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An Analysis of 25 Years of Steady Democratic Governance in Nigeria's Fourth Republic (1999-2024)

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Abstract

This study analyzes the role of the three arms of Nigerian government, examines the participation of Nigerian voters in general/presidential elections and assess the problems militating against the democratic governance in Nigeria's fourth republic (1999 - 2024). Perpetration of electoral violence by desperate political parties, vote buying, frequent defecting, security threats, corruption, poor turnout of voters in presidential elections and others have been examined in this paper. Nigeria operates a presidential system of government and bicameral legislature at the centre. The study adopts system theory propounded by David Easton and Gabriel Almond. This study uses the qualitative method of research. The study revealed a steady decline in voters' turnout in Nigeria's presidential elections from 2003 to 2023. Similarly, security threats were found to have retarded economic and political developments. The study recommends legislations that can effectively address the electoral problems. The security threats in Nigeria should be seriously checked by the government using the Nigeria Armed forces. The Nigerian Armed Forces should liaise or cooperate with the neighbouring countries in combating security threats. The Independent National Electoral Commission (INEC) and political parties should embark on voters' education across the country.

Keywords: Voters, Political party, Presidential system, National Assembly, Electoral violence.

1. INTRODUCTION

The fourth republic in Nigeria kicked off in 1999 after about 16 years of military rule. Chief Olusegun Obasanjo of Peoples' Democratic Party (PDP) was democratically elected and sworn in as the Executive President of the Federal Republic of Nigeria in 1999. Nigeria, from 1979 to the present fourth republic practices presidential system of government. Presidential system is the type of government where political power is vested in the Executive President, regarded as the head of government and head of the State. Nigeria elect their leaders into various arms of government once in every four years. The elective positions in Nigerian presidential system are; President, Governors, Senators, Members of the House of Representatives, State House of Assembly, Local Government Chairmen and Counsellors (Ogu and Peter, 2023). Independent National Electoral Commission (INEC) was constituted in 1998 by Abdulsalam Abubakar military regime and charged with the responsibility of conducting free and fair elections in Nigeria. Election is therefore the process by which Nigerian citizens elect their leaders into various arms of government once in every four years.

Nigerian citizens wishing to contest elective positions must be members of registered political parties. In Nigeria's fourth republic, INEC has conducted elections in 1999, 2003, 2007, 2011, 2015, 2019, 2023 and 2024 (in Edo State). In the fourth republic, Nigeria operates separation of power, multi-party system, federalism, bicameralism, unicameralism and presidentialism (Ogu, 2021). One of the features of the Nigerian democracy is constitutionalism. The powers and functions of the 3 arms of government namely, the Executive, Legislature and Judiciary are clearly stated in the 1999 Constitution of Nigeria (as amended). The three arms of government and other government agencies are expected to carry out their schedule of duties according to the provisions of the law. The roles of INEC include; delimit the country into constituencies for the purpose of electing representatives into government, organize/conduct elections-into various level of government throughout the country, register political parties wishing to contest elections, register voters, recruit and deploy officials to different part of the country to assist in the conduct of election. The commission also enlightens the public on the system of voting, publishes regulations for the conduct of elections, fixes dates of elections provide electoral materials, counts votes and announces results of elections (Ogu and Obikaonu, 2020:107). "In 2024, this day holds special significance for Nigeria as the country faces severe economic challenges including, skyrocketing inflation, widespread unemployment and worsening insecurity under President Bola Ahmed Tinubu's administration. Nigeria is home to one of the World's largest population of people living in extreme poverty. As of 2024, over 40 percent of the population live on less than \$1.90 a day, according to the World Bank estimates. This situation has been worsened by the removal of the fuel subsidy in May 2023, which led to a sharp rise in transportation and food costs plunging millions of Nigerians into hardship" (Mu'azu, 2024:15). The problems confronting Nigeria's democratic governance in this present fourth republic include, security threats, electoral violence, vote-buying, corruption, inflation, unemployment, poor turnout of voters during presidential/general elections, and others. This study is aimed at achieving the following objectives.

- ~ To assess the functions/powers and the activities of the 3 arms of government from 1999-2024,
- ~ examine the participation of Nigerian citizens in general/presidential elections from 1999-2024,
- ~ examine the problems militating against the democratic governance in Nigeria's
- ~ fourth republic and recommend measures that will ease the problems identified.

The problem of the study is that there has been a steady decline in voters turnout in the Nigeria's Presidential elections from 2003 to 2023. This paper comprises of 8 sections. Section one (1) dwells on introduction, section two focuses on methodology, section three deals on theoretical framework, section four focuses on conceptual clarification, section five deals on literature review, section six analyzes the challenges confronting democratic governance in Nigeria's forth republic, section seven focuses on summary of findings while section eight dwells on conclusion, recommendations and references.

2. METHODOLOGY

The qualitative method being critical to the appreciation of the issues raised, this study largely relied on the qualitative method of research which “involves the collection of extensive narrative data in order to gain insight into phenomena of interest” (Peter, 2023:63). The qualitative data was sourced from published documents such as textbooks, newspapers, journals, magazines and other documentary materials relevant to the study. The data gathered was summarized.

3. THEORETICAL FRAMEWORK

This study adopts system theory which was propounded by David Easton, Gabriel Almond and Von Bentalaffy. The theory was propounded in 1953. According to Olaniyi (2001:57), “the elements that guide the understanding of this approach include, Parts, the parts must be related to the whole, each part makes a certain contribution towards the survival of the whole, the whole will need the cooperation of parts to keep it mobile”.

System theory emphasizes the cooperation of all the sub-system that constitute the political system. The failure of one sub-system may lead to the failure of the entire system, since democracy is a system. The effective participation of the electorates in the democratic process requires the cooperation of all stakeholders in Nigeria’s democracy. The Executive arm of government is constitutionally saddled with the responsibility of executing laws, legislature is in charge of making laws while the judiciary interprets the laws and adjudicating cases. INEC conducts general elections, electorates or voters are charged with the responsibility of voting the politicians into the elective positions while the mass media educate the citizens and expose the ills of the society. Effective and good governance in Nigeria fourth republic require the cooperation of all the stakeholders in Nigeria politics. It is a system.

4. CONCEPTUAL CLARIFICATION

In Nigeria’s democracy, electorates elect their leaders into elective positions once in every four years. A presidential system is the type of government where political power in the state is vested in the executive president regarded as head of state and head of government. Voters are Nigerian citizens who are 18 years and above, registered by INEC and who must have collected their voter, cards, such citizens are qualified to participate in voting during general elections. Political party is an organized group of people seeking to takeover government through electoral process. The National Assembly is the legislative body of Nigeria at the Federal level, composed of upper and lower Houses (Ogu, 2021). According to Achinulo (2020: 27), “electoral violence controversially refers to the physical and non-physical harm caused by people involved in the selection of representatives in government. It is violence associated with the election processes”. Election is the process by which citizens in democratic states elect their leaders into the elective positions.

Nigeria has been operating bicameral legislature at the centre and unicameral legislature at the states right from 1979 to the present fourth republic. Bicameralism is the existence of two legislative houses. In Nigerian democracy, the upper house is known as House of senate

composed of 109 members while the lower House is called House of Representatives made up of 360 members. The two Houses is known as the National Assembly. The National Assembly is the law-making body at Federal level (469) members. Federalism is a system of Government where political powers are constitutionally shared between the central government and the component units.

5. LITERATURE REVIEW

Powers/Functions of Nigerian Executive President

Right from the second republic to this present fourth republic, Nigeria has been practicing presidential system of government. The president is vested with the real executive power. The executive arm of government is responsible for implementing the law, policies and programmes of the state (Nigeria). The executive arm of Nigerian Government includes, the President, Vice President, Governors, Deputy Governors, Ministers, Commissioners, Public Service and Armed forces. According to Ibiyemi et al (2001:36), the powers of an executive president are as follows:

The President is both the head of state and head of government. He appoints ministers and other members of his cabinet (subject to the approval of the legislature. He is the commander in Chief of the armed forces. The president prepares and presents annual budget to the legislature. The president nominates for approval ambassadors and other representatives of the country into foreign countries subject to the approval of the legislature.

Apart from the above-mentioned functions, the Executive President of Nigeria performs other functions like, signs bill into laws. The bills passed in the National Assembly will be signed by the president, the president attends the head of States and government meetings of international organizations, awards nation honours to deserving citizens, exercises prerogative of mercy, formulates and implements policies and programmes. The civil/public service help the Executive in policy formulation and execution. In Nigeria's 4th republic, there is supremacy of the constitution. The three arms of government are expected to carry out their duties according to the provisions of law (1999 constitution as amended).

One of the major functions of the executive organ of the government is to protect lives and properties of Nigerian citizens. Are Nigerian citizens and properties adequately protected by the government presently? Are there security threats in Nigeria presently?

According to Ojo (2019:25), "In the 20 years of the return to the civil rule, how has the country fared? In this republic, we have had four presidents namely, Obasanjo, Umaru Yar'adua, Jonathan and Buhari. We have had the incumbent Muhammadu Buhari. We have had eight Senate President-Evans Enwerem, Chuba Okadigbo, David Mark, Bukola Saraki and yesterday (Tuesday, Ahmed Lawal. Nigeria has also had eight speakers of House Representatives namely; Salisu Buhari, Ghali Umar Na'aba, Aminu Bello Maisair, Patricia Eteh, Dimeji Bankole, Aminu Waziri Tambuwal, Yakubu Dogara and now Femi Gbajabiamila. How have these political leaders served us? It is however very unfortunate that

there is not much to cheer, weather we're looking at 59 years of independence or 20 years of the fourth republic". There has been 25 years of a steady democratic governance in the fourth republic. Is the executive arm of government efficient in discharge of their schedule of duties? Tinubu Ahmed is the president of Nigeria presently:

Contributions of the Executive arm of Government in the Fourth Republic (1999-2024)

Chief Olusegun Obasanjo became the president of the Federal Republic of Nigeria in 1999. Chief Obasanjo introduced Universal Basic Education (UBE) on 30th September 1999. UBE is free education to all Nigerians from primary to Junior secondary School. The implementation of the UBE kicked off in 2004/2005 (Ogu, 2021). Obasanjo also constituted Economic and Finance Crime Commission (EFCC) and Independent Corrupt Practices and other Related Offenses Commission (ICPC) aimed at eliminating corruption in Nigeria Public Service. The 4th republic leaders also constituted Niger Delta Development Commission (NDDC). National Poverty Eradication Programme was established. The objectives of the programme were to eradicate poverty in Nigeria, bridge the gap between the rich and the poor and provide employment and skills for the youths. Obasanjo also embarked on reform in civil service.

Monetization policy was introduced in this very 4th republic. The aim of monetization policy is to enable public servants to own their own personal houses, minimize waste by Government, promote maintenance culture and enable Nigerian Government prosecute more capital projects. Contributory pension scheme was also established in 2004. The main objective of the scheme is to ensure that every person who has worked in either the public or private sector receives his retirement benefits as and when due, enable individuals save money for their old age, thereby reducing old age poverty and establish a standard rule for the administration and payment of retirement benefits in public and private sectors (Ogu, 2021:182). Amnesty programme was embarked upon by Musa Yar'adua aimed at forgiving and reconciling groups in Nigerian Federalism so as to ensure unity and peace.

Dr. Goodluck Jonathan in 2011 constituted an academic organ of National Assembly called "National Institute for legislative studies (NILS) the objectives of the Institute is act as a world class multi-disciplinary institution capable of providing training, capacity building, research, policy analysis and extension service for the legislature at Federal, State and Local Government and strengthen democratic process and structures. New Federal University were established by Dr. Goodluck Jonathan aimed at job creation and acquisition of higher education for Nigerians. In the presidential election in Nigeria in 2015, Dr. Goodluck Jonathan congratulated the winner of the election and peacefully handed over power to Muhammadu Buhari on 29th May 2015. President Muhammadu Buhari who assumed office on May 29th 2015, have been fighting corruption. Corruption is one of the factors militating against Nigerian public service/democracy. President Ahmed Tinubu assumed office on 29th May 2023 and have been fighting corruption and security threats.

National Assembly of Nigeria in the Fourth Republic (1999-2024)

The National Assembly of Nigeria is the law-making body at the Federal level. Nigeria operates bicameral legislature at the Federal level. The House of Senate is composed of 109 members while the House of Representatives is composed of 360 members. According to Ogu (2021:161-163), the functions of the National Assembly of Nigeria in the present fourth republic include; law making, constitutional making and amendment, approval of appointments, budget approval, approval of treaties, representation/expression of the people's interests, power to investigate/oversight functions, creation of states and power to impeach president/Executive if he/she commits impeachable offence. Apart from the above-mentioned functions, the National Assembly of Nigeria can investigate complaints made by the members of the public against government departments and take appropriate measures to address the situation. The House of Representatives also received 111 petitions from June 6th 2011 to 12th March 2015. The petitions were considered and resolutions adopted. Few of such petitions were dismissed for

lack of merits while some were awaiting considerations. (Tsokwa, 2015:83-114). The National Assembly has contributed immensely in maintain and promoting Nigerian democracy in this present fourth republic. The Senate President in this present 10th National Assembly is Godswill Akpabio. The National Assembly can be described as the centre of Nigerian Democracy.

Nigerian Judiciary and Functions

The judiciary is the arm of government saddled with the responsibility of interpreting the constitutions in the State. The Judicial arm of Nigerian government is not elected, they are appointed based on their professionalism. The judicial arm of Nigerian government can be described as the custodian of democracy and defender of human rights. The judiciary is responsible for trial of cases involving individuals, organizations and the State. This arm of government is made up of judges in various courts. According to Ibiyemi et al (2001:49), the functions of the judiciary are:

The judiciary interpret the law. Settles dispute between any parties, individuals, organisations and government whether they are civil or criminal cases. The judiciary ensures that the law is obeyed, determines whether a person, organisation or government is innocent or guilty

Apart from the above-mentioned functions, the judiciary protects individuals and group rights by ordering the release of persons unjustly detained. Judiciary can also advice the other arms of government on constitutional preparation, amendment and exercise of prerogative of mercy (Ogu, 2021: 172). The Chief Justice of Nigeria can be regarded as the head of the judiciary. The judiciary officials are appointed by the President, Governors, Federal Judicial Service and the State Judicial Service Commission, subject to confirmation by the Legislature. The present Chief Justice of Nigeria is, Justice Kudirat Kekere-Ekun sworn in on 23rd August 2024 (Ogundele and Ikhilae, 2024:2).

Challenges facing the Judiciary.

One of the problems militating against the judicial arm of the Government is court congestion that causes delay of court processes. According to Bakare (2019:101), “Till date, there are cases in court that have been pending for over 20 years. There are awaiting trials inmates who have been behind jail cells for longer period than they will get even if they are eventually convicted for the crimes they are charged with”. Delay in court processes is not in the best interest of Nigerian citizens.

Participation of Nigerian Voters in Presidential Elections.

Table 1: Voter Turnout in Nigeria’s Presidential Election (1999-2023)

Registered	Years	Voted
58m.	1999	30m.
61m.	2003	42m.
63m.	2007	34m.
74m.	2011	39m.
67m.	2015	29m.
82m.	2019	29m.
93m.	2023	25m.

Source: Olalekan and Dickson, 2023:12)

Table 1 above shows the voters turnout in Nigeria’s presidential elections (1999-2023).

Analysis of Voter Turnout in Nigeria’s Presidential Elections (1999-2023) in Percentage.

The data in the table 1 above were analyzed using simple percentage.

1999 Presidential Election

In 1999 presidential election, 58 million Nigerians registered with INEC and 30 million voted. The percentage of the eligible voters who voted was:

$$\frac{30,000,000}{58,000,00} \times \frac{100}{1} = 52\%$$

The percentage of registered voters who did not vote was:

$$58\text{m} - 30\text{m} = 28\text{m}$$

$$\frac{28}{58} \times \frac{100}{1} = 48\%$$

The above calculation shows that in the 1999 election, 52% of eligible voters voted, while 48% did not vote.

2003 Presidential Election Turnout

In 2003 presidential election, 61 million registered and 42 million voted. The percentage of those who voted was:

$$\frac{42\text{m}}{61\text{m}} \times \frac{100}{1} = 69\%$$

The percentage of voters who did not vote was:

$$61\text{m} - 42\text{m} = 19\text{m}$$

$$\frac{19}{61} \times \frac{100}{1} = 31\%$$

The above calculation shows that in 2003, 69% voted, while 31% did not vote

Turnout of Voters in 2007 Presidential Election

In 2007, 63 million registered and 34 million voted. The percentage of those who voted was:

$$\frac{34\text{m}}{63\text{m}} \times \frac{100}{1} = 54\%$$

The percentage of voters who did not vote was:

$$63 - 34 = 29\text{m}$$

$$\frac{29}{63} \times \frac{100}{1} = 46\%$$

In 2007 presidential election, 54% voted while 46% did not vote.

2011 Presidential Election

In 2011, 74 million registered and 39 million voted. The percentage of those who voted was:

$$\frac{39\text{m}}{74\text{m}} \times \frac{100}{1} = 53\%$$

The percentage of those who did not vote was:

$$74\text{m} - 39\text{m} = 35\text{m}$$

$$\frac{35}{74} \times \frac{100}{1} = 47\%$$

The calculation above shows that in 2011, 53% voted while 47% did not vote.

2015 Presidential Election

In 2015, 67 million registered and 29 million voted. The percentage of those who voted was:

$$\frac{29\text{m}}{67\text{m}} \times \frac{100}{1} = 43\%$$

The percentage of voters who did not vote was:

$$67\text{m} - 29\text{m} = 38\text{m}$$

$$\frac{38}{67} \times \frac{100}{1} = 57\%$$

The analysis of the 2015 presidential election shows that only 43% voted, while 57% did not vote.

2019 Voter Turnout in Presidential Election

In 2019 presidential election, 82 million registered and 29 million voted. The percentage of those who voted was:

$$\frac{29\text{m}}{82\text{m}} \times \frac{100}{1} = 35\%$$

The percentage of voters who did not vote was:

$$82 - 29 = 53\text{m}$$

$$\frac{53}{82} \times \frac{100}{1} = 65\%$$

The above analysis shows that in 2019, only 35% of the eligible voters voted, while 65% did not vote.

Turnout of Voters in 2023 Presidential Election

In 2023 presidential election, 93 million Nigerians registered and 25 million voted. The percentage of those who voted was:

$$\frac{25\text{m}}{93\text{m}} \times \frac{100}{1} = 27\%$$

The percentage of voters who did not vote was:

$$93\text{m} - 25\text{m} = 68\text{m}$$

$$\frac{68}{93} \times \frac{100}{1} = 73\%$$

The calculation above shows that 27% of the eligible voters voted, while 73% did not vote. The turnout of voters in the 2023 presidential election was the poorest when compared with the previous years in the 4th republic. The above analysis shows that there has been serious decline in voters' turnout in Nigeria's presidential elections since 2003 to 2023. The decline was from 69% in 2003 to 27% in 2023. Also, in the governorship election conducted by the INEC in Edo State on 21st September 2024, there was poor turnout of voters. The turnout of voters in Edo governorship election was about 25.6 percent

6. THE CHALLENGES CONFRONTING NIGERIA'S DEMOCRATIC GOVERNANCE IN THE FOURTH REPUBLIC (1999-2024)

There have been challenges militating against democratic governance in Nigeria Fourth republic. **Security Threats:** There have been security threat in Nigeria in this present fourth republic. The activities of Boko Haram and other Bandits have led to the death of many Nigerians and properties worth substantial amount of money had been damaged. The activities of kidnappers and other terrorists had led to the death of many innocent citizens. Many citizens are afraid to travel from one town to another for fear of being killed or kidnapped. Some people are afraid to sleep in their personal houses. According to Olabisi et al (2022:1), "it was a black Sunday in the ancient town of Owo, Ondo State as gunmen attacked Saint Francis Catholic Church, Owaluwa area of the town near the Olowo of Owo's palace, killing scores of worshippers during service. The gunmen were said to have used dynamites to blow the alter of the church while the service was going on, with parts of the alter carving in following sporadic shooting of many worshipers. No fewer than 50 persons were said to have been killed by the gunmen". In 2014, about 200 Chibok girls were kidnapped by Boko Haram set. "Barely 24 hours after the Inspector-General of Police, Usman Baba, patrolled the Abuja-Kaduna high way, terrorists raided houses in Jere town along the route and kidnapped 22 persons" (Godwin, 2022:7). Security threats is a serious problem confronting Nigeria's fourth republic.

Corruption

Corruption is a serious problem in Nigeria's fourth republic presently. "For a country that scored 27 points out of 100 in 2018 corruption perception index (CPI), ranking 144 out of 180 and whose development has been arrested over the decades due to this menace, the population is always happy to rally round any effort to confront the monster, no matter how insignificant" (Okino, 2019). Corruption is one of the factors militating against Nigeria's development. It is a situation where the money meant to satisfy the yearnings and aspirations of the citizens are diverted to into personal use.

Poverty/Unemployment

According to Ojo (2019:25), "Nigeria is the world capital of poverty with more than two third of the population living below the poverty line. Our unemployment figure is soaring with the National Bureau of Statistic official figure putting it at 23 percent. Our education sector is comatose while our health sector has virtually collapsed. Nigeria rank among the countries with the lowest life expectancy. According to the latest World Health Organisation data published in 2018, life expectancy in Nigeria was: male 54.7, female 55.7 and total life expectancy was 55.2 which gave Nigeria a world life expectancy ranking of 178." Poverty and unemployment is very high in Nigeria presently. There is inflation and the price of one litre of petrol presently is N1030. "The House of Representatives has called on the Federal government to reverse the recent pump price hike and take immediate steps to stabilize petrol and cooking gas prices through interventions like temporary price relief measures" (Alkassim and Abbas, 2024:13).

Cross Carpeting among Nigerian Politicians

Cross-carpeting is one of the features of multi-party system like Nigeria. According to Salami (2017:16), “over the years, politicians in Nigeria have been decamping from one political party to another as a tool for expressing dissatisfaction at intra-party matters but also, when they lose party nomination for elective or appointive post. The defection by many politicians in the country has again confirmed their vulnerability to changing platforms even under questionable circumstances”. The rules that guide defection should be strictly adhered to. According to Ikechukwu and Daniel (2024:8), “the court of Appeal sitting in Abuja, yesterday vacated the court order sacking 25 members of the Rivers State House of Assembly who defected from the People’s Democratic Party (PDP), to the ruling All Progressive congress (APC).”

Electoral Violence

One of the causes of political apathy is electoral violence. There was electoral violence in Nigeria during the first republic which finally led to the military intervention in Nigerian politics in January 1966. There has been electoral violence in this present fourth republic. According to Okeoma (2019:44), “heightened tension was palpable in Imo Tuesday after independent National Electoral Commission declared the Senatorial election in Imo North inclusive. This came two days after INEC office in Isiala Mbano Local Government Area in the Senatorial district was set ablaze by thugs. Allegation of ballot box snatching and abduction of electoral officials marred the senatorial election”. Electoral violence is undemocratic.

Vote Buying

According to Ogu (2021:214), “vote buying/selling are anti-democratic. Vote buying/selling militate against the wish of the educated voters” According to James and Alafuro (2009:103) “where voters are bribed to vote for candidates they do not know of, or candidates whose pedigree is rife with corrupt practices, then it will be anomalous to expect such candidates to be responsive to their yearnings and aspirations after the election”. Vote buying and selling should be rejected by all. The Nigerian Voters must not sell their votes to the desperate politicians but should vote in the qualified and competent politicians into the elective positions.

Poor Turnout of Voters in Presidential Elections

There has been serious decline in the turnout of voters in presidential elections (4th republic). **Table 1** of this paper and the analysis showed the decline of the voters’ turnout from 2003 to 2023. The decline was 69 percent in 2003 to 27 percent in 2023. In 2023, 93 million citizens registered and only 25 million voted (Olalekan and Dickson, 2023:12). Also, in the governorship election conducted in Edo State on 21st September 2024, of 2,249,780 eligible voters, only 573,965 voted (Bello, Willie and Jimoh (2024:4). The factors responsible for poor turnout of voters in presidential or general election may include; electoral violence, vote buying, security threats among others.

7. SUMMARY OF FINDINGS/RESULTS

The fourth republic in Nigeria began in May 29th 1999 with Chief Olusegun Obasanjo as the Executive President. Nigeria practices multi-party system, separation of power, federalism, presidenralism, bicameralism and unicameralism. INEC conducted presidential/general elections in 1999, 2003, 2007, 2011, 2015, 2019 and 2023. One of the features of Nigerian democracy is constitutionalism. The powers and the functions of the arms of the government are clearly stated in the 1999 constitution (as amended). The Executive arm of the government is constitutionally saddled with the responsibility of executing laws, legislature make laws while the judiciary interpret laws and adjudicate cases. There have been 25 years of a steady democratic governance in this present fourth republic (1999-2024). The three arms of Government have made some remarkable achievements in their various areas. Out of the 25 years of a steady democratic governance in the fourth Republic, PDP has ruled for 16 years while APC took the mantle of leadership from 2015.

There are some problems militating against the democratic governance in this 4th republic. Such challenges include, security threats by Boko Haram, bandits and kidnappers, corruption is a serious problem confronting Nigeria's development, there is poverty and high level of unemployment presently, inflation, defection among many politicians presently, electoral violence. Vote buying and poor turnout of voters in presidential/general elections. Delay in court process is the problem of Nigerian Judiciary. Table 1 shows the poor turnout of voters in elections. Fuel subsidy removal led to hardship among Nigerians.

8. CONCLUSION AND RECOMMENDATIONS

Fourth republic in Nigeria began in 1999 after about sixteen years of military rule. Chief Olusegun Obasanjo of PDP won the 1999 presidential election and was sworn in as the Executive President of the Federal Republic of Nigeria on May 29th. INEC conducted presidential/general elections in Nigeria in 1999, 2003, 2007, 2011, 2015, 2019 and 2023. Nigeria in the 4th republic operates presidential system of government with in-built checks and balances. Strict adherence to the constitution of Nigeria (1999) is one of the important features of Nigerian democracy. The rulers and the citizens are expected to carry out their schedule of duties according to the provisions of the laws. There have been 25 years of a steady democratic governance in this present fourth republic. The three arms of government have made some remarkable achievements in their areas of specializations. The problems/challenges confronting the Nigeria's democratic governance in this fourth republic are; security threats, electoral violence, corruption, poverty/high level of unemployment, inflation, vote-buying and poor turnout of voters in presidential/general elections. The above-mentioned problems should be solved.

In view of the findings and conclusion in this research, the study makes the following recommendations.

- i. Security threats should be seriously checked by the government using the Nigerian Armed forces. The necessary weapons needed to combat security challenges should be given to the security agents.

- ii. Corruption in Nigeria's public service should be effectively checked using the appropriate institutions. Economic and Financial Crime Commission (EFCC) and Independent Corrupt Practices and other related Offenses Commission (ICPC) should be more empowered in discharge of their schedule of duties.
- iii. Effective implementation of the National Policy on Education known as 6-3-3-4 will enable Nigerian youth to acquire skills necessary for self-reliance, thereby reducing high level of unemployment.
- iv. Diversification of the economy is necessary. Other sector of Nigerian economy such as agriculture, manufacturing sector etc. should be revived by the government.
- v. The National Assembly of Nigeria should come up with laws that can effectively address electoral offences such as electoral violence, vote-buying and others.
- vi. INEC, Political Parties/candidates and voters should adhere strictly to rules and regulations governing the proper conduct of elections in Nigeria.
- vii. The problem of voter apathy can be solved through effective voters' education across the country and improve behaviour of the elected politicians. Delay in court processes should be avoided

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Motivation and Employees' Performance in Federal Capital Territory Administration, Nigeria

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Abstract

Motivation plays a pivotal role in enhancing employee performance, particularly within public sector organizations. This study examines the influence of motivational incentives on employee performance in the Federal Capital Territory Administration in Nigeria. The study pursued two objectives: to investigate the extent to which intrinsic motivational incentives influence employee performance and to examine the impact of extrinsic motivational incentives on employee performance. A total sample of 310 employees of the Abuja Environmental Protection Board (AEPB) participated in the study, with data collected using a structured questionnaire. The analysis was conducted using descriptive statistics, correlation, and linear regression techniques via Jamovi software. The findings revealed that intrinsic motivation has a significant positive effect on employee performance. Similarly, extrinsic motivation also significantly and positively influences employee performance. These results highlight that both intrinsic and extrinsic motivational incentives contribute meaningfully to employee performance. The study concludes that public sector organizations, such as the AEPB, should prioritize a balanced approach to motivational strategies, incorporating both intrinsic and extrinsic incentives to optimise employee performance. Tailored interventions that focus on fostering intrinsic motivation, such as recognising achievements and providing meaningful work, alongside extrinsic incentives like financial rewards and benefits, are recommended to sustain high levels of performance.

Keywords: Motivation, Intrinsic Motivation, Extrinsic Motivation, Employee performance

1.0 INTRODUCTION

For an organization aiming for growth and advancement, recognizing and practising motivation is essential for achieving higher productivity through its workforce. Employee motivation is a key factor in maximizing worker performance and enhancing overall productivity (Ekundayo, 2018).

Numerous organisations have recognised the connection between motivation and employee performance. Motivation refers to both internal and external factors that drive employees to improve their work output (Okine et al., 2021). It encompasses the factors that influence an employee's morale, encouraging them to perform at their best and meet organisational objectives. Without these motivating factors, employees may not reach their full potential.

Motivation can be intrinsic or extrinsic, but the fundamental need for satisfaction remains the same. When these needs are met, employees experience a sense of fulfilment, which boosts their performance. Employers and managers worldwide are aware that employee motivation is crucial for organisational success. Human beings, being dynamic in nature, respond to different types of motivation, and this understanding has driven extensive research into the factors that influence employee effort and performance (Penney, David & Witt, 2011).

Employee performance is typically measured through output, and a lack of motivation often correlates with decreased productivity. Factors such as promotions, participation in decision-making, leave incentives, rewards, and salary/wages can all influence performance. When these needs are met, employees are motivated to perform at their best.

Several studies, including those by Ekundayo (2018), Okine, et al. (2021) and Pandya (2024) have established a significant relationship between motivation and employee performance in various organisations. These studies demonstrate the positive impact of motivating employees on organisational success. Motivation, being a complex psychological construct, has been the subject of extensive research, and empirical studies have consistently found significant effects between motivation and employee performance across both profit and non-profit organisations globally (Amoatema & Kyeremeh, 2016).

