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Introduction:
International Journal of Migration and Global Studies (IJMGS) is developed and published by the Centre of Excellence in Migration and Global Studies, National Open University of Nigeria. The Journal publishes articles concerned with research theory and practice or programme application in all disciplines provided it is related to Migration and Global issues.

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6. Objective(s)
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14. Bibliography (Chicago referencing)

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Example

Political advisors were confident in their point-lead[1].

Foot/Endnote

1. Newton Minow and Craig LaMay, *Inside the Presidential Debates: Their Improbable Past and Promising Future,* (Chicago: University of Chicago Press, 2008), 24-25.

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Author, Title of article (in inverted commas), Journal title (in italics), Volume number, Issue number, Year of publication, Specific page number(s) (in the footnote) or page range of whole article (in the bibliography).

In-text referencing
Example:
Book:
-Migration is a phenomenon that is constantly and radically evolving. It continues each day to assume unprecedented meanings and expressions.[1]

Website:
-The worry is the subordinate role assigned to religion in matters of migration. Thus, Beckford contends: "it would be an exaggeration to claim that religion was invariably an important aspect of migration."[6]
Journal:
-Leadership failure or leadership success[2]

-……. however, went spiral and literarily explosive in the years that followed until recently when it would seem that having the opportunity or means to emigrate was not just celebrated as an achievement but viewed as a long-desired object of liberation[22]

-Similarly, Kari, Malasowe and Collins[3]

* Forman et al.[5] declared that the war in Ukraine is becoming overwhelming

Footnote/Endnote:
Book

It is a global phenomenon that affects in either way the demographic, social, political, economic, socio-cultural, religious, moral, and spiritual landscapes of the world and human activities.[2]

Website:

[6]James A. Beckford,. "*Religions and Migrations* – Old and New." Quaderni di Sociologia 80: (2019):15-32, accessed October 26, 2021, doi:https://doi.org/10.4000/qds.2599

Journal:

[2]Samson Adesote, "*Internal Conflicts and Forced Migration in Nigeria: A Historical Perspective.*" Journal of Identity and Migration Studies 11, no. 1 (2017): 1-26.
[4]Umar Kari, Godwin Malasowe and Ogbu Collins, "*A study of Illegal Migration in Nigeria and the pull and push factors*, 2011-2017 World Journal of Innovative Research 6, no. 5 (2018): 53-60
[5]Olubunmi Akintola and Olagoke Akintola, "West Africans in the Informal Economy of South Africa: The Case of Low Skilled Nigerian Migrants." The Review of Black Political Economy, vol. 42, no. 4 (2015): 379-398

Bibliography

Book:

-Phan, Peter C. "Christianity as an Institutional Migrant: Historical, Theological, and Ethical Perspectives." In Christianities in Migration. The Global Perspective, edited byElaine Padilla and Peter C. Phan, 9-36. New York, NY: Palgrave Macmillian 2016.

Journal:

-Adesote, Samson. "Internal Conflicts and Forced Migration in Nigeria: A Historical Perspective." Journal of Identity and Migration Studies 11, no. 1, 2017.

-Akintola, Olubunmi and Akintola, Olagoke. "West Africans in the Informal Economy of South Africa: The Case of Low Skilled Migrants". The Review of Black Political Economy Vol. 42no1, 2015.

-Kari, Umar, Malasowe, Godwin and Collins, Ogbu. "A Study of Illegal Migration Trends and the Pull and Push Factors in Nigeria 2011- 2017." World Journal of Innovative Research 6, no. 5, 2018.
 * When citing a work by more than three authors, only the surname of the first listed author is used, followed by et al. for example: Forman et al. 2021 62-63

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Editorial Brief

This is Volume 4 Issue 1 (April edition) of International Journal of Migration and Global Studies (IJMGS). The Journal is developed and published by the Centre of Excellence in Migration and Global Studies (CEMGS), National Open University of Nigeria. All the articles went through blind peer review by scholars in the various disciplines. The coverage is multidisciplinary in contents, and trans-global in analyses. In this era, it is vital that we continue to assemble interdisciplinary solutions to migration and global studies issues.

Hence, this volume features: The Role of Migration in Health, Zoonoses and One-Health Concept, Communication Convergence: Cross-cutting the Linguistic and Technological Spaces, Re-skilling Science Teachers to Promote Inclusive Technology Integration and Productive Employment in Ogun State, Nigeria, Socio-Political Realities in Nigeria and Brain Drain Migration: Implication for Human Security and National Development, Assessment of 2022 Africa Refugees Seeking Asylums in Nigeria under UNHCR'S Mandate, A Sociological Analysis of The Impact of Roman Catholic Social Teachings on Human Development in Makurdi Diocese, Benue State, Women's Knowledge, Attitude and Practice of Abortion among IDPs in Benue State, Nigeria, Open, Distance and e-Learning (ODeL): A Panacea for the Administration of Education in Emergencies in Nigeria, Climate Change and Forced Migration in Lake Chad, Banditry and Forced Migration: Implication on Children Education and Peacebuilding in Kaduna State (2017-2022), An Investigation of Immigrants' Contributions to Food Production and Community Development in Uhonmora-Ora, Edo State, Nigeria.

The articles in this volume are rich in content, informative in analyses; and refreshing in evidence. They are useful in all parameters and will add value to finding solutions to some of the issues raised on all topics. The efforts of various people smoothened the editorial transition and made this publication possible.

I really appreciate all the Contributors, Reviewers, and members of the Editorial team for making the publication of this volume possible and we rely on your continuous cooperation towards the next edition.

Gloria Anetor

Prof. Gloria Anetor
Managing Editor

The Role of Migration in Health, Zoonoses and One- Health Concept

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Abstract

Migration, also termed the seasonal movement of birds, animals and people from one location to another, has a major impact in population dynamics. This can have an impact in spreading of zoonotic diseases, integrating the One-Health idea in the dissemination of illnesses across animals, people, and the environment. This study conducted a systematic literature review using databases of PubMed, Cochrane, Medline and a popular web search engine, Google Scholar, to access peer reviewed journals related to migration, its role in health, zoonoses and one-health. The keywords searched for were migration, zoonoses and one-health. The search reviewed articles from 2011 to 2023. Search results showed that migration was interposed in humans, animals and the environment. Many viral diseases, including Ebola virus disease (EVD) and Coronavirus disease have been traced back to animals. One Health aims to shed more light on understanding better, variables that contribute to the transfer of disease-carrying pathogens between animals and people, including creating solutions to prevent and control these diseases at their sources. Migration therefore, is an integral aspect of population dynamics, the propagation of diseases that are zoonotic and the concept of One Health.

