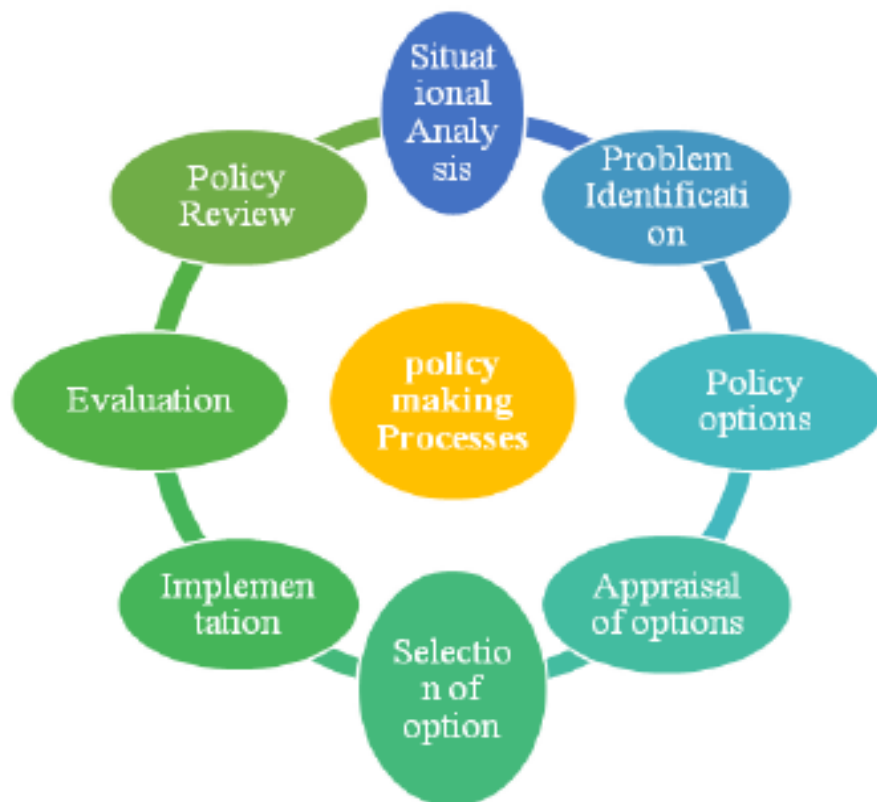
Source: Adopted from Bashar and Sifawa (2022). Education policy: A review of its nature, forms, processes, rationale and misconceptions

The importance of these processes of policy-making in education is that the quality or efficiency of each process contributes to the development of human capital. This implies that where routine and purposeful supervision is done at the various stages in the process, then the target goal for the development of human capital can be attained at the time stipulated.

Figure 1.2: Model of Policy Formulation and Implementation
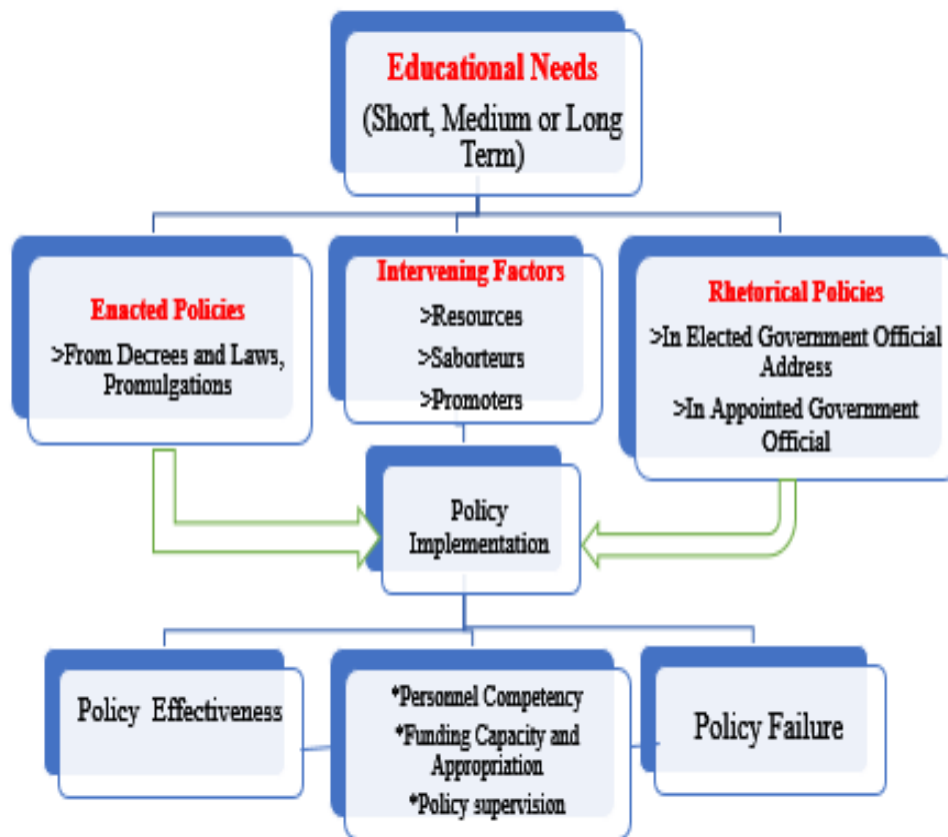
Education Needs: The formulation of education policies is contingent upon the current educational needs of a country. The level and type of education available in a nation will inform the need for and content of education policy. Consequently, education policy should not remain static but should be dynamic. Education policies may target short-term, medium-term, or long-term needs. For example, a policy developed to achieve desired objectives within a year would be classified as a short-term education policy. An example of this is the policy implemented during the Covid-19 pandemic to raise awareness and promote the prevention of the virus. This policy utilised various media outlets, such as television, radio, and print, to educate citizens on the nature, symptoms, and dangers of Covid-19, as well as methods of prevention, such as physical and social distancing, using face masks and frequent hand washing.

Medium-term educational needs can be addressed within a one- to three-year period, perhaps to rectify any existing imbalance in the education system. This could take the form of training personnel to fill specific sectors, which often leads to developing countries recruiting expatriates with specialised skills to train local people in acquiring such skills. This is particularly relevant in the agricultural, industrial, and educational sectors. However, a potential disadvantage of both short-term and medium-term educational policies is that they may not be integrated into the educational curriculum due to the limited amount of time they require.

The long-term education policy of a nation is a crucial determinant of its human capital development. This policy must be standardised and structured to ensure the comprehensive training of all citizens, from infants to teenagers and adolescents. As such, the nature and contents of the education policy can be used to differentiate between developed, developing and underdeveloped economies.

Formulation of Education Policy: In the era and country of military leadership, the use of decrees and promulgations are used in formulating education policies. On the other hand, a democratic system of government adopts the practice of legislative proceedings where motions and bills are passed into law. Whether a decree, promulgation or law, they are categorised under "enacted policies" (Adams et al., 2001, p. 222). Other forms of policy formulation, as described by Adams et al. (2001), are the "rhetorical policies". These are policies in the form of official statements and addresses made by elected or appointed government officials on certain areas of needed commitment and development. While enacted education policy will reflect in the curriculum, the rhetorical policies may not reflect in the curriculum. The formulation of each education policy level sets the stage for its implementation (Enyiazu, 2022).

Before the implementation of the policy, certain intervening factors, such as the availability of resources and the actions of both saboteurs and promoters, could have a substantial effect on the successful implementation of the policy. In cases where resources are limited or saboteurs are active, the policy may be prematurely terminated. Conversely, when resources are plentiful and promoters are actively promoting the policy, implementation is more likely to be successful.

Policy Implementation: Enacted policies or rhetorical policies are not complete until they are implemented. The implementation could be practical or a failure; It is effective when the targeted goals and objectives are achieved within the stipulated period. However, it becomes a failure if the actual significantly varies from the intended. In this study, certain factors such as "personnel competency", "funding capacity and appropriation", and "policy supervision" have been identified as significant factors that can help to facilitate the effectiveness of the policy if positive. In terms of personnel competency, it takes people (the implementers) who have the vision, passion and are well-trained to deliver the policy to the latter. This is one of the explanations why the 6-3-3-4 system of Education in Nigeria was not effective as intended. This system of education was intended to equip students with the literacy skills and entrepreneurial capabilities to become independent if they were unable to continue their education beyond the primary and junior secondary school levels. The efficacy of the proposed mechanism, which included practical workshops on various skills such as fabrication, welding, furniture-making, woodwork, fine art, and tailoring, was impeded by the lack of qualified personnel to serve as trainers or teachers. Consequently, it is necessary to ascertain the feasibility of implementing the policy when those in charge of training have not received adequate training themselves. The inadequate allocation of funds and misappropriation of resources by stakeholders in charge of education programmes has led to the abandonment of many projects in Nigerian educational institutions, both at the primary and tertiary levels. Furthermore, successive governments have not taken steps to address these abandoned projects, likely due to the misperception that the completion of the project will not be attributed to them. This has had a detrimental effect on the implementation of well-designed developmental education ideas, policies and programmes in Nigeria. The implementation of education policy necessitates the active and incorrupt supervision of policy implementation. The tendency for human beings to exploit resources and opportunities for personal gain can manifest itself in a variety of ways, including shirking of assigned tasks and misappropriation of materials, equipment and funds. To avert these occurrences, it is essential to monitor policy implementation and to take disciplinary action against those found in breach of regulations. Enyiazu (2022) posit that the implementation of education policies in Nigeria has been a major

source of concern for many years, leading to a lack of progress in achieving educational goals. This issue was highlighted by a former Governor of Rivers State in an address to the Nigerian Association for Education Administration and Planning Convention, in which he expressed his deep concern about the difficulty of implementing policies. He argued that the lack of enforcement of these policies could be attributed to state officials who are not held accountable for their actions. This has resulted in a lack of motivation to ensure the effective implementation of education policies across Nigeria. This has had a detrimental effect on the welfare of the teacher labour market, creating significant obstacles to the attainment of educational goals. This has had a negative impact on the quality of education in the country, leading to poor learning outcomes and a lack of skills development. This has had a ripple effect on the economy, leading to a decrease in productivity and a lack of competitiveness.