The importance of motivational tools such as pay rises, rewards for hard work, promotions, holiday pay, study leave with pay, and other staff welfare initiatives cannot be overstated. These tools significantly enhance employee performance, not only at the Abuja Environmental Protection Board (AEPB) under the Federal Capital Territory Administration, but also in a wide range of other organisations.

Given the critical role that motivation plays in enhancing employee performance, it is essential to understand how various motivational factors influence productivity, particularly within the context of public sector organisations such as the Abuja Environmental Protection Board (AEPB). Despite the recognition of motivation as a key driver of performance, there is limited empirical research on its impact within the Federal Capital Territory Administration (FCTA), particularly in relation to AEPB. Thus, this study seeks to bridge this gap by exploring the relationship between motivation and employee performance at AEPB.

Motivation is widely acknowledged as a critical determinant of employee performance, directly influencing productivity and organisational success. Despite this understanding, many organisations fail to prioritise the implementation of effective motivational strategies, leading to suboptimal employee performance. In particular, managers often neglect their responsibility to provide key motivational incentives—both intrinsic and extrinsic—such as timely salaries, career development opportunities, recognition, and work-life balance.

The consequences of such neglect are profound. Employees who feel undervalued or deprived of adequate incentives frequently exhibit diminished morale, reduced productivity, and a lack of commitment to organisational goals. This disengagement ultimately affects the overall efficiency and profitability of organisations. As Akinsola, et al. (2023) highlights, motivational incentives, including financial rewards, promotions, and non-monetary benefits, are crucial to sustaining employee performance.

In the context of the Federal Capital Territory Administration (FCTA), particularly the Abuja Environmental Protection Board (AEPB), there is limited empirical evidence on the extent to which motivation impacts employee performance. Preliminary observations suggest that insufficient attention to employee welfare and motivation contributes to a pervasive decline in performance. This gap underscores the need for a systematic investigation into the role of motivation in enhancing employee performance within the AEPB.

This study, therefore, addresses the critical question: To what extent do intrinsic and extrinsic motivational incentives influence employee performance in the AEPB?

The study aims to examine the influence of motivational incentives on employee performance in the Abuja Environmental Protection Board (AEPB). The specific objectives are:

1. To investigate the extent to which intrinsic motivational incentives influence employee performance in the Abuja Environmental Protection Board (AEPB).
2. To examine the impact of extrinsic motivational incentives on employee performance in the Abuja Environmental Protection Board (AEPB).

In order to guide this study, the following hypothesis would be examined.

H₀₁: Intrinsic motivational incentives have no significant influence on employee performance in the Abuja Environmental Protection Board (AEPB).

H₀₂: Extrinsic motivational incentives have no significant influence on employee performance in the Abuja Environmental Protection Board (AEPB).

The rest of the paper is organised in 5 sections. Section 2 presents literature review, Section 3 outlines the methodology, including research design, data collection, and analysis methods. Section 4 presents the results and discussion of the findings. Section 5 is the conclusion and recommendations.

2.0 LITERATURE REVIEW

2.1 Conceptual Framework

2.1.1 Motivation

Motivation is defined as the sum of psychological processes that influence behaviour, instilling vigour, purpose, and direction in individuals to fulfil a need or objective (Mile, 2004, cited in Ekundayo, 2018). Kanfer (1990) describes motivation as “a set of psychological processes involved with the arousal, direction, intensity, and persistence of voluntary actions that are goal directed”. According to Abusharbeh & Nazzal (2024), motivation is the sum of psychological processes that influence behaviour, instilling vigour, purpose, and direction in individuals to fulfil a need or objective. Motivation is a fundamental psychological concept that drives individuals to take purposeful actions to achieve desired outcomes. It is derived from the Latin word *movere*, which means "to move" (Urhahne & Wijnia, 2023). This concept has been described as the internal force that inspires individuals to act, often pushing them to go beyond routine tasks (Naveed, Usman & Bushra, 2011). Motivation arises from internal desires, wishes, and goals that compel individuals to perform exceptionally in their activities (Ndudi, Kifordu & Egede, 2023). Without motivation, achieving personal or organisational objectives becomes challenging, as it serves as the foundation for energy, purpose, and direction in human behaviour (Ekundayo, 2018).

Collaboration with others is essential for individuals to achieve their goals. Similarly, managers cannot meet organisational objectives without the active contributions of their employees. It is therefore the responsibility of managers to inspire and sustain motivation among their staff, enabling them to perform at optimal levels and thereby facilitate the achievement of organisational goals (Danish & Ali, 2024).

The literature on motivation extensively discusses financial and non-financial incentives, with scholars debating their relative efficacy in influencing employee performance. For instance, Bandhu, et al (2024) views motivation as a condition that enhances the likelihood, intensity, quality, and compliance of behaviour, while Uka & Prendi (2021) describe it as the commitment and creativity an employee demonstrates in anticipation of adequate rewards. Financial incentives such as salary increases, timely payments, performance bonuses, and allowances are seen as critical for driving employee dedication and productivity (Ogunmakin & Sunday, 2023). In contrast, non-financial incentives, such as recognition, praise, and awards for outstanding achievements, also play an essential role in enhancing employee morale and performance (Buwembo, Nabukeera and Bwengye, 2019)

Motivational strategies are vital for achieving organisational objectives, as they boost productivity, improve efficiency, and reduce employee turnover (Uka & Prendi (2021). Effective motivation instils a sense of control in employees, making them feel accountable for their tasks while ensuring that their work holds intrinsic meaning and has a direct impact on stakeholders (Bandhu, et al., 2024). These fundamental requirements are necessary for developing robust motivational strategies that can inspire employees to perform at their best.

Motivation has been described as a multidimensional construct encompassing both intrinsic and extrinsic factors. Intrinsic motivation relates to internal satisfaction derived from performing meaningful tasks, while extrinsic motivation involves external rewards such as financial benefits or recognition (Ryan & Deci, 2020). The study of motivation focuses on understanding the factors that drive individuals to exhibit specific behaviours, including the personal and environmental elements that influence their actions (Urhahne & Wijnia, 2023). Varma (2017) adds that employees may become demotivated if they perceive organisational obstacles hindering their ability to achieve positive results. This underscores the importance of creating a supportive and rewarding work environment to maintain high levels of motivation.

2.2.1 Employee Performance

Employee performance is significantly influenced by the role management plays in supporting and guiding workers (Asim, 2013). According to Baskaran, et al. (2020), employee performance can be observed through various indicators such as increased productivity, ease of adapting to new technology, and a high level of motivation. To enhance performance levels, organisational leaders must establish clear objectives and standards by which performance can be effectively assessed. Baskaran, et al (2020) further defines employee performance as an individual's output in terms of processes, results, relevance, and achievements. Similarly, Walters and Rodriguez (2017) identified key success indicators at work as productivity, efficiency, effectiveness, quality, and attendance. These aspects collectively represent a deliberate strategy aimed at improving organisational effectiveness through enhanced personnel performance. In essence, employee performance refers to the overall success of a particular task or operation, evaluated against predefined objectives of accuracy, cost, and speed.

Despite its importance, some organisations fail to consistently assess employee performance. This lack of regular evaluation can result in vague, ineffective, and ambiguous judgments about employees' contributions (Ahmed, et al. 2013). To address this, it is vital for organisations to adopt a systematic approach to performance evaluation. Typically, performance is measured based on outcomes and behaviours aligned with predefined standards set by the organisation. Performance outcomes can be influenced by a range of factors, including personal attributes, organisational context, environmental conditions, motivation, skill levels, aptitudes, and role perceptions.

2.2.3 Intrinsic Motivation

The concept of "intrinsic" motivation refers to the drive that arises internally, based on an individual's personal interests and objectives (Bandhu et al., 2024). According to Ryan & Deci (2000), intrinsic motivation is the inherent satisfaction or enjoyment derived from engaging in an activity, independent of external rewards. Intrinsic motivation occurs when an individual participates in an activity for the inherent satisfaction or enjoyment it provides, rather than for any external rewards (Pandya, 2024). Legault, Lisa. (2016) defined intrinsic motivation as actions that are inherently satisfying and enjoyable, where the activity itself is the reward. In other words, intrinsically motivated behaviour is not dependent on any external

outcome but is inherently gratifying. People naturally strive towards activities they find interesting or enjoyable. For intrinsic motivation to flourish, the social environment must nurture autonomy and competence. This form of motivation is deeply connected to psychological needs such as autonomy, competence, and relatedness (Deci & Ryan, 1985), which are central to Self-Determination Theory (SDT). Intrinsically motivated behaviours are driven by personal interest and the inherent satisfaction gained from the activity itself, rather than any tangible rewards or recognition (Ryan & Deci, 2000).

According to Ryan & Deci (2020), intrinsic motivation is enhanced when individuals experience competence in their activities, meaning they feel they can successfully complete tasks, and autonomy, meaning they have control over how tasks are performed. These elements help foster engagement, creativity, and persistence in employees. Furthermore, when people feel that their work aligns with their personal values and interests, they are more likely to exhibit intrinsic motivation and invest greater effort (Pandya, 2024). This is supported by a study by Asikhia & Magaji (2015) who found that job enrichment, which provides employees with greater responsibility, autonomy, and variety in their work, significantly boosts intrinsic motivation and leads to higher job satisfaction and productivity.

Intrinsic motivation is also influenced by transformational leadership, which is characterised by leaders who inspire, motivate, and foster a supportive environment. According to Khan, et al. (2020), transformational leadership enhances intrinsic motivation by offering employees opportunities for personal growth, recognising their potential, and providing autonomy and trust. This, in turn, leads to increased performance and job satisfaction. In a similar vein, an organisational culture that prioritises mutual trust and shared values can create a sense of belonging and purpose, further enhancing intrinsic motivation (Ng, 2023).

Training and development also play a pivotal role in fostering intrinsic motivation. When employees have access to learning opportunities, they are more likely to feel competent in their roles and engage in continuous self-improvement (Mustafa & Lleshi, 2024). This development not only enhances performance but also contributes to a sense of self-worth and professional identity. Asim (2013) also notes that teamwork and collaboration, which are intrinsic elements of organisational culture, further motivate employees by creating a supportive work environment and reinforcing a sense of competence and achievement.

2.1.4 Extrinsic Motivation

In contrast, "extrinsic" motivation is driven by external factors such as rewards and punishments (Bandhu et al., 2024). According to Pandya (2024), extrinsic motivation involves performing an activity with the primary aim of obtaining a reward or avoiding a negative outcome. In this case, individuals engage in behaviors not because they derive enjoyment from them, but because they anticipate receiving something beneficial or avoiding an unpleasant consequence, such as punishment. Unlike intrinsic motivation, which is driven by internal factors, extrinsic motivation is focused on external incentives (Pandya, 2024). Ryan & Deci (2000) stated that extrinsic motivation involves engaging in an activity to achieve external rewards or avoid punishments. This form of motivation is influenced by

factors that are outside the activity itself, such as financial incentives, recognition, or promotions. According to Deci, Koestner & Ryan (2001), extrinsic rewards can motivate employees, particularly in situations where the work is less intrinsically motivating. However, he cautions that excessive reliance on extrinsic rewards can undermine intrinsic motivation, a phenomenon known as the "overjustification effect." In other words, when external rewards are perceived as controlling or overwhelming, they can diminish employees' intrinsic interest in their work.

Extrinsic incentives, such as promotion, recognition, and pay raises, have been shown to positively impact employee performance. Promotion is one of the most powerful extrinsic motivators, as it typically signals an employee's growth and success within the organisation (Ng'ethe, Iravo & Namusonge, 2012). Promotion not only provides an opportunity for career advancement but also serves as a tangible acknowledgment of an individual's hard work and achievements. This recognition encourages continued effort and commitment to the organisation.

Recognition, which involves publicly acknowledging an employee's contributions and accomplishments, also plays a significant role in motivation. Zeb, et al. (2018) highlight that recognition can be expressed in various forms, such as awards, certificates, commendation letters or verbal praise. By acknowledging employees' efforts, organisations help foster a culture of appreciation, which in turn boosts employee motivation and satisfaction. Research by Luthans (2000) and Abdullah, et al. (2016) suggests that such recognition is crucial for long-term employee engagement, as it validates their contributions and reinforces their commitment to the organisation.

Compensation, both direct and indirect, is another significant extrinsic motivator. Fitri (2024) stressed the importance of competitive compensation in attracting and retaining talented employees. Financial rewards meet employees' material needs and reinforce the value of their work. However, the relationship between compensation and motivation is complex, as it depends on employees' expectations and the perceived fairness of the reward system. Perry, Mesch & Paarlberg (2006) and Thapa (2023) argued that when employees perceive their compensation as fair and equitable, they are more likely to feel valued, resulting in increased loyalty and higher performance levels. On the other hand, inadequate compensation can lead to dissatisfaction, turnover, and decreased motivation.

In addition to direct financial incentives, job benefits such as healthcare, retirement plans, and bonuses contribute to extrinsic motivation by offering additional security and recognition (Danish & Ali, 2024). These benefits, although not directly tied to daily work activities, provide employees with tangible rewards for their effort and loyalty to the organisation.

While extrinsic rewards can effectively motivate employees, it is important to strike a balance between intrinsic and extrinsic incentives. A purely extrinsically motivated workforce may experience short-term performance gains, but over time, this can lead to disengagement and diminished satisfaction (Ryan & Deci, 2020). Therefore, organisations should ensure that their reward systems are not only focused on external factors but also support intrinsic motivation, creating a holistic approach to employee engagement and performance.

In a nutshell, intrinsic and extrinsic motivational factors both play vital roles in employee performance. Intrinsic motivation, driven by internal satisfaction and growth, fosters long-term engagement and satisfaction, while extrinsic motivation, through rewards such as pay raises, promotions, and recognition, can provide immediate incentives and reinforce desired behaviours. Combining both types of motivation, in a balanced and strategic way, can lead to a motivated, productive, and satisfied workforce.

2.2 Empirical Review

Various scholars have carried out studies to examine the relationship between motivation and employee performance and some of them are examined in this section.

Abusharbeh & Nazzal (2024) investigated the impact of motivations on employees' performance in Palestinian commercial banks. The study sought to understand how different types of motivation, including moral, material, and social incentives, influence employee performance. The study employed a survey-based approach, distributing a questionnaire to employees working in Palestinian commercial banks. A total of 252 responses were analysed using Pearson correlation and multiple regression analysis. The results of the study revealed that moral motives (such as intrinsic satisfaction and ethical work environment) significantly and positively predicted employee performance. However, material incentives (financial rewards) and social incentives (recognition and social status) did not show a significant effect on performance. The study also highlighted significant differences in motivation levels based on demographic factors, such as employees' qualifications, years of experience, and job titles. These variations suggest that motivational strategies may need to be tailored to the specific characteristics of employees in order to be more effective. The study concluded that moral motivations have a stronger influence on employee performance in the Palestinian banking sector, and organisations should consider fostering a work environment that promotes intrinsic satisfaction. The findings suggest that banks should reassess their incentive strategies and align them with the values and motivations of their employees. While the study offers valuable insights into the role of motivation in improving employee performance, it is limited by the focus on a single sector and geographic area, which may affect the generalizability of the results.

Danish & Ali (2024) examined the impact of reward and recognition on job satisfaction and motivation in Pakistan. The study aimed to examine the relationship between reward and recognition and employee motivation in Pakistan, focusing on the impact these factors have on job satisfaction and overall motivation within an organizational context. The study utilised a survey-based approach, distributing 250 self-administered questionnaires among employees from various organizations across different sectors in Pakistan. A total of 220 usable responses were collected, yielding an 88% response rate. Data was analysed using statistical methods to identify correlations between reward, recognition, motivation, and job satisfaction. The study found significant correlations between various dimensions of work motivation and satisfaction. Specifically, reward and recognition were shown to have a

substantial impact on employee motivation, with employees who perceived higher levels of reward and recognition reporting greater job satisfaction. The findings suggested that these factors play a crucial role in enhancing employee motivation, which can ultimately contribute to better organizational performance. The study concluded that reward and recognition are essential drivers of employee motivation, and organizations should consider incorporating robust recognition and reward systems to enhance job satisfaction and overall workforce performance. While the study provides valuable insights, the generalisability of the findings is constrained by the sample's focus on a single country, limiting applicability to other cultural or economic contexts.

Zeb, et al. (2018) studied the relationship between reward and recognition and employees' job satisfaction. The review aimed to synthesize existing research on the relationship between reward, recognition, and job satisfaction, investigating how these factors contribute to employee motivation and performance. The authors conducted an extensive literature review, analysing previous studies to explore the various ways in which reward and recognition influence job satisfaction. The review encompassed studies from different industries and geographical regions to build a comprehensive understanding of the relationship. The review found consistent evidence supporting a significant relationship between reward, recognition, and job satisfaction. Specifically, employees who received rewards or recognition for desirable behaviours were more likely to experience higher job satisfaction, which, in turn, led to better performance. The review emphasised that financial and non-financial rewards, such as promotions, positive feedback, and respect, play a critical role in motivating employees. The review concluded that organizations can enhance job satisfaction and performance by developing effective reward and recognition systems. It highlighted the importance of aligning rewards with employees' contributions and ensuring that both intrinsic and extrinsic motivations are considered. While the review provides a comprehensive summary of existing research, its reliance on secondary sources means that it lacks original empirical data.

Thapa (2023) explored the impact of compensation towards employees' performance and sought to explore the impact of compensation on employee job performance, with a specific focus on the mediating role of employee motivation in commercial banks. The study employed a causal-comparative research design, surveying 192 employees from 20 branches of 15 commercial banks. The sample size was determined using a formula to ensure statistical power, and demographic data were also collected. The relationship between compensation, motivation, and performance was analysed through statistical methods, including regression analysis. The study found that both financial and non-financial compensation significantly influenced employee job performance. Employee motivation was identified as a key mediating factor, suggesting that compensation directly affects performance through its impact on motivation. This finding highlights the importance of designing compensation packages that not only address financial needs but also enhance employee motivation. The study concluded that compensation is a vital factor in enhancing job performance, and organizations should design compensation schemes that foster motivation and improve overall performance. The findings emphasize the need for a holistic approach to

compensation that goes beyond financial rewards. While the study provides valuable insights, it is limited by its focus on a single sector—commercial banks. This raises questions about the generalizability of the findings to other industries.

Asim (2013) evaluated the impact of motivation on employee performance with effect of training specific to education sector of Pakistan. The study utilised a survey method, collecting data from 118 employees across various universities in the Wahcantt and Taxila regions of Pakistan. Questionnaires were distributed to faculty members and administrative staff, with a response rate of 78.67%. The study used regression and correlation analyses to assess the relationships between motivation, training, and performance. The findings revealed that motivation had a positive effect on employee performance, with training serving as a mediator between motivation and performance. The study suggested that training programs significantly enhance employee performance, especially when coupled with motivation, highlighting the importance of providing both financial and non-financial rewards. The study concluded that motivation is a key driver of performance, with training playing a crucial role in improving employee outcomes. While the study provides important insights into the role of motivation and training in the education sector, it is limited by its small sample size and the findings may not be generalizable to other sectors or regions.

Pandya (2024) examined intrinsic & extrinsic motivation & its impact on organizational performance at Rajkot city. The review aimed to explore the effects of intrinsic and extrinsic motivation on organizational performance, investigating how these two types of motivation influence job satisfaction, productivity, and innovation. The paper conducted a review of existing literature, and focused on research conducted in various sectors and regions to examine the interplay between these motivational factors. The review found that a balanced integration of intrinsic and extrinsic motivation can lead to improved organisational performance. Intrinsic motivation, driven by personal fulfillment, fosters long-term commitment and innovation, while extrinsic motivation, such as monetary rewards and recognition, provides short-term boosts in productivity. However, overreliance on extrinsic motivators can stifle creativity and intrinsic job satisfaction. The study concluded that organisations should strategically balance intrinsic and extrinsic motivation to optimize employee engagement and performance. Although the review offers a comprehensive overview of the literature on intrinsic and extrinsic motivation, it lacks empirical data.

Okine, et al (2021) explored employee motivation and its effects on employee productivity/performance. The study aimed to explore the role of motivation in improving employee performance and productivity, with a focus on how different motivational theories can be applied within organizations. The study reviewed various motivation theories and their practical implications for improving employee performance. It analysed both intrinsic and extrinsic motivational strategies and their application in organisational settings. The study found that motivation significantly influences employee performance, with the most effective strategies being those that align with individual employee needs. It highlighted the importance of understanding employees' motivational preferences to tailor strategies

effectively. While the study provides valuable theoretical insights, it lacks empirical data, making it difficult to assess the real-world applicability of the findings.

2.3 Theoretical Framework

This work is underpinned by Herzberg's (1959) Motivation Theory and Maslow's (1943) Hierarchy of Needs.

2.3.1 Herzberg's Motivation Theory

Herzberg's Motivation Theory (1959) posits that job satisfaction and dissatisfaction are influenced by two distinct sets of factors: hygiene factors and motivators. Hygiene factors, such as salary and working conditions, prevent dissatisfaction but do not motivate employees. In contrast, motivators like achievement, recognition, and responsibility directly contribute to job satisfaction and performance. Herzberg's model suggests that intrinsic factors, such as the nature of the work itself, are the primary motivators for employees, emphasizing the importance of job design in fostering motivation.

However, the theory has faced criticism. Vroom (1964) argued that Herzberg's binary classification oversimplifies motivation, as certain factors can act as both motivators and hygiene factors depending on the individual. Kreitner and Kinicki (2007) suggested that situational factors, such as salary, can function as motivators in some cases, challenging Herzberg's categorization. Spector (1997) questioned the methodology of Herzberg's original research, highlighting potential bias in data interpretation. Bennett & Robinson (2000) also critiqued the theory's rigid dichotomy, asserting that the same factors can motivate employees in different contexts. Despite these critiques, Herzberg's theory remains influential in understanding job satisfaction and motivation.

2.3.2 Maslow's Hierarchy of Needs (1943)

Maslow's Hierarchy of Needs (1943) suggests that human motivation progresses through stages, from basic survival to self-fulfilment, providing a useful framework for understanding employee motivation. The basic needs, such as salary and work conditions, must be met to prevent disengagement. Once these are satisfied, employees seek job security and a safe environment, enhancing focus and productivity. As safety needs are met, employees seek social connections, which can be fostered through teamwork and a positive work culture.

Employees are motivated by esteem needs, such as recognition and achievement, which can be addressed through praise, rewards, and growth opportunities. At the highest level, self-actualization focuses on personal growth, creativity, and potential, which can be encouraged through meaningful work and leadership roles.

While Maslow's theory suggests addressing all needs for higher motivation, critics argue that motivation is not always linear and that individuals may prioritize higher needs. Cultural and personal differences may also influence how needs are ranked, challenging the theory's universality. Nonetheless, it remains valuable in understanding employee motivation (McLeod, Saul 2024).

In this study, Maslow's Hierarchy of Needs and Herzberg's Motivation Theory can be applied to understand the factors influencing employee motivation and performance within the context of the AEPB. Maslow's theory offers a valuable lens for understanding how different levels of needs affect employee engagement. At the foundational level, employees are motivated by physiological and safety needs, such as salary, job security, and safe working conditions. If these basic needs are unmet, employees may experience disengagement or dissatisfaction. Addressing these needs through fair compensation, job stability, and a secure working environment can help foster a motivated workforce. As employees' safety needs are satisfied, they will likely seek social connections and a sense of belonging. This could be met by fostering a collaborative work culture, promoting teamwork, and encouraging positive interpersonal relationships, which can enhance overall productivity and job satisfaction.

Building on Maslow's framework, Herzberg's Motivation Theory can be used to identify factors that directly impact employee performance. Herzberg's two-factor theory distinguishes between motivators and hygiene factors. Motivators such as recognition, achievement, responsibility, and opportunities for advancement lead to job satisfaction and improved performance. Therefore, the organization should focus on providing growth opportunities, acknowledging employee achievements, and offering leadership roles to fulfill these intrinsic motivators. Hygiene factors, on the other hand, are related to job dissatisfaction and must be managed to avoid dissatisfaction but will not necessarily lead to greater motivation. These factors include salary, working conditions, and job security, which, if inadequate, can lead to dissatisfaction but do not drive employees to exceed expectations.

3.0 METHODOLOGY

The study adopted the quantitative method to collect numerical data on motivation and employee performance, using a cross-sectional correlational strategy, assessing relationships between variables without altering participants' environments (Creswell, 2014). This approach allows for statistical investigation of causal relationships (Saunders et al., 2019). The study population consists of the entire 1,500 staff of Abuja Environmental Protection Board (AEPB). The sample size of Hundred and Sixteen (316) was obtained using the Taro Yamane (1967) sample size determination technique. The formular is as given below:

$$\begin{aligned} n &= \frac{N}{1+N(e)^2} \\ &= \frac{1,500}{1 + 1,500(0.05)^2} \\ &= \frac{1,500}{1 + 3.75} \\ &= \frac{1,500}{1 + 1,500(0.0025)} \\ &= 316 \end{aligned}$$

The sampling technique used is the simple random sampling method which enable the participants have an equal chance of being selected from the larger population of the study. The researcher used primary method of structured questionnaire to collect data for the work.

The study's instruments and methods were validated using well-established procedures. A pilot study was conducted to assess validity, and adjustments were made based on the feedback received (DeVellis, 2003). To ensure consistency and reliability in responses, participants were provided with clear instructions and sufficient time to complete the questionnaire (Creswell & Creswell, 2018). The validity of the instrument was also assessed through test re-tested method.

Reliability was evaluated using Cronbach's alpha, yielding values of 0.888 for intrinsic motivation, 0.877 for extrinsic motivation, and 0.910 for employee performance, all reflecting strong internal consistency. The overall Cronbach's alpha was 0.938, further affirming the reliability of the measurement scales.

The study utilised both descriptive and inferential statistical methods for data analysis. Descriptive statistics were used to highlight the main characteristics of the data, while inferential statistics were applied to examine hypotheses and investigate relationships through correlation and regression analyses (Hair et al., 2010). The analysis was carried out with the aid of Jamovi Statistical Software (version 2.3.28).

Model Specification

The model specification outlines the functional form of the regression analysis. The model for this study is formulated as follows:

$$EP = f(EM, IM).....(1)$$

$$EP = \beta_0 + \beta_1(IM) + \beta_2(EM) + \epsilon..... (2)$$

EP = Employee Performance (dependent variable)

IM: Intrinsic Motivation (independent variable)

EM: Extrinsic Motivation (independent variable)

β_0 : Intercept (baseline employee performance when all predictors are zero)

β_1, β_2 : Coefficients for IM and EM (magnitude of the effect of each independent variable on employee performance)

ϵ : Error term (unexplained variance)

4.0 RESULT AND DISCUSSION

This section presents the study's findings, integrating them with relevant literature to provide a comprehensive interpretation. The results are organised based on the research objectives, beginning with demographics and descriptive statistics that summarise key features of the data, followed by inferential analyses to test hypotheses and explore relationships between variables. A total of 316 questionnaires were distributed to the various categories of staff at

the AEPB through Google Form in line with the sample size. Out of the 316, only 310 were completed and returned successfully, representing 98% success rate. This number was considered adequate for data analysis.

4.1 Demographic characteristics of the sample

The participant demographics reveal a predominantly male sample (51.6%), with females comprising 42.6% and 5.8% preferring not to disclose their gender. Most respondents (40.6%) were aged 36–45 years, followed by 26–35 years (22.3%) and 56 years or older (21.9%), while smaller proportions were aged 46–55 years (11.0%) and 18–25 years (4.2%). Educationally, 89.4% held at least a Bachelor's Degree or equivalent, with 48.1% having a Bachelor's/HND and 41.3% a Postgraduate Degree. Regarding service length, the largest group (31.6%) had 11–15 years of experience, followed by 6–10 years (24.8%) and 16+ years (24.2%), with most participants (80.6%) having over 5 years of service, signifying significant workplace experience.

The overall insight from the demographic data suggests that the study sample is composed of a relatively experienced and educated workforce, with a strong representation of middle-aged employees and a significant proportion of individuals holding at least a Bachelor's Degree. The majority of respondents have substantial workplace experience, with 80.6% having more than 5 years of service. This implies that the findings of the study are likely to reflect the perspectives and experiences of individuals who are well-established in their roles, potentially offering valuable insights into the attitudes and behaviours of long-tenured, educated employees within the organisation.

4.2 Descriptive statistics

Descriptive statistics are numerical metrics used to summarise and characterise the properties of a dataset. These statistics aid in gaining insights into the data's central tendency, variability, and distribution, as illustrated in Table 1.

Table 1: Descriptives Statistics

	IM	EM	EP
N	310	310	310
Missing	0	0	0
Mean	23.5	23.8	23.0
Median	25.0	25.0	25.0
Standard deviation	2.39	2.04	2.77
Minimum	5	11	11
Maximum	25	25	25

Source: Jamovi Output

Table 1 presents the descriptive statistics for **Intrinsic Motivation (IM)**, **Extrinsic Motivation (EM)**, and **Employee Performance (EP)** across a sample size of 310 participants. The mean values for IM, EM, and EP are 23.5, 23.8, and 23.0, respectively, indicating that, on average, respondents reported relatively high levels of intrinsic and extrinsic motivation, as well as employee performance. The median for each variable is 25.0, which suggests that a significant proportion of participants scored at the upper end of the scale.

The standard deviations for IM (2.39), EM (2.04), and EP (2.77) show that there is some variability in responses, with EP having the highest level of variability. The minimum and maximum values indicate that responses spanned the entire scale, from the lowest possible score (5 for IM) to the highest possible score (25 for IM, EM, and EP), further confirming the broad range of responses within the data. Overall, the data demonstrates a relatively consistent tendency towards higher scores across all three variables, with some degree of variation in the responses.

4:2:1 Assumption Checks

Before performing regression analysis, it is crucial to verify that the regression assumptions are met. Assumption checks are a set of tests (such as Shapiro-Wilk test for Normality, Durbin-Watson test for autocorrelation, Variance Inflation Factor (VIF) and tolerance for collinearity), conducted to verify that the data meet the necessary assumptions required for parametric analysis such as Pearson correlation and linear regression. For this study, the essential diagnostic tests include Durbin-Watson Test for autocorrelation, multicollinearity and normality.

The assumption checks provide insights into the data's suitability for statistical analysis:

Table 2: Durbin–Watson Test for Autocorrelation

Autocorrelation	DW Statistic	p
0.0690	1.86	0.222

Source: Jamovi Output

The Durbin-Watson statistic is 1.86, with a p-value of 0.222. Since the p-value is greater than 0.05, there is no significant evidence of autocorrelation, meaning the residuals are not correlated, and the assumption of independence of errors is met.