Keywords: *Health, Migration, One-health, Zoonoses*

Introduction

Migration is a global phenomenon. It is the seasonal migration of individuals, animals, and birds from one area to another location. Researchers have been studying the reasons why people migrate for decades. Many reasons such as demographics, economic, politics, economic, social, cultural and ecological factors can be adduced as key migratory drivers[1]. There has always been movement of people looking for a better life, and in some instances, just to survive. Nearly one billion individuals today reside far from their places of birth, with roughly 270 million (about 3.5% of the population worldwide) travelling across international borders.[2] The growth in population has resulted in an increased demand for the resources available, including an unprecedented surge in industry and technology. Also, the many occurrences of wars in addition to ethno-political conflicts, have led to people moving from one area to another to seek jobs, escape from conflicts and persecution, environmental and climatic changes.[3,4]

Based on the above factors, migration can be classified as:

1) **International migration**: The United Nation proposes a definition of migration to other countries with a focus on residency and time.[2] In this regard, the definition of a migrant is 'a person who moves from a country in which they reside in regularly, for a minimum period of 12 months.' Migration is a driver of urbanisation[5](IOM, 2015), and urban migration (both national and international) is a 21st-century trend.[5]

   Crossing international borders can also be termed international migration. It might include labour migration (seeking better employment possibilities), family reunification, refugees and asylum seekers (escaping violence or persecution), and irregular migration (movement without legal authorisation).

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[1]Castelli Francesco (2018). Drivers of migration: Why do people move. J Travel Med 1: 25(1).

[2] United Nations (1998). Recommendations on statistics of international migration. Series M, No 58, Rev 1.

[3] Wennersten JR and Robbins D. (2017). Rising tides: climate refugees in the twenty-first century. Bloomington: Indiana University Press. p. 118–21. In depth examination of climate migration with key case studies.

[4] Berchin II. Climate change and forced migrations: an effort towards recognising climate refugees. Geoforum. 2017. 84:147–50.

[5] International Organisation for Migration IOM (2015). World migration report – migrants and cities: New partnerships to manage mobility. Geneva.

2) **Internal migration**: Internal migration from rural locations to urban regions accounts for about 40% of all urban growth in Asia, Africa, and Latin America. Between 2014 and 2050, the number of people living in cities is expected to rise in Asia, from 48% to 64% and in Africa, from 40% to 56%, owing largely to the influx of people moving from rural regions.

3) **Labour migration**: According to Scott[6], the influx of migrant labour is also a reaction to shifting industrial systems. Migrating labourers are more productive at least, in three ways. First of all, migrants are appealing because they constitute a versatile work force. Second, they are structurally disempowered. This manifest in their informal labour arrangements, a lack of language skills, little union participation that reduces their ability to negotiate salary, working conditions, and even to resist a downward review of both salary and working conditions. Third, migrants' 'dual frame of reference' makes poor pay and working conditions in the host country bearable, if not appealing.[6]

4) **Forced migration**: Forced migration is the movement of individuals that are compelled to leave their homes and relocate due to circumstances that are beyond their control. These issues frequently involve threats to their safety, well-being, or fundamental human rights. Forced migration can occur within a country's borders (internal displacement) or across international borders (cross-border displacement). It is frequently motivated by conflict, persecution, human rights violations, natural catastrophes, and other crises that imperil people's lives and livelihoods.

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[6] Scott, S. (2015). Making the case for temporary migrant worker programmes: evidence from the UK's rural guest worker ('SAWS') scheme. Journal of Rural Studies 40 pp. 1–11.

The migration of humans and animals within their environment is crucial in the infectious diseases' transmission. In recent times, newly emerging diseases in humans originated from animals. Zoonotic diseases are highly infectious diseases naturally transmitted from animals to people, or from humans to animals. Nearly 60% of disease-causing bacteria, viruses or microorganisms in humans is zoonotic in nature. Zoonotic diseases, a major public health hazard, and the causative agents include a wide range of pathogens, ranging from bacterial, viral, parasitic, fungal to mycoplasma. Birds have also been known to contribute globally to the dissemination of developing infectious disease, in a way comparable to humans flying in planes.

This review is therefore important in order to provide more information regarding how humans, animals and birds are implicated in the propagation of diseases, and how the concept of One Health addresses global health by considering the intersections of human health, animal health and their environment.

Objective
The goal of this systematic review is to examine how migration affects human health, animals and the ecosystem and the implications in the growth and spread of zoonotic diseases.

Materials and Methods
The information gathered for this review was obtained using a popular web search engine, Google scholar, besides gathering data from databases of PubMed, Medline and Cochrane review, in order to access peer reviewed journals. PubMed is known for citations of biomedical literature from Medline and life science journals. Cochrane review involves a comprehensive review of health-care-related research and policy.

The journals reviewed were from the year 2011 to 2023. The authors were acknowledged for their write-up. Keywords used in the search were migration, zoonoses and One Health concept.

Results

WORLD MIGRATION REPORT 2022

Fig. 1: Migrants to, within and from Africa 1990 - 2020
Source: World Population Report 20

Migratory species can be found all over the world, in aerial, terrestrial, and aquatic environments, and in every major vertebrate (birds, fish, mammals, reptiles, amphibians)[7]. Insects are the most commonly prevalent of terrestrial travelers, but have gotten less attention than migratory mammals because of their tiny size.[8]

Bird migration is motivated by the requirement to gather seasonal food resources for fueling behaviours like molting and mating, while avoiding adverse situations such as poor weather and decreased food supply. Approximately a fifth of the entire species of bird travel seasonally, rotating between non-breeding and breeding regions[9]. Migratory birds, particularly ducks, are recognized for being natural reservoirs for the virus responsible for avian influenza. They transport and exchange various virus strains throughout their migratory paths, causing viral reassortment and the creation of novel HPAI viruses.

Birds are reservoirs of zoonotic enteropathogens. Birds that migrate over national and international boundaries can eventually lead to being long-range vectors for any virus, parasites, bacteria or drug-resistant organism that they possess. Salmonella typhimurium is the most often reported gastrointestinal pathogen of wild birds. Humans have been known to contract salmonellosis from wild birds after coming in touch with infected bird feeders. Furthermore, it is been postulated that sparrows and other nestling birds close to farm buildings may act as a reservoir for infection for poultry and other business enterprises.

[7.] Shaw, A. K. (2016). Drivers of animal migration and implications in changing environments. Evolutionary Ecology. 30(6): 991–1007.

[8] Chapman J.W., Reynolds D. R. and Wilson, K. (2015). Long-range seasonal migration in insects: mechanisms, evolutionary drivers and ecological consequences. Ecol Lett 18:287.

[9] Kirby, J.S., Stattersfield, A.J., Butchart, S.H.M., Evans, M.I., Grimmett, R.F.A., Jones, V.R. *et al.* (2008). Key conservation issues for migratory land- and waterbird species on the world's major flyways. Bird Conservation International 18: S49–S7.