1.4 Development of Education Policy in Nigeria

The education system in Nigeria today is the outcome of various policy reforms targeted at enhancing the education standard as well as needed development in the country. These policy reforms, according to Osarenren-Osaghae and Irabor (2018, p 93), include areas of curriculum development, institutional expenditure, and financing. Nigerian education is a product of pre-colonial, colonial and post-colonial activities and influences.

In the pre-colonial era, education in Nigeria was introduced by traders from Portuguese and early missionaries (Enyiazu, 2022, p. 3). Both needed Nigerians to be educated in a common language to facilitate their trade as well as convert them to their religions. This resulted in the establishment of the first primary school in Lagos in 1842; in 1926, the school and additional established ones were standardised into infant 1 and 2 and standards 1-6 (Nwaogwugwu & Evans, 2019). At this time, rudimentary education without a structured curriculum was encouraged.

During the colonial period, more formal education was adopted because of the need to fill the needed working positions in their administrative offices. Consequently, as asserted by Oke and Odetokun (2000), the colonial government developed an education policy that helped to train interpreters, law enforcement agents, messengers, clerical officers, typists, cooks, servants, and stewards. After the colonial

era, a remarkable effort has been keyed in, an attempt to increase the development of education in Nigeria. This has evolved various education policies or programmes over the period. Jacob and Samuel (2020) identified these education policies, which are also called educational programmes or reforms. They include the following:

> *The Child Act Law (2003), Universal Basic Education Act (2004), National Policy on HIV and AIDS for the Education Sector in Nigeria (2005), National Gender Policy (2006), National School Health Policy (2006), the Safe School Initiative (SSI) in Nigeria (2014), National Policy on Inclusive Education in Nigeria (2016) and National Home-Grown School Feeding Programme (2016), Jacob and Samuel (2020;p.1)*

However, much emphasis will be given to the selected Nigerian education policy that anchors on promoting human capital development as a priority of the nation.

Education for All (EFA) Education Policy: This policy took place under the democratic government of Nigeria between 1999 and 2015. It was an education policy earmarked to bridge the long education gap created by the military government. Six primary education objectives were formulated to achieve. They are:

i) Situate the education sector within the overall context of the government's reform agenda enunciated by the National Economic Empowerment and Development Strategy (NEEDS);

ii) Reposition the Nigerian education sector to meet the challenges of the EFA initiative effectively, Millennium Development Goals (MDGs) and NEEDS;

iii) Improve and refocus education quality and service delivery for the accelerated attainment of NEEDS goals of social and economic transformation, wealth creation, poverty reduction, employment generation and value reorientation, as well as meet the ideals of the Transformation Agenda of the President of Federal Republic of Nigeria;

iv) Reflect, accommodate and respond to UBE, the provisions of the UBE Act and the implications for the education sector;

v) Incorporate all new sub-sector policies to reflect global development;

vi) Achieve public ownership of the National Policy on Education and improve compliance with its provisions through consensus building in its development and strengthened implementation and monitoring.

The magnitude of the policy invited a collaboration effort where the Nigeria Federal Ministry of Education partnered with other concerned ministries and agencies like the International Development Partners (IDPs) and the Civil Society Organisations (CSOs), among others. The situation of the country at this point was characterised by a high level of poverty, mass level of illiteracy, and poor health services due to an inadequate workforce; even as Nigeria is considered the giant of Africa in terms of economic resources, specifically, oil and gas (Enyiazu, 2022, p. 4). Enyiazu (2022, p. 4) also pointed out that this policy elevated the establishment of the number and enrollment at the preprimary, primary and secondary education levels.

1.4.1 Education Funding in Nigeria

Funding education is a pivotal aspect of every education policy as it helps to facilitate the policy right from its formulation to the time of implementation. Osarenren-Osaghae and Irabor (2018, p 92) view education funding to include: "the sources of funding and how the money allocated for education is spent, especially in the areas such as the purchase of goods and services of men and materials." This implies that funding education starts with identifying the sources of funds and then collection and disbursement of this fund as designed.

Some of the sources of funding for education, as pointed out by Omoike (2013), include tuition fees, the government budget allocation, communities, philanthropists, alum bodies/associations of old students, corporate organisation support, school development levies, education tax fund, income-yielding ventures, religious organisations.

Although education funding could be sourced from several sources, government expenditure in education remains the major source of education funding in developing countries (which may be obtained from tax, borrowings or/and grants). This has made the education system and level of a country to be high, average or low, depending on the nature of education policy as well as the level of funding.

Nwaogwugwu and Evans (2019, p. 6) have highlighted various ways by which government spending influences education policy and its effect on human capital development. This happens directly through financing education policy in the annual or supplementary budget. Secondly, they pointed out that fiscal policy is a transmission mechanism through which a country experiences human capital development. In their analogy, government spending or taxes affect education policy in various ways. Nwaogwugwu and Evans assert that an increase in government expenditure increases personal income, thereby enabling the people for higher demand for education. Moreover, when the demand for education is high, then HCD will also be high in that country.

In Nigeria, education expenditure has been a primary task of the government as a country where a more significant percentage of the population of learners in school are in public schools built and funded by the government.

1.5 Concept of Human Capital Development

Human capital is concerned with the intangible part of a human's skill acquired through training, education and experience that makes them skilful and competent in productivity. Bell and Stevenson (2006) define human capital as "the sum of education and skill that can be used to produce wealth."

Human capital helps to contribute to an individual's earning capacity at the micro level and, at large, enhances the state's economic performance. Son (2010) views human capital as "the ability and efficiency of people to change raw materials and capital into goods and services." In the words of Ayodele (2003), human capital involves "the energies, skill, knowledge and ingenuity of humans applied to the exploitation of raw materials and the manufacturing of consumer goods and services for the improvement of people's standard of living and hence foster national cohesion." This places a premium on human capital in terms of production, economic growth and development. Thus,

> *Capital accumulation and natural endowment constitute the*
> *static element of production, which remains unutilised mainly*
> *without human intervention, while human capacities represent*
> *the dynamic element of production. Admittedly, human capital*

represents the end and means of every developmental trajectory
(Imandojemu et al. 2020, p.64).

Human capital development (HCD) is an embodiment and functionality of gained attributes (education, health, standard of living) that determine individual and national prosperity. HCD is defined as "the process of acquiring and increasing the numbers of people who have the skills, education and experiences that are critical for the socio-economic development of a country" (Harbison, 1962, p. 438). From the standpoint of Nwafor and Ugwuanyi (2019, p. 214), HCD refers to the improvement in the stock of knowledge, skills, competitiveness, values and attitudes possessed by individuals or citizens of a nation which is usually attained through education and training. In the view of Ojo (1997, p.8), HCD comprises not only the spending on education and training but also the development of attitudes towards productive activities. Michael, O. A., & Wumi, O. (2017) posit that "HCD has been defined as empowering people by fostering the contributory capacities that they can bring to the improvement of their own quality of life and that of their families, communities, enterprises and societies." This implies that HCD is an improvement in human capability through the acquisition of education, skills and training for individual and national benefits. Imandojemu et al. (2020) assert that HCD is a multifaceted concept that can be measured in various ways. The most commonly used measure is the Human Development Index (HDI), a composite index that takes into account three key components: health, knowledge, and standard of living. Life expectancy at birth, expected years of schooling, and quality of life are used as proxies to measure these components. In addition to the HDI, human capital development can also be represented by the cumulative investments made in activities that increase an individual's productivity in the labour market. Examples of such activities include education, health, on-the-job training, and migration. These investments are essential in order to ensure that individuals have the skills and knowledge necessary to be successful in the labour market.

However, there are other indices of HCD apart from HDI. Kairo et al. (2017) identified other HCD indices, including; the gender inequality index, inequality-adjusted human development index, and multi-dimensional poverty index. In this study, the Human Development Index (HDI) was chosen to measure Human Capital

Development (HCD) due to its comprehensive coverage of production-capacity x-ray requirements, such as education, health and standard of living. These are core determinants of human stamina for any given task - whether mental or physical. This is in agreement with the World Bank's (2018) assertion that human capital development involves the acquisition of skills, health, knowledge, habits and experience of a population, which are essential for the prosperity of individuals and societies.