Table 3: Collinearity Statistics

	VIF	Tolerance
IM	2.13	0.470
EM	2.13	0.470

Source: Jamovi Output

Collinearity Statistics: The Variance Inflation Factor (VIF) for both Intrinsic Motivation (IM) and Extrinsic Motivation (EM) is 2.13, with corresponding tolerance values of 0.470. Both of these values are well within acceptable thresholds (typically VIF < 10 and tolerance > 0.1), indicating that there is no problematic multicollinearity between these independent variables.

Table 4: Normality Test (Shapiro-Wilk)

Statistic	p
0.792	< .062

Source: Jamovi Output

The Shapiro-Wilk test for normality yielded a statistic of 0.792 with a p-value of <0.062. Since the p-value is greater than 0.05, this suggests that the data does not significantly deviate from a normal distribution, indicating that the assumption of normality is met for this dataset. Therefore, normality is not a concern, and parametric analyses can be performed.

Table 5: Correlation Matrix

		IM	EM	EP
IM	Pearson's r	—		
	df	—		
	p-value	—		
EM	Pearson's r	0.728	—	
	df	308	—	
	p-value	< .001	—	
EP	Pearson's r	0.649	0.601	—
	df	308	308	—
	p-value	< .001	< .001	—

Source: Jamovi Output

Table 5 presents the correlation between each motivation variable and Employee Performance.

Intrinsic Motivation (IM) and Employee Performance (EP): The correlation between **IM** and **EP** is **0.649**, which indicates a **moderate positive relationship**. This means that as intrinsic motivation increases, employee performance also tends to improve. The relationship is statistically significant with a p-value of **<.001**, suggesting that the correlation is not due to random chance.

Extrinsic Motivation (EM) and Employee Performance (EP): The correlation between **EM** and **EP** is **0.601**, also indicating a **moderate positive relationship**. Similar to IM, as extrinsic motivation increases, employee performance tends to improve. This correlation is statistically significant as well (p-value **<.001**), reinforcing the reliability of the relationship.

Both relationships are statistically significant, supporting the idea that motivation in both forms (intrinsic and extrinsic) plays an important role in enhancing employee performance.

Table 6: Model Fit Measures

Model	R	R ²	Adjusted R ²	Overall Model Test			
				F	df1	df2	p
1	0.676	0.457	0.453	129	2	307	<.001

Note. Models estimated using sample size of N=310

Source: Jamovi output

The model shows an R value of 0.676, indicating a moderate to strong relationship between the predictors and employee performance. The R² of 0.457 means that 45.7% of the variance in employee performance is explained by the model. The adjusted R² of 0.453 accounts for the number of predictors, confirming a strong fit. The F-statistic of 129 (p < .001) indicates that the model is statistically significant, demonstrating that intrinsic and extrinsic motivation are important predictors of employee performance.

Table 7: Model Coefficients - EP

Predictor	Estimate	SE	t	p
Intercept	1.904	1.3815	1.38	0.169
IM	0.522	0.0711	7.34	<.001
EM	0.371	0.0830	4.46	<.001

Source: Jamovi output

The model coefficients for employee performance (EP) show that both intrinsic motivation (IM) and extrinsic motivation (EM) are significant predictors. Intrinsic motivation (IM) has

a significant positive effect on employee performance, with a coefficient of 0.522 ($p < .001$), meaning that for each unit increase in IM, employee performance increases by 0.522. Extrinsic motivation (EM) also has a significant positive effect, with a coefficient of 0.371 ($p < .001$), indicating that for each unit increase in EM, employee performance increases by 0.371. Both predictors are statistically significant, suggesting that both intrinsic and extrinsic motivation contribute meaningfully to employee performance.

4:3 Discussion of Findings

The study aimed to examine the influence of intrinsic and extrinsic motivational incentives on employee performance in the Abuja Environmental Protection Board (AEPB). The findings of this study provide valuable insights into the relationship between these motivational incentives and employee performance at the (AEPB). Both intrinsic and extrinsic motivational incentives were found to have a significant positive impact on employee performance, underscoring their critical role in enhancing organisational outcomes. Intrinsic motivation demonstrated a stronger effect, with a coefficient of 0.522 ($p < .001$), suggesting that factors such as personal satisfaction, recognition, and alignment with personal values play a pivotal role in driving performance. This finding aligns with previous research, such as Abusharbeh and Nazzal (2024), who highlighted the substantial impact of moral and intrinsic motivators in value-driven organisations. Similarly, it is consistent with the findings of Pandya (2024) who demonstrated that intrinsic motivators foster creativity, job satisfaction, and long-term employee commitment, making them vital components of effective workforce management. The pronounced effect of intrinsic motivation in this study underscores the importance of non-monetary incentives in a public sector context, where employees may derive significant fulfillment from the environmental contributions of their work.

Extrinsic motivation also exhibited a significant positive impact on employee performance, with a coefficient of 0.371 ($p < .001$). This finding reinforces the importance of external incentives such as financial rewards, promotions, and other tangible benefits in driving performance. The results are consistent with studies by Danish and Ali (2024), who emphasised the role of reward and recognition in enhancing employee productivity, and Thapa (2023), who found that extrinsic motivators are particularly effective in roles involving repetitive tasks. However, the lower coefficient for extrinsic motivation relative to intrinsic motivation suggests that while external rewards are important, they may be less impactful than intrinsic motivators at AEPB. This outcome aligns with the work of Deci and Ryan's Self-Determination Theory (1985), which posits that intrinsic motivators tend to have a more sustainable and profound influence on performance. The findings, however, contrast slightly with Zeb et al. (2018), who suggested that extrinsic motivators might outweigh intrinsic factors in organisations with high financial dependence or competitive salary structures. This discrepancy may reflect the public sector nature of AEPB, where intrinsic motivators tied to environmental and societal impact resonate more strongly with employees.

Overall, the findings highlight the need for a balanced approach to motivational strategies. While intrinsic motivation appears to have a more substantial impact on employee performance, extrinsic incentives remain an important complementary factor. For organisations like AEPB, this suggests that fostering intrinsic motivation through meaningful work, recognition, and alignment with employee values should be prioritised. At the same time, optimising extrinsic rewards, such as competitive financial incentives and career development opportunities, can help sustain and reinforce employee performance. The findings of this study are broadly consistent with the prevailing body of empirical evidence, reinforcing the significant roles of intrinsic motivations, reward and recognition, and compensation in enhancing employee performance. However, contextual variations, particularly regarding the influence of material incentives, highlight the importance of a nuanced approach to motivation strategies. By bridging alignment and divergence with previous studies, this research contributes to a deeper understanding of the interplay between motivation and performance, paving the way for more tailored and effective motivational interventions

5.0 CONCLUSION AND RECOMMENDATIONS

This study examined the influence of motivational incentives on employee performance at the Abuja Environmental Protection Board (AEPB), focusing on the roles of intrinsic and extrinsic motivation. The findings revealed that both intrinsic and extrinsic motivational incentives significantly and positively impact employee performance. Intrinsic motivation demonstrated a stronger influence, highlighting the importance of personal satisfaction, meaningful work, and recognition in driving employee outcomes. Extrinsic motivation, while slightly less impactful, also contributed positively, emphasising the role of tangible rewards and financial benefits. These results underscore the critical importance of adopting a holistic approach to motivation, where both intrinsic and extrinsic factors are leveraged to optimise performance, particularly in public sector organisations like AEPB.

Based on the findings of this study, AEPB should prioritise strategies that strengthen intrinsic motivation. This includes creating a work environment where employees feel valued and recognised for their contributions, providing opportunities for personal and professional growth, and aligning work tasks with the organisational mission to foster a sense of purpose. Recognising employees publicly for their achievements and involving them in decision-making processes can further enhance their intrinsic motivation.

At the same time, AEPB should not overlook the importance of extrinsic motivational incentives. Competitive financial rewards, bonuses, and other tangible benefits should be implemented to retain talent and sustain performance. Regular salary reviews and performance-based rewards can help align employee effort with organisational goals. Additionally, offering career development opportunities, such as training programmes and clear pathways for promotions, can enhance both intrinsic and extrinsic motivation.

AEPB should adopt a tailored approach to motivation by assessing the individual needs and preferences of employees. A periodic evaluation of motivational strategies through employee feedback can help refine and improve incentive schemes to ensure they remain relevant and effective. By fostering an environment that values both intrinsic and extrinsic motivators, AEPB can optimise employee performance, enhance job satisfaction, and improve overall organisational effectiveness

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Environmental Impact of Urban Heat Island in Abuja Municipal Area Council, Nigeria

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Abstract

Urban regions consist of human and natural components that constantly change due to complex interactions within and between biophysical and social systems. The study aims to assess the impact of urban heat island (UHI) in Abuja Municipal Area Council (AMAC) from 1993 to 2023 with the objective is to understand the extent of urban heat island in the study area. To achieve the stated objective, data was obtained from Landsat. To identify the spectral signature and characteristics, supervised classification was used. To explain the spatial-temporal relationship between land use/land cover (LULC) and land surface temperature (LST), multiple regression analysis and Pearson's correlation analysis was used, and the result shows that built-up increase by 36.12%, water bodies decreased with -0.001%, rock surface 9.14%, bare surface 11.01% light and dense vegetation was -21.48% and -34.8% within 30 years. The LST of AMAC as of 1993 shows the temperature to range from 20.3°C to 36.75°C. While in 2023 it increased to 13.12°C to 43.06°C. The result indicates a strong relationship exists between the land surface temperatures of AMAC and sets of independent variables of land use types. However, the regression result indicates that there is significant difference of temperature within the study periods. The study recommended that urban planners and other environmental management experts must not only embrace geospatial and geostatistical tools for predicting chaotic environmental phenomena but must begin to align their plans and/or strategies to reflect 'green' concepts.

Keywords: Urban heat Island, Land use/land cover, Land Surface Temperature.

1.0 INTRODUCTION

Urban heat island (UHI) manifests as the temperature rise in built-up urban areas relative to the surrounding rural countryside, largely because of the relatively greater proportion of incident solar energy that is absorbed and stored by man-made materials. The direct impact of UHI can be significant on both daytime and night-time temperatures, and the indirect impacts include increased air conditioning loads, deteriorated air and water quality, reduced pavement lifetimes, and exacerbated heat waves (Silva et al 2012). Urban heat island (UHI) effects can vary across regions due to a combination of factors such as climate conditions, urbanization patterns, and local geography (Juliana *et.al.*, 2016). For example, in tropical regions, where temperatures are already high, UHI effects can exacerbate heat stress. The combination of dense urban areas, concrete structures, limited vegetation, and high humidity can lead to intense

UHI effects. These regions may experience temperature differences of several degrees Celsius between urban and rural areas (Voogt & Oke, 2003).

Arid regions often have lower humidity levels and sparse vegetation. UHI effects in these areas can be influenced by factors such as building materials, urban density, and surface water availability. Due to absence of vegetation, urban surfaces absorb and retain heat more readily, leading to increased temperatures in urban areas compared to the surrounding rural areas (Taha, 1997). In temperate regions, UHI effects can be observed during warmer seasons or heat waves. Factors such as urban form, infrastructure, and surrounding bodies of water can influence the extent of the UHI. UHI effects can be more pronounced in densely built-up areas with less green space. Coastal cities can experience unique UHI effects due to their proximity to large bodies of water (Mills, 2019). Coastal areas usually have a maritime climate, with cooler temperatures influenced by sea breezes. However, urbanization can disrupt these cooling effects, leading to higher temperatures in urban areas along the coast compared to nearby rural or suburban areas. Mountainous regions often have variations in temperature due to varying elevations and topography. UHI effects can be observed in urban areas within valleys or basins, where there might be limited dispersal of heat due to surrounding mountains. The UHI effect can contribute to higher temperatures in these valleys compared to the surrounding mountainous areas. It's important to note that UHI effects can also vary within the same region depending on factors such as urban form, green infrastructure, and land use patterns. Additionally, climate change can exacerbate UHI effects in many regions, leading to more frequent and intense heat waves. Therefore, adopting mitigation strategies such as increasing vegetation, improving urban planning, and implementing cool roof and pavement techniques can help reduce the UHI effect across different regions (Mills, 2019).

The scale of UHI effect can vary depending on the LULC pattern, city structure, city size, seasonal variations, ecological context, urban geometry, topography and location of the study area (Oke, Yap and Maxwell, 1972; Imhoff, Zhang, Woife, and Lo and Quattrochi, 2003; Effat and Hassan, 2014;). Economic development, population increase, urban growth and evolving industry can be considered as the main reasons for urban climate change (Bayan, Alhawiti and Diana, 2016; Hu and Jia, 2010). UHI effect increases when the city's size increases. Besides, UHI effect varies seasonally, and it is more apparent in summer (Aslan and Koc-San, 2016; Imhoff, Zhang, Woife and Bounoyan, 2010)

The advent of thermal remote sensing technology made observation of UHI has become possible using Satellite and Aircraft platforms (Ahmed, Kamruzzaman, Zhu, & Rahman, 2013). This has provided new direction for the observations of UHI and the study of their effects through the combination of thermal remote sensing and urban micrometeorology (Voogt, 2003). Various satellites and methods are available that can be used to examine the LST and to determine the UHI effects. Landsat TM Bands are the data that are most widely used for these studies (Jimenez-Munoz *et.al.*, 2008; Wang, Berardi and Akbari, 2015; Jin *et.al.*, 2015; Sekertekin *et.al.*, 2016). Several studies have estimated air temperatures using Landsat TM Imageries to estimate land surface temperature values (Wang, Berardi and Akbari, 2015; Allegrini, Dorer and Carmeliet, 2015, Bernard *et al.*, 2015; Lays, 2013; Qin, Karnieli and Berline 2001). In recent decades, significant efforts have been made to explore the applications

of remote sensing for LULC change and relationship between land surface temperatures and modified multiple vegetation indices.

In Abuja Municipal Area Council (AMAC), the common land conversion in the past frequently came from the bio-physical conditions like soil type and landform limitations, while recent land use conversion is from agriculture to built-up as well as a host of businesses and commercial activities such as banks, and hotels with most of the land being covered with reflective surfaces, which leads higher temperature and result to the formation of urban heat island. This research studies the impact of urban heat island in Abuja Municipal Area Council (AMAC). The choice of this location is due to the huge influx of people into the city; the growth has led to the emergence of satellite towns, such as Karu Urban Area, Suleja, Gwagwalada, Lugbe, Kuje and smaller settlements towards which the planned city is sprawling. As of 2006, the population of AMAC was 776,298 and projected to be 1,693,400 in 2023 (National Population Commission of Nigeria (web) 2023, National Bureau of Statistics (web) 2023).

2.0 LITERATURE REVIEW

The ever-increasing population, migration and function of urban areas as caused by urbanization, land use is affected and this in turn affects land cover as well. Although, Rawat and Kumar (2015) suggested that land use affects land cover and that changes in land cover affected land use as well. Meanwhile, Abubakar, (2013), Chaudhuri & Mishra (2016), Zemba (2010), Essa (2011), and Ejaro & Abdullahi (2013) have also observed that land cover change data has the ability to provide a quantitative basis for understanding and managing the problems of degradation and shortage of land, biodiversity, water resources and overall ecosystem services.

2.1 The Impact of Urban Heat Island (UHI)

The urban heat island effect is one of the most obvious characteristics of urban climate and one of the important elements reflecting the quality of urban environment. Due to the high temperature near the surface in the center of the heat island, the atmosphere moves upwards, forming a pressure difference with the surrounding area, and the near surface atmosphere in the surrounding area converges to the central area, thus forming a low-pressure vortex in the center of the city, which is bound to cause people's life, industrial production, and Atmospheric pollutants formed by burning fossil fuels in the operation of vehicles accumulate in the central area of the heat island, endangering people's health and even lives (Adelia, Yuan, Liu, Shan, 2019).

2.1.1 Impact on the Atmospheric Environment

The urban heat island effect is related to the quality of the atmospheric environment. In high temperature weather, the airflow containing a large amount of smoke and dust rises due to the heat island, which seriously pollutes the near surface air. At the same time, urban exhaust pollutants include sulfur dioxide (SO₂), Nitrogen oxides (NO₂), particulate matter (PM), carbon monoxide (CO) and mercury (Hg) form secondary pollutants through photochemical

reactions, which will cause more significant harm to the environment (Akbari, 2005). The continuous high temperature in cities can accelerate specific atmospheric chemical cycles, leading to an increase in surface ozone. In addition, the evaporation of biological hydrocarbons will be affected by the high temperature environment, and which could be related to the formation of ozone in the troposphere (Fallmann et al., 2016).

2.1.2 Effect on Human Health and Thermal Comfort

Under the influence of the heat island effect, severe air pollution will occur over the city, posing a hazard to human health. Many human diseases are caused by the heat island effect (Tomlinson et al. 2011). Related studies have found that the human body's physiological activities have a very close relationship with the environmental temperature. In excessively high temperatures, the human body will feel uncomfortable. Even cause related diseases such as the respiratory system, cerebrovascular, and heart, and the mortality rate will also increase significantly (EPA 2009).

Impact on Climate

The urban heat island effect has a significant impact on urban weather. It will bring many kinds of abnormal weather and extreme disaster weather, such as heavy rains and hurricanes (Demanuele et al. 2011). The urban heat island effect can also change urban wind fields, clouds, fog, precipitation, lightning, etc. (Memon, Leung 2010). Urban heat island effect can increase precipitation in cities, but the urban heat island effect only increases precipitation without causing rain, but it does not increase rainfall frequency (Terray, Cassou 2000; Bodri et al. 2005).

2.1.3 Increase Urban Energy Consumption

The urban heat island effect in summer has exacerbated the appearance of extremely high temperatures, which will inevitably lead to the use of cooling appliances such as air conditioners and electric fans. In the case of household appliances, the peak heating demand increases the pressure on the grid. Studies have shown that every time the temperature rises by 0.6° in summer, the city's peak electricity consumption will increase by 1.5% to 2%. In the United States, the continuous rise in temperature in the city center means that 5% to 10% of the entire community's electricity demand is used to compensate for the Energy Saving Potentials and Air Quality Benefits of Urban Heat Island Mitigation. In extreme thermal events, the urban heat island will exacerbate this situation, and the energy consumed by cooling will cause the system to overload the urban power supply. Greenhouse gases, especially carbon dioxide (CO₂), emitted by electricity generated by fossil fuels, will exacerbate global climate change (Bodri et al., 2005).

2.1.4 Impact on Climate

The urban heat island effect has a significant impact on urban weather. It will bring many kinds of abnormal weather and extreme disaster weather, such as heavy rains and hurricanes (Demanuele et al. 2011). The urban heat island effect can also change urban wind fields, clouds, fog, precipitation, lightning, etc. (Memon, Leung 2010). Urban heat island effect can increase precipitation in cities, but the urban heat island effect only increases precipitation without

causing rain, but it does not increase rainfall frequency (Terray, Cassou 2000; Bodri et al. 2005).

2.2 Mitigation of UHI

2.2.1 Vegetation

Increasing the amount of vegetation in urban areas is considered an important UHI mitigation measure. Vegetation lowers the air temperature through (evapo) transpiration and shading (Dimoudi & Nikolopoulou, 2003). Transpiration describes the water loss of a plant as vapour into the atmosphere. This requires energy, hence cooling the leaves and the air around them. The shading from trees cools the atmosphere by intercepting solar radiation (Bowler, Buyung-Ali, Knight, & Pullin, 2010; Gago, Roldan, Pacheco-Torres, & Ordóñez, 2013). In addition, green spaces will usually improve the surface porosity, increasing the amount of water available for evaporative cooling (Hathway & Sharples, 2012). Two types of urban greening measures have been identified: urban green spaces, and green roofs and walls.

2.2.2 Open Water

The presence of water bodies has the potential to mitigate the UHI effect through evaporation and sensible heat transfer between the air and water (Kim et al., 2008). It is believed that water bodies possess the most efficient UHI reducing effect during summer (Oláh, 2012). Urban rivers, lakes and ponds, and novel water facilities will be discussed below. Kim et al. (2008) found that a restored stream in Seoul (South-Korea) affects the local thermal environment, including heat mitigation. Hathway & Sharples (2012) found that a small urban river in Sheffield (UK) provides significant cooling both over the river and on the riverbanks during spring and summer. This cooling effect was largest in the mornings and on highly vegetated banks. The cooling effect increases with greater solar radiation and higher ambient temperatures and decreases with higher water temperatures. The level of cooling 40 metres from the river was found to be negligible. Murakawa, Sekine, & Narita (1990) however, found that the cooling effects of the Ota River in Hiroshima City (Japan) were discernible at least a few hundred metres. Again, it was found that the cooling effect is virtually absent during the night.

2.3 The Study Area

The Federal Capital Territory (FCT) is home to Abuja Municipal Area Council fig 3.1, Abaji Area Council, Bwari Area Council, Gwagwalada Area Council, Kuje Area Council and Kwali Area Council located in the middle of the country and has a land area of about 8000km² of which the actual city that is Federal Capital City occupies 250Sqkm (Ishaya 2013).

The FCT is bounded on the North by Kaduna state, South by Kogi State, West by Niger State and East by Nasarawa State. AMAC is located between latitude 7°49' and 8°49' North of the equator and longitude 7°07' and 7°33' east of the Greenwich Meridian (fig. 1).

2.3.1 Climate

Abuja under Köppen climate classification features a tropical wet and dry climate (Köppen: Aw). The FCT experiences three weather conditions annually. This includes a warm, rainy season and a blistering dry season. In between the two, there is a brief interlude of harmattan occasioned by the northeast trade wind, with the main feature of dust haze and dryness. The rainy season begins from April and ends in October, when day time temperatures reach 28 °C to 30 °C and nighttime lows hover around 22 °C to 23 °. In the dry season, daytime temperatures can soar as high as 40 °C and night time temperatures can dip to 12 °C. Even the chilliest nights can be followed by daytime temperatures well above 30 °C. The high altitudes and undulating terrain of the FCT act as a moderating influence on the weather of the territory. Rainfall in the FCT reflects the territory's location on the windward side of the Jos Plateau and the zone of rising air masses with the city receiving (Rikko, S. Laraba and Laka I. Shola 2013).

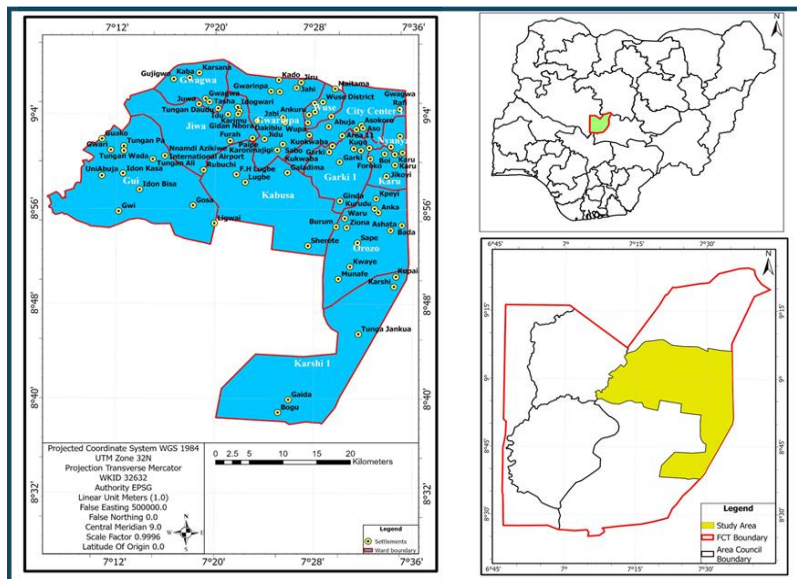


Fig. 1 AMAC, Federal Capital Territory (FCT)

Source: Ministry of Land, Planning and Survey, FCDA, Abuja, 2005

2.3.2 Vegetation

The Federal Capital Territory falls within the Savannah Zone vegetation of the West African sub-region. Patches of rainforest, however, occur in the Gwagwa plains, especially in the gullied train to the south and the rugged south-eastern parts of the territory. These areas of the FCT form one of the surviving occurrences of mature forest vegetation in Nigeria. The dominant vegetation of the Territory is, however, classified into three savannah types (Rikko, S. Laraba and Laka I. Shola 2013). Shrub savannah occurs extensively in rough terrain close to hills and ridges. The hills are in clusters or long range, with the Wuna range located North of AMAC (Dikedi, 2012). There are also small fragments of quartz rock spread around the region as well as granites, which are compacted into the soil (Dikedi, 2012).

3.0 METHODOLOGY

a. Types and Sources of Data

The data used for the study were obtained from Landsat TM, Landsat ETM and Landsat OLI sensors that acquire Urban Surface temperature data emitted by objects in the study area and store the information as a digital number (DN). LANDSAT TM images were obtained from 5 different epochs: 1993-2003, 2003-2013 and 2013-2023 respectively as shown in table 2.1. The study used ESRI ArcGIS 10.8, ArcGIS Pro version 3.1.3 and Qgis version 3.22.5 for data acquisition, processing, modelling and data Analysis.

Table 2.1: Details of Landsat satellite images used for the study

S/No	Study Area	Path/Row	Satellite Date of Acquisition	Satellite Sensor I. D.	Bands	Resolution (m)
1	AMAC	188/54	1993	Landsat 4 Thematic Mapper (TM)	2-5,7	30
					6	60
			2003	Landsat 7 Enhanced Thematic Mapper Plus (ETM+)	2-5,7	30
					6	60
			2013 and 2023	Landsat 8 OLI/TIRS	2 -7	30
					10	30
			2022	ASTER (GDEM)	-	1-arc seconds

3.2 Data processing

3.2.1.1 Image Pre-processing

The first step in the image processing of the Landsat imageries used for this study was the gap-filling that resulted from the failure of the on-board line-scan-corrector (LSC) for imageries collected after May 2003. ArcGis Pro 3.1.3 software was used for this gap filling. Atmospheric correction was performed to remove the effects of solar illumination differences and other atmospheric anomalies (like atmospheric path reflectance, electromagnetic scattering/absorption) from the imageries.

3.2.1.2 False Colour Composite

Landsat images acquired in grayscale but by combining 3 or more bands, you can display the images in color (Jensen, 1996). Using different band combinations to display your scene allows you to see different features within a scene and become more familiar with the scene – to identify urban areas, forests, agriculture, and water bodies for example. Familiarity with the Landsat scene is important in order to do different types of analysis, such as unsupervised classifications, supervised classifications, and different indices (example NDVI). Using Available Band List Module in Qgis, False colour Bands was combined to form an Image. The

Bands are 432 in which vegetation appears red in colour, water appears cyan and bare surface appears white.

3.2.1.3 Extraction of Area of Study

The study area was sub-site by masking out all areas not falling within the study area. This was done by overlaying a vector shape file on the raster image and assigning values of 1 to the area of Interest and 0 to the rest of the image respectively. Thus, the area outside the study area was masked out.

3.3 Processing Stage

3.3.1 Estimation of Land Surface Temperature

To estimate the LST from the pre-processed Landsat images, the temperature data stored as DN values in the thermal band 10 (low gain band) for ETM+ and band 6 for TM was converted to spectral radiance values using the following standard LMin and LMax spectral radiance scaling factors equation (NASA, 2011):

$$\text{Radiance} = \frac{L_{\text{Max}\lambda} - L_{\text{min}\lambda}}{Q_{\text{CAL}} - Q_{\text{CALMIN}}} * (Q_{\text{CAL}} - Q_{\text{CALMIN}}) + L_{\text{min}\lambda} \quad \text{--. (i)}$$

Where: Q_{CAL} = digital number $L_{\text{MIN}\lambda}$ = spectral radiance scales to

Q_{CALMIN} $L_{\text{MAX}\lambda}$ = spectral radiance scales to Q_{CALMAX}

Q_{CALMIN} = minimum quantized calibrated pixel value (usually = 1) Q_{CALMAX} = maximum quantized calibrated pixel value (usually = 255)

The scene calibration data are usually available on the metadata file of each Landsat scene. Having computed the spectral radiance values for each of the Landsat scenes, they were subsequently converted to temperature values (Kelvin) using the inverse of the Planck function shown below:

$$T = \frac{K_2}{\ln[K_1 * E / \text{Radiance} + 1]} \dots\dots\dots \text{(ii)}$$

Where: T = Effective at-satellite temperature in Kelvin K_2 = Calibration constant 2

K_1 = Calibration constant 1

ϵ = Emissivity (typically 0.95) Radiance = Spectral radiance

3.3.2 Land Use Land Cover Analysis

This was carried out using ArcGis Pro software. Bands 1, 2, 3, 4, 5 and 7 (for Landsat 5 and 7), and bands 2, 3, 4, 5, 6, and 7 (for Landsat 8) was stacked together to form a single image for each of the years under study. Supervised classification was used to classify the images in order to make terrestrial materials identifiable based on their spectral signatures and characteristics. In this case, the Maximum Likelihood Algorithm will be used and is represented as:

$$P(\omega) = \frac{1}{\sum_{i=1}^M P(\omega/i) P(i)}$$

Where: M = Number of classes, $P(\cdot)$ = Normalisation constant to ensure that $\sum_{i=1}^M P(i/\omega)$ sums up to 1, $P(\omega/i)$ = Likelihood function, $P(i)$ = Priori information, that is the probability that class ‘i’ occur in the study area.

3.4 Data Analysis Technique

In order to explain the spatial-temporal relationship between land use land cover (LULC) and land surface temperature (LST), the following statistical approaches was employed: Multiple regression analysis (step wise model), and Pearson ‘s correlation analysis.

3.5 Multiple Regression Analysis

Based on Su *et.al* (2010) findings, though correlation indicates the strength of linear association between paired variables, it is unable to show the relative contributions of various land uses to LST. For instance, if one pixel is occupied by both 50 percent water and sparse vegetation, considering the compensating effect of these two land use types on LST value, the land surface temperature value of this pixel will not show the real effect of inland water nor greenhouse farming. In this situation a multiple linear regression model was applied to understand the influence of built environment (LULC) on urban heat island (UHI). The conventional regression model for a study is expressed as:

$$Y = a + \beta x$$

In which y (dependent variable) was the land surface temperature, “ x ” represents the percentage cover of land use (independent variables), and “ a ” is the intercept of the regression model. In this study all the pixel of LST was considered as the independent variable, as LST (UHI) has been found to be strongly determined by vegetation health (Zhang, *et.al*, 2010). Mean yearly LST will be considered as the dependent variable and percentage contribution of different land use as the independent variable.

4.0 DATA PRESENTATION, ANALYSIS AND DISCUSSION

This paper presents the results obtained from the use of the research method stated earlier. The data obtained were analyzed using tables, graphs, charts and maps. The size and area of the land cover changes were calculated and presented in square kilometer (Sqkm) while LST for the different years were also extracted and presented in degree Celsius. Also, Kappa index of agreement was used to validate the LULC in the study area.