Discussion
Migration and Its Effects on Health

The World Health Organisation (WHO) defines health as a condition of total physical, mental, and social welfare, rather than only the absence of sickness or infirmity"[10]. Furthermore, the World Health Organisation (WHO)[11] and the International Organisation for Migration (IOM)[12] prefer socioeconomic factors of health (SDH) approaches,[13] which emphasize that definitions of health must incorporate the larger social components that support it, such as work, education, and family status.[11,12,14]

Migration has a major impact on health, both within migrant communities, alongside native populations in host nations.[15] This impact varies significantly among various migrant groups, depending on factors that include pre-existing health issues, experience during the migration route, or gender.[15]

Migration is increasingly becoming accepted as a health factor[14]. There are numerous levels of social determinants of health, ranging from the general socioeconomic, environmental, legal, cultural, as well as physical settings to individual characteristics such as age, lifestyle, genetics, and behavioural variables that affect the health of migrants. However, health determinant strategies have been criticized for emphasizing on financial position to the detriment of other characteristics such as race, gender, and legal status.[16]

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[10]World Health Organisation (WHO) (1946). Constitution of the World Health Organisation. http://apps.who.int/gb/bd/PDF/bd47/EN/ constitution-en.

[11]World Health Organisation WHO (2011). Rio Political Declaration on Social Determinants of Health. https://www.who.int/ sdhconference/declaration/Rio_political_declaration.

[12]International Organisation for Migration. IOM. (2011). National Consultation on Migration Health,Kenya.https://www.iom.int/jahia/webdav/shared/shared/mainsite/activities/health/promotion /National-Consultationon-Migration-Health-Kenya

[13]Braveman P, Egerter S, Williams DR. The social determinants of health: coming of age. Annu Rev Public Health 2011. 32:381-98

[14]Wallace, S.P., Young, M.-E. D. T., Rodríguez, M. A., and Brindis, C. D. (2018). A social determinants framework identifying state-level immigrant policies and their influence on health. SSM - Population Health, 7. https:// doi.org/10.1016/j.ssmph.2018.10.016

[15]Chung, R.Y., and Griffiths, S. M. (2018). Migration and health in the world: A global public health perspective. Public Health. 158:64–65.

[16]Ingleby, D., Dias, S., Magnus, J., Nordström, C., and Kumar, B. (2019). Joint Action Health Equity Europe, Work Package 7—Migration and Health, Deliverable 7.1—Policy Framework for Actin. **https://jahee.iss.it/wpcontent/uploads/2020/12/D7.1-WP7-PFA**
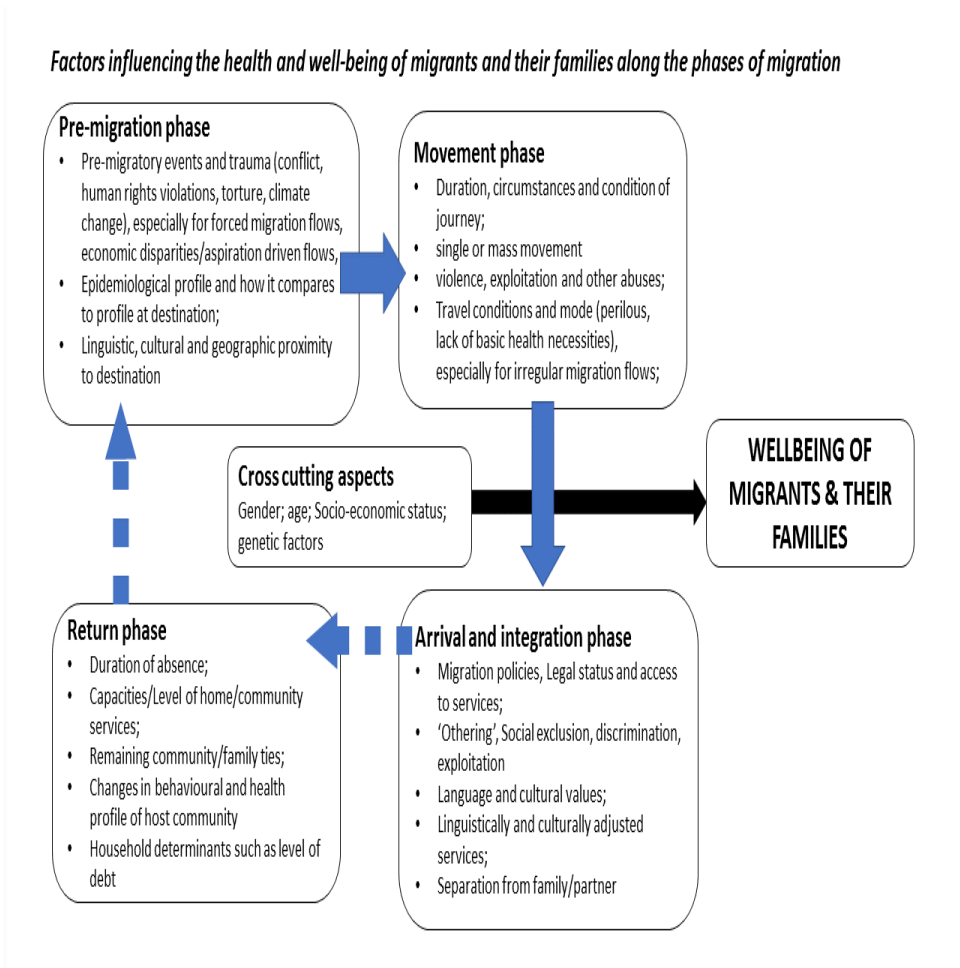
Fig. 2: Health and the well-being of migrants
 Source: https://www.migrationdataportal.org

Health of the Migrant Population

As mentioned above, the pre-existing health conditions of migrants' population is important. Individuals are placed in situations that could have an impact on their physical and mental well-being due to the movement from one location to another. The conditions of the process of migration process can render migrants more predisposed to ill health outcomes. This is particularly true especially for persons fleeing catastrophes or violence and migrating for low-skilled occupations. The unskilled are likely to reside in deplorable conditions, devoid of basic necessities and as a result,

endanger their health.[17] Many vectors breed in these areas, and their poor living conditions leave them vulnerable to a wide range of illnesses, including behavioural risk factors including the using cigarette, intake of alcohol, drug abuse and unsafe sexual behaviours.[18-20]

Studies have revealed that migration to cities has been linked to a rise in obesity, which has resulted in other health concerns[21] such as increased hypertension and fasting blood glucose[17, 22]. Malaria is also widespread among construction site migrants.[17.] Inadequate techniques in controlling vectors, in addition to poor living circumstances have contributed to building sites acting as breeding places.[17]The result is an increased man-mosquito interaction, and increased malaria infection.[17]Population mobility is therefore, a significant source of infection.[17]

Animals, Birds and Migration
Migration influences disease transmission patterns, as migrating animals frequently carry illnesses that may be transmitted from animals to people, thus resulting in public health implications. Migrating birds are carriers of the causative bacterium of Lyme disease in humans, and in most cases, are not entirely cleared by the animals upon recovery. They remain latent until a stressful event, such as migration, causes a reactivation. Reactivating latent infections can make up for animals that die in the process of migration, thereby resulting in an increase in the number of infected animals throughout the year.[17.]