The Federal Government of Nigeria (2004) and Nwaogwugwu and Evans (2019) have identified five national objectives for Nigeria: a free and democratic society; a just and egalitarian society; a great and dynamic economy; a united, strong and self-reliant nation; and a land full of promising opportunities for all citizens. The realisation of these objectives is contingent upon the development of human capital, as Nigeria is projected to be the world's third most populous country by 2050 (Nwaogwugwu & Evans, 2019). Therefore, human capital development (HCD) is essential for Nigeria to achieve its economic growth and development objectives.

1.6 Theoretical Framework

Two theories are used in support of this study. They are the Modernisation Theory and the Human Capital Theory.

1.6.1 Modernisation Theory

Modernisation theory has been a philosophy for the past six decades. The concept, which is linked to the works of Smith and Inkeles (1966) and Inkeles (1969), evolved at its microcosm of modernization and explained the characteristics of modern society with similar attributes over all the countries as a result of the impact of urbanization, industrialization as well as the acquisition of skills (Goorha, 2017). Later on, Portes, in his review published in 1976, observed the fundamental distinction between the earlier and the contemporary studies on social development, which was pointed out to be 'the drive for the methical study of development to discovering systematic sociological differences between the Western developed European societies and the underdeveloped societies around the world (Goorha, 2017; Portes, 1976). Reasons for this identified difference could be attributed to an increase in understanding about the sociological changes in the behaviour of modern man, the availability of robust data,

especially over 50 years of the classical modernization theory, and the advent of statistical methods in analyzing these data. Modernisation theory (MT), as opined by Adelakun (2011), dwells on human transformation in terms of behaviour, value and belief due to specific exposure. There is always an inculcation of attitudes and values when an individual is exposed to institutions of modernisation, such as schools, factories and mass media (Ita, 2020).

> *Theorists of modernisation opined that the normative and attitudinal changes continue throughout the life cycle, which is permanently altering the individual's relationship with the social structure. The greater the number of people exposed to modernisation institutions, the greater the level of individual modernity attained by society. Ita (2020, p.41)*

McClelland (1961), as the propounder of this theory, believed that individuals get transformed for the better when exposed to contemporary events, activities, and technologies occurring in educational, industrial, and digital contexts. According to McClelland, in his research work, he highlighted the reason why some societies grow faster in technological and social advancement, to be apt to be open and quickly adjust to current methods of getting things done by the method of grasping innovative changes (Divine, 2020, p. 14). The 9-3-4 system of Education in Nigeria is tailored to this theoretical perspective. The students in tertiary institutions should be exposed to practical life-related situations that will elicit the needed skills and knowledge to handle such situations and experiences. This has prompted the Nigerian government to go the extra mile by creating a specific tax levied on corporate incomes meant for the infrastructural and research development of tertiary institutions in Nigeria. Thus, the hypothesis formulated that:

H_{A1}: There is a positive relationship between education policy and human capital development.

1.6.2 Human Capital Theory

Walter Heller's Human Capital Theory (HCT) of the 1960s was later revised by Schultz (1993) and emphasised the importance of education, training, skills, experiences and health in increasing worker productivity and efficiency. This is based on the premise that such factors improve workers' cognitive, affective and

psychoactive skills (Nwokoye et al., 2020, p. 19). As Nwokoye et al. (2020) pointed out, HCT advocates that "human capital is the key element in improving a firm's assets and employees to increase productivity, as well as a sustainable competitive advantage." In many cases, education policies and programmes may differ across countries, but the role of human capital is crucial in national productivity.

> *Although it may not be universal in shaping the context of education policy, human capital theory is undoubtedly prevalent as a socio-political rationale. This does not necessarily mean that it is the most appropriate such rationale or that the text of the policy produced will achieve its stated outcomes. Nevertheless, the impact of human capital theory can be identified in many countries.   (Bell & Stevenson, 2006, p. 46).*

Also, Alfred Marshall asserts that "The most valuable of all capital is that invested in human beings" (Ita, 2020). This buttress the fact that the level of investment an individual, firm or country invests into the formation of human capital determines the level of output. Mace (1987) argues that at the national level, education policies formulated and premised on human capital theory may yield better cohesion and, at the same time, decrease incompetence in the use of scarce resources. Bell and Stevenson (2006, p. 43) also posit that "the human capital approach to education policy also works on the assumption that there is a national economic benefit to be gained from education and from having an educated and skilled workforce."

Just as Leadbetter rightly put it, "the generation, application and exploitation of knowledge are driving modern economic growth…." This behoves a nation like Nigeria, which is even a developing one, to source for appropriate and necessary knowledge, then spread it to its teaming population for both individual and national benefits. In most countries and societies, education remains the key regarded process to drive home contemporary transformation and developments. However, the challenge involves borders on "which skills and knowledge to be acquired, by whom and who makes the decisions" (Bell & Stevenson, 2006, p. 43).

It is evident and impressive that human capital-based education policy deeply showcases the industrial needs of society with an effort to prepare available and

competent workers to solve these industrial needs. However, it is debatable how much the core principles of the human capital theory apply to the educational process in the current socio-political climate. Killeen et al. (1999) argue that the relationship that subsists between investment in education and the performance of the economy is more of a correlation than cause and effect. This forms some limitations of human capital theory. Hence, the hypothesis is thus expressed:

H$_{A2}$: Education policy significantly influences human capital development.

The existing literature reviewed suggests that education policy contributes significantly to a nation's economic growth and development, with Ifejika (2017) focusing on the importance of expenditure on education in human capital development. Empirical studies by Akande (2016), Divine (2020), and Imandojemu et al. (2020) employed time series data, while Nweke et al. (2021) used primary data from structured questionnaires.

However, they lack empirical evidence on the relationship between education policy and human capital development. Akande (2016) explored the impact of education on the standard of living, Imandojemu et al. (2020) examined the determinants of human capital development, Divine (2020) focused on the nexus between education expenditure and economic growth, and Nweke et al. (2021) concentrated on the efficiency in education policy implementation. However, there is a gap in the literature regarding a comprehensive examination of the empirical relationship between education policy and human capital development. This gap motivates this study.

This study examines the relationship between government expenditure on education and human capital development in Nigeria, using Education Expenditure as a proxy for Education Policy and Human Development Index (HDI) as a measure of Human Capital Development. This study is unique in its approach. It combines recurrent and capital expenditure on Education in Nigeria and the Tertiary Institutions' Fund (TETFund) as an additional annual investment into education in Nigeria. Researchers have largely overlooked the impact of this TETFund on Human Capital Development. As such, two hypotheses are functionally expressed: firstly, there is a positive relationship between government expenditure on education and HDI in Nigeria; secondly, GEE and TETFund significantly influences HDI in Nigeria.

More so, as an improvement on other studies, the time series data employed in this study covers the period from 2011 up to 2021 (the current data published by the Central Bank of Nigeria and the World Bank on expenditure on education and human development index, respectively).

2.0 METHODOLOGY

2.1 Research design

This study adopted the ex-post facto design, that is, employing secondary data, which has been consistently collated and prepared by reputable institutions and made available to researchers and analysts through open data platforms. Researchers with similar study interests have also trusted these data sources for their analysis because these data cannot be subject to manipulation by researchers. These secondary data are deemed reliable to measure the variables under study. Also, considering the limited resources of this study, obtaining primary data to suit the scope of this thesis may be technically impracticable due to the brevity of the time available for this research.

2.2 Case Background

Nigeria is an emerging economy with a wealth of natural and human resources. It is home to vast oil reserves, mineral deposits, and precious metals and stones such as gold, diamond, platinum, iron, and bauxite (Jato & Ayaga, 2022; Shobande & Enemona, 2021; Shobande, 2022). With an estimated population of over 200 million, Nigeria accounts for almost half of the population of West Africa (Ita, 2020). The government of Nigeria is committed to increasing its productive capacity and investing in human development to meet the UN Sustainable Development Goals. Just as stated in its recent strategic goal;

> *Indeed, Vision 20:2020 envisages a prosperous Nigeria that is capable of breaking away from its current status… Achieving a high level of poverty reduction, employment generation, and wealth creation are the cardinal objectives of one of the nation's development programmes –National Economic Empowerment and Development Strategy (NEEDS) and the*

United Nations' Millennium Development Goals (MDGs
(Sanubi and Akpotu, 2015, p.27)

Nigeria has been identified as one of the SANE countries, or "Africa's G-4", alongside South Africa, Algeria, and Egypt (Anyanwu & Erhijakpor, 2007). This group of countries comprises a third of the African population and a fifth of its land mass, with abundant natural resources (Anyanwu & Erhijakpor, 2007). As such, studies on the human development of Nigeria can provide insights into the development of Africa as a whole.