4.1 Land Use/ Land Cover Changes in AMAC

In this section, the details of the LULC classes identified from the classification of 1993 to 2023 were analyzed. It was done by comparing the class composition of the various imageries to establish whether there is an increase or decrease in the total area occupied by the various LULC types over the periods.

4.1.1 Land Use/Land Cover Analysis of AMAC for 1993 – 2023

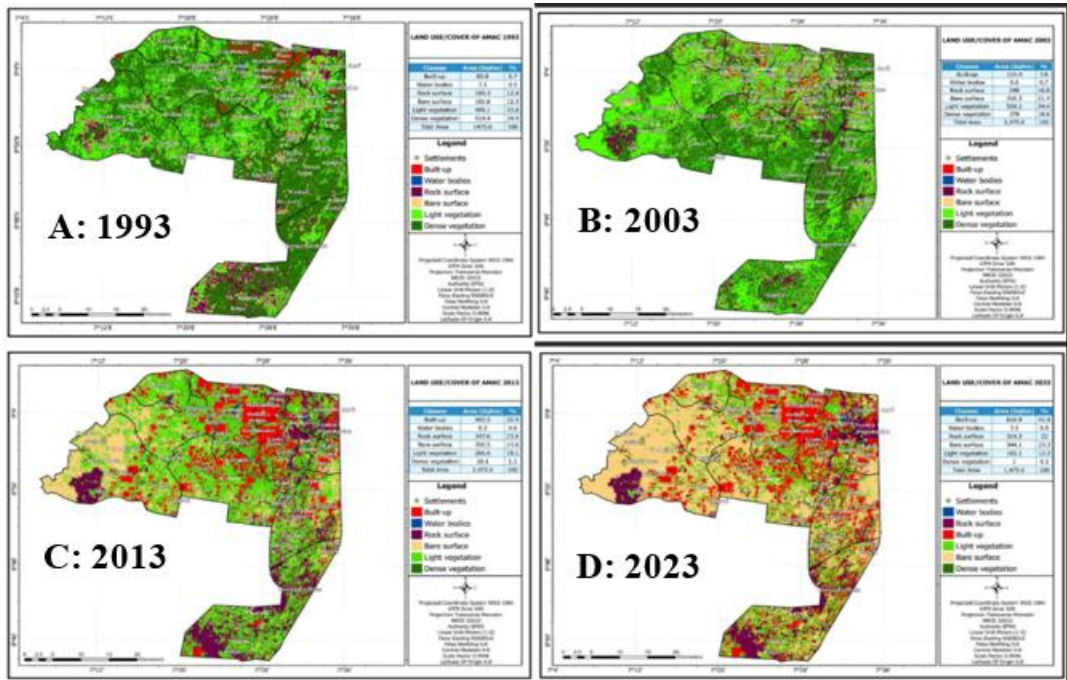


Fig. 3: LULC of AMAC, FCT (1993 - 2023)

Source: Author's analysis 2023

Figure 3 (A) presents the results of LULC for 1993. The classified imagery reveals that dense and light vegetation classes dominated the landscape, with 514.4km² and 499.1km², of the total land. This is followed by rock surface covering 189.3km². Bare surface is next with 181.6km² of the total area. This is followed by built-up, covering an area of 83.8km² while the least is water bodies with a total area of 7.3km². The findings reveal that dense vegetation is the highest class of LULC with a total coverage of 514.4km² representing 34.9% of the total area.

Figure 3 (B) is the land use classes of 2003, and it shows a considerable increase in the built-up with 155.4km² representing 7.8% (an increase of 2.1%) of the total LULC classes in the area. it is also observed that dense vegetation decreases to 278.0km² covering 18.8% compared to 1993 dense vegetation which covered an area of 38.9%. The result further revealed that light vegetation and bare surface increase to 34.4% and 21.4% covering an area of 508.1km² and 316.3km² respectively. While water bodies increase with 0.2% between 1993 to 2003 covering 9.8km² representing 0.7% of the total Land use/land cover. The finding reveals that between 1993 and 2003, light vegetation is the highest LU covering 508.1km² (34.4%).

Figure 3 (C) results further revealed that by 2013, the land use classes have shown considerable change. As seen on the map, the total area of built-up has increased to 485.5km², representing 32.9%. The result reveals that there was a decrease of dense vegetation cover by 16.1km² representing 1.1%. This decreases 17.7% when compared with dense vegetation of 2003. This deficit in coverage on the dense vegetation led to the increase in built-up with 485.5 km² representing 32.9%, as well as bare surface with 350.5km² (23.8%). The decrease in dense

vegetation further exposes rock surface with 347.6km² (23.6%). The results of 2013 indicate a drastic change of rock surface coverage with an increase of 6.8% when compared to 2003. Furthermore, water body experience decreases by 0.1% within 10 years with 9.3km representing 0.6% of the total area.

Figure 3 (D) is the result derived from the analysis of 2023 imagery; it shows the total area coverage for almost all the land use classes have change completely. The positive change was noticed in the following LULC classes built up area, bare surface, and light vegetation with 616.9km², 344.1km², 182.1km² representing 41.8%, 23.3%, and 12.3% of the total area. Water bodies and dense vegetation reduce drastically to 7.3km² and 1km² representing 0.5% and 0.1%. Rock surface also decreases from 23.6% to 22% (1.6% reduction between 2013 to 2023).

4.1.2 Change Detection of LULC from 1993 to 2023

LULC classes between 1993 to 2023 have assumed different magnitudes of change from one class to another while some increases in sizes (See table 4.1 and figure 4.9) with some having positive change while others had negative change within the study period.

Table 4.1: Spatio-Temporal Analysis of LULC in the study area

Classes	LULC 1993 –2003		LULC 2003 - 2013		LULC 2013 –2023	
	Area (km ²)	%	Area (km ²)	%	Area (km ²)	%
Built-up	31.5	2.14	370.1	25.08	131.4	8.90
Water bodies	2.5	0.17	-0.5	-0.04	-2.0	-0.14
Rock surface	58.7	3.98	99.6	6.75	-23.4	-1.59
Bare surface	134.7	9.12	34.2	2.32	-6.4	-0.43
Light vegetation	9.0	0.61	-241.5	-16.37	-84.5	-5.72
Dense vegetation	-236.4	- 16.0	-261.9	-17.7	-15.1	-1.0

Source: Author's analysis 2023

The extent and rate of changes of each LULC for the four periods (1993, 2003, 2013 and 2023) are summarized in table 4.1. The analysis displayed the result of 30 years with an interval of 10 years (1993 to 2003, 2003 to 2013, and 2013 to 2023). Between 1993 to 2003, dense vegetation experienced a negative trend of -16.0% representing -236.4km². Between 2003 and 2013 a further reduction of -17.7% representing -261.9km², this is a reduction of 1.7% of the total area. The result further shows that between 2013 to 2023 dense vegetation continue with negative trend of -15.1km². Considering, the pattern of changes in LULC between 1993 and 2003, bare surface, built-up light vegetation, water bodies and rock surface increased by

9.12%, 2.14%, 0.61%, 0.17 and 3.98% respectively. In contrast, dense vegetation showed a reverse trend, reducing by -16.0% during the same period. Between 2003 and 2013, built-up and rock surface increased to 25.1% and 6.8% from 2.14% and 3.98% between 1993 and 2023. On the other hand, dense vegetation, light vegetation, and waterbodies reduced by -17.7%, -16.37%, and -0.05% respectively. In comparison, between 2013 to 2023, all the classes drastically decrease to negative except built-up. From the result built-up covers 131.4km² representing 8.90%, though, a reduction of 16.18% when compare with 2003 to 2013. This may be due to demolition which force people to reside outside AMAC but only come for work and returned. However, water bodies, rock surface, bare surface, light and dense vegetation decline to -0.14%, -1.59%, -0.43%, -5.75% and -1.0%.

4.1.3 Land use/Land cover Trend from 1993 - 2023

Generally, the result demonstrated a series of LULC changes in the study area for the last 30 years (1993–2023) see figure 5. The results showed that built-up and bare surface became more important in the study area and has shown a significant expansion for the past 30 years. A greater extent of land covered by dense vegetation transformed into other LULC areas and declined severely. See fig. 5. The trend shows that build-up increases by 36.12% within 30 years. Water bodies are negative with -0.001%, rock surface is 9.14%, bare surface is 11.01% light and dense vegetation decreases to -21.48% and -34.8% respectively.

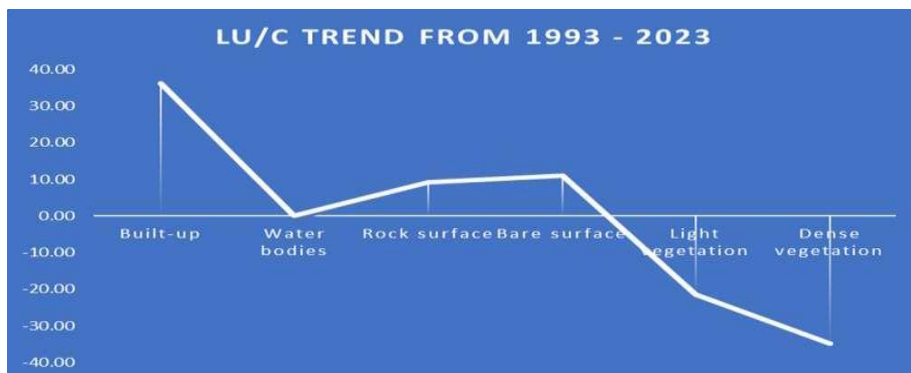


Fig. 5: Trend of LULC changes from 1993 to 2023

Source: Author's analysis 2023

The analysis revealed that the increase in migration requires shelter for human comfort, that result to increase built-up to accommodate the ever-increasing population and tend to affect other classes of LUC/LC.

The result aligned with the work of Kumar & Sangwan (2013). They ascertained urban growth, land use changes and its impact on the cityscape of Sonipat City in Haryana, India using Remote Sensing and GIS Techniques. The study showed that for a period of 10 years (i.e. the span of the study), built up area increased from 31.70% in 2002 to about 41.40% in 2011 whereas areas under agricultural activities/vegetation category decreased from 58.15% to about 44.51%. The authors equally noted that the revealed trend of urban land development will continue at a rapid rate. As a result, Kumar and Sangwan (2013) maintained that the valuable urban planning and administration, at present, ought to make long term sustainability plans and

are required to monitor and manage the growing city for the sake of the environment in general. The increase of built-up also resulted in resource depletion as it affects the vegetal resource and agricultural resources. This result further corroborates World Bank (1992) report that the resources and environment of urban centres all over the world are increasingly being depleted partly due to the pressure from the concentration of people as human population increases with utmost spontaneity in developing countries and as the desire for land increases daily.

4.1.4 Distribution of Land Surface Temperature (LST) for AMAC (1993 – 2023)

The land surface temperatures for the years 1993, 2003, 2013 and 2023 in Abuja Municipal Area Council are presented in Figure 5. Each year has its thermal signal, and it was depicted from the analysis that the LST was higher in the built-up region compared to the regions covered with vegetation and other land features.

4.1.4 Spatial Distribution of Land Surface Temperature of AMAC for 1993-2023

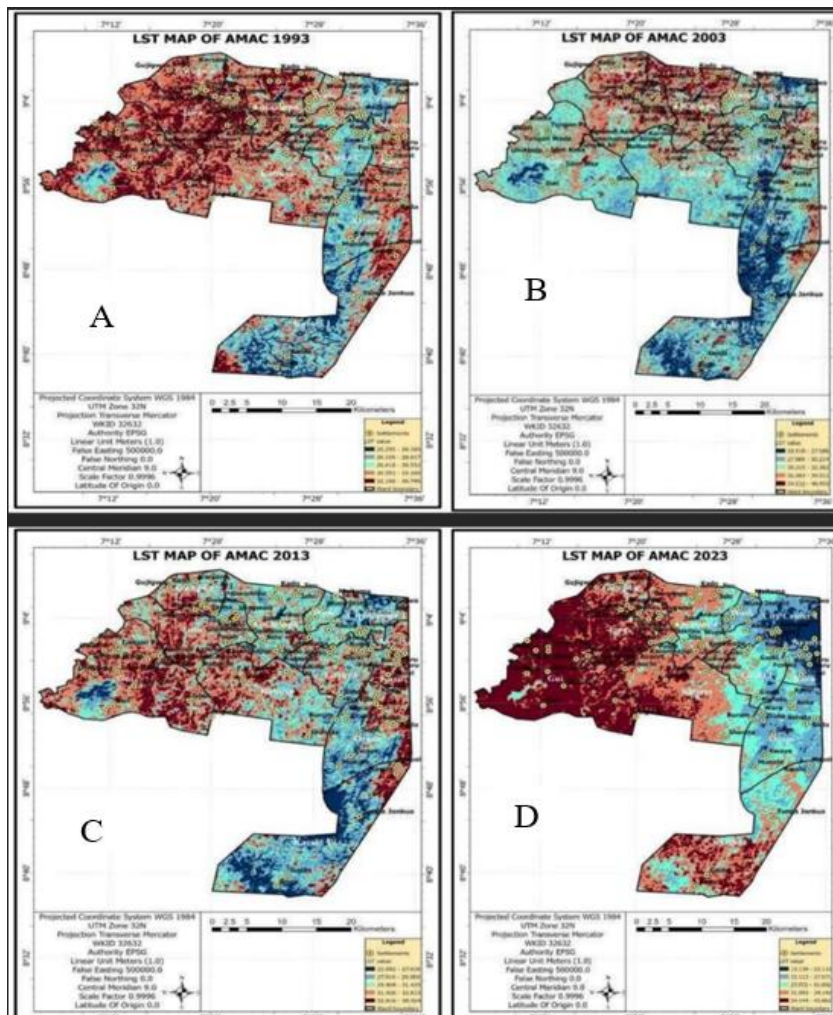


Fig. 6: LST of AMAC, FCT (1993 - 2023)

Source: Author's analysis 2023

Figure 6 (A) is the result of land surface temperature in the year 1993. It shows that out of the five land use classes identified (water body, light vegetation, dense vegetation, built-up area and bare surface) the maximum mean LST values were observed in the built-up as well as light vegetation with mean values of 31.6⁰C and 31.42⁰C. The lowest mean LST values were observed around the water bodies and rock surface with LST values of 28.26⁰C and 29.54⁰C. The analysis further shows that the LST of dense vegetation was 30.4⁰C while bare surface LST value was 30.83⁰C, a slight variation with dense vegetation within same period. The result reveals that the maximum mean LST value in the study area was in built-up area with 31.6⁰C. Figure 6 (B) is the result of LST in year 2003 with the maximum value of LST in Abuja Municipal was 48.95⁰C while the minimum LST value was 18.51⁰C. The revealed mean LST values of Abuja Municipal Area Council around 33.0⁰C in the built-up class of land use, it was followed by bare surface with mean LST value of 3.12⁰C with water body and dense vegetation with the least mean LST values of 28.36⁰C and 30.2⁰C, while rock surface and light vegetation contain the mean LST values of 31.49⁰C and 30.57⁰C respectively. The result shows that built-up area has the maximum mean LST of 33.0⁰C in the study area.

Figure 6 (C) shows the LST values for the 2013. The result revealed that, the maximum temperature of the study area was 39.56⁰C while the minimum was 22.69⁰C. The result also revealed that the mean LST for built-up LULC in 2013 was higher than 1993 and 2003 with mean LST difference of 2.82⁰C compared with mean LST value for 1993 and 1.42⁰C compared with 2003 mean value of LST. The result of figure 6 (D) shows LST value for different LULC identified within AMAC for the year 2023. The results of this study reveal built-up area is LULC classes with the highest mean LST value of 36.93⁰C and its maximum LST is 40.46⁰C while the minimum is 20.14⁰C, followed by bare surface with mean LST value of 34.75⁰C and the maximum LST was 40.35⁰C while the minimum is 21.34⁰C. Whereas water body in the LULC class with the lowest mean LST value of 28.52⁰C. In addition, light vegetated areas revealed mean LST of about 30.22⁰C, dense vegetation shows a mean LST value of 34.01⁰C while 30.33⁰C is the mean value of LST for the year 2023.

Spatio-Temporal Distribution of LST in the Study Area (1993 – 2023)

Table 4.3: Distribution of LST in relation to LULC in the study area

Classes	1993	2003	2013	2023	LST
	Mean	Mean	Mean	Mean	Difference
Built-up	31.6	33	34.42	36.93	-5.33
Water bodies	28.26	28.36	29.16	28.52	-0.26
Rock surface	29.54	31.49	29.74	30.33	-0.79
Bare surface	30.83	32.12	32.03	34.75	-3.92
Light vegetation	31.42	30.57	30.9	30.22	1.2
Dense vegetation	30.4	30.2	33.24	34.01	-3.61

Source: Author's analysis 2023

Table 4.3 shows recorded mean LST value in the study area for 30 years. In all the LULC class identified in the study area for 30 years are compared with LST values for same period (1993, 2003, 2013 and 2023). LST values for 1993 falls within the range of 20.3°C – 36.75°C with a mean of 30.74°C (see figure 4.23). However, the mean LST for built-up LULC class for 1993 was 31.6°C , while 28.26°C was recorded as mean LST for water bodies, rock surface mean LST value was 29.54°C . The mean LST value for bare surface, light and dense vegetation was recorded as 30.83°C , 31.42°C and 30.4°C respectively.

The result further revealed that 2003 mean LST for all the LULC classes identified was higher than 1993 except light and dense vegetation. The maximum LST for the year 2003 was 48.95°C whereas the minimum was 18.52°C with a mean of 31.17°C compared to 36.75°C and 20.3°C with a mean of 30.74°C in 1993 (figure 4.23). Also, as shown in table 5.12, the mean LST was higher for the LULC classes of built-up, water bodies, rock surface and bare surface with 33.0°C , 28.36°C , 31.12°C and 32.12°C respectively in 2012. It shows a slight difference of 1.4, 0.1°C , 1.95°C and 1.29°C for built-up, water bodies, rock and bare surface. However, light and dense vegetation recorded 30.57°C and 30.2°C compared with 1993 same LULC classes with 31.42°C and 30.4°C .

Comparing LST of 2013 to 2003, the result shows a reduction in the maximum LST and increase of minimum LST as well as mean LST with 39.56°C , 22.69°C and 32.04°C compare with maximum, minimum and mean LST of 2003. Within the same period, 34.42°C was recorded for built-up compared to 33°C and 31.6°C in 2003 and 1993. Similarly, the mean LST value for water bodies increased to 29.16°C compared to 28.36°C and 28.26°C in 2003 and 1993. Also, rock surface and bare surface recorded decrease of mean LST values of 29.74°C , 32.03°C compared to 31.49°C , 32.12°C for 2003. Light and dense vegetation also recorded a slight increase of 30.9°C and 33.24°C compare to 30.57°C , 30.2°C of 2003.

In 2023, almost all the classes recorded an increase of LST and the highest mean LST value is 36.93°C , an increase of 5.33°C over 30 years. Water bodies recorded mean LST value of 28.52°C , an increase of 0.26°C . Similarly, rock surface, bare surface light and dense vegetation recorded LST mean of 30.33°C , 34.75°C , 30.22°C and 34.01°C , an increase of 0.79°C , 3.92°C , 1.2°C and 3.61°C .

The LST of AMAC as of 1993 shows the temperature to range from 20.3°C to 36.75°C . While in 2023 it increased to 13.12°C to 43.06°C . This study clearly shows that the increasing population, development in urban areas, and land-use practices are the main drivers for rising the LST and local environment. Another factor of increasing LST is barren land and mountains due to topographic factors such as slope, height, elevation. Moreover, the surface temperature is continuously rising day after day, while the vegetation decreases drastically. Increasing LST highly affects vegetation cover. The findings are in concomitant with the work of Anbazhagan, S. and C. Paramasivam 2015. They find out that, the area with poor vegetation covers such as build-up areas, also sun-exposed ridges, sand sheets or sand dunes experience an increase in temperature.

4.2 The extent of UHI in the study area

This section presents the result of urban heat island by wards in Abuja Municipal Area Council.

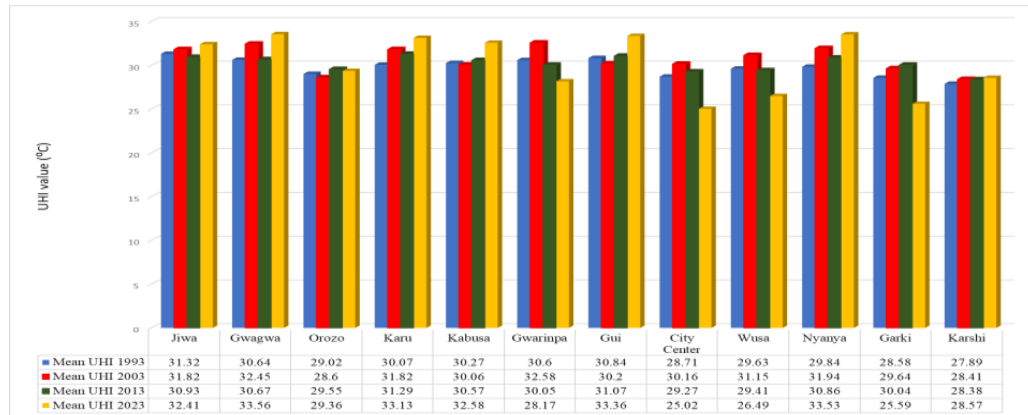


Fig. 7: Wards distribution of UHI in the study area

Source: Author's analysis 2023

The results extracted from landsat imagery of 1993, 2003, 2013 and 2023 are presented in fig. 7 shows a maximum UHI value of 33.56°C was recorded in Gwagwa in the year 2023 and 32.45°C in 2003 while the minimum UHI was recorded in the city center with 25.02°C.

In Jiwa ward, 31.32°C, 31.82°C, 30.93°C and 32.41°C in 1993, 2003, 2013 and 2023 respectively. The result shows a gradual increase of UHI in 2003, then decrease in 2013 and further increase in 2023. In Gwagwa ward, the distribution of UHI indicate a minimum UHI of 30.64°C and the maximum of 33.56°C in 1993 and 2023. The area experiences an increase of UHI of 32.45°C in 2003 then decrease to 30.67°C in 2013. Comparing Orozo with Jiwa and Gwagwa, Orozo recorded low UHI due to its location (mountain) see figure 7. In 1993, 29.02°C was recorded in Orozo, in the same year, 30.64 and 31.32°C was recorded in Gwagwa and Jiwa. Similarly, 29.36°C was recorded Orozo, while 33.56°C and 32.41°C was recorded in Gwagwa and Jiwa in 2023. This shows that aside urbanization, elevation also play a crucial role in determining UHI in the study area. In Karu ward, there is a steady increase of UHI. In 1993, 30.07°C was recorded, 31.82°C, 31.29°C and 33.13°C was recorded in 2003, 2013 and 2023. The steady increase in UHI is the result built-up in the study area (see figure 7) Kabusa, Gwarinpa and Gui were not left out of increase of UHI in the study area.

However, City center, Wuse and Garki recorded low UHI compared to Jiwa, Gwagwa, Orozo, Karu, Kabusa and Gui with 28.71°C, 29.63°C and 28.58°C in 1993. These three wards (City center, Wuse, and Garki) experience slight increase of UHI in 2003 then gradually decrease in 2013 and 2023. This may be the result of proper planning, afforestation and open spaces that lead to a gradual decrease of UHI. This implies that, despite the increase of built-up, the UHI is not increasing. This result disagrees with the findings of Umar and Satish (2016) in Kano, they stated that multiple heat islands emerged over central part of the city. Urban planning strategies, such as increasing green spaces, implementing cool roofing technologies, and

promoting sustainable urban design to create more resilient and environmentally friendly cities reduce the UHI compared to the countryside. This finding corroborates with Julius and Oyewole (2016) who presents the analysis of Akure urban land use change detection from remote imagery perspective. Efforts were made to examine the direction that the continuous expansion of the city tends towards since its inception as a state capital in 1976.

Several factors may contribute to this type of variation in UHI conditions, including urban development, geologic processes, anthropogenic heat, air pollution, and lower wind speeds. One of the underlying assumptions for the variation in UHI status in AMAC and the peripheral rural districts highly related to a notable expansion of impervious surfaces and a reduction in vegetation cover and water bodies. This assumption aligned with the work of Bisong (2007), who examining the process of land use conversion and rate in common and public lands in South-Eastern Nigeria between 1972 and 2001 and find out that deforestation was higher in publicly controlled lands than in communal lands. Agricultural land use characteristics, such as farm types and the nature of croplands/fallows, correlated strongly and significantly with deforestation rates.

4.3 Impact of UHI to the Study Area

The Urban Heat Island (UHI) impact refers to the phenomenon where urban areas experience higher temperatures compared to their surrounding rural areas. This temperature difference is primarily attributed to human activities and modifications to the natural environment associated with urbanization. UHI have several significant impacts

4.3.1 Increased Temperatures

According to Adelia, Yuan, Liu, Shan (2019), Due to the high temperature near the surface in the center of the heat island, the atmosphere moves upwards, forming a pressure difference with the surrounding area, and the near surface atmosphere in the surrounding area converges to the central area, thus forming a low-pressure vortex in the center of the city, which is bound to cause people's life, industrial production, and Atmospheric pollutants formed by burning fossil fuels in the operation of vehicles accumulate in the central area of the heat island, endangering people's health and even lives.

4.3.2 Impacts on Biodiversity

Urbanization often results in the destruction of natural habitats and a reduction in green spaces. The UHI effect can further impact local flora and fauna by altering ecosystems and making it challenging for certain species to thrive.

4.3.3 Social and Economic Disparities

The UHI effect is often more pronounced in lower-income neighborhoods with fewer green spaces and less access to cooling resources. This can result in social and economic disparities, as vulnerable populations may be more exposed to the adverse effects of higher temperatures.

4.3.4 Infrastructure Stress

Higher temperatures can accelerate the deterioration of infrastructure, such as roads and buildings, due to increased thermal stress. This can lead to higher maintenance costs and a shorter lifespan for structures.

4.4 Test of Hypothesis

Ho1 There is no significant relationship between LULC and UHI

Table 4.4: Pearson Correlation of LULC and UHI

Variables		UHI 1993	UHI 2003	UHI 2013	UHI 2023	UHI 1993 2023
LULC1993	Pearson Correlation	-.217	.005	.004	.005	.005
	rho	.532	.055	.107	.077	.058
	N	147,556	147556	147556	147556	147556
LULC2003	Pearson Correlation	.006	.611**	.008**	.007**	.009**
	rho	.825	.000	.002	.005	.001
	N	147,556	147,556	147556	147556	147556
LULC2013	Pearson Correlation	-.021	.004	.704**	.003	.003
	rho	.441	.174	.002	.234	.183
	N	147,556	147556	147,556	147556	147556
LULC2023	Pearson Correlation	-.010	.003	.003	.609**	.004
	Rho	.727	.335	.296	.000	.091
	N	147,556	147556	147556	147,556	147556
LULC1993 – 2023	Pearson Correlation	-.012	.007**	.006*	.009**	.837**
	Rho	.664	.008	.019	.000	.004
	N	147,556	147556	147556	147556	147,556

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Source: Author's analysis 2023

Looking at individual relationship, there is no significant relationship between LULC and UHI in 1993 as the rho 0.825 is greater than the significant value of 0.01 and 0.05. The table further indicates a negative and weak correlation between LST and UHI in the year 1993. The 2003 LULC and UHI show a positive and strong relationship of 0.611, rho = 0.000 less than

significant value of 0.01. The results indicate a significant relationship exist. Furthermore, 2013 and 2023 LULC and UHI shows positive and strong relationship with 0.704, 0.609 and $\rho = 0.02$ and 0.000 less than the significant value of 0.01.

Hypothesis states that there is no significant relationship between LULC and UHI. The analysis from 1993 to 2023 indicates a strong and positive relationship between LULC and UHI in the study area with 0.837, $\rho = 0.004$ less than the significant value of 0.01. Since the ρ is less than the significant value, we hereby reject H_0 and accept H_1 , which states that there is significant relationship between LULC and UHI. This finding agrees with Pompeii II, Suzana et al., (2016) findings based on the relationship between land surface temperature/ land cover in Lanwawi island using normalized difference vegetation index (NDVI), NDBI, NDWI, proved that as the impervious surface (built-up) increases, the surface temperature of the area increases. Juliana et al. (2016) investigated the relationship between surface and canopy UHI. The findings of their study revealed that the distribution of UHI within the city could be linked to land use. Their findings further affirmed the correlation result in Abuja Municipal Area Council.

5.1 Conclusion

This study utilized a combined approach of remote sensing and GIS to evaluate the impact of urban heat Island in Abuja Municipal Area. Temporal and spatial dynamics of LST in relation to land cover change were investigated using thermal infrared data of Landsat to understand the impact of UHI. The LULC thematic maps overall accuracies were computed and was above 80%.

This study has demonstrated that urban heat island exists in the urban centers and some surrounding areas in the study area. These heat islands have grown from 1993 to 2023, and their spatial extent is getting larger as urbanization intensifies. The results show that the maximum temperature exists in the bare built-up area and bare surface respectively. The minimum of temperature coincides in the city center due to guided planning, on the green cover and river classes. Urbanization is the main process of land cover change that can modify the effective variables of land surface temperature (Weng *et.al*, 2004).

5.2 Recommendations

In line with the findings, the following recommendations were made

- i. Government and non-governmental organizations should synergize in rolling-out a phased massive green infrastructure investment and campaign particularly in areas identified with high LST in the study areas.
- ii. Urban planners and other environmental management experts must not only embrace geospatial and geostatistical tools for modelling, simulating and predicting non-linearly chaotic environmental phenomena but must begin to align their plans and/or strategies to reflect 'green' concepts. Some of these include the concepts of landscape urbanism, urban forestry and garden city concept, etc.

- iii. Since urbanization is the main driver of LULC modification and consequently LST, there is need for a radical decentralization policy by the government. A policy that will ensure the provision of basic infrastructure, good and efficient links to/from urban areas, attract investors and consequently reduce the rural-urban flows while improving upon the regional competitiveness of the state and the nation in general.
- iv. Finally, Town Planners should enforce land use regulations towards the protection and sustenance of agricultural and forest land covers, as physical development cannot be avoided entirely. The removal of the vegetal cover exposes the land surface to insolation. expressed in reflectance that signifies the heating or cooling surface systems. Vegetation cover should be protected to reduce potential future urban heat islands around the urban fringe transits through a peri-urban heating system.