[17]Kusuma, Y.S. and Babu, B.V. (2018). Migration and health: A systematic review on health and health care of internal migrants in India. Int J Health Plann Mgmt.1–19

[18] Somasundaram, K.V. and Bangal, V. B. (2012). Living and health conditions of migratory sugarcane harvest workers of Ahmednagar district in Maharashtra. Int J Biomed Adv Res.;3:70-76.

[19]Kusuma, Y.S., Pandav, C.S. and Babu, B.V. (2014).Socio-demographic profile of socioeconomically disadvantaged internal migrants in Delhi, India. J Identity Migr Stud.;8:37-50.

[20]Babu, B.V., Kusuma Y. S., Muthusamy S., et al. (2017). Living conditions of internal migrants: A nationwide study of 13 Indian cities. Int J Migr Border Stud. 3(4):328-351.

[21]Ebrahim S., Kinra S., Bowen. L., et al. (2010). The effect of rural-to-urban migration on obesity and diabetes in India: A cross-sectional study. PLoS Med. 2010; 27:7e1000268.

[22].Bailey, P. K., Tomson, C.R., Kinra, S., et al. (2013). The effect of rural-to-urban migration on renal function in an Indian population: Cross-sectional data from the Hyderabad arm of the Indian Migration Study. BMC Nephrol. 14(1):240.

[23]Muralidhar, M.K., and Wantamutte, A.S. (2007). Malaria among migrants in a rural area of Belgaum. Ind J Community Med. 32(2):153.

The migration of animals has the ability to affect infectious disease transmission through a wide range of methods. Migration might expose hosts to a greater number of infectious illnesses since it covers a broader region and visits more habitats than locals. However, because long-distance mobility requires a lot of energy, migration can have a culling impact on infected hosts, lowering the probability of infection.

The migration of birds is motivated by the requirement for birds to obtain seasonally accessible food supplies to provide energy for activities as molting and mating, while avoiding stressful conditions such as restricted food supply and bad weather.[24.] The way birds spread these emerging diseases globally can be likened to humans travelling on an aircraft.

Migrant birds, particularly ducks, serve as natural reservoirs for the virus causing avian influenza. They carry and interchange various virus strains along their migratory pathways, resulting in antigenic drift and antigenic shift, and the formation of new Avian Influenza viruses (HPAI viruses) that are highly pathogenic. HPAI viruses are mostly composed of the H5 and the H7 types, and infection with these viruses can cause 100% mortality in sensitive poultry species.

While the AI (LPAI) viruses that are low in pathogenicity may cause asymptomatic illness or mild respiratory symptoms in poultry, infection with the H7N9 LPAI strain can result in severe sickness and even death in people.

Every spring, millions of birds migrate from Africa's wintering habitats across the Mediterranean Sea to their breeding sites in the Palearctic area. This is one of the world's greatest bird migration movements, with Capri, Italy, Antikythira and Greece, providing significant stopping points for birds arriving from Africa after traversing the Sahara Desert and the Mediterranean Sea.

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[24]Somveille M., A. S. Rodrigues and A. Manica (2015). Why do birds migrate? A macroecological perspective. Global Ecology and Biogeography. 24: 664-674

Wild birds migrate seasonally, and this process is one of nature's most spectacular phenomena. Each fall, approximately five billion birds move from North America to Central and South America, with a comparable number traveling from Eastern Europe to Africa.

Although not much is understood about why certain species of bird migrate and others do not, one significant benefit of migration is being able to take advantage of seasonal changes in nesting habitat and availability of food.

These birds get these infectious infections by their food or parasites that feed on them. Untreated sewage, garbage dumps, manure, and other sources of enteric pathogens attract a large number of bird species, including crows and gulls.

It is not a surprise that the intestines from wild birds have revealed a wide range of enteropathogens, including the very virulent serovar DT 104 Salmonella spp and Campylobacter spp such as Camphylobacter jejuni, Campylobacter coli. Wild birds have been infected with a number of agents, including arboviruses including the virus responsible for West Nile (WNV), Borrelia burgdorferi, the virus responsible for Influenza A, enteric bacterial infections, and certain drug-resistant bacteria.

Flying foxes (*Pteropus spp.*)	Unknown maximum migratory distances for many species; can range between 50-1000 km across Southeast Asia and Australia	Paramyxoviruses such as Nipah virus and Hendra virus	Loss of feeding grounds through deforestation; Habitat loss through land conversion
Green darner (*Anax junius*)	Exact distances unknown, but adults travel 700 km or more annually from southern Canada and northern U.S. to Central America	Eugregarine protozoan (*Geneiorhynchus* sp.)	Unknown; possibly destruction of freshwater breeding habitats
Wildebeest (*Connochaaetes taurinus*)	In the Serengeti, animals move between wet and dry seasons across an area of 30,000 km²	Rinderpest (*Morbillivirus* sp.); Brucellolsis (*Brucella*); Foot-and-mouth disease (*Aphtae epizooticae*)	Landcover change (reduction in tree cover); Fire frequency; Exposure to infected domestic livestock
Swainson's thrush (*Catharus ustulatus*)	Migrate up to 10,000 km annually between breeding grounds in Canada/northern U.S. to overwintering sites in Central and South America	West Nile virus; Lyme disease; Blood parasites (*Haemoproteus* and *Plasmodium*)	Habitat loss on breeding and wintering grounds; Building strikes during migration
Gray whale (*Eschrichtius robustus*)	Annual migrations of over 18,000 km from feeding sites in the Bering Sea to winter breeding grounds along the coast of Baja California	Whale lice (cyamid amphipods, *Cyamus* spp.); Barnacles (*Crytolepas*); Multiple endoparasitic worms	Industrial activity near calving lagoons; Oil exploration along migration routes; Vessel harassment

Fig. 3a: Representative migratory species, including migration distances and routes, known parasites and pathogens, and major threats to species persistence. Infectious diseases have been examined in the context of migration for some, but not all, of these species. Supporting references and photo credits are provided in the supporting online material (SOM) text.
Source: Altizer et al. (2011).