More so, the natural resources in Nigeria and emerging markets for international relations attracted some developed countries such as Portugal (Enyiazu, 2022, p. 3), the United States of America (USA), China, United Kingdom, among others initiating a multilateral relationship with Nigeria. Nigeria, in exchange, benefits from them in both physical products and services. This exposure of Nigerians and government officials has contributed to sharpening Nigeria's education policy to enhance human development (Sanubi & Akpotu, 2015). In 1973, Nigeria adopted the National Education Policy, followed by the 1976 Universal Primary Education, which aimed to take over schools from missionaries, individuals, and voluntary agencies, establish a standard curriculum, and proliferate schools. In 1977, the 6-3-3-4 education system was modelled after the American system was adopted. In 1998 and 2004, the Universal Basic Education programme was introduced to meet the country's developmental needs. By studying the impact of government education policy on human capital development in Nigeria, policy analysts can gain insight into the effectiveness of government expenditures, such as the TETfund, on human development. This could help to improve future policy decisions and interventions.

2.3 Nature and Source of Data

The data used in this study are quantitative and secondary. This implies that the data involve numerical figures obtained from a pool of data already generated by reputable institutions. They are in the form of time series. That is, the data are spread over a period of time, in this case, from 2011 to 2021. This period is chosen as the time when an extra financial effort was made not only to the development of primary and

secondary education but also to the tertiary education, which was tagged "Tertiary Education Trust Fund (TETFund) born out of the burden and decry of ongoing deceleration of the education condition in Nigeria (Bogoro, 2019; Nagbi & Micah, 2019).

These data sources are the Central Bank of Nigeria Statistical Bulletin, the Federal Inland Revenue Service (FIRS) annual tax report for Tertiary Education Trust Fund, and World Development Indicators.

To operationalise our independent variable, education policy, firstly, the yearly data of government expenditure on education for the study period was extracted from the Central Bank of Nigeria Statistical Bulletin, specifically from the public finance section. This Central Bank of Nigeria Statistical Bulletin is a financial, statistical report on significant variables that has four major sections. The CBN Statistical Bulletin is a highly-ranked reference material on public finance. Thus, obtaining the data on government expenditure on education from this CBN statistical bulletin is valid for this study. Secondly, data on the yearly revenue of the Tertiary Education Trust Fund (TetFund) 2011-2021 was obtained from the Federal Inland Revenue Service 2021 Tax Statistics Report. The Tertiary Education Trust Fund agency in Nigeria is responsible for overseeing, dispensing and observing the education tax to government-owned tertiary institutions in Nigeria (Ajayi, 2018). The country, acknowledging the role of education on human capital development, established this agency to manage imposed education tax (2% of registered companies' net income) for the efficient functioning of the tertiary institutions in the country. Therefore, such expenditure on education can be expected to have some positive influence on building the stock of human capital.

Then, the human development index (HDI) data was obtained from World Development Indicators to operationalise the dependent variable, human capital development. In HDI, three dimensions of human development are measured: life expectancy at birth measures how well a country does in three fundamental aspects. An education measure is based on adult literacy rates and gross school enrollment, while a standard of living measurement is based on GDP per capita (UNDP, 2006). By combining these three dimensions, the HDI can be used to assess a country's level of human development, track progress over time and allows for comparison between

countries and regions. It also provides a way to measure the impact of economic policies on human development. In present-day academic, media, and policy circles, the HDI is widely used to measure and compare progress in human development (Harttgen & Klasen, 2012). The HDI also serves as a tool for identifying areas of improvement and making more informed decisions in allocating resources and creating policies. It is also a valuable way to monitor the effects of economic and social policies on human development. The World Development Indicators is the World Bank's premier compilation of cross-country data on development (World Development Indicators [WDI], 2021). The WDI has a database of over 1,400 time series indicators data of about 50 years for 217 economies of the world and more than 40 country categories. It makes the source reliable for obtaining the human development index for the period under review.

As earlier established, expenditure on education is a dimension of education policy. This prompted the use of government expenditure on education and tertiary education trust fund as measures for education policy. At the same time, the human development index is used to measure human capital development. Aberu and Lawal (2022) studied the relationship between education and sustainable development in Nigeria from 1992 to 2021. They used secondary school enrollment and population as proxies for education and the Human Development Index to measure sustainable development. Nwokoye and Kalu (2020) studied the "drivers of human capital development…." HDI was employed as a proxy for HCD. At the same time, expenditure on education, growth in per capita income, employment rate, and consumer price index were used as drivers of HCD. Furthermore, the Patel and Annapoorna (2019) model was adopted, where "public education expenditure and its impact on human resource development in India…" was studied. Expenditures on education were regressed against the human development index.

Theoretically, a positive relationship exists between education policy and human capital development (Akande, 2016). Thus, expenditure on education is expected to enhance the human development index of a country. This study is adapting the model of Aberu and Lawal (2022), Nwokoye and Kalu (2020), and Patel and Annapoorna (2019) with minor adjustments on the proxies for the independent variable.

2.4 Model Building and Specification

The study is interested in the impact of education policy on human capital development. Therefore, in this study, education policy (captured by government expenditure on education and tertiary education trust fund) is used in relation to human capital development (measured by the human development index). The two research questions in this study are reflected in this model. The relationship is functionally expressed as the human development index as a function of expenditures on education. This can be mathematically expressed as:

HDI = f(GEE, TETF)   ………………………………….   i

Data on GEE and TETF were transformed using logarithms to perform better in the model. For the estimation purpose, equation (i) can be written as:

$$HDI = B_O + B_1 LnGEE + B_2 LnTETF + U$$ ………...   ii

Where

HDI = Human Development Index

LnGEE = Logarithm of Government Expenditure on Education

LnTETF = Logarithm of Tertiary Education Trust Fund

U = Error term

2.5 Method of Data Analysis

Estimating dimensions of education policy and measure of human capital development was done using Econometric View software. Statistical techniques, such as descriptive statistics, Augmented Dickey-Fuller test (ADF), and Autoregressive Distributive lag (ARDL) Techniques, were employed in the study. ARDL is considered the best estimation method in cases when variables are stationary at levels and integrated at the first difference. The ARDL model used in the study is arguably a better model to determine the short-run and long-run impact of independent variables on the dependent variable (Pesaran et al., 2001). Kripfganz and Schneider (2018) assert that the ARDL / Error Correction model is helpful for forecasting and disentangling long-run relationships from short-run dynamics. Also, it takes into account the presence of lagged effects of the independent variables on the dependent variable and can be used to estimate relationships in small samples (Nkoro & Uko, 2016). Also, in related studies like Abere and Lawal (2022); Nwokoye and Kalu

(2020), ARDL techniques were used to analyse their data. This informs the use of the Autoregressive Distributive Lag (ARDL) technique in this study with particular reference to the ARDL Error Correction model.

Descriptive statistics was necessary to understand the statistical behaviour of the employed variables. At the same time, the graphical presentation shows the visible trend of the variables within the study period. Also, the stationarity of variables needs to be ascertained because of the tendency of the spurious nature of time series data. This calls for the stationarity test using the ADF test.

Therefore, the ARDL Error Correction becomes very relevant to analyse the nature and extent of such short-run and long-run dynamics among education policy and human capital development in Nigeria. While the previous tests validated the modelling process, the test result of ARDL Error Correction will be used to answer the research questions in this study. The results will show: a) whether the impact of the education policy (government expenditure on education and TETFund) on human capital development is positive or negative?; and b) whether the human capital development is significantly impacted by education policy (government expenditure on education and TETFund) or not? How do we ascertain this? In the results, when the t-Statistic probability value is less than 0.05, then it is significant, otherwise insignificant.

A negative coefficient value indicates a negative relationship between the independent and dependent variables, meaning that an increase in the independent variable will decrease the value of the dependent variable. Conversely, a positive coefficient value indicates a positive relationship, meaning that an increase in the independent variable will increase the value of the dependent variable. Therefore, the significant findings, discussion and conclusion of this study will anchor on the ARDL Error Correction model results. The reason is that it is this test that will provide answers to the study's research questions.

2.6 Limitations of the Study

Education policy could be viewed from various perspectives –policy formulation and implementation. In both cases, the key driver is the fund needed to drive the process to finality. This implies that an education policy cannot be actualized without the

commitment of funds. This aspect of funding education policy (both in its formulation and implementation) forms the focus of study in this research. On this premise, government expenditure on education as well as Tertiary Education Trust Fund, is used to proxy education policy in Nigeria.

The study only employed secondary data that are time series in nature for the analysis, unlike the case of primary data, where the use of questionnaires, observations and interviews would have been employed. The data employed in this study may not represent other elements of an education policy (curriculum and pedagogical). It only estimates the aspect of education policy for which funding could account in the context under study. However, this does not in any way negatively affect the outcome of this study. Therefore, the outcome of this study can be used as a veritable tool for policy-making in the education sector, besides being a reference material for further related research studies.

3.0 ANALYSIS, RESULTS AND DISCUSSION

This chapter features the presentation and analysis of the data obtained by the student. It is geared towards providing the basis for the generation of valid inferences because the reliability of findings, which leads to logical conclusions, is hinged on the appropriateness of the data as well as the analytical techniques (Oluwatayo, 2012). In addition to this, the implications of the results obtained shall also be discussed in this chapter.