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Philosophy of Ageing and Adult Protection in Nigeria Examined in the Light of Anthony Giddens's Theoretical Stance

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Abstract

Abuse of elders is a social problem that has been overlooked by social institutions and researchers. Little attention has also been paid to how the elderly are abused by family members, caregivers and institutions. Abuse of the elderly threatens their right to peace and security in the community. This paper therefore examines the philosophy of ageing and adult protection in the light of Anthony Giddens's theoretical position. Giddens sees ageing as a philosophy of adult protection which has many misleading oversimplifications. This paper is aimed at the theoretical insight into care of the aged and social analysis of the philosophy of ageing. Elder abuse in Nigeria has evidently brought about pointless misery, injurious abuses, mental torture and infringement of senior individuals. Senior maltreatment is usually traceable to family members and relatives. This paper adopts analytical framework and hermeneutical methodology in discussing the trend of elder abuse. Findings, however, show that elder abuse is not peculiar to Nigeria alone but it is a global problem. Elder abuse brings to the fore the fact that it is a growing concern to all in the world. This paper concludes that the trend in Nigeria is not just a social problem but has a global perspective; and that senior maltreatment is traceable to some African beliefs in witchcraft, the emergence of civilization, loss of cultural values, custom and tradition. This paper, however, recommends that there should be policy framework or legislation for guarding against elder abuse; that the Nigerian government should spread the establishment of such homes to other states in the Nigerian federation; that elder abuse should be reported by the victims; and that there should be regular payment of pensions to the elderly people in Nigeria.

Keywords: Ageing, Adult Protection, Caregivers, Elder Abuse, Maltreatment

1. Introduction

Elder abuse has been bedeviled by certain socio-psychological challenges. It has become a growing concern for humanity both nationally and internationally. According to Jason C. Charland (2006, 1-2), elder abuse is one of the most disturbing and rapidly growing areas of crime in the United States. Elder abuse should be a growing concern to all of our citizens and be considered a significant public health issue. Ageing has become both a social problem and a global issue. It remains an inevitable aspect of human existence. Ageing has social, existential, psychological, political and economic implications. Ageing is a reflection on one's status in society. According to Finegold et al (2013, 934-935) more matured individuals revolve around people who are 60 years and above. Ibiezugbe (2014, 8-9) argues that in societal position, an old individual is viewed as a senior citizen who resigns to fate in the Nigerian context. Senior individuals in many emerging nations like Nigeria are becoming destitute due to economic hardship and deficient government assistance to older people. For Ibiezugbe (2014, 7-8), Nigeria ought to set up a component to help provide basic necessities for elderly individuals. However, there are numerous outcomes and negative impacts on older maltreatment in Nigeria. By virtue of their psychological and actual maltreatment, older individuals live with fear and depression. The philosophy of adult protection demands 'economic adequacy'. Accordingly, Maduabuchi Dukor (2004, 216-217) asserts that economic adequacy, is a feature of the special conception of justice; economic adequacy, is attained when the search for food, shelter and work has become routine, rather than urgent. For John Rawls (1971, 302), economic adequacy is to be accomplished according to what he calls the 'difference principle'. Social and economic inequalities are to be arranged so that they are to the greatest benefit of the least advantaged in society. A well-managed older generation is an indication of a realistic social order. For George Ukagba (2013, 39), a realistic social order is inseparably tied to a realistic human nature. However, the philosophy of adult protection hinges on the need for the normative principle of social justice or the beneficial scheme of social cooperation. For John Hoffman et al (2009, 83), social cooperation under a state is normally a good thing. In addition to the foregoing, the philosophy of adult protection revolves around economic considerations. For Alison M.S Watson (2004, 74), economic considerations are a significant element in deciding upon a state's national security policy.

Nevertheless, the objective of this paper is to critically examine the causes of elder abuse; determines the types of abuse the elderly are subjected to; investigates the impact of abuse on the elderly and explores the prevention strategies to elder abuse within the Nigerian context. The paper is divided into four sections. Section one is the introduction. Section two discusses the philosophy of ageing examined in the light of Anthony Giddens. Section three focuses on the challenges of elder abuse in Nigeria. Section four is the conclusion and recommendations. This paper concludes that ageing in different countries is expressed in their level of 'economic considerations' and social order. There will be a relative significance in the increase of aged people from 2025 to 2050. The reason for this projection is that there would be drastic reduction in birthrate due to the fundamental problem of economic insecurity or austerity in

the world. The validation of this assertion is that many people would want to remain unmarried and they will be reluctant to give birth on time and this will definitely lead to a drastic reduction in birthrates due to socio-political and economic challenges bedeviling humanity. Many people would no longer adequately provide for their family members due to poor economic condition and lack of basic necessities of life such as food, clothing and shelter.

2. Philosophy of Ageing Examined in the Light of Anthony Giddens

This theoretical discourse revolves around Anthony Giddens's theoretical stance. According to Anthony Giddens (1993, 85), transition to the age-grade of elder in a traditional culture often marked the pinnacle of the status an individual could achieve. Ageing as a natural phenomenon has its philosophical underpinnings. Ageing is a socio-psychological issue. Giddens's philosophy of ageing talks about a lot of factors such as childhood, adulthood, depression, old age, retirement and death. Accordingly, Anthony Giddens (1993, 86) argues that for us death tends to be a subject that goes undiscussed. It is taken for granted that people are frightened of dying. For Giddens (1993, 84), death through sickness, plague or injury was much more frequent among all age groups than it is today, and women in particular were at great risk because of the high rate of mortality in childbirth. Anthony Giddens, in his theoretical presupposition believes that ageing is a form of human achievement through retirement life. Retirement is an essential part of an active economic life of everyman in society. According to Anthony Giddens (1993, 85), in the industrialized societies, retirement tends to bring the very opposite consequences. No longer living with their children and ejected from the economic arena, it is not easy for older people to make the final period of their life-rewarding. For Anthony Giddens (1993, 85), those in retirement might find renewal in what has been called the 'third age' (following childhood and adulthood) in which a new phase of education begins. Anthony Giddens (1993, 85) further heightened his theoretical position by arguing that having retired from the labour force, they may be poorer than ever before in their lives. At the same time, there has been a great increase in the proportion of the population aged over sixty-five. Anthony Giddens (1993, 84-85) further argues that:

Many young adults in the West today can look forward to life stretching right to old age. In traditional societies, older people were normally accorded a great deal of respect. Among cultures which had age-grades, the 'elders' usually had a major- often the final-say over matters of importance to the community as a whole. Within families, the authority of both men and women often increased with age. In industrialized societies, by contrast, older people tend to lack authority within either the family or the wider social community. It used to be thought that those who successfully cope with old age do so by turning to their inner resources, becoming less interested in the external rewards that social life has to offer. In the society in which many are physically healthy in old age, an outward-looking view will come more and more to the fore.

Furthermore, old age has been accompanied with stereotypes in contemporary times. Accordingly, Anthony Giddens (1993, 85) opines that the matured individuals have been stereotyped. This is slowly turning into a global issue in contemporary times where youngsters and grandkids now find it hard to connect with grandparents and there is an overall conviction that the matured ones are being maltreated even in their homes by kids and even caregivers. Dykstra (2009, 91-92), in agreement with Giddens (1993), argues that advanced age is a condition wherein matured individuals are repressed in the society. The matured people are poor before they become old in the society and they are also seen as less privileged in society. Giddens's philosophy of adult protection is invariably the philosophy of society and his philosophy of society leads to his structuration theory. Burnes (2017, 409-410), in his theoretical construct asserts that the circumstance encompassing older maltreatment differs from country to country. However, the injurious abuses of the elderly in contemporary society have become a recurring decimal among countries, family members, caregivers, and institutions that supposed to cater for them. The idea of the elderly alludes to senior individuals who have served their respective countries. In conventional African culture, the elderly typically represent a respected group of people in society. The respect for the elderly persons has become part and parcel of African culture, custom and tradition.

In addition, elder abuse in Nigeria has resulted in mental torture and the infringement on the freedoms and rights of the elderly persons in contemporary times. These fundamental rights include right to life, liberty and property. Buttressing this theoretical position further, John Burr and Milton Goldinger (2008, 292-293) argued that right is the property of man. A 'right' is a moral principle defining and sanctioning a man's freedom of action in a social context. Life is a process of self-sustaining and self-generated action; the right to life means the right to engage in self-sustaining and self-generated action—which means the freedom to take all the actions required by the nature of a rational being for the support, the furtherance, the fulfillment and the enjoyment of his own life. For instance, in some communities in Nigeria, senior maltreatment is an indication of loss of moral values, cultural heritage, custom and tradition. The African person believes that respect for the elderly persons ought to be part and parcel of their cultural heritage, custom and tradition but this has been eroded due to lack of moral values in contemporary times. Senior maltreatment and disrespect for elders is no longer seen as a big deal in Nigeria.

Moreover, senior maltreatment has been traceable to the African belief that the elderly people are possessed by the spirit of witchcraft. On the other hand, Maduabuchi Dukor (2010, 17), argues that the belief in witchcraft represents African magic. African arts and science is described in general as magic, a phenomenon which has been understood in various ways. Witchcraft, though an old question in academic circles, is an ever-recurring issue in Africa. It is the dark-side of kinship, meaning that its reality in African metaphysical and social worldview cannot be overemphasized. For Dukor (2010, 17), skepticism of the reality of this concept of witchcraft abounds among the scientific minded scholars in Africa and in Europe. Still, the reality of witchcraft has been a major contributory factor to Africa's underdevelopment. Dukor (2010, 17-18) further argues that:

It is an ontological reality embedded in the ontology of the ontologists—the Africans are ontologists. Ontologists are those persons who believe in the science of being or beingness—it is all about their personality *apriori* (reason) and *aposteriori* (experience). As ontologists, they have ontological existence, so does every object of experience i.e objective experience and every object of consciousness i.e subjective experience. As ontologists who believe in God, they believe in contrary spirits i.e demons, witches and wizards that are more often in opposition to the things of God. The essence of witchcraft is to reap where God has sowed. It is therefore argued that the proof of the existence of God, either in Africa or in the West amount to proof in the existence of witches or the concept of witchcraft. Western philosophies and sociological theories reduce doubt about witchcraft. But for the Africans it is a logical epistemological assertion about the ontological world. Hence it is a metaphysical reality, which has empirical relevance in the social life of the Akan, the Igbos and the Yorubas.

Nonetheless, in some communities in Nigeria, the people recognize the negative influences of the concept of witchcraft on the elderly. In other words, the concept of witchcraft is not also left out from the metaphysical, ontological beliefs and epistemological assertions of witchcraft in many African societies. The belief in witchcraft in African traditional societies and African religions has become one of the causes of senior maltreatment within the Nigerian context. This belief in witchcraft has been used to perpetrate injurious abuses against elderly persons. The elderly people are seen as agents of doom and bad luck to the younger generation. This kind of belief in witchcraft as a yardstick for senior maltreatment remains an assumption among the African peoples.

Furthermore, Nigeria could only surmount the challenges of senior maltreatment in contemporary times through public enlightenment or awareness raising. In other words, there is interrelatedness between the emergence of society and elder abuse in Nigeria. Accordingly, Joan Ferrante (2003, 545), argues that a society represents a large complex of human relationships; a system of interaction. John Hoffman et al (2009, 501), in agreement with Joan Ferrante (2003), argued that society consists a group of people who relate to one another for specific purposes. Societies exist at all levels. For George Ritzer et al., (2014, 10-11) the parts of society were seen as interrelated and interdependent. Indeed, these interrelationships and interdependencies were a major basis of society; and this view led to a conservative political orientation. That is, because the parts were held to be interrelated and interdependent; it followed that tampering with one part could well lead to the undermining of other parts and ultimately, of the system as a whole. This meant that changes in the social system should be made with extreme care.

Moreover, the older generations are exclusively stereotyped. According to Ferrante (2003, 546), stereotypes are exaggerated and inaccurate generalizations about who are members of an outgroup. In other words, senior maltreatment arises as a result of stigmatization. For Ferrante (2003, 546-547), stigmatization is an attribute defined as deeply discrediting because it overshadows all other attributes that a person might possess. On the other hand, Karl Pillemer et al (2016, 194-195), argued that elder abuse is now recognized internationally as an extensive and serious problem, urgently requiring the attention of healthcare system, social welfare agencies, policymakers and the general public. However, with a global explosion in the older adult population, elder abuse is expected to become an even more pressing problem, affecting millions of individuals worldwide. However, elder abuse is associated with devastating individual consequences and societal cost, meriting as a serious public health issue. Karl Pillemer et al (2016, 194-195) identified various forms of elder abuse to include physical, financial, sexual and emotional/psychological abuse. The most pressing need in the field of elder abuse is for the interventions that have the potentials to prevent older maltreatment. Caregiver interventions were among the first models used to prevent elder abuse. In all countries, effective elder abuse prevention requires the coordination of available services. Karl Pillemer et al (2016, 195) posited that the responses required for older maltreatment cut across many systems, including criminal justice system, economic system, mental healthcare, victim services, civil legal services, adult protection services, financial services, long-term services and proxy decision making.

Nonetheless, elder abuse is a growing international concern with different manifestations in different countries and cultures. Substantial variation in legal and legislative approaches to the problem also exists between different countries. Karl Pillemer et al (2016, 195-196) argued that similarly, resources available to prevent and intervene in elder abuse and the degree to which they are coordinated vary considerably throughout the world. The most urgent need at present is for a widely expanded base research that uses highly qualitative methods. There is a paucity of information about the nature and extent of elder abuse in low income countries, and most studies have taken place in high income nations. Karl Pillemer et al (2016, 204-205), asserted that culturally specific forms of elder abuse and cultural attitudes towards prevention and treatment (including potential barriers) remain virtually unexplored. However, senior maltreatment is a significant social issue, particularly inside our current climate, influencing countless old individuals all over the world. Ola et al (2012, 299-300) posited that the indications of senior maltreatment are not perceived, prompting ridiculous underreporting of elder abuse.

3. The Challenges of Elder Abuse in Contemporary Nigerian Society

The challenges of elder abuse in contemporary Nigerian society are fundamental problems. For Ike Odimegwu, fundamental problems require fundamental solutions. Ageing is not a curse but a blessing from Almighty God. Gustman et al., (2012, 10-11) argued that the lawful meaning of advanced age as the age at which a great many people resign from work and are qualified for specific sorts of advantages. On the other hand, Altbach, et al, (2019, 76-79) argued that ageing has turned into a worldwide phenomenon and a basic approach is required

whereby there is some acknowledgments by states of non-industrial nations like Nigeria. Cai (2016, 17-18) argues that considering this global phenomenon, Nigeria isn't an exemption. Magnus (2012, 22) argues that while ageing has attracted significant consideration and in numerous African nations it has so far scarcely been seen as a potential segment for social change. Put differently, Ajomale (2007, 15-16) recognizes social practices and underlying disregard for the older people in Nigeria. Okpara et al (2011, 8-9), asserted that generally, advanced age is profoundly regarded as a stage of respected status. Western governments have a well-managed retirement framework to help and provide for the elderly people in society. The upkeep of the older people in Africa has not been given adequate government attention. This should be seen as a legitimate obligation by society as a whole. Mudiare (2013, 79-80) succinctly stressed that Nigeria appears to have reneged on these commitments, as most older individuals are not covered by any federal retirement or social welfare schemes.

Furthermore, older maltreatment here alludes to the danger older people face in Nigeria through physical and psychological abuse. Mudiare (2013, 80) distinguishes some risk indications of older maltreatment such as physical, psychological and sexual maltreatment, isolation exclusion, monetary double-dealing among members of older persons and disregard for the elderly people. For Mudiare (2013, 79-80), the maltreatment of the elderly ones in Nigeria is disturbing and emotionally challenging. However, elder abuse has been closely associated with the economic challenges of poverty. Elderly people are abused and neglected both physically and psychologically by family members and other caregivers.

Nonetheless, elderly people depend solely on their family members and other caregivers for care and in the process are neglected and abused. Also, in the absence of institutional care, adult children who are too busy to take care of their aged parents hire caregivers who also maltreat them in the process. Accordingly, Mudiare (2013, 82-83) argues that unfortunately, the elderly people are unable to challenge their abusers and have no way of reporting their abuse and so many suffer in silence. Jason C. Charland (2006, 2), in agreement with Mudiare (2013), argues that the majority of cases of elder abuse go unreported making it a hidden problem within the communities that we live in. However, there is very little put in place by way of legislation to stop elder abuse. Balogun Adelakun et al (2020, 363-364), argued that ageing is a significant problem in Nigeria.

Moreover, the aged as the fastest growing population worldwide is mainly taking place in developing countries, and as the number increases, there is no safety net in place for most of the elderly people already living in the developing countries. For Adelakun et al (2020, 364-365) social gerontology is one of the dominant disciplines in the study of ageing, and the geriatrics with the philosophy of adult protection. The speedy increase of the elderly people today signifies serious concerns in the matter related to the aged. Nigeria gives so much respect for culture and this replicates in the ageing process of elders.

Nevertheless, the elderly support is a call for individuals, groups and nations. Thus, in Brazil, South Africa, Australia, Botswana and India, for example, the reality of life insecurity has prompted some non-contributory social pension scheme and other social assistance

programmes to cater for the elderly people, while in Nigeria the reverse is the case. For Adedokun et al (2020, 367-368) the abusers of the elderly can be traced amongst the government, family members, spouse and other caregivers in society. Thus, elder abuse leads to physical and mental torture. Accordingly, Ugiagbe (2018, 21-22) argues that some elderly people are in a pitiable condition due to self-inflicted problems, for example, many in their active service years failed to plan for their future and this hereby compounds their socio-economic status when they disengaged from active service. The failure of Nigeria at the local, state and federal levels to make adequate provision for the social welfare scheme of the aged resulted in a more complex nature of the problem. This has resulted in isolation exclusion, self-condemnation and pity. Accordingly, Adedokun et al (2020, 373-374) further heightened their theoretical position by asserting that:

It is relevant in the societies to stand against the gross violation and abuse of senior citizen (elderly), especially in Nigeria. However, in this, despite an encompassing federal legal and policy dominance in the ageing portfolio, there is limited source of power with which to legislate especially with respect to elderly and aged care. The varying degrees provided for the prevention of elder abuse through policies, guidelines, legislative frameworks, and different levels of coordinated interagency approach has to be in place to eschew elder abuse in this part of the developing country especially in Nigeria.

Furthermore, the United Nations Economic Commission for Europe (UNECE) Policy Brief on Ageing (2013, 1-2) argues that population ageing in the UNECE States has given rise to fears that abuse of older persons may increase in its entirety. Stereotypes may provide the breeding ground for abuse in society. Older people may be silent for fear of exposing a family member, losing caregiving services, or being institutionalized. Therefore, there is lack of reliable internationally comparable data to evaluate the worrisome phenomenon of elder abuse in society. In addition to the foregoing, the United Nations Economic Commission for Europe (UNECE) Policy Brief on Ageing (2013, 2-3) suggested various theoretical approaches and prevention strategies in avoiding elder abuse and the best approach is to avoid abuse before it happens. However, prevention strategies may include awareness raising in society about appropriate behaviour and available services. Support services may help to mitigate risk factors that are located with older people who live alone or depend on an abusive family member who is overburdened with the care responsibilities. The United Nations Economic Commission for Europe (UNECE) Policy Brief on Ageing (2013, 3) asserts that the abuse of older persons is a major societal problem that often goes undetected. Although, not a new phenomenon, the speed of population ageing worldwide has given rise to fears that abuse of older persons, too, may increase in its incidence, prevalence and complexity.

Nevertheless, the United Nations Economic Commission for Europe (UNECE) Policy Brief on Ageing (2013, 3-4) advocates measures that should be undertaken to protect vulnerable elderly persons, thus allowing them to age more gracefully and with dignity and in good

health, both physically and mentally. Measures should be undertaken to help elderly persons maintain high levels of quality of life and wellbeing and reduce costs to society. Elder abuse is associated with a number of unpalatable consequences, both for individuals as well as societies at large. However, victims of elder abuse often experience significant distress and may never fully emotionally recover from psychological trauma. Consequently, elder abuse may be worsened because shame and fear of getting institutionalized may cause reluctance to seek help. Elder abuse has cultural, ethnic and religious dimensions. For Oladele Atoyebi et al (2024, 1-2), elder abuse is a huge but easily overlooked problem in Nigeria. Despite its significantly distressing effects on the victims, and it is often given little or no attention for possible litigation of abusers.

Moreover, Atoyebi et al (2024, 2-3) further argued that the World Health Organization (WHO), has described elder abuse as a single or repeated act or lack of appropriate action, occurring, which causes harm or distress to an elderly person. However, elder abuse is described as a knowing, intentional, or negligent act by a caregiver or any other person that causes harm or serious risk of harm to a vulnerable adult usually above 65 years of age. For Atoyebi et al (2024, 3-4), elder abuse can be in a form of physical, sexual, and emotional abuse, financial exploitation, neglect or abandonment. Elder abuse is worsened by the fact that elderly persons are less likely to report abuse.

Furthermore, abuse can occur in institutional settings like hospitals and care homes by caregivers as well as in private homes. Atoyebi et al (2024, 6-7) argued that the health consequences of elder abuse are very significant and could reduce the quality of life of elderly persons by causing a decline in functional abilities, increased stress, depression, dementia, malnutrition, and eventually early death. According to Atoyebi et al (2024, 6-7), the risk of early death of victims is three times higher than for non-victims. Possible signs of elder abuse include bruises, fractures, fear, depression, loss of sleep, unexplained change in behaviour, unusual activity in bank accounts, unkempt and dirty appearance and sexually transmitted diseases.

Moreover, circumstances such as memory loss or communication defect, fear of loneliness or shame, the use of substance, poverty, inadequate support system, unemployment, family history of violence, inexperienced or unwilling caregiver, poor implementation of laws, policies, ethical guidelines and poor supervision, mental illness in caregiver or victim, poor family relationship as well as social isolation are related to elder abuse across the globe. Atoyebi et al (2024, 7-8) further argued that there is no policy framework addressing elder abuse in Nigeria. Thus, there is a need to initiate legal framework on the prevalence of elder abuse to set the base for adequate national and international data collection which would assist in the development of appropriate policy to mitigate the problem of elder abuse in developing countries. On the other hand, Dorothy Ononokpono et al (2020, 71-72) argued that the rising population of the elderly persons is one of the most important demographic phenomena in recent times globally.

Moreover, in Nigeria, the estimated population of elderly persons is about 6 million and this group of people are confronted with various health challenges and a reduction in earnings, which exacerbate their poor health condition and healthcare utilization. For Dorothy Ononokpono et al (2020, 85-86) studies have shown that healthcare is a fundamental requirement for living a socially and economically productive life. For Dorothy Ononokpono et al (2020, 72-73) the major challenges faced by elderly persons in some communities in Nigeria include difficulties in the utilization of healthcare services to inadequate healthcare facilities, lack of trained healthcare personnel, high cost of healthcare services, distance to healthcare facilities and late payment of pension, among other factors leading to elder abuse in Nigeria. Dorothy Ononokpono et al (2020, 785-86) further argued that elder abuse clearly constitutes a criminal offence. In addition to the foregoing, abuse and neglect have been distinguished depending on whether or not there has been an active violation of the freedoms and rights of the elderly persons in society or an absence of action. The abuser can be a stranger, an acquaintance, or a trusted other such as a caregiver.

In addition, the perpetrator can be the person himself or herself, in which case one would talk about self-neglect. The United Nations Economic Commission for Europe (UNECE) Policy Brief on Ageing (2013, 7-8) identified various categorization of elder abuse to include physical, psychological, sexual, and financial/ material abuse, neglect and discrimination or stereotypes. Internationally comparable data on abuse of elderly persons are not readily available, which makes it difficult both to have a good understanding of the dimension of the problem. For Victor Assi et al (2018, 131) argued that improvement in the socio-economic status of the elderly by regular payment of their pensions, as well as increased attention to their healthcare by relevant individuals and groups among other measures that will further promote their longevity should be strongly encouraged. There was a significant relationship between nutrition and food intake and longevity.

Moreover, changes in the body due to ageing can result in loss of muscle mass, changes in balance and other factors that impact day-to-day functions. For Assi et al (2018, 133-134) population ageing is a major by-product of demographic transition, which has occurred in most parts of the world. The longevity of elderly persons demands care and support which entails high cost of medical care and other forms of care. Accordingly, Assi et al (2018, 134-135) argued that the rise in the cost of living entails high cost of medical care and high inflation has often made it difficult for many families to give the necessary care and support for the elderly people.

Nonetheless, ageing is closely connected to health practices of a particular demographic area. Accordingly, Assi et al (2018, 136-137) further assert that health practice is useful when describing and analysing a particular group behaviour and has received a considerable attention from scholars particularly those in the fields of health promotion and health maintenance. For Assi et al (2018, 137-138), health practice recognizes the integrated and holistic nature of man's functioning capacity. It considers the relative priority and the unique configuration of values, activities, and their interrelationships.

Furthermore, a cursory look at elder abuse in Nigeria shows that a bigger number of women were abused or maltreated than men (Akpan & Umobong, 2013; Asogwa & Igbokwe, 2010; Ola & Olalekan, 2012). Akpan and Umobong (2013, 8-9), corroborating Mudiare's theoretical position argued that senior disregard can be either physical or psychological. As rightly observed by Akpan and Umobong (2013, 12-13), 1 out of 7 instances of older maltreatment are physical and psychological. For instance, in Israel, the theoretical position by Millán-Calenti et al., (2010, 306-307) suggested that 21% of the older people (ages 75-94) required help. On the other hand, Bassuk et al (2022, 127-128) argued that the most basic necessities of older persons require clinical benefits, monetary appropriation, and the plan of relaxation exercises. Cadmus et al (2012, 973-974) argued that the older people are stereotyped socially and psychologically. For Cox (2015, 32-33), matured people are confronted with issues of mental depression and social separation, and matured people end up in a circumstance of poor mental health condition.

4. Conclusion and Recommendations

So far, this paper argues that the nature of ageing in different countries is expressed in their level of economic considerations and social order. There will be a relative significance in the increase of aged people from 2025 to 2050. The reason for this projection is that there would be drastic reduction in birthrate due to the problem of economic hardship in the world. However, matured people worldwide is a peculiar issue that is getting international attention. Elder abuse is a social problem that has been overlooked by institutions. Little attention has been paid to how the elderly are abused by family members, caregivers and institutions. Elder abuse is a largely unrecognized social phenomenon that threatens the right of elderly people in the world. Giddens sees ageing as a philosophy of adult protection which has many misleading oversimplifications. Elder abuse brings to the foreground the nature and causes of senior maltreatment in Nigeria. The trend of elder abuse in Nigeria is not just a social problem but a global phenomenon; and that older abuse is traceable to some African beliefs in witchcraft, the emergence of civilization, loss of cultural values, custom and tradition. This paper, therefore, recommends that:

1. There should be policy framework or legislation for guarding against elder abuse in Nigeria. The Nigerian government should enact laws that will guard against the infringements on the privileges and rights of the elderly people.
2. Nigeria ought to establish more old people's homes to cater for the elderly. There are existing old people's homes in some states. For instance, Lagos State offers an example to adult protection in Nigeria. The Nigerian government should spread establishment of such homes to other states in the Nigerian federation.
3. There should be legal checks on elder abuse in terms of punishment to serve as deterrent to offenders of elder abuse in Nigeria. Some of these punishments may include community service, fines and other forms of light punishments.

4. Non-governmental organizations (NGOs) and other nonprofit organization like the churches and mosques should see the philosophy of adult protection as one of their cardinal objectives and primary responsibilities in Nigeria. Some of their sermons should hinged on the need to respect parents and elderly ones which is fast eroding in Nigeria.
5. Individuals in their active stage in life should properly plan for their future to mitigate against elder abuse in Nigeria. It is worth noting that planning is key to human life. People should save towards their retirement life. Elderly people should endeavour not to rely solely on the contributory pension scheme by the Nigerian government.
6. There should be massive enlightenment or awareness raising on the need to protect adult persons in Nigeria. However, various media platforms such as television and radio stations, magazines and other social media platforms should be used to enlighten the younger generation on the need to respect the elderly in society.
7. The Nigerian society should respect the dignity of human life. The freedoms and rights of the elderly ought to be promoted. There should be compassion, empathy, mutual cooperation and tolerance among the Nigerian peoples with regard to the respect for the elderly in society.
8. African societies should eschew the belief that old age is closely associated with the spirit of witchcraft. The concept of witchcraft is as old as our humanity; and the elderly people should not be treated with disdain and as agents of doom or bad luck.
9. Nigerians should reinvigorate their moral values and respect for elders which is gradually eroding due to loss of cultural values, custom and tradition in contemporary times. The impacts of globalization on Nigeria's socio-political structure has been one of the contributory factors to the trend of elder abuse in Nigeria.
10. Elder abuse should be reported by the victims in Nigeria. However, victims of elder abuse should be able to speak out and report to appropriate authorities such as the courts, the police, nongovernmental organizations, churches, mosques and other relevant bodies or institution to guard against the trend of elder abuse in Nigeria.
11. Humanity should see old age as a blessing and not a curse from God and there should be regular payment of pensions to the elderly people in order to curb their overdependence on their adult children. A well mapped-out pension scheme may help in mitigating against elder abuse in Nigeria. The current pension scheme in Nigeria is characterized by some bureaucratic bottlenecks and kleptocratic practices that ought to be addressed by the Nigerian government.

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Assessing the Impact of the Israel-Palestine Ceasefire on Child Labor in a Post-War Socioeconomic Context

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Abstract

The Israeli-Palestinian conflict is a longstanding struggle that has led to recurring violence, displacement, and economic instability, disproportionately affecting children. Palestinian children face severe hardships due to destroyed infrastructure, limited access to education, and worsening poverty. As families struggle to survive, child labour has become a widespread coping mechanism in the post-war economy. This study examines the impact of the Israel-Palestine ceasefire on child labour, focusing on its socioeconomic repercussions for Palestinian children. Using a qualitative approach based on secondary data, the research applies Human Security Theory and Structural Violence Theory to frame the discussion. The findings reveal that while the ceasefire provides temporary relief, it also exacerbates economic hardship and weakens infrastructure, leading to a rise in child labour. The study concludes that without sustained economic recovery, strengthened social policies, and institutional rebuilding, child labour will persist as a long-term consequence of the conflict. It recommends the urgent reconstruction of educational institutions, the implementation of vocational training programs, and targeted economic interventions as essential measures to address the issue. This research contributes to a deeper understanding of conflict-induced child labour and the need for comprehensive post-war strategies to protect vulnerable children.