[25]Altizer, S., Bartel, R., & Han, B. A. (2011). *Animal Migration and Infectious Disease Risk. Science.* 331(6015):296–302.
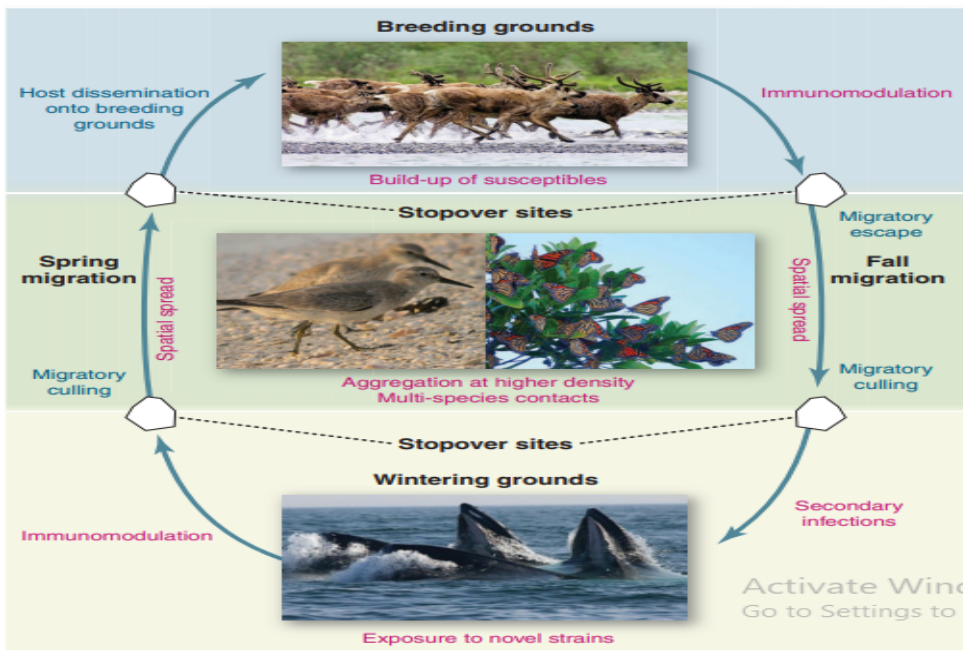
Fig. 3b: Points along a general annual migratory cycle where key processes can increase (red text) or decrease (blue text) pathogen exposure or transmission. Behavioural mechanisms such as migratory escape and migratory culling could reduce overall pathogen prevalence. As animals travel to distant geographic locations, the use of multiple habitat types including stopover sites, breeding areas, and wintering grounds can increase transmission as a result of host aggregations and exposure to multihost pathogens. This might be especially true for migratory staging areas where animals stop to rest and refuel. High energetic demands of spring and fall migration can also result in immunomodulation, possibly leading to immune suppression and secondary infections. [Photo credits (clockwise): J. Goldstein, B. McCord, A. Friedlaender, and R. Hall]
Source: Altizer et al., (2011).

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[25]Altizer, S., Bartel, R., & Han, B. A. (2011). *Animal Migration and Infectious Disease Risk. Science.* 331(6015): 296–302.

One Health and Zoonoses

The concept of One Health established in the early 2000s, states that human and animal health are interdependent and linked to the health of the ecosystems in which they live.[26] The idea of One Health is important in addressing new zoonotic diseases and zoonoses that are re-emerging, thereby managing the effects of zoonotic infections on animals, people and the environment. This aims to make the globe free of zoonotic disease hazards. It is a successful strategy to zoonotic disease control in humans, animals, and the environment.

Zoonotic illnesses are infectious illnesses that are naturally transmissible from vertebrates to humans, according to the World Health Organisation (WHO). Thus, animals play a very crucial part in propagating zoonotic infections in nature. Examples of some zoonotic diseases include Rabies, Salmonella infection, Ebola, Avian influenza infection, Brucellosis, Anthrax, Mpox, Bovine tuberculosis to mention a few.

The World Health Organisation (WHO), the Food and Agriculture Organisation (FAO), and the World Organisation for Animal Health (OIE) have agreed to describe an emergent zoonosis as one that is freshly identified or newly developed, or previously happened but has showed a rise in incidence or geographic, host, or vector range expansion. There are around 200 identified varieties of zoonoses. Six out of ten human occurrences of infectious illness are brought on by animal transmission[27]. Disease transmission from animals may occur everywhere people dwell, in both urban and rural environments.

Recent particularly severe infections have highlighted the significance of zoonotic diseases to human health with every likelihood of becoming pandemic and having the potential for high death. Such occurrences include the 2005 H5/N1 avian influenza outbreak, the swine flu H1/N1 influenza pandemic that happened in 2009, the 2013–2016 West African Ebola outbreak, including the 2019-novel coronavirus that occurred in 2019 (2019-nCoV).

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[26].McEwen, S. A., & Collignon, P. J. (2018). Antimicrobial Resistance: a One Health Perspective. Microbiology Spectrum. 6(2):23-26
[27].Centre for Disease Control. One Health. https://www.cdc.gov/onehealth
[28]Morand S, McIntyre KM, Baylis M. (2014). Domesticated animals and human infectious diseases 514 of zoonotic origins: domestication time matters. Infect Genet Evol. 24:76-81
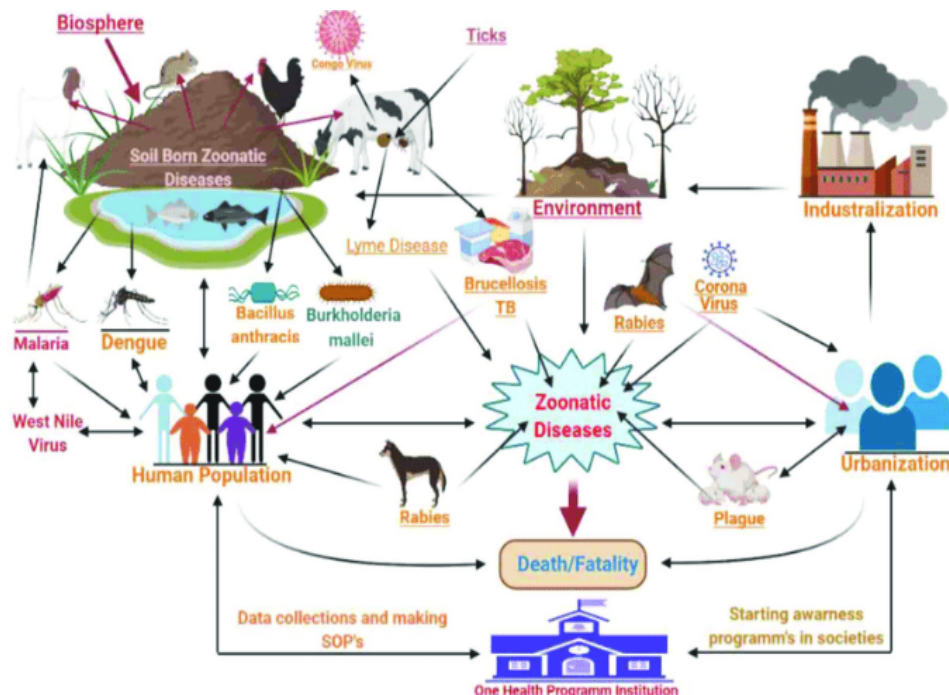
Zoonotic diseases and One Health concept.

Fig. 4: The concept of One health concept and zoonoses
Source: Yasmeen et al. (2021)
Yasmeen N, Jabbar N, Taif S and Fang X. (2021). One health paradigm to confront zoonotic health threats: A Pakistan approach. Frontiers in Microbiology 12

The World Health Organisation (WHO), the Food and Agriculture Organisation (FAO), plus the World Organisation for Animal Health (OIE) have agreed that an emerging zoonosis is one that is newly acknowledged or recently evolved, or that has previously occurred but has shown an upsurge in the incidence or geographic, host, or vector range expansion. Emerging zoonoses are seen as a worldwide concern by the WHO, FAO, and OIE, with potentially significant human health and economic consequences. They noticed the current rising trend in these ailments and expect it will continue.