3.1 Data Analysis

The data extracted for this study (see appendix 1) were analysed using various analytical techniques, which are categorized into two sections. The first section uses descriptive analysis to examine the validity and usage of the data in the model. When these data do not qualify certain criteria as required by the statistical techniques, its result can be baseless. Then the second category is the explanatory analysis which employs the use of the Autoregressive Distributive lag (ARDL) Error Correction technique. It is this technique that will help in answering research questions in the study. The results obtained are presented below.

3.1.1 Descriptive Overview of Government Expenditures on Education

Below is a graphical illustration of budget allocation to the educational sector in Nigeria. It describes the behaviour of the data as well as the movement of the independent variables within the period of study.

EDUCATION BUDGET, TOTAL BUDGET AND PERCENTAGE OF EDU. BUDGET TO TOTAL BUDGET IN NIGERIA (2010-2022)

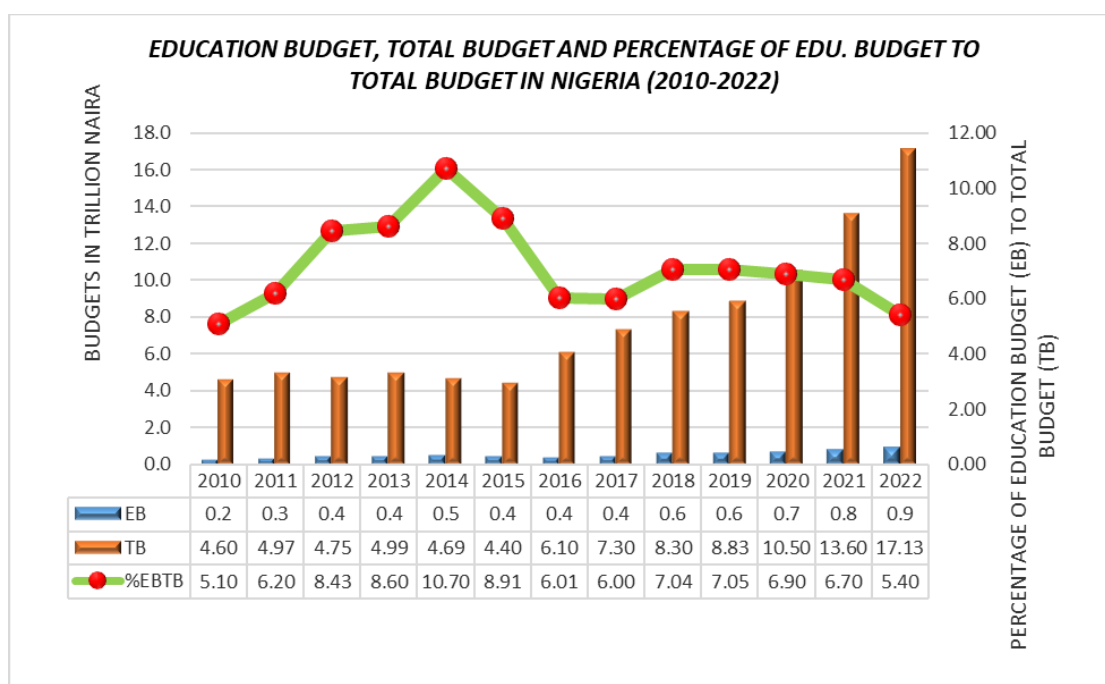|	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
EB	0.2	0.3	0.4	0.4	0.5	0.4	0.4	0.4	0.6	0.6	0.7	0.8	0.9
TB	4.60	4.97	4.75	4.99	4.69	4.40	6.10	7.30	8.30	8.83	10.50	13.60	17.13
%EBTB	5.10	6.20	8.43	8.60	10.70	8.91	6.01	6.00	7.04	7.05	6.90	6.70	5.40

Figure 3.1: Graph showing the Trend of Education Budget to Total Budget in Nigeria from 2010 to 2022

Figure 3.1 shows that the education budget (EB) of Nigeria has been on the rise relative to the total budget (TB); however, the percentage of the education budget to the total budget (%EBTB) has not proportionately increased. From 2010 to 2022, the %EBTB fluctuated, varying from 5.10% to 10.7% and ultimately settling at 5.40%. This falls short of UNESCO's benchmark of 20%, indicating a lack of attention to the educational sector in Nigeria. This has resulted in limited access to quality education, inadequate educational materials and infrastructure, and a lack of focused investments in the educational sector. As a result, Nigeria is unable to reach its full potential in the development of its human capital. The government expenditure on education in Nigeria is classified into two parts– capital expenditure and recurrent expenditure. Below is the trend of capital expenditure and recurrent expenditure on Education in Nigeria from 2010 to 2021.

Trend in Government Recurrent and Capital Expenditure in Education in Nigeria (2010 - 2021)

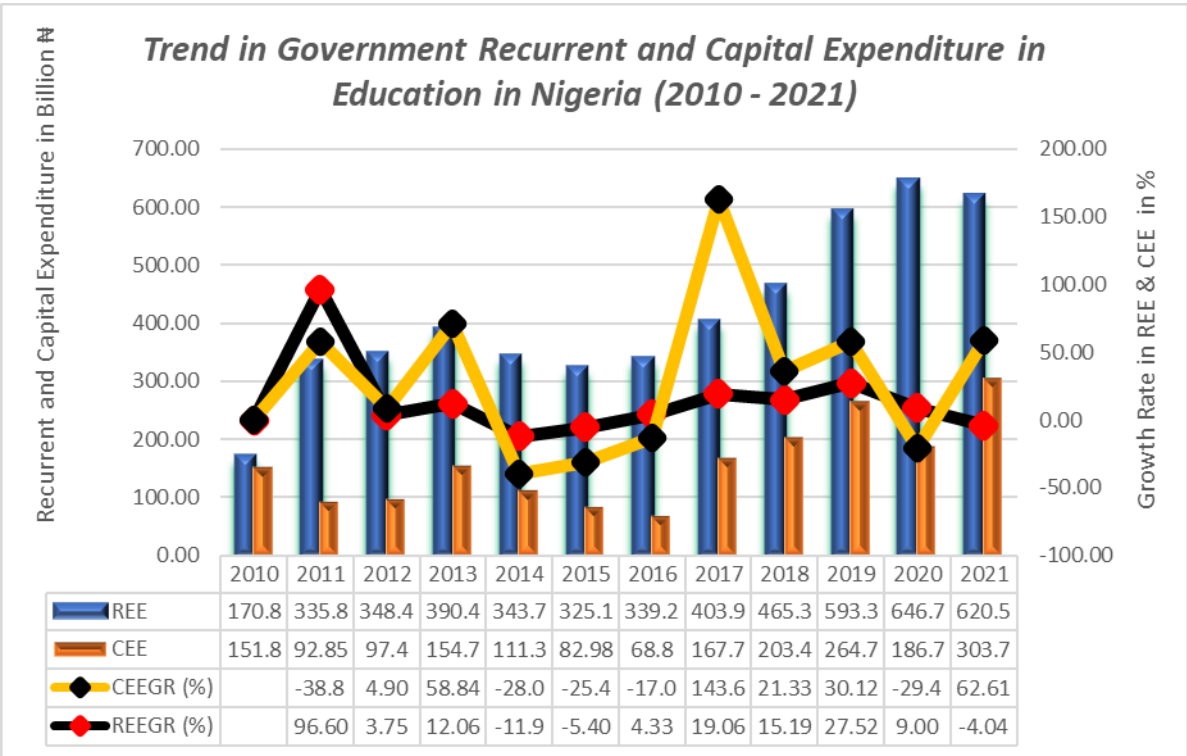|	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
REE	170.8	335.8	348.4	390.4	343.7	325.1	339.2	403.9	465.3	593.3	646.7	620.5
CEE	151.8	92.85	97.4	154.7	111.3	82.98	68.8	167.7	203.4	264.7	186.7	303.7
CEEGR (%)		-38.8	4.90	58.84	-28.0	-25.4	-17.0	143.6	21.33	30.12	-29.4	62.61
REEGR (%)		96.60	3.75	12.06	-11.9	-5.40	4.33	19.06	15.19	27.52	9.00	-4.04

Figure 3.2: Trend of Government Recurrent and Capital Expenditure on Education in Nigeria from 2010 to 2021

According to Figure 3.2 above, government expenditure on education is primarily made up of recurrent expenditures (REE) and capital expenditures (CEE). Capital expenditure on education includes government expenditures on class/lecture rooms, administration offices, laboratories, libraries, other school facilities, and internal school roads. Nigeria's government capital expenditure on education has been irregular from 2010 to 2021. The growth rates in the CEE within the stated period were only significant in 2013, 2017 and 2021, with 58.84%, 143.6% and 62.61% increases, respectively. This suggests periods of intensive follow-up of education policies in Nigeria. Government recurrent expenditures on education (REE) in Nigeria have been relatively consistent in their growth. The growth rate has been consistent throughout the years, with the exception of -11.95%, -5.40%, and -4.04% in 2014, 2015, and 2021. It is estimated that the Nigerian government spends more on recurrent expenditures on education than it does on capital expenditures.

The recurrent expenditure on education covers the salaries of personnel in the education sector, maintenance of school facilities, and other short-term obligations needed to run the education system.