Keywords: Impact, Ceasefire, Child labour, Post-war, Israel-Palestine

1. Introduction

The Israeli-Palestinian conflict has endured for decades, leaving deep scars on the lives of those affected. The recent ceasefire presents a fragile opportunity for peace but also exposes new challenges in the post-war context, particularly regarding child welfare. Among these, child labour emerges as a critical issue requiring urgent attention. The intersection of conflict, socioeconomic disruption, and child vulnerability has created a complex reality for Palestinian children, who are disproportionately affected by these conditions (Syed et al., 2024; McCready et al, 2025).

The systematic violations of human rights during the conflict, including restricted mobility, military operations, and economic collapse, have severely disrupted daily life in Palestinian territories (Smith, 2018). These conditions often push families into survival strategies, including child labour, to cope with the extreme socioeconomic challenges exacerbated by war and political instability (Maio & Nandi, 2013). The International Labour Organization (ILO, 2013) highlights that crises driven by armed conflict increase the risk of child labour, particularly in regions with prolonged instability.

This study examines the impact of the Israel-Palestine ceasefire on child labour, with a particular focus on the socioeconomic repercussions for Palestinian children. It investigates how economic hardship, weakened infrastructure, and disrupted education contribute to child labour in the post-war period. By analyzing recent research and historical context, the study seeks to uncover the hidden costs of conflict on vulnerable children and contribute to discussions on post-conflict recovery and human rights advocacy.

Guided by Human Security Theory and Structural Violence Theory, this research aims to answer two key questions: How has the ceasefire affected the prevalence of child labour in conflict-affected areas? What are the socioeconomic drivers of child labour in the post-war context? The findings highlight that while the ceasefire offers temporary relief, it also exacerbates economic challenges, ultimately sustaining child labour. The study concludes that addressing this issue requires urgent educational reconstruction, vocational training programs, and targeted economic policies to mitigate the long-term impact of conflict on Palestinian children.

This research highlights a pressing gap in post-conflict analysis by focusing on child labour as a socioeconomic consequence of war. It underscores the importance of evidence-based policymaking to protect children's rights and advocates for stronger interventions that prioritize education, welfare, and economic stability in rebuilding Palestinian society. This paper argues that while the Israel-Palestine ceasefire offers temporary respite from violence, it has inadvertently deepened socioeconomic vulnerabilities, particularly affecting children. The lingering effects of conflict, such as economic hardship and weakened social infrastructure, have forced many families to rely on child labour for survival.

The paper begins with introduction in section 1, followed by a literature review in section 2. Section 3 is the methodology. Section 4 highlights findings while section 4 the discussion contextualizes these findings. The paper concludes and offers policy recommendations in section 5.

2. Literature Review

Conceptual Framework

Child Labor

Child labour refers to any work that deprives children of their childhood, education, and potential while posing risks to their mental, physical, and social development. It is especially common in conflict-affected areas, where economic hardship and social instability push children into exploitative work (Andvig et al, 2001). According to the International Labour Organization (ILO) Convention No. 182, child labour includes hazardous or exploitative tasks that interfere with a child's education and development. While some work by children is acceptable, it becomes harmful when it endangers their health or disrupts schooling.

Globally, around 160 million children are engaged in child labour, with the highest rates in sub-Saharan Africa (ILO, 2023). Conflict-affected regions are particularly vulnerable due to the collapse of social structures and loss of livelihoods. In these areas, children are often forced into early work, exposing them to dangerous environments and exploitation (ILO, 2023).

Several factors contribute to child labour. Poverty is the most significant, as families living in extreme hardship depend on their children's income. Lack of access to education also increases the risk, leaving children with limited alternatives. Armed conflicts worsen the situation, disrupting normal life and making children more vulnerable to exploitation. Additionally, weak enforcement of child protection laws enables child labour to persist in many regions (Naeem et al, 2011).

Child labour, says Bonyan (2025), manifests in various forms. In agriculture, children work long hours under unsafe conditions without proper healthcare. Street work is common in urban areas, where children engage in activities like vending, begging, and scavenging. Bonded labour, in which children work to repay family debts, is prevalent in some marginalized communities. Some children are also forced into domestic servitude or recruited into armed conflicts.

International organizations such as the ILO and UNICEF play key roles in combating child labour. Their efforts focus on advocacy, building capacity, and enforcing international standards. The ILO's key conventions—No. 138 (on minimum age for work) and No. 182 (on eliminating the worst forms of child labour)—are central to global initiatives. These organizations work with governments to promote child protection and reduce the root causes of child labour.

However, there are numerous challenges. Weak governance, cultural acceptance of child work, and inadequate social protection systems hinder progress. Achieving lasting solutions requires effective coordination among international, national, and local actors. Addressing child labour demands a comprehensive approach that includes poverty reduction, improved access to education, and stronger legal enforcement to protect children's rights and promote their overall well-being (Bonyan, 2025).

Israel-Palestine Ceasefire

A ceasefire is a temporary suspension of hostilities between conflicting parties, often facilitated by mediators or international organizations. Its goal is to provide a pause in violence, enabling negotiations, humanitarian relief, or peace discussions. Ceasefires can be unilateral (one side halting violence) or bilateral (both sides agreeing to stop fighting), and while they offer immediate relief, they do not resolve the underlying political or territorial disputes that fuel the conflict (Clayton et al, 2021).

Israel and Hamas have agreed to a ceasefire and hostage release deal mediated by Qatar and supported by the U.S. The ceasefire, which began on January 19, follows 15 months of conflict. The current fighting started on October 7, 2023, when Hamas attacked southern Israel, killing 1,200 people and taking 250 hostages (BBC, 2025). Israel's cabinet approved the deal on January 17, despite internal opposition. The ceasefire took effect after a brief delay due to disagreements over the list of initial hostages to be released (BBC, 2025).

The Israel-Palestine conflict is deeply rooted in historical, religious, and territorial disputes that have persisted since the early 20th century. After Israel's establishment in 1948, tensions escalated, leading to numerous wars and uprisings. In 2023, hostilities between Israel and Hamas erupted again, resulting in significant loss of life and widespread destruction. Ceasefires have been attempted in the past, often mediated by international actors, but none have led to a lasting peace. The core issues—such as Palestinian statehood, Israeli security, and the status of Jerusalem—remain unresolved, and ceasefires, while offering temporary respite, do not address these deep-seated political issues (McCready et al, 2025).

Ceasefires have both short-term and long-term implications. In the short term, they can reduce violence and allow for humanitarian aid to reach affected populations, such as the civilians in Gaza during the 2023 conflict. However, this relief is often temporary, and the root causes of conflict, such as poverty, human rights violations, and political oppression, are not addressed. In the long term, a ceasefire can provide an opportunity for peace negotiations, but it requires political will and sustained international pressure (Clayton et al, 2021). Ceasefires may also provide a window for governments and organizations to implement measures that protect vulnerable groups, such as children, from exploitation and recruitment into armed groups. However, without addressing the deeper political and economic issues, long-term peace remains elusive (BBC, 2025).

Post-War Socioeconomic Contexts

The socioeconomic ramifications of war extend far beyond the battlefield, embedding long-lasting challenges into the very fabric of post-conflict societies. Conflicts often lead to the destruction of key infrastructure, such as roads, bridges, schools, and hospitals, which are vital for the functioning of a society. This destruction disrupts access to essential services and exacerbates already fragile economic conditions. In addition, widespread displacement of

populations contributes to the fragmentation of social networks and the disruption of local economies, making it more difficult for communities to rebuild and recover (Valters, 2014).

The social fabric of communities often becomes fractured in the aftermath of conflict. Families are displaced, communities lose their economic base, and there is often a breakdown in governance structures. This makes it harder to provide basic services like healthcare, education, and security, all of which are essential for recovery and stability. The destruction of infrastructure also impedes the ability of governments and humanitarian organizations to provide aid, compounding the challenges that communities face. Rebuilding infrastructure is costly and time-consuming, and it often takes years, if not decades, to fully restore the essential services that are vital for recovery (Syed et al., 2024).

Conflicts lead to deep economic instability, which places tremendous pressure on families and individuals to survive. The destruction of businesses, homes, and agricultural land not only reduces income opportunities but also disrupts entire industries. Farmers may lose their crops or livestock, workers may lose their jobs, and entrepreneurs may see their businesses go under. In war-torn economies, the formal job market often collapses, and informal markets or black markets become more prominent as the primary means of survival for many (Newiak, n.d.).

This economic hardship forces families into deeper levels of poverty, often leading to harmful coping mechanisms. For instance, some families may resort to sending their children to work in unsafe or exploitative environments as a means of supplementing household income. Without access to education or vocational training, children often become trapped in cycles of poverty, unable to break free from labour exploitation or the consequences of limited opportunities. The absence of sustainable income sources further increases inequalities within society (ILO, 2013).

Post-conflict recovery is hindered by infrastructure destruction, particularly in schools, hospitals, and roads. The lack of education and healthcare hampers long-term development, with many children missing critical learning years and communities facing health crises. Vulnerable groups, including women and children, struggle without social safety nets or adequate support. Mental health challenges like PTSD and anxiety further impede recovery, delaying reintegration into society and perpetuating cycles of instability (Syed et al, 2024). Addressing these issues is crucial for rebuilding and achieving sustainable recovery.

Empirical Studies

Canagarajah, & Nielsen (1999) analysed the determinants of child labour in Africa using data from Côte d'Ivoire, Ghana, and Zambia. Their study finds that while poverty is a significant factor, other determinants such as school-related costs, particularly transportation, play an equally critical role in influencing child labour and school attendance. The paper highlights the limited access to credit markets and household composition as additional factors. It

concludes that legislative action, as promoted by international conventions, and economic incentives are key to addressing child labour effectively.

Abebe (2009) explores key debates on child labour in the global South by examining how ideologies of childhood shape these discussions. The paper identifies three approaches: discourses on work-free childhoods, socio-cultural perspectives on work, and the political economy of child labour. Abebe argues for a holistic understanding that considers children's differentiated perspectives and the socio-material practices in which their work is embedded. This approach emphasizes the shifting forms of children's labour and their connection to broader historical and geographical contexts.

Takano (2020) underscores the urgency of achieving SDG 8.7, which targets the elimination of child labour by 2025. While child labour globally decreased from 246 million in 2000 to 152 million in 2016, conflict zones reveal a troubling pattern. Children in conflict-affected areas are often forced into hazardous labour, including construction work and armed group activities, with girls facing additional risks such as forced marriage and sexual slavery. In 2018, over 7,000 children joined armed groups. Takano calls for coordinated global action to protect vulnerable children and reduce conflict-related child labour.

Amady (2023) conducted a qualitative study on child labour in Tehran using grounded theory, employing interviews and observations with children, employers, and field experts through theoretical, snowballing, and purposive sampling methods. The research identifies three forms of child labour: kinship-based, employer-based, and large organizations. The main causes of child labour include regional development disparities, family poverty, cultural attitudes, the informal labour market, and weaknesses in legal enforcement. The findings reveal that child labour in Tehran severely impacts children's physical and mental health and hinders their social development.

Syed et al. (2024) assessed the impact of Israeli military operations on Palestinian human rights and the role of global advocacy groups. It analyses reports from human rights organizations, UN resolutions, and international legal experts. The findings highlight the widespread human rights violations and the limitations of global responses, urging stronger advocacy and legal measures. This study emphasizes marginalized Palestinian voices and calls for a lasting resolution that ensures fundamental rights. Key terms include conflict, human rights violations, and international law.

Wessells (2016) highlights the severe and complex impact of armed conflict on children worldwide, with conflicts becoming prolonged and intertwined with issues like terrorism. The paper emphasizes the importance of understanding how children are affected and designing appropriate interventions. It advocates for resilience-based approaches rather than deficit frameworks like PTSD and highlights challenges such as a weak evidence base, lack of contextual diversity, and marginalization of children's voices. Wessells also introduces six empirical studies on children and conflict, focusing on ecological frameworks and child protection systems.

The ILO's 2017 study on child labour shows significant progress since 2000, with a reduction from 246 million to 152 million child labourers by 2016. However, the decline slowed from 2012 to 2016, raising concerns about meeting the SDG target to eradicate child labour by 2025. Key findings reveal that nearly half of child labourers engage in hazardous work, mostly in agriculture, with children aged 5-11 being the most affected. The study recommends integrating child labour into broader social policies to address underlying economic and social drivers.

A UNHCR's (2021) report highlights that Child labour remains a significant challenge among Syrian refugee populations in countries like Turkey, Egypt, Jordan, Lebanon, and Iraq under the Regional Refugee and Resilience Plan (3RP). The most vulnerable groups include children with disabilities and those involved in invisible or irregular work often linked to abuse. Despite progress in establishing national action plans on child labour across four of these five countries, challenges persist due to limited resources and infrastructure gaps. Stakeholders emphasize that addressing family poverty through integrated approaches involving education support and social protection is essential for reducing child labour risks. Coordination between stakeholders is crucial for effective interventions, while leveraging regional initiatives to advocate for stronger child labor policies can enhance capacity development across sectors to improve data collection and service delivery aimed at mitigating this issue effectively.

UNICEF (2022) emphasizes the importance of evidence-based approaches in mental health and psychosocial support (MHPSS) for children formerly associated with armed forces and groups (CAAFAG). These interventions promote wellbeing, reintegration, and resilience in children, families, and communities. The review highlights therapies like CBT, play therapy, and narrative exposure therapy while advocating for system strengthening and addressing trauma's intergenerational impact. It identifies gaps in current practices and emphasizes culturally relevant, sustainable approaches, especially after the challenges posed by the COVID-19 pandemic. Recommendations focus on improving reintegration and preventing re-recruitment.

Theoretical Framework

~ Human Security Theory

Human Security Theory was chosen because it provides a more holistic and people-centered approach to security, addressing the limitations of traditional, state-centric models. Human Security Theory emerged as a response to the limitations of traditional, state-centric security concepts that dominated the Cold War era. Defined broadly in the 1994 UNDP Human Development Report, human security focuses on safeguarding individuals from chronic threats like hunger, disease, and repression, as well as from sudden disruptions such as conflict or natural disasters. Unlike conventional security frameworks that prioritize state sovereignty, human security centres on individual well-being (Singh, 2016).

Scholars such as Mahbub ul Haq and Amartya Sen played key roles in conceptualizing this theory, emphasizing a shift from military protection to ensuring human dignity and survival. According to the UNDP, human security is built on two main strategies—protection and empowerment—where protection involves shielding individuals from risks, while empowerment enables them to participate in decisions that affect their lives (Singh, 2016).

This theoretical framework is particularly relevant in contemporary discussions on security, as it acknowledges the interconnectedness of global issues and highlights the importance of addressing root causes of insecurity, such as inequality, governance failures, and lack of access to basic needs. Human security is multidimensional, comprising several core components. Economic security guarantees basic income and employment opportunities; food security ensures access to adequate nutrition; health security protects against disease; environmental security addresses issues like clean water and disaster prevention. Personal security focuses on protecting individuals from violence, while community security preserves cultural and social identity, and political security emphasizes freedom from human rights abuses and state repression (United Nations Human Security Unit, n.d).

Despite its appeal, human security theory has faced significant criticism. Some scholars argue that it is too broad and conceptually vague, making it difficult to implement in practice. Others caution that focusing on individuals could weaken national security frameworks. Additionally, critics highlight a Western bias in its emphasis on liberal democratic ideals.

Human security can offer a relevant lens for analysing the Israel-Palestine ceasefire and its impact on child labour in post-war socioeconomic contexts. The ceasefire, while silencing overt conflict, amplifies underlying challenges like poverty, disrupted education, and weakened social infrastructure, creating conditions that force children into labour. Applying human security highlights how addressing economic insecurity and community resilience is vital for sustainable recovery. It shifts the focus from short-term conflict cessation to long-term human welfare, advocating policies that protect vulnerable populations, particularly children, from exploitation and deprivation.

~ **Structural Violence Theory**

Structural violence refers to systemic inequalities embedded within social, economic, and political structures that prevent individuals from meeting their basic needs. First introduced by Johan Galtung in 1969, this theory emphasizes harm caused by social arrangements that limit people's potential. It manifests in three key ways: social injustice, such as unequal access to resources; direct violence resulting from inequitable social systems; and cultural or symbolic violence, where norms and ideologies reinforce these inequalities (Chrobak, 2021).

However, structural violence is often criticized for being too broad and difficult to measure. While John Rawls' theory of justice provides a framework for addressing structural inequality, it falls short in capturing unconscious, culturally ingrained violence. Addressing these deep-rooted issues requires significant societal transformation and conscious efforts toward education and policy reform (Maboloc, 2019).

In the context of child labour in post-war Israel-Palestine, structural violence highlights how systemic poverty, broken education systems, and fragile institutions force children into exploitative work. Without social protection or recovery mechanisms, these conditions perpetuate generational cycles of hardship. Combatting this issue involves dismantling systemic inequalities and creating inclusive policies to protect children's rights and promote equitable development.

3. Methodology

This study employs a qualitative research design, utilizing secondary data from existing literature to examine the relationship between systemic inequality and child labour in post-war Israel-Palestine. The research relies on content analysis of empirical studies, systematically identifying key themes that illustrate the impact of structural violence on child labour. To achieve this, the study reviews peer-reviewed journal articles, policy reports, and historical records, focusing on how disrupted education, poverty, and weakened institutions contribute to child labour. A comparative analysis is conducted to evaluate findings across different sources, allowing for a deeper understanding of recurring patterns and variations. The research follows a structured approach, first collecting and categorizing relevant literature, then identifying recurring themes through thematic analysis. The findings are synthesized to highlight the broader implications of systemic inequality and to propose policy recommendations aimed at mitigating child labour through structural reforms and inclusive social policies.

4. Findings and Discussions

- i. Poverty and economic inequality drive child labour, exacerbated by limited access to credit and infrastructure (Canagarajah, & Nielsen, 1999; Andvig et al, 2001)).
- ii. Ideologies shape debates around childhood work versus education, influencing societal responses during conflicts (Abebe, 2009).
- iii. Conflicts increase hazardous child labour forms like military activities or construction work (Takano, 2020; Wessells, 2016).
- iv. Child labour negatively impacts children's development, especially where legal enforcement is weak (Amady, 2022; UNICEF, 2022).
- v. Global Advocacy Responses: Despite progress, global advocacy efforts remain limited in addressing human rights violations in conflict zones (Syed et al., 2024; ILO, 2023; UNHCR, 2016).
- vi. Resilience Strategies: Mental health support is crucial for reintegration efforts post-conflict (UNICEF, 2022).
- vii. Policy Recommendations: Effective strategies require integrated policies combining education with social protection measures and stronger legal protections against exploitation during post-conflict recovery phases (ILO, 2017; UNHCR, 2016).

Impact of the Ceasefire on Child Labour in Post-War Israel-Palestine

The impact of a ceasefire on child labour in Israel-Palestine is multifaceted, influenced by political stability, socio-economic conditions, and the effectiveness of post-war recovery policies. While a ceasefire may reduce immediate physical threats to children, it does not automatically lead to improved living conditions or a decline in child labour. Instead, entrenched economic hardships, displacement, and weakened institutions often continue to drive child labour, despite the absence of active conflict.

Takano (2020) highlights that a reduction in violence allows children to access safer environments and education, which can potentially decrease their involvement in hazardous labour. However, this positive outcome is often undermined by lingering economic instability. In the Gaza Strip and West Bank, the destruction of schools and businesses, combined with high unemployment rates among adults, forces many children into work to help support their families. Even in periods of ceasefire, restrictions on movement, trade blockades, and limited access to essential services perpetuate economic hardship, leading to a rise in child labour.

Wessells (2016) emphasizes that children in conflict-affected regions may remain engaged in labour or even military activities due to economic desperation and displacement. This is evident in post-war Palestine, where many displaced families struggle to rebuild their lives amid infrastructural collapse and restricted economic opportunities. Even when violence subsides, child labour persists as a survival strategy in households facing extreme poverty. The ILO (2017) further supports this by noting that economic pressures, rather than active conflict alone, are primary drivers of child labour, particularly in sectors like agriculture, construction, and informal markets, where legal oversight is weak.

The failure to enforce strong legal frameworks or address economic disparities further limits progress in reducing child labour (Syed et al., 2024). In post-ceasefire Palestine, weak governance and insufficient legal enforcement make it difficult to protect children from exploitative labour conditions. Although international organizations such as UNICEF and the ILO advocate for child welfare, the lack of coordination between global advocacy efforts and local authorities hinders substantial improvements.

Thus, while a ceasefire can create opportunities for reducing child labour, long-term solutions require comprehensive interventions, including economic recovery programs, legal enforcement, and investments in education (ILO, 2017; UNICEF, 2022). Without these measures, child labour in post-war Israel-Palestine is likely to persist, as families struggling with economic survival continue to rely on children as part of the household workforce.

In post-war Israel-Palestine, the persistence of child labour is deeply intertwined with the broader socioeconomic impact of conflict and its aftermath. Poverty, displacement, and the breakdown of education systems exacerbate the vulnerabilities of children, making labour a necessary survival strategy in many households. Economic recovery following prolonged conflict is often slow, leaving large sections of the population without stable employment. In Gaza and the West Bank, repeated cycles of violence have devastated industries and

infrastructure, limiting job opportunities for adults. Sudharshan and Helena (1999) highlight that in conflict-affected regions, economic pressures frequently force children into work to supplement household income. Given the high unemployment rates in post-war Palestine, children—particularly in rural and refugee areas—are drawn into labour-intensive sectors such as agriculture, construction, and informal markets. The ongoing blockade of Gaza further restricts economic activities, worsening poverty levels and increasing the reliance on child labour as a coping mechanism.

Mass displacement due to war disrupts family structures and social support networks, leaving children particularly vulnerable to exploitation. Amady (2023) notes that displaced children, especially those separated from their families, are at a heightened risk of being forced into labour due to the absence of guardianship and stable living conditions. In the case of Palestine, the destruction of homes and infrastructure has led to significant displacement, pushing families into overcrowded refugee camps where economic opportunities are scarce. Many children, lacking access to basic necessities, are compelled to work in hazardous environments to contribute to family survival. Displacement also disrupts access to essential services such as healthcare and education, further entrenching children in exploitative labour conditions.

One of the most profound consequences of war is the collapse of educational infrastructure. Schools in Gaza and the West Bank are frequently destroyed or repurposed for military or refugee use, reducing access to formal education. Takano (2020) emphasizes that when schools are unavailable, children are more likely to enter the workforce, as families prioritize survival over education. The destruction of educational institutions in Palestine means that many children, particularly those in refugee settlements, have limited opportunities for learning and skill development. The absence of a functioning education system perpetuates a cycle in which children remain trapped in low-skilled, exploitative labour conditions with little hope of social mobility.

These interlinked factors—poverty, displacement, and the collapse of education—sustain high levels of child labour in post-war Israel-Palestine. Wessells (2016) underscores the need for comprehensive recovery strategies, including economic reintegration programs, rebuilding educational infrastructure, and providing targeted social protection for displaced families. Without these interventions, children will remain vulnerable to labour exploitation, reinforcing the cycle of poverty and insecurity in the region. Addressing the root causes of child labour is essential for ensuring long-term stability and improved welfare for Palestinian children in the aftermath of conflict.

5. Conclusion and Recommendations

The findings reveal that poverty and economic inequality are central drivers of child labour, worsened by limited access to resources. Cultural perspectives shape the debate on childhood work versus education, especially in conflict zones. Armed conflicts increase hazardous child labour, such as military recruitment. Child labour has damaging effects on children's

development, particularly when legal protections are weak. Global advocacy efforts to address human rights violations in conflict zones remain limited. Effective strategies for post-conflict recovery should integrate education, social protection, and stronger legal safeguards.

In conclusion, this study emphasizes the need for a focused approach to child labour as a critical socioeconomic fallout of war, particularly in the context of post-ceasefire Palestinian society. The research highlights how the ceasefire, though offering temporary peace, has exacerbated economic hardships and vulnerabilities, pushing many families toward child labour for survival. Policymakers must prioritize child welfare, education, and long-term economic stability in post-conflict recovery efforts to ensure a sustainable future and protect children from exploitation. Strengthened interventions and evidence-based strategies are vital for addressing these issues.

The Palestinian government should prioritize rebuilding schools and expanding access to education, as restoring educational infrastructure reduces child labour by keeping children in school. International organizations should provide financial aid and microloans to struggling families, easing economic pressures that push children into work. NGOs can establish vocational training programs for older children, offering practical skills that create alternative employment paths. Strengthening and enforcing labour laws is crucial to preventing child exploitation, requiring stricter regulations and workplace monitoring. Mental health support programs should be implemented to help children recover from trauma and labour-related hardships. Lastly, international bodies like the UN and ILO must continue advocating for stronger child labour protections, ensuring coordinated global efforts to address the issue in post-conflict zones.

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Effect of Employee Participation in Decision Making Process on Institutional Performance: Evidence from Osun State University Nigeria.

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Abstract

Institutions in the global community recognise that employees play a vital role in the growth, development and attainment of corporate goals and objectives. Consequently, mechanisms are put in place to recruit employees with skills, ideas, and initiatives into the institutional systems. However, in most contemporary institutions employees' initiatives in the institutional decision-making process are undermined. This study examined the effect of employee participation in decision-making on institutional performance at Osun State University Nigeria. Primary and secondary data were utilised for the study. The study adopted a descriptive research design, data gathered were analysed using descriptive statistics. Multi-stage sampling techniques were used to select (422) as the study population comprised academic staff, non-teaching staff and management team while 20% of the population 84 respondents were used as sample size for questionnaire administration. The findings of the study revealed that involving employees in decision-making allows an employee to make decisions concerning a particular task, improves workplace harmony, and increases employees' efficiency among others. The study concluded that employee involvement in the institutional course of action cannot be undermined. It was recommended among others that employees should be given an enabling environment to contribute their quota to the realisation of institutional goals.

Keywords: Employee Participation, Decision Making, Organisation Performance.

1. Introduction

The primary goal of employee participation in institution's decision-making process is to create a supportive environment in which individuals can contribute their initiatives, and ideas, to influence decisions and actions that affect their performance. Employees are regarded as the most valuable asset of an institution as such the management team is obligated to take a more proactive approach to meet their needs. According to Ojokuku and Sajuyigbe (2014), employee involvement in decision-making has been recognised as a managerial strategy for improving institutional performance to achieve shared goals between managers and employees. This is made possible by considering employees' contributions and feedback when developing the mission statement, guidelines, rules, pay, and deciding who gets promoted. Employee participation in decision-making, an interesting concept in human resources management is the primary source of employee voice, according to (Brinsfield, 2014).

An institution's ability to survive is determined by its ability to involve its personnel in decision-making; however, addressing this attitude and maintaining workplace harmony requires careful consideration. Employee involvement in decision-making ensures that they feel a part of the institution and contribute to achieving institutional goals (Obembe *et al.*, 2024). Personnel involvement in the institutional course of action has stimulated the interest of labour relations scholars, academics, and practitioners. Several studies have shown that involving personnel in institutional courses of action improves job performance, motivates personnel for performance output, and facilitates institutional growth (Hussain *et al.*, 2018; Albrecht *et al.*, 2018; Al-dalahmeh *et al.*, 2018). According to Bhatti (2013), employee involvement is merely a managerial strategy that works well under certain conditions.

Employee involvement in the management of an institution's initiatives motivates them to increase institutional productivity and provide high-quality services (Kang & Sung, 2017). According to Obembe *et al.* (2022), employees who are sufficiently motivated will do everything in their power to help the institution achieve its objectives. Thus, there exists a link between employee behaviour influenced by a leader's style and institutional productivity. A participative leader benefits both the organisation and its employees by increasing output while decreasing absenteeism, conflicts, uncertainty, and employee turnover (Pandita & Ray, 2018).

According to Smith and Bititci (2017), given the right conditions, even the most inexperienced employee can learn, and competent management can motivate employees and increase productivity. Osun State University, Nigeria which is an institution of higher learning has categories of employees from the non-teaching staff, academic staff, and the management team each with defined roles and responsibilities to realise the institutional goal of excellent academic standards. For optimal delivery of the institution's goal, it is expected that the management team create a conducive atmosphere for its personnel to contribute their ideas and initiatives in the institution's course of action from the departmental level, faculty level and the management board meetings. This will facilitate the institution's employees to commit their best to the continued survival of the institution in the global community.

Studies have shown that institutions that encourage subordinate initiatives in decision-making process tend to increase performance (Brinsfield, 2014, Kim & Holzer (2016). Lack of acceptance of subordinate ideas in the course of action of an institution could lead to conflict of interest, employee turnover and less commitment to roles and responsibilities. An institution management team and staff who work together have more options and are more likely to support and agree on major decisions and institutional changes. The sense of institutional ownership boosts employees' effort, loyalty, morale, and increases performance. The advantages of involving employees in decision-making have been emphasised. This study examined institutional performance via the lens of employee participation in decision-making process at Osun State University, Nigeria.

This paper is in five sections, section two dwells on related literature, comprising concepts, theories and empirical review. Section three discussed the methodology of the study, section four discussed results and findings and section five discussed the conclusion and recommendation for the study.

2. Literature Review

Employee Participation

The process of involving employees in an organisational course of action is known as participatory decision-making. According to Alsughayir (2016), employee involvement is the practice of allowing personnel to use their initiative to add value and boost performance within an organisation or institution. Employee participation is the direct application of employees' knowledge, abilities, and energies to resolving organisational problems and achieving organisational goals and objectives. According to Obembe *et al.* (2019), participation includes employees taking part in organisational initiatives, reaping the benefits of growth, and contributing to evaluation processes. Personnel involvement refers to the practice of allowing employees to make decisions outside of their immediate work environment.

According to García *et al.* (2019), personnel involvement is the sum of all direct and indirect ways in which individuals and groups participate in an organisational course of action. Personnel involvement in the opinion of Jurburg *et al.* (2017), is the transfer of authority, either directly or indirectly, between superiors and subordinates during decision-making processes. According to Abubakar *et al.* (2019), personnel involvement also refers to a worker's involvement in organisational course of action. In the opinion of Kim and Holzer (2016), personnel participation is the result of organisational practices designed to increase workers' commitment to the organisation and sense of engagement with their workplace.

According to Ezeanolue and Ezeanyim (2020), employee participation involves every employee in helping the organisation achieve its goals and treating each one as a valuable asset rather than just a cog in the machine. Personnel involvement, according to Ojokuku and Sajuyigbe (2014), is a set of protocols designed to elicit each employee's support, understanding, and optimal contribution from the organisation, as well as their commitment

to its goals. According to Nwoko and Emerole (2017), each employee is more than just a cog in a machine; they are unique human beings who can assist the organisation in achieving its goals.