The coronavirus (SARS-CoV) is zoonotic. It spreads from civet cats to humans. Coronaviruses are encapsulated, single-stranded, positive-sense RNA viruses belonging to the family Coronaviridae.

Coronaviruses are enclosed, RNA viruses with a single strand and a positive sense belonging to the Coronaviridae family.[29] Six coronaviruses (CoVs) were previously recognised to be the cause of human ailments. In late December 2019, a newly discovered coronavirus, responsible for being the causative agent of the COVID-19 disease originally identified as 2019-novel coronavirus (2019-nCoV) and then recognised as SARS-CoV-2, which was reported from China. The outbreak was eventually classified as pandemic.[30] All seven identified human coronaviruses are known to be zoonotic in nature. The bat is the natural host of the majority of coronaviruses, with the exception of HCoV-OC43 and HCoV-HKU1, which originated in rodents. One possible transmission route to humans is through an intermediate host with whom humans have contact. Human-to-human transmission is straightforward since the viruses are mostly disseminated by respiratory droplets and fomites. Transmission via contact is an essential aspect in determining how these viruses propagate.

MERS-CoV which was transmitted from dromedary camels to humans is an emerging viral zoonotic disease. MERS first emerged in Saudi Arabia in 2012.[31] SARS-CoV, MERS-CoV, and SARS-CoV-2 were the most virulent of the seven viruses. MERS-CoV had the highest death rate. COVID-19 is a worldwide, public health challenge and is causing devastating effects on health, social life, and economy all over the world. The disease has been reported in more than 200 countries causing 25 million cases and 0.9 million deaths worldwide[32]. Also, fruit bats carry the fatal Ebola virus illness.

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[29]Lee, J.; Chowell, G.; Jung, E. (2016). A dynamic compartmental model for the Middle East respiratory syndrome outbreak in the Republic of Korea: A retrospective analysis on control interventions and superspreading events. J. Theor. Biol. 408:118–126.

[30]Hui, D.S. (2017). Epidemic and emerging coronaviruses (severe acute respiratory syndrome and Middle East respiratory syndrome). Clin. Chest Med. **2017**. 38:71–86.

[31]Perlman, S. (2020). Another decade and another coronavirus. New England Journal of Medicine. 2020;382:760-762.

[32] World Health Organisation. Coronavirus Disease (COVID-19). Weekly Epidemiological Update and Weekly Operations Update. Available online at https://www.who.int/docs/default-source/coronavirus/situation-reports/20200831-weekly-epi-update-3.pdf?sfvrsn=d7032a2a_4. (Accessed July 2023).
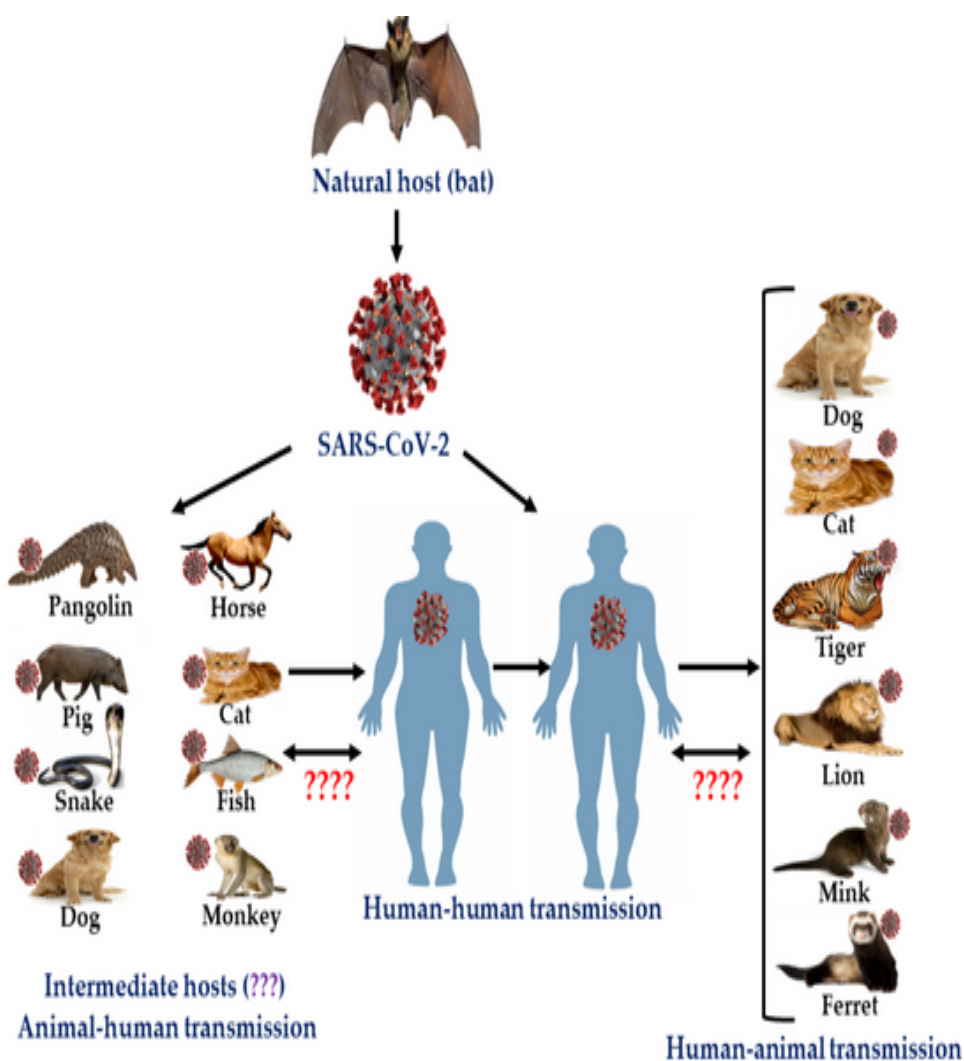
Fig. 5: Features of Zoonotic SARS-CoV-2 virus
Source: Rahman et al., (2020).

[33]Rahman, M. T., Sobur, M. A., Islam, M. S., Ievy, S., Hossain, M. J., El Zowalaty, M. E., Ashour, H. M. (2020). *Zoonotic Diseases: Etiology, Impact and Control. Microorganisms. 8(9): 1405.*

The Causative virus of Avian Influenza

Avian Influenza is among the most serious hazards to farm-raised chicken. An increase in commerce globally, increased production of chicken, a change in climate, the migration of birds, human transportation, including an increasing worldwide population have all led to the development and epidemics of the virus causing Avian Influenza.[34] Human H7N9 infections have grown increasingly severe since 2013.[35] Influenza epidemics on poultry farms generally result in the killing of the whole domestic bird population, thus resulting in substantial economic losses.