3.1.2 Descriptive Overview of Human Development Index

In the case of Nigeria's human development index, its trend has not been static over the years. See Figure 3.3 below.
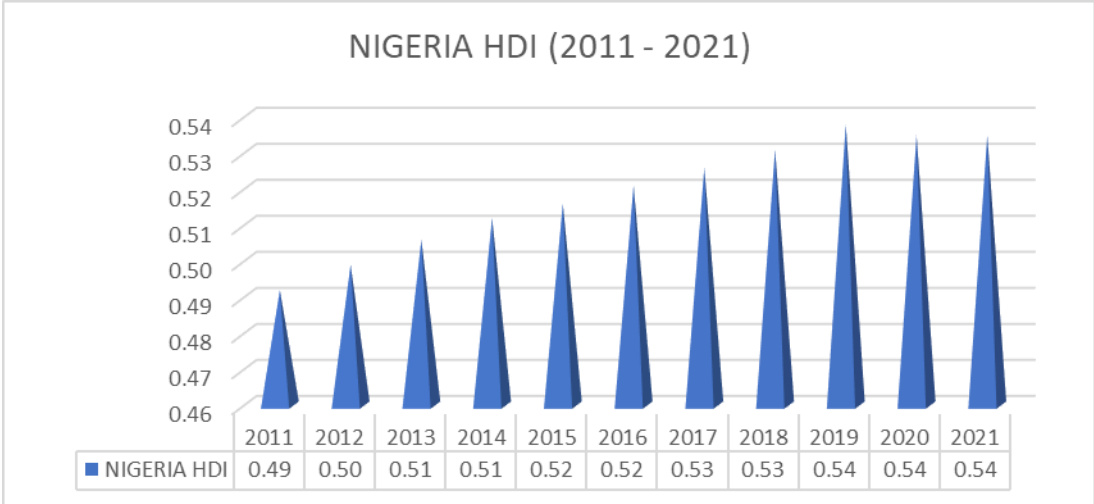

NIGERIA HDI (2011 - 2021)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
NIGERIA HDI	0.49	0.50	0.51	0.51	0.52	0.52	0.53	0.53	0.54	0.54	0.54

Figure 3.3: Trend of Human Development Index in Nigeria (2011 - 2021)

From the trend of the human development index (HDI) in Nigeria for the illustrated period, it is evident that HDI has been on the increase over the years. In 2010, the HDI stood at 0.48 and later increased to 0.50 in 2012. Also, the value grew to 0.52 and 0.54 in 2015 and 2020, respectively. This reveals that there is a marginal increase in Nigeria's HDI over the period.

From the illustrations, government expenditures on education and human development index (HDI) in Nigeria reveal similar trends. Over time, both have increased, with government spending on education fluctuating while HDI has grown steadily. Therefore, these results indicate that increased expenditures on education have led to corresponding increases in HDIs, indicating that investments in education have positively impacted Nigeria's overall development. This is a positive sign for Nigeria's future, given that investment in education is essential for long-term social and economic growth.

3.1.3 Relationship between education expenditures and Human Development Index

We can deduce the following statistical behaviour in the employed variables as revealed in the descriptive statistics (see appendix 2).

Mean: The Human Development Index (HDI) has an average value of 0.52. Government expenditure on education (GEE) has a mean value of N505.7384 billion, while the Tertiary Education Trust Fund (TETF) has an average value of N195.7009 billion. It is evident that GEE has a higher mean value than TETF, with a difference of 61.3%. It is noteworthy that both GEE and TETF attained their respective mean values in the same year, 2012, indicating that the government has been consistently investing in the education sector.

Standard Deviation: The higher standard deviation seen in GEE compared to TETF suggests that GEE carries a greater level of risk. This is due to the potential for corruption, mismanagement, and other issues that can arise in government settings. TETFund, however, has a lower standard deviation, indicating that it is less prone to these issues due to its requirement to report to the Federal Ministry of Education and its potential for disciplinary action if mismanagement is found.
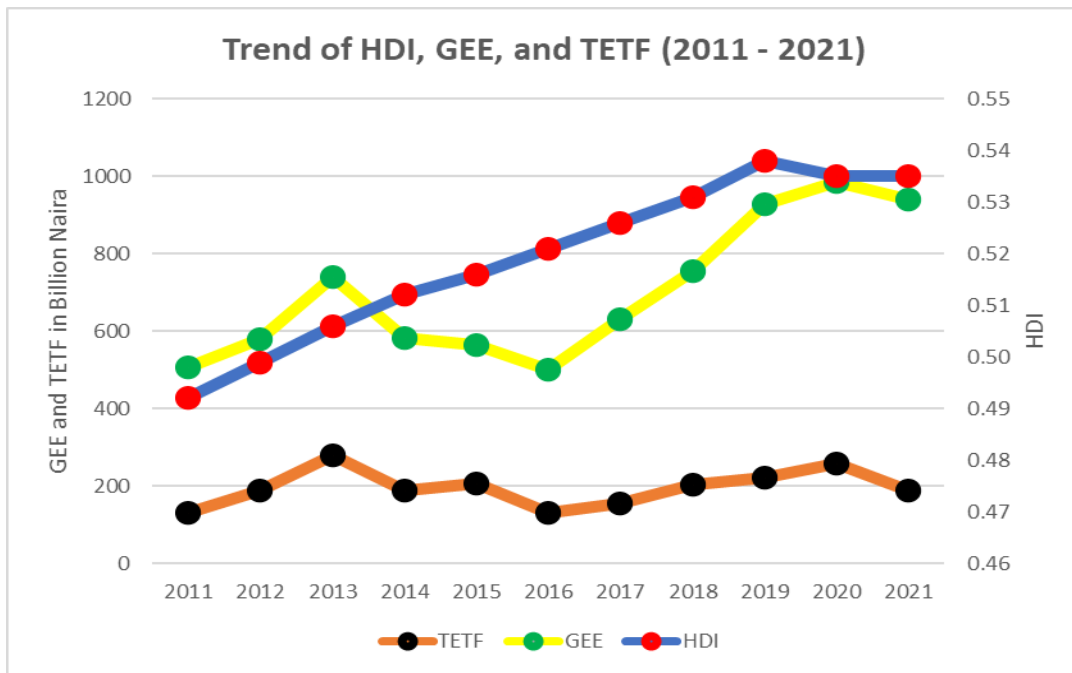
Figure 3.4: Trend of Human Development Index (HDI), Government Expenditure on Education (GEE), and Tertiary Education Trust Fund (TETF) in Nigeria.

As critically observed, it is noticed that the trends of GEE and TETF are identical from 2011 to 2016 before a slight variance in their trend. GEE assumed a significant increase until 2020, while TETF maintained a slightly increasing trend until 2020. This sudden variance in its movement could be attributed to the transition in the political leadership of the country, which might have resulted from structural changes in various institutions and agencies.

3.2 Results

3.2.1 Stationarity Test

To avert the occurrence of spurious results, there is a need to investigate the evidence of unit root so as to be sure that the parameters are estimated using time series data that are stationary. To this goal, the Augmented Dikky-Fuller (ADF) is adopted to ensure stationarity of the used variables because stationary variables are helpful both in the short run and long run in forecasting. For better performance of the result, a logarithm was taken on GEE and TETF. The ADF test statistic is compared to the critical value at a given significance level (in this case, 5%). If the ADF test statistic value is less than the critical value, then the time series is said to be stationary.

Table 3.1: Result of Stationarity Test (Using ADF)

Variable	ADF test statistic	Critical Value 5%	Order of Integration	Prob.
HDI	-4.403666	-3.320969	I(1)	0.0125
LnGEE	-3.568338	-3.320969	I(1)	0.0362
LnTETF	-4.847218	-3.320969	I(1)	0.0073

Source: Extraction from Eview

From the ADF stationarity test result, as shown above, in Table 3.1, comparing the ADF test statistic value with the Critical values at a 5% significant level, every one of the variables is stationary at the difference I(1). This goes to reveal that all variables have a significantly predictive trend and qualify for subsequent estimation and forecast as they are all integrated in the order I(1). Ordinarily, this appearance of all the variables being integrated at I(1) would have required Johansen Co-integration for a long-run test; however, for a robust result, especially as it concerns the brevity of the study period, the ARDL technique is recommended for such situation which will be presented next (Markit, 2017, pp. 295-312).

3.2.2 ARDL Error Correction Test

Here comes the final test upon which the major findings and discussions in this study anchor. Its outcome greatly determines the answer to our research questions and hypotheses. First of all, the appropriate lag selection needs to be done. The lag selection in the model helps in the flexibility and reduction of the multicollinearity issue. Consequently, a lagged variable analysis provides robust estimates of the effects of the independent variables on the dependent variable. The lag order selection for our ARDL model was based on the Schwarz information criterion (SIC). From the optimum lag length selection exercise, the minimum value of the AIC is -8.8 (see Appendix 3), and the model that gives this minimum value is ARDL (1, 1, 1). This implies that a model that includes one lag of the dependent variable (HDI), one lag of GEE, and one lag of TETF is the best description of our time series data.