Employee participation in organisational operations, according to Oluwatoyo *et al.* (2017), not only motivates employees but also allows them to contribute their best to the development of the organisation. He also defines personnel participation as a procedure that leads to organisation democracy and worker motivation through participation, dialogue, and decision-making. Individuals who see their jobs as the centre of their lives are one way to describe high-involvement workers. In a similar vein Oyebamiji (2018), claims that participation includes people's involvement in organisation and workplace decision-making processes. Osborne and Hammoud (2017), define personnel involvement as an administration strategy that keenly seeks out personnel's opinions and allows them to help resolve work-related issues.

In other words, workplace group decision-making according to Al Mehrzi and Singh (2016), is a novel approach that fosters communication opening between management and employees while providing the subordinates with greater autonomy and control over their job duties. It describes a worker's participation in the strategic planning procedures of an organisation. Personnel involvement in the organisational course of action empowers front-line staff who deal precisely with the day-to-day running of the organisation (Jiang & Shen, 2023). Inculcating subordinate initiative in the work environment is the bedrock of personnel involvement in the organisational course of action. According to Hanaysha (2016), it is a system that allows individuals at the workplace to deliberate on a course of action. According to Ruck *et al.* (2017), this type of entrustment is distinct in that the subordinate has greater autonomy and control over bridging the workforce-management communication gap. It describes the level of worker participation in an organisation's strategic planning effort. Employee involvement in an organisation can be classified as high or low. When all employee categories are involved in the planning process is high or when personnel are deeply involved in the organisational course of action. When staff are not given adequate freedom to contribute to the organisational course of action it is considered low level involvement.

Decision Making

Making decisions is the most important and difficult management task, as well as the most important component in the definition of management. Making decisions is the most important role in organisations. Managers of organisations base their decisions on everything that occurs within the organisation. When ideas are implemented, they become decisions, and because decisions are made under conditions of risk and uncertainty, the outcome may or may not be favourable. The capabilities, expertise, experience, attitudes, and values of the decision-maker all have a significant impact on the decision-making process.

According to Friedler *et al.* (2021), decision-making is the process of deciding on a course of action to take to deal with a particular problem. It also entails weighing your options and coming to an informed decision. Participation in decision-making promotes esteem needs, which increases employee motivation and productivity. According to Schwartz (2016),

decision-making is the process of choosing between options. It is thought to be the result of a mental process necessary for choosing an action from a set of options. Before deciding on the best course of action, one must evaluate the advantages and disadvantages of several choices and factors which is the goal of decision-makers' options or actions during the decision-making process. In the view of Zubair *et al.* (2015), there is a link between the various actions and their respective outcomes.

Organisational Performance

The measurement or computation of the relationship between input and output is known as productivity. The output is the finished product, while the inputs are the labour, capital, time, space, technology, and human resources required to run the organisation. Employees are considered productive when their inputs and outputs are equal. When an organisation is productive, it can achieve more in less time. Thus, efficiency saves the organisation money in terms of labour and time. Unproductive employees spend much time carrying out tasks, which costs the organisation more funds and waste of time (Bakotić, 2016). Higher worker productivity in an organisation has numerous advantages, including increased earnings, profits, and incomes; increased availability of capital, services and goods at lower costs and prices; a reduction in work hours and an improvement in living and working conditions; and a strengthening of the workers' overall financial base (Jyoti & Rani, 2017).

Every organisation is built on productivity, it is critical because productivity is the primary reason for the existence of organisations, it is the goal that all organisations strive to achieve. Several institutions have turned to frequent staffing changes to meet or exceed productivity targets. This is consistent with Singh *et al.* (2018), discovery that productivity problems have impacted most periodic organisational repositioning initiatives. Productivity has frequently been identified as the most pressing, contentious, and analytical issue in both public and private organisations. What is meant to be understood as productivity is the actual output per labour unit. Sickles and Zelenyuk (2019), define productivity as an employee's ability to meet or exceed their employer's expectations in terms of work or goods and services produced. Drucker (2018), defines productivity as the total output divided by the total input required to produce that output.

Theoretical Framework

The Democratic Participatory Theory serves as the theoretical framework of this study. The theory emphasises the roles that participation plays in people's lives and society. According to Jurburg *et al.* (2017), decision-making involvement boosts an employee's sense of freedom by giving him or her true control over his or her environment and life. Again, allowing the person to become their boss emphasises the importance of personal autonomy. According to Hassan (2016), organisations allow people to gain collective management experience in the work environment through employee input in the organisational course of action.

According to the theory, people in a market are constantly trying to maximise their gains while minimising their losses from the political process. It assumes that people are self-

centred because their primary motivation is to advance or defend personal interests. The theory is based on the assumption that increased participation will make ordinary people feel more efficient. This implies that their actions may influence public policy and give them greater control over how they live in the community. In other words, increased involvement in one area of life has an impact on the workplace as well.

Empirical Review

According to Obembe *et al.* (2024), employee voice in organisational course of action is critical to achieving the organisation's goals and objectives. Oyebamiji (2018) investigated the impact of employee decisions on organisational performance at the Ladoke Akintola University of Technology Hospital in Ogbomoso, Oyo State, Nigeria. The study found that employee decision-making improves organisational performance in both direct and indirect ways. The study also discovered that the management team's failure to engage staff members in the process results in low personnel involvement in the institution's course of action. The study concluded that staff decision-making is an alternative framework for organisational performance.

Obembe *et al.* (2019), investigated the impact of employee participation in decision-making processes on organisational performance. The study's findings revealed a variety of ways in which employees can participate in institutional decision-making processes, such as staff representation at management meetings, departmental staff committees, appropriate information sharing between superiors and subordinates, joint consultative decision committees, and one-on-one meetings with superiors at work. The study concluded that staff participation in decision-making processes has a significant impact on the achievement of organisational objectives.

Dede (2019) investigated how productive a company was and how much employee input was considered in decisions concerning the Internal Revenue Service's Cross River State Board in Calabar. The study found that employees involvement in organisational course of action procedures ensures effective decision-making, increases commitment and job satisfaction, fosters a positive work environment, and boosts employee morale as a team member. The study concluded that achieving preset goals and objectives necessitates employee participation in an organization's decision-making process.

Daniel (2019) investigated the influence of personnel decision-making on Nigeria's banking industry. The study discovered a strong connection between personnel participation in organisational courses of action and effectiveness. The study also emphasised the importance of the workforce in helping the organisation achieve its objectives. The study concluded that management in the banking industry should involve employees more in decision-making to realise organisational goals.

Ezeanolue and Ezeanyim (2020) investigated the impact of employee participation in decision-making on organisational productivity in South-East Nigerian manufacturing companies. The study's findings revealed that employee decision-making significantly

increases organisational productivity. The study also discovered that staff delegation significantly increases productivity within organisations. The study concluded that employee involvement in organisational decision-making leads to higher productivity levels.

Torlak (2022), investigated the effect of decision-making process on leadership accomplishment. The study found that a democratic management team and leader foster an environment that encourages personnel involvement in the organisational course of action. The study further revealed that participative decision-making processes influence employee morale, knowledge and attitude that facilitates leadership performance. The study concluded that a democratic leader is geared towards organisational performance through a joint decision-making process.

3. Methodology

Primary and secondary data were utilised for the study. Primary data was sourced from a self-structured questionnaire and interview guide while secondary data were collected from published journal articles, textbooks, research work, conference proceedings, and institutional materials. Descriptive statistics was used to analyse the findings of this study. Population of the study 422 comprised (268) academic staff, (127) non-teaching staff and (27) management team. Multi-stage sampling technique was utilised for the study. In the first stage, the University was classified using a stratified sampling technique based on the State's administrative zones, specifically Osogbo/Okuku, Ifetedo/Ipetu Ijesha, and Ikire/Egibgo. In the second stage, the Osogbo, Ikire, and Ipetu Ijesha campuses which account for 50% of the institution's campuses were chosen using a random sampling method. In the third stage, two departments from each of the selected campuses for a total of six departments were chosen using the random sampling technique. This ensures that all the state's administrative zones are represented. In addition, a proportionate-to-size sampling technique was utilised to select 84 respondents for questionnaire administration. To supplement the data gathered from the distribution of questionnaires, an interview session was also held with the Registrar, Bursar, and a few department heads of the institution.

4. Results and Discussions of Findings

This section presented, analysed, and interpreted respondents' perspectives on personnel involvement in decision-making on institutional performance. The study used Osun State University in Nigeria to examine employee participation in decision-making on organisational performance. Table 1 presents an analysis of quantitative data for each of the variables. The analysis results were presented as a standard deviation, mean value, and percentage. The respondents rated their responses to the variable on a five-point Likert scale. To supplement the findings of the quantitative data analysis, content analysis method was used to examine the qualitative data gathered from interviewees.

The first question posed to respondents was in response to the claim that staff participation in institutional decision-making reduced uncertainty about the implementation of institutional

policies, as shown in Table 1. Reacting to this, 26 (35.6%) participants strongly agreed to the assertion; this was corroborated by 20 (27.4%) participants who agreed to the assertion; 9 (12.3%) participants were undecided. However, it was contrary to the view of 9 (12.3%) participants who disagreed with the view while 9 (12.3%) participants strongly disagreed with the statement. The mean and standard deviation is as follows ($\bar{\chi} = 3.62$, $SD = 1.401$). The data imply that 63% of the participants affirmed that personnel involvement in the organisation's course of action reduced ambiguity regarding the policy implementation of the institution.

In line with the second statement, personnel involvement in organisation's course of action yields to the acceptance of the institution's decision-making. In their response, 17 (23.3%) participants strongly agreed with this statement; 30 (41.1%) participants agreed to it, and 16 (21.9%) participants did not decide. In contrary opinion, 5 (6.8%) participants disagreed with the statement while 5 (6.8%) participants strongly disagreed with the statement. The statement had a mean value and standard deviation of ($\bar{\chi} = 3.67$, $SD = 1.119$). According to the data interpretation, the majority of participants (64.4%) agreed with the variable stating that personnel involvement in the organisation's course of action leads to employees' acceptance of the institution's decisions.

With respect to the third statement, employees' participation in decision-making increases employees' efficiency. Reacting to this, 21 (28.8%) participants strongly agreed with the statement; this was supported by 30 (41.1%) participants who agreed with the statement, while 11 (15.1%) of the participants were undecided. It was contrary to the opinion of 9 (12.3%) participants who disagreed and 2 (2.7%) strongly disagreed with the statement. This data representation shows that employees' participation in decision-making increases employee efficiency with a 69.9% agreement level. The statement had a mean value and standard deviation of ($\bar{\chi} = 3.81$, $SD = 1.076$).

With regard to the fourth statement to verify if personnel involvement in decision-making improves workplace harmony in the institution. In response to this, 17 (23.3%) participants strongly agreed; 34 (46.6%) agreed, and 11 (15.1%) were undecided. It was contrary to the view of 8 (11.0%) who disagreed with the statement, while 3 (4.1%) participants strongly disagreed with the statement. The data's analytical inferences supported the idea that decision-making by staff members enhanced workplace harmony within the organisation, with a mean and standard deviation of ($\bar{\chi} = 3.74$, $SD = 1.068$).

The fifth variable, employees' participation in decision-making makes employees more creative and innovative. Responding to this, 28 (38.4%) participants strongly agreed with this variable; 27 (37.0%) participants agreed to it, and 10 (13.7%) participants were undecided about the variable. However, 7 (9.6%) of the participants disagreed with the variable while 1 (1.4%) participant strongly disagreed with the variable with a mean and standard deviation of ($\bar{\chi} = 4.01$, $SD = 1.020$). Most of the participants 75.4% admitted that personnel involvement in the institution's decision-making enables the employees to be creative and innovative in their actions.

The sixth variable, personnel's involvement in decision-making allows an employee to decide on running a particular task. In their response, 25 (34.2%) participants strongly agreed with

the variable; this was supported by 27 (37.0%) participants who agreed to the variable, while 12 (16.4%) participants were undecided about the variable. It was contrary to the view of 4 (5.5%) participants who disagreed and 5 (6.8%) strongly disagreed with the variable. This revealed that personnel involvement in an organisation's course of action enables an employee to decide on the running of a particular task with a mean value and standard deviation of ($\bar{\chi} = 3.86$, $SD = 1.158$).

The seventh variable is to determine if employees' participation in decision-making allows the subordinate to complete a task however it makes him feel and then report back to the superior. Reacting to this, 20 (27.4%) participants strongly agreed to this; 32 (43.8%) agreed, and 8 (11.0%) were undecided. It was contrary to the view of 9 (12.3%) who disagreed with the variable while 4 (5.5%) participants strongly disagreed with the variable. The analytical conclusion of the data sustained that personnel involvement in decision-making allows the subordinate to do a duty the way he feels best and then inform the superior with a mean value and standard deviation of ($\bar{\chi} = 3.75$, $SD = 1.152$).

In respect to the eighth variable, employees' participation in decision-making helps to eliminate conflict and disagreement. In their response, 16 (21.9%) participants strongly agreed with the variable; this was supported by 28 (38.4%) participants who agreed with the variable, while 16 (21.9%) participants were undecided. However, it was contrary to the opinion of 7 (9.6%) participants who disagreed and 6 (8.2%) who strongly disagreed with the variable. This revealed that personnel involvement in the organisation's course of action helps to eliminate conflict and disagreement in the institution with a mean value and standard deviation of ($\bar{\chi} = 3.56$, $SD = 1.178$).

Table 1: Effect of Employees' Participation in Decision-Making Process on Institutional Performance in Osun State University, Nigeria.

Variables	Strongly Agreed		Agreed		Undecided		Disagreed		Strongly Disagreed		Descriptive Statistics N= 73	
	f	(%)	f	(%)	f	(%)	f	(%)	f	(%)	Mean Value	Standard Deviation
1. Reduction in ambiguity regarding policy implementation of the institution	26	(35.6%)	20	(27.4%)	9	(12.3%)	9	(12.3%)	9	(12.3%)	3.62	1.401
2. Acceptance of the institution's decision-making	17	(23.3%)	30	(41.1%)	16	(21.9%)	5	(6.8%)	5	(6.8%)	3.67	1.119
3. It increases employees' efficiency	21	(28.8%)	30	(41.1%)	11	(15.1%)	9	(12.3%)	2	(2.7%)	3.81	1.076
4. Improved workplace harmony in the institution	17	(23.3%)	34	(46.6%)	11	(15.1%)	8	(11.0%)	3	(4.1%)	3.74	1.068
5. It makes employees more creative and innovative	28	(38.4%)	27	(37.0%)	10	(13.7%)	7	(9.6%)	1	(1.4%)	4.01	1.021
6. It allows an employee to make decision concerning a particular task	25	(34.2%)	27	(37.0%)	12	(16.4%)	4	(5.5%)	5	(6.8%)	3.86	1.158
7. It enables the subordinate do a task the way he feels best and then informs the superior	20	(27.4%)	32	(43.8%)	8	(11.0%)	9	(12.3%)	4	(5.5%)	3.75	1.152
8. It helps to eliminate conflict and disagreement	16	(21.9%)	28	(38.4%)	16	(21.9%)	7	(9.6%)	6	(8.2%)	3.56	1.178

Field Survey, 2025

Test of Hypothesis

H₀: Employees' participation in decision-making has no significant effect on the performance of Osun State University Nigeria.

H₁: Employees' participation in decision-making has significant effect on the performance of Osun State University Nigeria.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	.582 ^a	.365	.363	.27899

a. Predictors: (constant), Employee participation

b. Dependent Variable: Institutional performance

ANOVA

	Model	Sum of Squares	Df	Mean Square	F	Sig.
	Regression	37.778	1	37.778	232.632	.000 ^b
	Residual	45.012	202	.134		
	Total	82.790	203			

a. Predictors: (constant), Employee participation

b. Dependent Variable: Institutional performance

Model Summary for Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
Constant	0.242	.071		13.223	.000
Employees participation	.313	.013	.582	17.238	.000

1. Dependable Variable: Institutional Performance

R =0.582

R² =0.365

F =232.632

Interpretation

As the residual sum of squares (45.012) exceeds the regression sum of squares (36.778), the model is unable to account for a larger portion of the variation in the dependent variable. Since the F statistics' significant value (0.000) is less than 0.05, it is impossible for chance to account for the variation that the model explains.

The correlation coefficient, R, indicates a significant relationship between employee participation in decision-making and organisational performance (0.582). The R square coefficient of determination shows that the model explains 36.5% of the variation in organisational performance.

The linear regression model's high error is approximately 0.27899. The employee participation in decision-making coefficient of 0.582 revealed a statistically significant ($t=13.223$) positive relationship between employee participation and organisational performance. As a result, the null hypothesis is rejected, and the alternative hypothesis is accepted.

Summary of Interview Analysis

To supplement the data gathered by administering a questionnaire in the study area, an interview session was held with the Registrar, Bursar, and a few department heads from the institution. Surprisingly, most of the interviewees revealed that the institution provides an enabling environment for the staff of the institution to participate in decision-making process. It was also noted by one of the heads of department that decentralisation of decision-making takes place at the institution to ensure prompt response to cases of urgent attention in the institution and for a quick decision-making process. He also noted that decision-making process in the institution cuts across various departments and faculties.

According to the Registrar of the institution, he noted that the institution is structured in a manner that facilitates employees' contribution to the decision-making process. He further noted that the management of the institution does not take solitary decisions, however, it gives room for adequate involvement and representation of staff in management meetings across the faculties of the institution. In the opinion of the Bursar of the institution, he revealed that the management of the institution ensures transparency and accountability in their decision-making process based on joint consultation.

A head of a department stated that the institution provides an adequate feedback mechanism to various faculties of the institution regarding any matter presented before the management of the institution through the deans which is also channelled to various departments for deliberation. In summary, the institution provides a flexible means for the employees of the institution to participate in the decision-making process.

Conclusion

Employee participation in decision-making process determines an institution's overall effectiveness. Carrying them along is insufficient to ensure commitment and improve performance but involving them in decision-making is imperative. As a result, an employee's emotional state influences their level of productivity. Employee commitment has a direct impact on the long-term viability and profitability of any institution. Employee participation has been shown in studies to improve management team efficacy as well as their employees' morale, dedication, and performance. As a result, participatory management is an essential tool for any institution either public or private. However, before any of this can be implemented, the organisation's policy must be thoroughly reviewed and updated to account for it.

Recommendations

Osun State University's management team should increase the frequency and level of employee participation in decision-making because employees who are more familiar with the institutional day-to-day operations are thus better positioned to be productive.

Every institution should strive to establish a clear definition and understanding of participatory decision-making to avoid misunderstandings and conflicts of interest between management and employees.

Institutions should encourage employees to make sound recommendations and decisions and then incorporate those recommendations into the organization's policies and decisions.

Given its significance and benefits, particularly for an organization's growth and stability, time and money investments in participative management should be made with care and caution to avoid regrets.

More importantly, any organisation that intends to assist employees in determining where their ideas and opinions are most needed should have a clear and specific primary goal for any participation programme.

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Applicability of the Maicibi Formular in Conflict Management and Peacebuilding in Nigeria

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Abstract

The persistent Farmer-Herder crisis in Nigeria is driven by competition over land and water resources, exacerbated by climate change, population growth, and deep-seated ethnic tensions. Traditional peacebuilding mechanisms have been largely ineffective in mitigating these conflicts. This study explores the applicability of the Maicibi Formula—originally developed for crime deterrence through a cost-benefit analysis framework—as an innovative approach to conflict management and peacebuilding. The formula redefines the benefits and costs associated with violent engagement, positing that increasing the costs of conflict (e.g., legal penalties, social deterrents) while enhancing the benefits of peace (e.g., economic incentives, community cohesion) can shift the decision-making calculus of conflict actors. Through a critical analysis of its theoretical underpinnings in rational choice and deterrence theories, this study examines how the formula can be adapted to Nigeria's conflict landscape, particularly in addressing the Farmer-Herder crisis and insurgency-related violence. The paper also evaluates the challenges of implementing this model, including socio-political resistance, institutional constraints, and cultural complexities. Findings suggest that integrating the Maicibi Formula into existing peacebuilding strategies could provide a structured, data-driven mechanism for fostering sustainable peace and stability in Nigeria.

Keywords: Arms control, Peaceful Coexistence, and Conflict resolution.

1. INTRODUCTION

Nigeria's multifaceted conflict landscape is marked by ethnic, religious, and political tensions, with historical roots deeply embedded in colonial legacies and exacerbated by contemporary socio-economic challenges. Efforts to resolve these conflicts have traditionally ranged from federal interventions to community-based peacebuilding initiatives. However, the persistence and complexity of these conflicts necessitate ongoing evaluation and adaptation of strategies to ensure they address the underlying issues effectively (Adibe, 2017; Mustapha, & Meagher, 2020).

The dynamism of Nigeria's social fabric, characterized by over 250 ethnic groups and multiple religious' affiliations, presents unique challenges in conflict management. The standard approaches often fail to capture the nuanced motivations and repercussions of

conflicts, leading to recurrent tensions and violence. This complexity underscores the need for innovative, contextually adapted conflict management strategies that are inclusive of Nigeria's diverse communities and capable of addressing the root causes of conflicts (Ukiwo, 2016; Osaghae, & Suberu, 2020).

In this regard, innovative approaches such as the Maicibi Formula, which applies a systematic analysis of motivations and deterrents within conflict dynamics, could offer new insights and methodologies for peacebuilding in Nigeria. By incorporating such frameworks, which evaluate both the incentives for and the deterrents against engaging in conflict, policymakers and practitioners can develop more effective interventions. These strategies promise not only to mitigate the immediate impacts of conflicts but also to foster long-term peace and stability across the nation (Aghedo, & Osumah, 2020; Olonisakin, 2018).

The Maicibi Formula, conceived by Professor Maicibi Nok Alhas, represents a structured, analytical framework originally designed to dissect and address criminal behavior through a lens of cost-benefit analysis. Central to this model is the premise that criminal actions are primarily motivated by the balance between perceived benefits and costs associated with them. This formula is symbolically expressed as $B1-4 < C1-4$, where the benefits (B) of crime must be less than the costs (C) for crime deterrence to be effective. This innovative approach aids in pinpointing the motivating factors behind criminal activities and formulating strategies to mitigate these incentives (Maicibi, 2018).

Originating from an interdisciplinary synthesis of criminology, psychology, and sociology, the Maicibi Formula integrates various theoretical foundations to provide a comprehensive understanding of criminal behavior. It is rooted in rational choice theory, which posits that individuals weigh the pros and cons before engaging in any behavior, including criminal activities. Additionally, the formula draws upon deterrence theory, emphasizing the enhancement of legal and social penalties to outweigh the gains from criminal acts, thereby discouraging such behaviors (Becker, 1968; Cornish, & Clarke, 2014).

The relevance of the Maicibi Formula extends beyond traditional criminology, offering potential applications in conflict management and peacebuilding, particularly within complex societal structures like those found in Nigeria. By adapting this formula to assess the motivations and deterrents within conflict scenarios, stakeholders can develop more targeted and effective strategies to address and resolve underlying tensions. This adaptation could foster a deeper understanding of conflict dynamics and promote enduring peace in regions plagued by persistent conflict (Akinlabi, 2020; Hirsch, 2017).

This article explores the adaptation of the Maicibi Formula, originally a criminological tool, for conflict management and peacebuilding in Nigeria by analyzing its potential to balance perceived benefits and costs in addressing ethnic and political tensions. It also examines the challenges of implementation, including cultural, social, and political barriers, while proposing strategies to align the formula with existing legal and societal frameworks for more effective and sustainable peace initiatives. The paper is structured into five sections: **Section 1 gives an introduction to the paper. Section 2** provides an overview of conflict in Nigeria,

Section 3 explains the Maicibi Formula in detail, **Section 4** examines the challenges of its application and comparative analysis **Section 5** concludes with recommendations.

2. OVERVIEW OF CONFLICT IN NIGERIA

Historical Context:

Nigeria's conflict landscape is shaped by a confluence of ethnic, religious, and political tensions that have historically fragmented the nation. Key conflicts include the Biafra War of the late 1960s, ongoing communal clashes between herders and farmers, and the insurgency led by Boko Haram. These conflicts are deeply rooted in the ethnic diversity of Nigeria, which features over 250 distinct ethnic groups, each with its own language and culture, often leading to ethnic rivalries. Religious divisions, primarily between Muslims in the North and Christians in the South, further complicate these conflicts, adding layers of sectarian violence to the already volatile mix (Mustapha, 2020; Osaghae, & Suberu, 2020).

The role of colonial history in shaping Nigeria's conflicts cannot be overemphasized. The arbitrary borders drawn by British colonizers amalgamated numerous disparate ethnic groups under a single national identity without regard for pre-existing ethnic, cultural, or religious boundaries. This colonial legacy laid the groundwork for inter-group antagonism and has continued to influence Nigeria's political landscape post-independence. Furthermore, the colonial policy of indirect rule, which empowered certain ethnic groups over others, has had long-lasting effects on inter-ethnic relations and governance structures in Nigeria (Falola, & Heaton, 2020).

Resource distribution and governance have also played pivotal roles in exacerbating conflicts in Nigeria. The oil-rich Niger Delta region has been a hotspot for violence and unrest, where local communities clash with multinational oil companies and the government over resource control and environmental degradation. Poor governance, characterized by corruption and ineffective public administration, further fuels discontent, as it often results in unequal resource distribution, marginalization, and a lack of basic services, thereby perpetuating cycles of violence (Aghedo, & Osumah, 2019; Ukiwo, 2020).

Current Conflict Landscape:

The current conflict landscape in Nigeria is dominated by two major issues: the insurgency of Boko Haram in the Northeast and the escalating Farmer-Herder conflicts primarily in the Middle Belt region. The Boko Haram insurgency, which began in 2009, has resulted in tens of thousands of deaths and displaced millions of people, severely disrupting social and economic life in affected areas. This group's radical anti-Western ideology has led to frequent bombings, assassinations, and abductions, most notoriously the 2014 kidnapping of 276 schoolgirls from Chibok. Concurrently, the Farmer-Herder conflicts have intensified, driven by disputes over land and water resources, with climate change exacerbating the scarcity of these vital resources. These clashes are not only a consequence of environmental factors but also of ethnic and religious tensions between predominantly Muslim herders and Christian farmers (Adibe, 2020; Akinola, & Uzodike, 2019).

The impact of these ongoing conflicts on Nigeria's development is profound and multifaceted. Economically, the instability discourages foreign investment and diverts government funds to security that could otherwise be used for development projects. Infrastructure in conflict zones suffers from neglect and destruction, hindering economic activities and access to education and healthcare. Socially, the conflicts have eroded trust between different community groups, leading to increased communal violence and a breakdown of traditional conflict Management mechanisms. This erosion of social cohesion significantly complicates efforts towards national integration and peacebuilding (Mustapha, A. R., & Meagher, K., 2020; Ukiwo, U., 2020).

Furthermore, the pervasive insecurity threatens Nigeria's social fabric, contributing to widespread displacement and humanitarian crises. Internally displaced persons (IDPs) face severe challenges, including lack of access to basic necessities, education, and employment opportunities, which can perpetuate cycles of poverty and marginalization. The strain on social services in host communities further aggravates existing social tensions, complicating conflict management and peacebuilding efforts across the nation (Okeke-Uzodike, & Onapajo, 2020; Omenma, & Hendricks 2020).

Existing Peacebuilding Efforts:

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3. DETAILED EXPLANATION OF THE MAICIBI FORMULA:

The Maicibi Formula is a strategic analytical framework developed by Professor Maicibi Nok Alhas to understand and address the decision-making processes behind criminal behaviors. The formula posits that individuals engage in criminal acts when the perceived benefits outweigh the perceived costs. It is symbolically represented as $B1-4 < C1-4$, indicating that reducing the benefits (B) below the costs (C) will deter criminal activities. This formula encompasses four types of benefits and costs, each tailored to capture the multifaceted motivations and deterrents influencing criminal decisions (Maicibi, 2018).

The benefits (B) side of the formula includes: B1 Monetary & Economic Benefits (Mb), which encompasses direct financial gains; B2 Psychological & Physiological Benefits (Pb), covering emotional and physical gratifications; B3 Sociological Benefits (Sb), which refers to social status or acceptance gained from criminal activities; and B4 Ease & Level of Success in Committing the Crime (Ec), which looks at the perceived simplicity and likelihood of success in the criminal endeavor. Each component emphasizes different incentives that may lure an individual towards committing a crime (Cornish, & Clarke, 2014).

Conversely, the costs (C) are categorized as follows: C1 Monetary & Time Costs (Mt), which involve the financial and temporal investments in planning and executing crimes; C2 Fear & Probability of Being Apprehended & Arrested (Fa), representing the fear and likelihood of capture; C3 Probability of Conviction & Harshness of Punishment (Pc), concerning the perceived risks of legal penalties; and C4 Lost Opportunities & Stigmatization (Lo), which includes the long-term consequences such as loss of employment opportunities and social stigma. By assessing and enhancing these costs, the Maicibi Formula aims to deter individuals from criminal behaviors by making the risks and repercussions outweigh the potential gains (Becker, 1968).

Theoretical Underpinnings

The Maicibi Formula is grounded in several well-established theories within criminology and behavioral science, primarily rational choice theory and deterrence theory. Rational choice theory suggests that individuals make decisions based on a rational calculation of the expected outcomes, weighing the potential benefits against the potential risks or costs. This decision-making process is central to the Maicibi Formula, which quantifies the perceived benefits and costs of criminal behavior. By analyzing these factors, the formula proposes strategies for adjusting the calculations of individuals to deter criminal actions (Becker, 1968; Cornish, & Clarke, 2014).

Deterrence theory, which is another cornerstone of the Maicibi Formula, posits that crimes can be prevented when the costs of committing the crime are increased to outweigh the benefits. This theory emphasizes the roles of severity, certainty, and swiftness of punishment as critical factors in deterring criminal behavior. The Maicibi Formula operationalizes this by enhancing the perceived risks associated with criminal activities (such as increasing the likelihood of apprehension and the harshness of punishment), thereby making the criminal endeavor less appealing and riskier (Nagin, 2013; Paternoster, 2010).

Furthermore, the Maicibi Formula incorporates elements of sociological and psychological theories. It recognizes the impact of societal norms and individual psychological states on decision-making. Sociological aspects examine how social structures and peer influences can sway individuals towards criminal behaviors, while psychological insights delve into personal motivations and gratifications derived from criminal acts. This holistic approach allows for a more comprehensive understanding of the complex interplay between individual choices and societal influences in the realm of criminal behavior (Wikström, & Treiber, 2017; Akers, 2020)

Applicability to Conflict Management:

The Maicibi Formula's components, originally designed to assess and prevent criminal behavior, can be innovatively adapted to the field of conflict management, particularly within the complex societal frameworks of Nigeria. Each component of the formula—Monetary & Economic Benefits (Mb), Psychological & Physiological Benefits (Pb), Sociological Benefits (Sb), and Ease & Level of Success in Committing the Crime (Ec)—can be translated into conflict drivers and managements. For instance, the Monetary & Economic Benefits can be addressed by creating economic incentives for peace and disincentives for engaging in conflict, such as sanctions or rewards for peaceful behavior. Psychological & Physiological Benefits might involve addressing grievances and trauma that fuel conflicts, while Sociological Benefits require efforts to change social norms that glorify or reward violent behavior (Mustapha, 2020; Ukiwo, 2020).