There are avian influenza (HPAI) strains that have a high pathogenicity. These may infect pigs and humans in addition to their primary avian host, posing a worldwide zoonotic and pandemic hazard. Several AI virus subtypes, particularly H5, H7, and H9, have demonstrated the capacity to transcend species barriers and infect mammals such as swine and humans.[35] As a result, avian influenza poses a significant public health risk.

Viral reassortment is the reason hazardous forms of the HPAI viruses are present. These forms may infect animals and adapt to their new hosts. It is still debated whether the famous 1918 Spanish flu pandemic was triggered by a reassortant strain developed in mammals or an exclusively avian-like virus that adapted to humans.

[34]Young, S., Carrel, M., Malanson, G., Ali, M., & Kayali, G. (2016). Predicting Avian Influenza Co-Infection with H5N1 and H9N2 in Northern Egypt. International Journal of Environmental Research and Public Health. 13(9): 886.

[35]Jessica A. Belser, Nicole Brock, Xiangjie Sun, Joyce Jones, Natosha Zanders, Erin Hodges, Joanna A. Pulit-Penaloza, David Wentworth, Terrence M. Tumpey, Todd Davis, and Taronna R. (2018). Mammalian Pathogenesis and Transmission of Avian Influenza A(H7N9) Viruses, Tennessee, USA. Emerg Infect Dis. 24(1): 149–152.
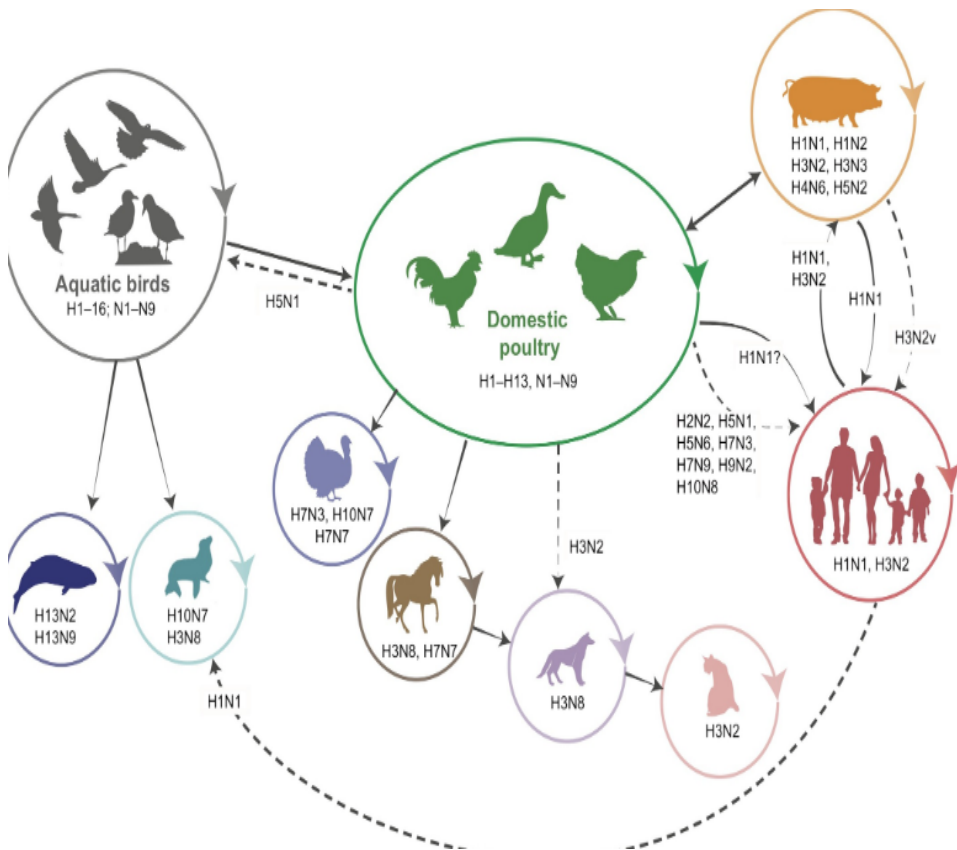
Fig. 6: Influenza A viruses (IAVs) spread widely across animals. Diagram depicting interspecies transmission events of IAVs and the subtypes involved. Solid arrows indicate direct transmission events that have been established in the host species. Dashed arrows indicate occasional or limited infection of subtypes in which persistent transmission in the new host has not been identified.

Source: Belser *et al*., (2018).

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[35]Jessica A. Belser, Nicole Brock, Xiangjie Sun, Joyce Jones, Natosha Zanders, Erin Hodges, Joanna A. Pulit-Penaloza, David Wentworth, Terrence M. Tumpey, Todd Davis, and Taronna R. (2018). Mammalian Pathogenesis and Transmission of Avian Influenza A(H7N9) Viruses, Tennessee, USA. Emerg Infect Dis. 24(1): 149–152.

Conclusion and Recommendations

Migration is a worldwide issue that affects the health of people and populations. Zoonotic diseases such as bovine spongiform encephalitis, avian influenza, and anthrax have the possibility for disrupting diseases such as bovine spongiform encephalitis worldwide commerce in animals, animal products, and byproducts. Policies to safeguard migrants and public health will produce positive results, provided they cover all stages involving the process of migration.

Laws to prohibit cross-species breeding, enhancing the health of animals on farms by controlling stocking numbers, assuring high veterinarian care standards, and transitioning to plant-based diets. Improving preventative measures for efficiently controlling of avian flu viruses.

Environmental sanitation can help to reduce exposure to infectious agents by restricting contact with garbage or polluted media, including modifying hygiene and socio-cultural habits.

Conflict of Interest:
There is no conflict of interest.

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Communication Convergence: Cross-cutting the Linguistic and Technological Spaces

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Abstract

Communication is an important part of the human relationship. Without communication, there is really no relationship. This paper looks at how convergence takes place at three different points – communication, content and computing. These come together to provide communication convergence. This paper dissects each section identified above and how they help to bring together the process of communication and keep the world together. It identifies the Generation Z as being at the fore front of the convergence process in terms of how the participants, contents and computing come together to bring the world into a closer relationship in what is sometimes referred to as globalisation. It also looks at the way communication convergence has led to broken down borders and encouraged the interaction of actors across platforms and through diverse contents. It argues, however, that the same convergence of the communication devices and contents could become negative in their effects if not used cautiously and wisely. Thus, it becomes pertinent to conclude that the way communication convergence helps us to live out within the global community is not just in terms of the interconnectedness of our world but also in learning to use the communication convergence instruments in a responsible manner, whether as creators or users of the communication contents.

Keywords: Communication convergence, Contents, Creators/Consumers, Computing, Generation Z, Virtual migration

Introduction

Communication is an important part of the human relationship. Without communication, there is really no relationship. As such, the ability for people to communicate with one another becomes important in a more and more globalised world. The need to look at how communication takes place and how the communication is executed becomes necessary. The fact that different platforms and devices are used for communication purposes also becomes important.