Table 3.2: ARDL Error Correction Test Results

ARDL Error Correction Regression
Dependent Variable: D(HDI)
Selected Model: ARDL(1, 1, 1)
Case 1: No Constant and No Trend
Sample: 2011 2021
Included observations: 10

ECM Regression
Case 1: No Constant and No Trend

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LnGEE)	0.009722	0.006981	1.392641	0.2225
D(LnTETF)	0.005842	0.003570	1.636459	0.1627
CointEq(-1)*	-0.046122	0.009677	4.766153	0.0050

R-squared	0.493877	Mean dependent var		0.004300
Adjusted R-squared	0.349270	S.D. dependent var		0.003302
S.E. of regression	0.002663	Akaike info criterion		-8.775206
Sum squared resid	4.97E-05	Schwarz criterion		-8.684431
Log likelihood	46.87603	Hannan-Quinn criter.		-8.874787
Durbin-Watson stat	2.346104			

Source: Extraction from Eviews

The relevant essential elements of this result, as displayed in Table 3.2, are found in the last two panels. These elements include the R-squared, Durbin-Watson stat, Coefficients, and the t-statistic Probability values. The Coefficients and the t-Statistic Probabilities are directly concerned with the answers to the research questions posed in this study. While the R-squared and Durbin-Watson stat centres on the response of the dependent variable due to the combined change effect of the independent variables.

As observed, the R-squared has a value of 0.49 which is approximately 49.4%. This signifies the influence of the independent variables (GEE and TETF) on the dependent variable (HDI). This implies that 49.4% of the changes in the human development index arising from the angle of education policy in Nigeria can be explained by government expenditure on education and tertiary education trust fund within the study period. In other words, 50.6% of the changes in the HDI are caused by other elements of education policy which are not employed in this study. Such other elements may include contents of education policy (that is, the curriculum), pedagogical policy (i.e. the methods, skills and techniques of teaching and learning) and distribution policy (Bashar & Sifawa, 2022).

The robustness of this result is further buttressed by the Durbin-Watson statistic of 2.35, which falls within the acceptable region 1.5 to 2.5 (Markit, 2017, pp 14,99), thereby clearly indicating that there is no effect of serial correlation problem among the variables used in the study. Also, as evidenced in Table 3.2 above on the Autoregressive Distributed Lag (ARDL) error correction result, the Co-integration Equation coefficient of -0.046 shows that the error correction term is correctly signed and significant in both cases, implying that the discrepancies between the short-run and long-run equilibrium can be corrected each year by the tone or speed of 4.6% in the model.

Furthermore, Table 3.2 reveals that the change in government expenditure on education has a positive effect on the change in the HDI, with a coefficient of 0.0097 and a t-statistic of 1.392641. This indicates that a 1% increase in GEE is associated with a 0.97% increase in HDI, and this effect is not statistically significant as the probability values of 0.22 are above the 0.05 and 0.01 significance levels. Also, a change in the tertiary education trust fund also exerts a positive effect on the HDI, with a coefficient of 0.0058 and a t-statistic of 1.636459. This indicates that a 1% increase in TETF is associated with a 0.58% increase in HDI, and this effect at 16.27% is above the critical value of 5%, as well the effect is not statistically significant. Finally, the cointegration equation (-1) has a negative effect on the change in the HDI, with a coefficient of -0.046 and a t-statistic of 4.77. This indicates that a 1% decrease in the cointegration equation is associated with a 4.61% decrease in HDI, and this effect is statistically significant at the 0.50% level.

The results of this ARDL error correction regression indicate that increases in both GEE and TETF are associated with increases in the HDI, while decreases in the cointegration equation are associated with decreases in the HDI. This suggests that investments in education can have a positive impact on human development, while decreases in the cointegration equation can have a negative impact. Overall, these results suggest that policies aimed at increasing investments in education and maintaining a stable cointegration equation can help to improve human development.

3.3 Discussion of Result

All the efforts in this study have been geared towards providing practical answers to the research questions in the study. This has informed the review of several extant related literatures as well as the use of various estimation techniques that are prerequisites for

attaining dependable answers to the research questions. Therefore, answers to these questions are provided below in reference to the estimated results in Table 3.2.

Research Question One

What kind of relationship exists between education policy and human capital development?

From the result of this study, as revealed in Table 3.2, government expenditure on education (GEE) has a positive coefficient and t-Statistic value. Also, Tertiary Education Trust Fund (TETF) shows a positive coefficient and t-Statistic value. This implies that education expenditures contribute to the advancement of human capital development in Nigeria. That is to say, that expenditure on education, whether through the government or TETFund, contributes to the enhancement of HDI in Nigeria.

Expenditure on education by any government, when well administered and monitored, can promote the well-being of the people (Erasmus, 2021). The government is the principal actor in any education policy. Furthermore, when there is a 'political will' for the government to back any education policy, funding the implementation of such policy will not be a problem. Since government expenditure permeates the entire region or country, government efforts directed at the educational sector can easily enhance the development of the citizens' well-being. Education plays a vital role in the present competitive economy as it has an effect on people's economic status and health in some way, both of which are critical to sustained growth and development as the economy grows and develops. As the government establishes schools and furnishes them with necessary learning facilities, at a given time, learners who are beneficiaries of these education programmes will be equipped with the appropriate skills needed for national development. As earlier pointed out under the conceptual framework, Tertiary Education Trust Fund is a compulsory 2% tax imposed on all registered companies in Nigeria to build, revitalise, and equip tertiary institutions and train their education personnel, especially on research exploration. Therefore, the collaboration of the government as well as the corporate sector through this particular education policy will enhance human capital development positively.

Research Question Two

To what extent does education policy impact human capital development?

From the result of this study, as revealed in Table 3.2, government expenditure on education (GEE) has a t-Statistic probability value of 0.22. This p. value is above the 0.05 significance level, which shows that GEE's impact on the human development index is not statistically

significant. This result implies that government expenditure on education marginally influences human development index. Also, the TETF t-Statistic probability value of 0.1627, which is more than 0.05 significance level, signifies that TETF does not significantly impact the human development index in Nigeria within the study period.

Several factors could account for the nominal effect of government expenditures on education on the human development index. Possibly, government expenditure is not being used effectively or efficiently to improve educational outcomes. For example, the funds may be going towards building new schools or hiring more teachers, but the quality of education may not be improving. There is also the possibility that the government is not investing in other areas that are vital to human development, such as health care, infrastructure, and social services. Health care is an essential factor in human development, as it ensures that people have access to quality medical care and are able to lead healthy lives. Infrastructure is also important, as it provides the necessary infrastructure for economic development, such as roads, bridges, and power grids. Social services are essential for providing access to basic needs, such as food, housing, and education. Without investments in these areas, the effect of government expenditures on education on the HDI will be nominal. This is because the HDI takes into account a variety of factors, such as health, education, and living standards, and if these other areas are not adequately addressed, the HDI will not be able to reflect the progress of a country accurately. Therefore, it is crucial for governments to invest in all areas of human development in order to ensure that the HDI is an accurate measure of progress.

Additionally, the government's expenditures may not be targeting the most disadvantaged groups, which may limit the impact of these expenditures on human development. For example, if the government is spending money on education initiatives that primarily benefit the wealthy, then the impact on human development may be limited. This is because the most disadvantaged groups are often the ones that requires the most help in terms of educational opportunities, and if they are not receiving the resources they need, then the impact of government expenditures on human development may be minimal. Additionally, suppose the government is not investing in initiatives that are designed to reduce inequality, such as providing free or low-cost education to those who cannot afford it. In that case, the impact of government expenditures on human development may be limited. Furthermore, the government's expenditures may not be allocated transparently and accountable, which can lead to corruption and mismanagement. Without proper tracking and monitoring, funds may not be used for their intended purpose or may not reach the intended beneficiaries. A lack of

equity in how the funds are allocated may also leave some groups out of the benefit of government expenditures. This can further limit the impact of these expenditures on human development.

Also, as observed in the findings, expenditures from the intervention fund specially meant for tertiary education (TETF) has contributed to the growth of tertiary education in Nigeria, however, to a low extent. The tertiary institution is a research-based institution and, by international standards, is an environment where human capital that can fit into various sectors of the economy is groomed. Sectors such as health, industrial, education, science, technology, agro-allied, and manufacturing sectors are supposed to be direct beneficiaries of the thoroughbred graduates from tertiary institutions. However, in Nigeria, the contrary is the case. The incessant strikes by tertiary institutions' lectures due to their perceived ill-treatment and neglect of basic institution facilities have contributed to the churning of half-baked graduates (Sunday, 2021). In this case, education policy is not significantly promoted even though it has enhanced human capital development.

The educational sector is capital-intensive, requiring a vast quantum of funds to finance it. Areas such as adequate school facilities (i.e. classrooms, laboratories, halls, libraries, offices, and hostels where necessary), the state-of-the-art equipment needed in the various departments, recruitment and prompt remunerating of qualified teachers and non-academic personnel, regular training of educational workers demand a tremendous amount of money. Moreover, individuals and corporate bodies may be unable to fix these basic national educational requirements, especially as it concerns the whole country. This calls for the government and in partnership with corporate bodies through their regular tax commitment to intervene with adequate funds to address these cardinal areas in the education sector. This is where most countries especially developing countries, have failed (Bell & Stevenson, 2006, p. 50).