In applying the Maicibi Formula to conflict management in Nigeria, a hypothetical scenario could involve the Farmer-Herder conflicts in the Middle Belt. By applying the Maicibi Formula, one could propose initiatives that increase the costs of conflict (C1-4) such as legal repercussions or social stigma for violence, and reduce the benefits of conflict (B1-4) such as removing economic gains from land seizures. Simultaneously, enhancing dialogue and mediation processes could serve to offer psychological and sociological benefits for cooperative behavior, thereby realigning individuals' and groups' cost-benefit analyses towards peace rather than conflict (Aghedo, & Osumah, 2020).

Further, a case study in the Niger Delta might explore how the Maicibi Formula could be used to mitigate conflict by systematically increasing the risks and costs associated with militant behavior, such as through enhanced surveillance and stricter enforcement of laws against illegal oil bunkering. At the same time, the government could improve the benefits of non-engagement in criminal activities through community development programs, better education, and job opportunities, thus making peaceful livelihoods more attractive and viable.

This dual approach of increasing costs for criminal activities while enhancing benefits for lawful behavior aligns with the formula's principles and can potentially offer a sustainable model for conflict management in the region (Osaghae, & Suberu, 2020).

4. POTENTIAL CHALLENGES IN APPLYING THE MAICIBI FORMULA:

Applying the Maicibi Formula to conflict management in Nigeria presents significant challenges stemming from cultural, social, and political complexities. Culturally, the diverse ethnic and religious makeup of Nigeria can complicate the implementation of standardized policies or strategies across different groups. For instance, strategies that may be effective in predominantly Muslim communities in the North might not be as effective in predominantly Christian communities in the South. Social barriers such as entrenched norms and values that glorify certain forms of resistance or aggression can also undermine efforts to increase the costs associated with conflict behaviors (Mustapha, 2020; Ukiwo, 2020).

Politically, the fragmented governance structures and weak institutional capacities often seen in many parts of Nigeria can hinder the effective enforcement of measures designed to increase the costs of conflict engagement as outlined in the Maicibi Formula. Corruption and lack of accountability in law enforcement and judiciary systems can lead to a low probability of apprehension and conviction, thus making the formula's cost components less effective. Additionally, political interests may conflict with peacebuilding efforts, particularly if powerful stakeholders stand to lose from the peace processes (Osaghae, & Suberu, 2020).

Resistance from stakeholders is another substantial challenge. Various parties involved in or benefiting from ongoing conflicts may resist the implementation of the Maicibi Formula's strategies. For example, local warlords or economic beneficiaries of conflicts, such as arms dealers or smugglers, may oppose efforts that would diminish their influence or economic gains. Similarly, community leaders and members may be skeptical of changes to the status quo, particularly if they distrust the government or external interveners. This resistance can be compounded by a lack of understanding or misinterpretation of the formula's aims and mechanisms, highlighting the need for robust engagement and education efforts as part of the implementation strategy (Aghedo, & Osumah, 2020).

Opportunities for Successful Application:

The application of the Maicibi Formula to conflict management in Nigeria can leverage existing peacebuilding structures, offering opportunities for enhancing these frameworks' effectiveness. Nigeria has a network of traditional and community-based peacebuilding mechanisms that are deeply entrenched in the society and enjoy a high level of local legitimacy. These structures could be instrumental in implementing the Formula by facilitating the integration of its strategies with local norms and practices. By aligning the Maicibi Formula's components with the operations of these existing mechanisms, such as community reconciliation committees and local peace dialogues, its principles can be more readily adopted and effectively applied, thereby increasing their overall impact on reducing conflicts (Mustapha, 2020; Osaghae, & Suberu, 2020).

Additionally, there is significant potential for synergy between the Maicibi Formula and other peacebuilding models and initiatives currently operational in Nigeria. For instance, international development agencies' efforts can be aligned with the Maicibi Formula to ensure that both local and international resources are utilized in a complementary manner, maximizing the reach and effectiveness of conflict management initiatives. This collaborative approach can address a broader range of conflict drivers by combining international best practices with context-specific strategies that the Maicibi Formula offers, such as adjusting the perceived benefits and costs of conflict behaviors in specific communities (Ukiwo, 2020; Aghedo, & Osumah, 2020).

Moreover, the Maicibi Formula's emphasis on a structured, analytical approach to understanding and modifying behavior can enhance the design and implementation of peace programs by providing a clear framework for measuring changes in behavior and attitudes towards conflict. Integrating this formula into ongoing programs could help refine objectives, improve monitoring and evaluation processes, and result in more targeted and adaptive interventions. Such integration would enable stakeholders to more effectively assess the impact of their initiatives and adjust strategies in real-time to respond to the evolving dynamics of conflicts in Nigeria (Adeola, & Okeke-Uzodike, 2020).

Comparative Analysis:

The Maicibi Formula offers a distinctive approach to conflict management in Nigeria compared to other models, such as the Traditional Conflict Management (TCR) methods and the Liberal Peacebuilding model. Traditional methods often involve community elders or leaders mediating conflicts directly, using indigenous knowledge and customary laws. These methods are deeply rooted in the cultural contexts of the communities but may lack formal structure and are not always scalable or adaptable to modern, complex conflicts. The Liberal Peacebuilding model, often driven by international organizations, emphasizes democratization, economic liberalization, and the establishment of rule of law but sometimes overlooks local socio-cultural realities and may be perceived as imposing Western values (Mustapha, & Meagher, 2020; Osaghae, & Suberu, 2020).

However, the Maicibi Formula integrates a more systematic and analytical approach by quantitatively assessing the benefits and costs associated with conflict behaviors. This structured analysis allows for targeted interventions that are specifically designed to alter the calculations of individuals and groups engaged in conflicts, making it a versatile tool adaptable to various conflict scenarios. Unlike TCR, which relies heavily on the authority and respect of community elders, the Maicibi Formula can be applied across different societal levels and groups, providing a standardized method for conflict analysis and management that remains sensitive to local contexts (Aghedo, & Osumah, 2020).

The unique advantage of the Maicibi Formula lies in its ability to identify and manipulate specific drivers of conflict by adjusting perceived costs and benefits. This precision allows for customized strategies that can more effectively deter conflict behaviors compared to other models, which may apply broader, less tailored approaches. Additionally, the Maicibi Formula's adaptability makes it suitable for integration with other peacebuilding initiatives,

enhancing the overall efficacy of conflict management efforts by providing a clear, measurable framework for intervention. This adaptability, combined with its foundation in well-established behavioral theories, positions the Maicibi Formula as a promising tool for peacebuilding in Nigeria's diverse and multifaceted conflict environment (Ukiwo, 2020; Adeola, & Okeke-Uzodike, 2020).

By applying the Maicibi Formula, efforts could focus on decreasing the benefits (B) of joining insurgent groups such as ideological appeal, economic incentives, and social status—while increasing the costs (C). For example, enhancing surveillance, law enforcement presence, and punitive measures would increase the perceived risks (C2: Fear & Probability of Being Apprehended & Arrested) and consequences of engaging in terrorism-related activities (C3: Probability of Conviction & Harshness of Punishment). Parallel to this, programs could be introduced to improve economic opportunities and community services in vulnerable areas, reducing the economic benefits (B1: Monetary & Economic Benefits) of joining insurgents by offering alternative livelihoods and social inclusion.

Moreover, educational campaigns and community engagement initiatives could address the psychological and sociological benefits (B2 and B3) by challenging the extremist ideologies and promoting community values that reinforce social cohesion and peace. This multi-pronged approach, informed by the Maicibi Formula, would address the root causes and motivations behind the insurgency, potentially reducing the pool of recruits and community support for Boko Haram, thus fostering long-term peace and stability in the region.

This strategy underscores the necessity of a comprehensive approach that combines security-based interventions with social and economic development to effectively counter insurgency, aligning with the principles of the Maicibi Formula to shift the balance of costs and benefits associated with violent conflict.

The Maicibi Formula's application to the Farmer-Herder conflicts and Boko Haram insurgency in Nigeria could provide several key insights that can be valuable for future conflict management efforts:

1. **Multifaceted Strategy Requirement:** The comparative analysis underscore the necessity of a multifaceted strategy that addresses both the incentives and disincentives of engaging in conflict. This approach should simultaneously reduce the perceived benefits of conflict and increase the associated costs. Integrating legal, social, economic, and psychological elements into conflict management strategies ensures a holistic approach that tackles various aspects of human behavior as outlined by the Maicibi Formula.
2. **Local Context Sensitivity:** The success of implementing the Maicibi Formula depends critically on its adaptability to local contexts. Customizing interventions to respect and integrate local cultural, social, and economic dynamics enhances their acceptance and effectiveness. For instance, in the Farmer-Herder conflict, understanding and incorporating traditional land-use practices and conflict management mechanisms can facilitate more sustainable peacebuilding. Similarly,

addressing the socio-economic drivers of insurgency in the Northeast requires interventions that are sensitive to the local communities' needs and grievances.

3. **Community Engagement:** Engaging local communities in the development and implementation of conflict management strategies fosters greater buy-in and sustainability. This engagement includes involving community leaders, leveraging existing local structures, and ensuring that interventions are not only top-down but also bottom-up. For example, in the Boko Haram case, community-driven initiatives could help in de-radicalization and reintegration processes by addressing community-specific issues that contribute to the insurgency's appeal.
4. **Continuous Monitoring and Flexibility:** Conflict dynamics are constantly evolving, requiring ongoing monitoring and flexibility in response strategies. The Maicibi Formula's emphasis on quantitative assessment allows for continuous evaluation of the effectiveness of various interventions, helping adjust strategies in real time to respond to changing conditions and feedback from affected populations.
5. **Integrated Approach with Other Models:** While the Maicibi Formula provides a robust framework for analyzing and addressing conflict, it can be significantly enhanced when integrated with other conflict management models. This synergy can draw on the strengths of various approaches, such as combining traditional conflict management techniques with the structured, analytical approach of the Maicibi Formula, thereby enriching the overall strategy for peacebuilding.

These insights reflect the complexity of conflict management and the importance of a strategic, well-rounded approach to peacebuilding. Future applications of the Maicibi Formula should consider these lessons to improve the design and implementation of interventions aimed at reducing conflict and building lasting peace.

5. CONCLUSION AND RECOMMENDATIONS

Conclusion

The article explores the application of the Maicibi Formula, initially developed for criminal behavior analysis, to conflict Management and peacebuilding in Nigeria. It introduces the formula's components perceived benefits and costs and describes its foundation on the principle that altering the cost-benefit analysis of individuals can deter undesirable behaviors, such as engaging in conflicts. The theoretical basis of the Maicibi Formula is rooted in rational choice and deterrence theories, suggesting that decisions are made by weighing potential benefits against possible costs, providing a structured way to modify behavior in conflict settings.

The adaptability of the Maicibi Formula to conflict scenarios is detailed, particularly in relation to persistent issues like the Farmer-Herder clashes and the Boko Haram insurgency in Nigeria. The formula's application is illustrated through two case studies, demonstrating how strategic adjustments in economic and legal disincentives for violence, as well as socio-

economic and ideological strategies, can mitigate conflicts and reduce insurgent recruitment and support.

Challenges such as cultural, social, and political barriers, alongside resistance from stakeholders, are acknowledged in the discussion, highlighting the complexities of implementing the Maicibi Formula in real-world settings. However, the article also identifies significant opportunities for leveraging existing peacebuilding frameworks and enhancing them through synergies with other models. These insights emphasize the necessity of multifaceted strategies that are adaptable to local contexts, engage communities, and are continuously monitored for effectiveness, suggesting a comprehensive and dynamic approach to sustainable conflict Management.

Recommendations.

Adopting the Maicibi Formula for conflict Management and peacebuilding in Nigeria requires thoughtful integration and collaborative efforts from policymakers, practitioners, and researchers. Here are several suggestions to effectively implement and leverage this formula:

- I. **Policy and Community Integration:** The policy makers should embed the Maicibi Formula's principles into national and local conflict management policies while engaging community leaders to ensure alignment with local values. Policies should increase the costs of conflict participation through penalties and enhance the benefits of peaceful dispute resolution through incentives and community-driven peace initiatives.
- II. **Capacity Building and Public Awareness:** Conflict management practitioners should be trained on the theoretical and practical aspects of the Maicibi Formula by universities and research institutions specializing in peace and conflict studies, government agencies responsible for peacebuilding and security, international organizations such as the UNDP and AU Peace and Security Council, and NGOs focused on conflict resolution and community-based peace initiatives. Additionally, experts in criminology, behavioral science, and conflict studies, including academics and practitioners familiar with the Maicibi Formula, should lead specialized training sessions and capacity-building programs to ensure its effective application in real-world conflict scenarios. Complement these efforts with public awareness campaigns to educate citizens on the benefits of peace and the formula's rationale for transforming conflict dynamics.
- III. **Research, Monitoring, and Evaluation:** Empirical studies to assess the effectiveness of the Maicibi Formula in diverse Nigerian contexts should be conducted by universities and research institutions specializing in peace and conflict studies, such as the Institute for Peace and Conflict Resolution (IPCR), Nigerian Institute of Social and Economic Research (NISER), and academic centers within Nigerian universities. Additionally, International research organizations and think tanks, such as the United Nations University (UNU), the African Centre for the Study

and Research on Terrorism (ACSRT), and regional bodies like ECOWAS Early Warning and Response Network (ECOWARN), should collaborate with local scholars, NGOs, and policymakers to establish robust monitoring and evaluation frameworks. Furthermore, government agencies such as the National Bureau of Statistics (NBS), the Office of the National Security Adviser (ONSA), and the Nigerian Peace Commission should support data collection and policy analysis, ensuring that findings inform evidence-based interventions and adaptive peacebuilding strategies. Conduct empirical studies to assess the formula's effectiveness in diverse Nigerian contexts, focusing on ethnic, regional, and religious dynamics. Establish robust systems to monitor and evaluate conflict dynamics, community attitudes, and socioeconomic impacts to refine and adapt interventions.

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Financial Palliatives and Sales of Fertility Eggs among Women in Asaba, Nigeria: Implications for Economic Relief and Ethical Dilemma

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Abstract

In the face of Nigeria's economic challenges, financial palliatives have become prominent as temporary relief measures during crises. Concurrently, fertility egg sales are emerging as a financial coping mechanism for economically disadvantaged women, driven by socio-economic realities and the inadequacies of relief interventions. This paper examined the intersection of these phenomena with focus on the socio-economic drivers, ethical implications, and the need for regulatory frameworks to balance economic relief with ethical considerations in reproductive health practices. 70 copies of questionnaire were distributed to women (women above 30, married, single and single mothers) in Asaba metropolis of Delta State. The study used simple percentages and frequencies. The study evidenced that economic realities faced by many Nigerian women coupled with systemic issues such as corruption often leave them with limited choices. Also, most of the women that sell fertilized eggs are compelled to do so. Meanwhile, financial palliatives reduce sales of fertilized eggs. Hence, the study concluded that if women are given financial palliatives, sales of fertilized eggs will reduce. As such, the study recommended that there is need for policy reform, public awareness on the adverse effect of the sales of fertilized eggs for women. There is need for sustainable empowerment initiatives to be put in place to address the menace.

Keywords: Financial Palliatives, Fertility Egg Sales, Nigerian Women, Economic Relief and Ethical Dilemma

1. Introduction

Amid Nigeria's ongoing economic difficulties, initiatives and policies aimed at providing financial relief have gained significant attention. These measures, often introduced during crises like pandemics or periods of severe economic decline, are designed as short-term solutions to reduce hardship, particularly among the most vulnerable groups. However, concerns persist about the effectiveness of these interventions in addressing the deeper roots of socio-economic disparities (Ameen et al., 2022).

At the same time, the sale of fertility eggs has become a growing trend in Nigeria, driven by advancements in reproductive technologies and increasing demand for gametes (Okoro, & Idowu, 2022; Okafor et al., 2022). For many women, especially those experiencing financial difficulties, egg donation offers a potential source of income. Yet, this practice is fraught with ethical dilemmas and potential health risks (Bello et al., 2014). There is also a widespread lack of understanding and various misconceptions about the procedure and its implications among potential donors (Ameen et al., 2022; Odo, 2023).

The motivations for fertility egg sales in Nigeria are deeply intertwined with socio-economic realities. Studies reveal that many women see egg donation as a way to cope with financial instability, even when they are aware of the potential physical and emotional risks involved (Odo, 2023; Hiadzi & Akrong, 2024). Although financial palliatives are intended to address such economic vulnerabilities, their inconsistent implementation and limited effectiveness raise concerns about their capacity to reduce the pressures that push women toward such decisions (Ameen et al., 2022).

This research aims to explore the relationship between 'financial palliatives and sales of fertility eggs among women in Asaba, Nigeria: implications for economic relief and ethical dilemma'. Investigating how inadequate economic support and ethical regulations influences women's choices to participate in this practice. By examining the socio-economic factors and ethical concerns involved, the study seeks to provide valuable insights for policymakers, sociologists, and healthcare professionals. It also highlights the need for improved regulatory systems and increased public education to ensure that economic assistance aligns with ethical standards in reproductive health practices (Okafor et al., 2022).

The scope of this paper are both geographical and thematic, the geographical scope is Asaba, the State Capital of Delta State, Nigeria. They are the Igbo speaking ethnic group of the Delta North Senatorial District of Delta State. While the thematic focuses on the critical review of the socio-economic factors influencing fertility egg sales, the role of financial palliatives, and the broader implications for economic relief and ethical dilemma in Nigeria. By combining theoretical perspectives with Nigeria-specific data, this research highlights the urgent need for a holistic approach to addressing these interconnected challenges.

2. Literature Review

Financial Palliatives

Financial palliatives have emerged as a critical tool for mitigating economic distress during crises in Nigeria. These measures, which include cash transfers, subsidized loans, and food distribution programs, are intended to provide immediate relief to vulnerable populations. For instance, the Nigerian government rolled out several intervention programs during the COVID-19 pandemic to address widespread hunger and unemployment (Ameh et al., 2020). However, while such measures are well-intentioned, their effectiveness has been questioned due to issues such as corruption, inequitable distribution, and poor infrastructure (World Bank, 2022).

Despite their potential, financial palliatives often fail to address the underlying causes of poverty. Hogan (2020) argues that short-term relief initiatives are insufficient for mitigating long-term economic instability. Women, particularly those from marginalized groups, often remain excluded from these programs due to systemic biases and inefficiencies in targeting beneficiaries (Hudson, 2020). As a result, many women turn to alternative, often precarious, means of financial survival, including fertility egg sales.

The socio-economic pressures faced by women reveal the inadequacy of financial palliatives in addressing deep-seated inequalities. Goedeke et al. (2023) observe that in contexts where financial assistance programs are inconsistent or unreliable, individuals are forced to navigate informal or unregulated markets to secure financial stability. For women in Nigeria, this often includes egg donation, a practice that highlights the intersection of economic need and ethical complexity.

Fertility Egg Sales

Fertility egg sales in Nigeria represent a growing market fueled by advancements in assisted reproductive technologies and an increasing demand for donor eggs. Women who participate in this market are typically motivated by financial necessity, seeing egg donation as a viable solution to their economic struggles (Hogan et al., 2022). However, the practice is not without controversy, as it raises significant ethical, medical, and socio-cultural concerns.

The commercialization of egg donation in Nigeria is largely unregulated, exposing donors to potential exploitation. Okonta et al. (2018) emphasize the lack of oversight in fertility clinics, noting that many women are unaware of the long-term health risks associated with egg donation. This lack of regulation also contributes to disparities in compensation, where donors may receive inadequate financial remuneration relative to the physical and emotional toll of the process.

Cultural and social factors further complicate the issue of egg donation. Ameh et al. (2020) conducted a survey in north-central Nigeria and found that cultural stigmas surrounding fertility treatments often deter women from openly participating in egg donation. In many communities, the practice is viewed as morally questionable, with donors sometimes facing societal judgment for their involvement. These cultural perceptions, combined with economic

desperation, push many women into secrecy or unregulated markets, where the risks are even greater.

In addition to ethical concerns, research highlights the psychological implications of egg donation. Haylett (2012) underscores the emotional complexities experienced by donors, who often grapple with feelings of guilt, loss, or conflict about their decision. This emotional burden is compounded by societal stigma, further isolating women who engage in the practice.

Despite these challenges, some women perceive egg donation as an empowering act of altruism or relational giving, as documented by Goedeke et al. (2023). However, this narrative is more common in contexts where donors are adequately informed and supported, conditions that are often lacking in Nigeria's fertility market.

Gaps and Implications

While existing studies provide valuable insights into financial palliatives and fertility egg sales, there is a notable gap in examining how these phenomena intersect. Specifically, the extent to which inadequate financial relief mechanisms contribute to the prevalence of egg donation among economically disadvantaged women has yet to be fully explored. This gap is critical, as it underscores the role of socio-economic policies in shaping individuals' engagement in ethically and medically complex practices like egg donation.

Furthermore, research on the long-term socio-cultural effects of these practices is limited. Most studies focus on immediate outcomes, such as financial relief or the health risks of egg donation, without addressing broader implications for gender dynamics, family structures, and societal norms. Molas and Whittaker (2024) argue that understanding these long-term effects is essential for developing sustainable interventions that balance economic relief with ethical considerations.

Finally, the lack of regulatory frameworks in Nigeria's fertility market is a recurring theme in the literature. Scholars such as Hogan et al. (2022) and Okonta et al. (2018) have called for comprehensive policies to safeguard the health and rights of egg donors. These frameworks should include clear guidelines on compensation, informed consent processes, and medical oversight to prevent exploitation and ensure ethical practices.

This paper aims to bridge these gaps by exploring the interplay between financial palliatives and fertility egg sales in Nigeria. By examining the socio-economic drivers, ethical concerns, and regulatory needs, the study seeks to provide a holistic understanding of these interconnected issues and propose actionable solutions for policymakers and stakeholders.

3. Methodology

This research focused on the effect of financial palliatives on sales of fertilized eggs among Nigerian Women with emphasis on the social control implications. 70 copies of questionnaire were distributed to 70 women (women above 30, married, single and single mothers) in Asaba

metropolis. Out of the 70-questionnaire distributed, 62 copies of the questionnaire were returned. 62 copies of questionnaire returned culminated to 88.57% retrieved. The numbers retrieved is okay enough to make generalization. Simple percentage and frequency were used to analyze the data generated from the survey which began September 1st 2024 to December 23rd, 2024. To ensure that ethical standard is followed, the respondents' opinion was sorted and were assured that the questionnaire is mainly for research purposes and that their information will not be disclosed. The statistical Package for Social science version 23.0 and Microsoft excels were used for the analysis.

4. Results and Discussions

This section addresses the variable of interest using simple percentages. This section further explores how these two phenomena intersect, their implications on women's lives, and the broader societal consequences.

Response to Research Questions:

Q1:Do you think economic and systemic motivations are the reason behind sales of fertilized eggs?

Table 1: Economic and Systemic Motivations

Response	Frequency (F)	Percentage (%)
Yes	45	72.58
No	15	24.19
Neutral	2	3.23
Total	62	100

Source: Field Survey (2024)

Table 1 clearly confirmed that 45 participants (72.58%) were of the opinion that the economic realities faced by many Nigerian women coupled with systemic issues such as corruption often leave them with limited choices. Financial palliatives, although helpful in alleviating immediate financial strains, fail to address systemic poverty and inequality. Consequently, women in economically vulnerable situations may view fertility egg sales as an alternative source of financial stability. Studies of Adebayo and Suleiman (2022) confirmed that unemployment, healthcare costs, and inflation are significant drivers of egg donation in Nigeria. These financial incentives often make egg donation attractive, particularly to women from low-income backgrounds. However, 15 participants refuted the claim while the remaining 2 participants were neutral on the issue. The outcome is further evidenced on figure 1:

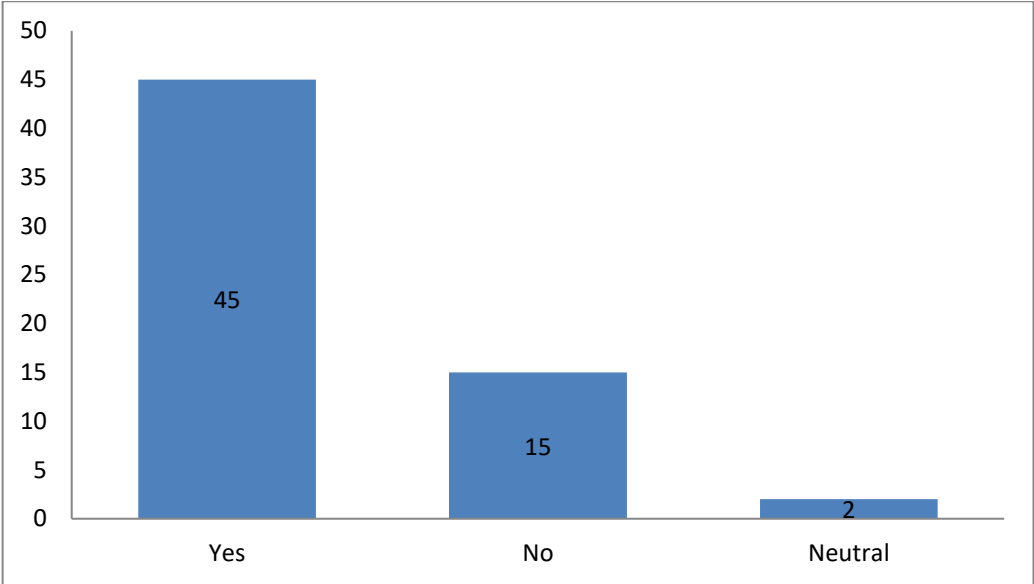


Figure 1: Economic and Systemic Motivations of Sales of fertilized Eggs

Source: Field Survey (2024)

Q2: Are women who sold fertilized eggs does that voluntarily or are they being coerced by economic circumstances?

Table 2: Ethical Issues Associated with Sales of Fertilized Eggs

Response	Frequency (F)	Percentage (%)
Yes	48	77.42
No	13	20.97
Neutral	1	1.61
Total	62	100

Source: Field Survey (2024)

Table 2 confirmed that sales of fertilized is one of the major ethical issues in Nigeria and that most women that sells fertilized eggs do that under coercion. This is further confirmed with the 77.42% of the participants that attest to this. However, 20.97% of the participants refuted the claim while 1.61% of the participants are silent about the issue. Hogan (2020) identifies similar patterns in other regions where financial motivations outweigh altruistic intentions. However, in Nigeria, the risks are compounded by a lack of awareness and cultural stigmatization. Many women are unaware of the long-term health implications of egg donation, making them particularly vulnerable to exploitation. This aligns with findings by Nwachukwu et al. (2023), who emphasize the psychological toll of egg donation, including guilt and emotional distress, which often go unaddressed.

Q3: Given the economic hardship, if women are given financial palliatives, will sales of fertilized eggs reduced?

Table 3: Financial Palliatives Sales of Fertilized Eggs

Response	Frequency (F)	Percentage (%)
Yes	56	90.32
No	6	9.67
Neutral	0	0
Total	62	100

Source: Field Survey (2024)

Table 3 clearly confirmed that 56 participants (9.32%) were of the opinion that if women are given financial palliatives, will sales of fertilized eggs reduce given the present economic hardship. Consequently, women in economically vulnerable situations may view fertility egg sales as an alternative source of financial stability. However, 9.67% of the participants refuted such claim stated that even if women are given financial palliatives, sales of fertilized eggs will increase still. 90.32 of the women were of the view that financial palliatives will reduce sale of fertilized eggs among women, given the acknowledgement by the sampled respondents.

Practical Implications

The study's outcome has some practical implication. First, the cultural perceptions in Nigeria further complicate the discussion around fertility egg sales. Egg donation is often viewed as morally questionable or unnatural, particularly in conservative communities (Chika & Obi, 2022). This stigmatization not only isolates women who participate in egg donation but also pushes the practice into unregulated and clandestine spaces, increasing risks for donors. Aldo, the societal reliance on financial palliatives underscores a broader issue of dependency. Rather than empowering women or fostering long-term economic independence, these measures often perpetuate cycles of poverty and desperation. Women who view palliatives as unreliable may turn to high-risk financial solutions, such as egg sales, further entrenching their vulnerability. As noted by Hudson (2020), the commodification of women's bodies in such contexts reflects deeply entrenched gender and economic inequalities. Meanwhile, the lack of regulation in Nigeria's fertility market is a critical gap that demands urgent attention. Without formal oversight, it is difficult to ensure the safety, ethical treatment, and fair compensation of egg donors (Musa et al., 2023). Policymakers must recognize the interconnectedness of financial palliatives and fertility egg sales and address the root causes driving women toward these practices.

5. Conclusion

The connection between financial aid programs and the growing practice of fertility egg sales in Nigeria reveals a complex relationship shaped by economic hardship, ethical dilemmas, and societal norms. Although financial palliatives offer vital support during times of crisis, their shortcomings frequently drive women to seek alternative and often risky financial options, such as egg donation. This study emphasizes the importance of adopting a comprehensive strategy to tackle these issues. Enhancing the effectiveness of financial assistance programs, implementing regulations in the fertility sector, increasing public awareness, and creating sustainable economic opportunities for women are crucial measures to protect vulnerable groups and promote a fairer society. Ultimately, the convergence of these challenges points to deeper systemic and structural issues that demand long-term, strategic interventions. The study concludes that if women are given financial palliatives, will sales of fertilized eggs reduce given the present economic hardship.

6. Recommendations

The following recommendations were made:

- i. The government should reform financial palliative programs to ensure better targeting, transparency, and accountability towards women and these financial palliatives should be complemented with skill acquisition programs and job creation initiatives to promote long-term economic independence for beneficiaries.
- ii. The Delta state government, in collaboration with relevant regulatory authorities should design policies that protect the rights and health of egg donors, ensuring they are fully informed about potential risks and fairly compensated for their contributions.
- iii. Awareness campaigns should be launched to educate women about the long-term health, ethical, and psychological implications of egg donation. These campaigns can be driven by NGOs, healthcare providers, and media outlets.

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