This study's findings correspond with studies of Khaemba et al. (2014); Petal and Annapoorna (2019, p. 105), whose findings show that public expenditure on education exerts a positive impact on human capital development. This implies that proper utilization of appropriate expenditure on education is capable of promoting the number and quality of human capital development.

CONCLUSION & RECOMMENDATIONS

The findings from this study, which aimed to examine the impact of education policy on human capital development, revealed that education policy enhances human capital development in Nigeria marginally. This implies that government effort in the education sector promotes the stock of human capital in the country.

As also noted in the findings, external financial effort besides the government finances in education is a catalyst to human capital development. This emphasizes the role of public-private partnerships in developing a nation's human capital. This is because the quality of education policy determines the calibre of human capital produced in such an economy.

As evident from the actual budgetary allocation of funds for the education sector, despite the immense importance of the education sector in all spheres of life, including individual, social, and economic, successive governments are neglecting the sector. In recent years, the Nigerian government has not met the recommended standard of allocating 20% of the annual budget to the education sector, as the United Nations Educational, Scientific and Cultural Organization (UNESCO) stipulated. In comparison to other African countries, such as Swaziland, Botswana, Morocco, Ghana, Burkina Faso, Kenya, Tunisia, and Uganda, who have allocated a significant percentage of their respective annual budgets to education, Nigeria's average annual budgetary expenditure to the education sector of 7.16% from 2010 to 2022 is significantly lower.

Having an appropriate and effective budgetary allocation to the education sector in Nigeria can positively influence some other aspects of education policy that the education expenditure can not directly account for, as stated in the study estimation analysis. For instance, a significant improvement in the reward system of education personnel or having adequate research and teaching facilities can positively influence the commitment of the teachers to delivering quality learning experiences to their students. The consistency of such commitment will translate into having a productive human resource. In reality, Nigeria's education system has been characterised by inadequate provision of educational infrastructural facilities and poor concerns for the welfare of educational personnel, which cuts across all the levels (primary, secondary, and tertiary institutions). This has manifested in long-age dilapidated buildings and carefree and laissez-faire attitudes of teachers.

Some issues are assumed must have prevented the Nigerian government from significantly improving its education policy. These include inaccurate data systems, misappropriated funds, and the disparity between educational content and current work demands. Nigeria

lacks a sound data system, which makes it challenging to plan and provide students and pupils with educational materials. Also, the Nigerian education system is outdated and does not allow for innovation; as a result, graduates become unemployable and dependent on others as their education cannot translate into useful skills that will enable them to earn a living. This lack of employability severely impacts the country's economy, as it increases the number of people living in poverty and decreases the potential for development. The government must reform the education system to ensure that students are adequately empowered for the job market. In order to ensure that the quality of human capital produced in developing economies such as Nigeria can compete with that of developed economies, the current narrative change with a concerted effort.

The study has highlighted the need for policymakers to implement more effective education policies that align with contemporary human capital demand. It is especially true in the face of rapid technological advancements and the need for a more highly skilled workforce. Policies must be tailored to ensure that all population segments have access to educational opportunities that will help them build the skills necessary to compete in the modern job market. In this respect, public-private partnerships must be encouraged to increase external financial efforts for the development of human capital in the country. It is essential to recognize that education policy should be an ongoing investment from the government and individuals, corporate entities, and non-governmental and international governmental organizations to ensure the continual development of human capital in Nigeria.

Government education expenditures could significantly influence human capital development, but this impact may not be immediate. Education expenditure requires a consistent and substantial period before its effects start to manifest. Increasing government expenditures on education may take several years before it results in better educational outcomes, such as higher graduation rates and test scores at the high school level. Similarly, expenditure on tertiary education may take even more years for improved educational outcomes to be seen in the form of increased economic growth, improved health outcomes, and other indicators of human development. Therefore, the significant effect of government expenditures on education on the human development index may not be seen until several years after a consistent investment has been made.

This investment should focus on building the skills and knowledge of the population in order to drive economic growth and prosperity. It is also essentiaal to ensure that the right

incentives are in place to attract private investments in this area. Public-private partnerships should be seen as a mutually beneficial way to foster human development in Nigeria.

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Appendices

Appendix 1: Data on Employed Variables, all expressed in Billion Naira with the exception
of the Human Development Index

	HDI	GEE	TETF
2011	0.49	375.49599	130.74
2012	0.50	391.35156	188.44
2013	0.51	461.95253	279.36
2014	0.51	393.1331	189.61
2015	0.52	358.60202	206.04
2016	0.52	369.38065	130.12
2017	0.53	476.64902	154.96
2018	0.53	552.63908	203.28
2019	0.54	706.02949	221.06
2020	0.54	726.25513	259.56
2021	0.54	751.63414	189.54

Appendix 2: Descriptive Statistics Result

	HDI	GEE	TETF
Mean	0.519182	505.7384	195.7009
Median	0.521000	461.9525	189.6100
Maximum	0.538000	751.6341	279.3600
Minimum	0.492000	358.6020	130.1200
Std. Dev.	0.015574	153.9941	47.10905
Skewness	-0.400977	0.653846	0.239896
Kurtosis	1.901450	1.774771	2.347524
Jarque-Bera	0.847890	1.471819	0.300632
Probability	0.654460	0.479069	0.860436
Sum	5.711000	5563.123	2152.710
Sum Sq. Dev.	0.002426	237141.9	22192.62
Observations	11	11	11

Appendix 3: Criterion for Lag Selection

Akaike Information Criteria
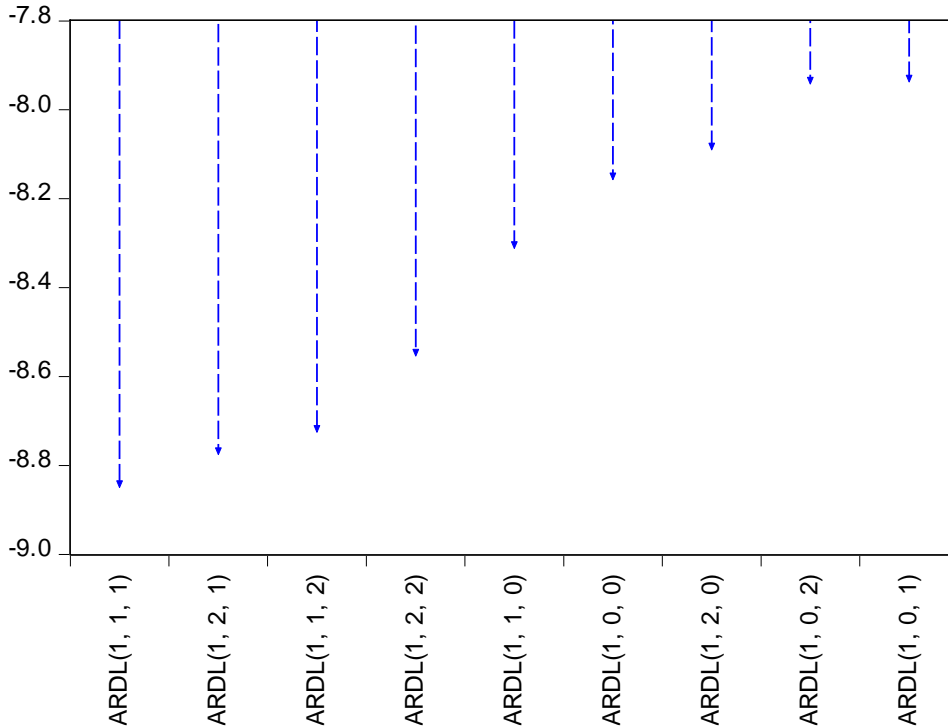
Appendix 4: ARDL Error Correction Model

ARDL Error Correction Regression
Dependent Variable: D(HDI)
Selected Model: ARDL(1, 1, 1)
Case 1: No Constant and No Trend
Sample: 2011 2021
Included observations: 10

ECM Regression
Case 1: No Constant and No Trend

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNGEE)	0.009722	0.006981	1.392641	0.2225
D(LNTETF)	0.005842	0.003570	1.636459	0.1627
CointEq(-1)*	-0.046122	0.009677	4.766153	0.0050

R-squared	0.493877	Mean dependent var	0.004300
Adjusted R-squared	0.349270	S.D. dependent var	0.003302
S.E. of regression	0.002663	Akaike info criterion	-8.775206
Sum squared resid	4.97E-05	Schwarz criterion	-8.684431
Log likelihood	46.87603	Hannan-Quinn criter.	-8.874787

Durbin-Watson stat   2.346104

* p-value incompatible with t-Bounds distribution.

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	5.408623	10%	2.17	3.19
k	2	5%	2.72	3.83
		2.5%	3.22	4.5
		1%	3.88	5.3

t-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
t-statistic	4.766153	10%	-1.62	-2.68
		5%	-1.95	-3.02
		2.5%	-2.24	-3.31
		1%	-2.58	-3.66