Nonetheless, the reality also is that all kinds of forces come together to realise the communication process. Daniel[1] argues that communication process is only complete if the process and cycle of communication includes the interpretation by the receiver of communication and matches that of the sender or initiator of the communication process.[1] Fatimayin[2] toes this line of argument also. This is the simple idea of what communication is. However, when we look at the factors that come together and the way they come together, we realise that there is more to communication than merely defining it as a cyclic process that gets completed at one end of the cycle. The coming together of its different platforms and instruments operationalises its diverse forms and structures into a convergence of devices, contents and personae.[2] This paper thus looks at how convergence takes place at three different points – communication, content and computing in order to show their interlinked processes and the way they bring together the community of practice in the communication interconnectedness, all resulting in a globalised world.

Objectives
The objectives of this study are as listed below.

This paper interrogates how the communication, content and computing come together to provide communication convergence.

It dissects each element and how they help to bring together the process of communication and help keep the world together.

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[1] Daniel, I. O. A. Daniel, (Manuscript). *Communication Theory*. NOUN. 2015.
[2] F. O. Fatimayin, "What is communication?" In I. O. A. Daniel (Ed.) *Communication and language skills*, (pp. 21-40). (Cambridge Scholars Publishing, 2018).

It interrogates the hegemonic impact of the identified elements in the process of convergence.

It analyses the part the important content creators, called the Generation Z, play in the communication convergence process.

It interrogates how communication affects the national borders and the artificial barriers the world has set up against itself.

It also looks at how safe the world remains in the face of the convergent world of communication we now live in.

The paper looks at all these issues and tried to provide answers to the questions systematically. The next section commences with an explanation of the basic concepts that form the fulcrum of our topic and discusses this subject matter of the paper.

Materials and Methods
What is convergence?

When we talk of convergence, it suggests a coming together. This makes it different from divergence. Indeed, convergence in the sense used in this paper has to do with the ability to bring materials and ideas together. It may not always appear like an important issue. However, most achievers thrive on the ability to bring together materials and personnel in order to get to the end that is desired.

There are different types of convergence. Scholars[3] have discussed convergence in relation to mathematics, science, technology, health, the social structure, business, and even the architectural world. It is thus obvious that convergence affects many areas of our life. When corporations come together to form a bigger one, it is called convergence. McCallum asserts that convergence is essentially about the merging of communication platforms.[4] This is the focus in this paper. Our discussion will thus be strictly focused on communication convergence. This, we will tackle in the next section.

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[3] See *Encyclopaedia Britanna*, Oxford Dictionary, Technopedia.com, etc.

[4] Kate M. McCallum (2020). McCallum, Kate M. (2020). "Immersive experience: Convergence, storyworlds, and the power of social impact," In Jacquelyn F. Morie, & Kate M. McCallum, *Handbook of research on the global impacts and roles of immersive media*. (pp. 453-484). IGI Global. https://www.igi-global.com/chapter/immersive-experience/248233

Communication convergence

This can be seen in terms of the bringing together elements involved in the communication process. McCallum asserts that it has to do with the merging of "feature films, print, television, radio, live experiences, theme parks, games, the Internet along with portable and interactive technologies through various digital media platforms".[5] Building on the definition of convergence, one could say that communication convergence has to do with bringing together the elements involved in the communication process. However, beyond this is the fact that even technological artefacts used for communication are also said to converge. This has to do with the possibility of using diverse technological pieces together to pass information. It also involves using diverse communication channels to pass across a message.[6] This could be the use of the internet, the phone, the radio, the tablet, and so on. We shall discuss more on this later. Another name for communication convergence is media convergence. Media convergence is thus a different nomenclature for describing communication convergence. McCallum asserts that "Media convergence is the use of multiple media formats extending from one story-world or platform to deliver a more expanded or enhanced experience."[7] We share fully her idea of what media convergence means to the point that it is about using multiple media formats. We expand on the way media convergence also has to do with the platform and experience of the user below.

Bringing together the elements

The theory of media or communication convergence is old, even though not too familiar. Not many people are familiar with what is involved in the convergence of communication – either as a process or as gadgets. All that most people are familiar with is that they use different channels to pass information as the needs arise or as they are available/accessible. The truth is that most people in the developing economies may have a bit of challenge

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[5] McCallum "Immersive experience: Convergence, storyworlds, and the power of social impact," In Morie, & McCallum *Handbook of research on the global impacts and roles of immersive media*. (pp. 453-484). IGI Global. https://www.igi-global.com/chapter/immersive-experience/248233

[6] McCallum, "Immersive experience: Convergence, storyworlds, and the power of social impact," In Morie, McCallum, *Handbook of research on the global impacts and roles of immersive media*. (pp. 453-484). IGI Global. https://www.igi-global.com/chapter/immersive-experience/248233

[7] McCallum, "Immersive experience: Convergence, storyworlds, and the power of social impact," In Morie & McCallum, *Handbook of research on the global impacts and roles of immersive media*. (pp. 453-484). IGI Global. https://www.igi-global.com/chapter/immersive-experience/248233

in using diverse elements to communicate. More often than not, they make do with what they can access.

Nonetheless, one simple fact is that communication convergence apparently revolves around the so called three Cs. The next question we may need to ask is, what do we mean by the three Cs.

What are the 3 Cs?

The 3 Cs are basically communication, content and computing. These thus give us an idea of the intersection of the communication process, the language used in creating content as well as those creating the content; these are in addition to the platform needed to communicate the message/content that was created. So, let's take them one after the other.

Communication: This essentially has to do with passing across a message. Daniel asserts that the process of message conveyance has to do with communication. Nonetheless, she admits that a true communication process is complete only when there is feedback.[8] In the case of communication conveyance, how can the feedback be obtained? We attempt to look at this in the discussion section.

Content: The message. This has to do with the actual message being conveyed in the communication process. Just like the obligatory head in a syntactic structure, there must be a message to be conveyed for there to be a communication process in the first place.

Computing: The technological platform engaged. The third C is about the platform. This involves the technological aspect of the process. It deals with the technological platform that enables the message to be passed. It is the route through which the content is shared to the world or the audience it is intended for. As such, this marks the meeting point of language usage and technology. Diverse technological platforms are used to express the content. This also provides a convergence point for communication as noted above. Different types of devices could be used to pass the message. However, as we know, many of the devices are converging into the little smartphone everyone now carries about! It is interesting that many high-tech video

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[8] Daniel, I. O. A. (Ed.). *Communication and language skills*, (pp. 21-40). (Cambridge Scholars Publishing 2018), See also Daniel, I. O. A. (2015). (Manuscript). *Communication Theory*. NOUN.

productions are done with high end smartphones. Even blogging, voice recording and so on, are now done on the smartphone as it is such a versatile piece of instrument.

How do these interact?

The interaction of these elements is based on the need to get across a message to the world or a particular audience. The content of these messages is usually linguistic (this could also be graphic or pictorial). The technology leveraged on could be a phone, a PC or a tablet. In all, we see the interactions of the three Cs as we try to explain above. The message content that is produced are in different forms. They could be mere textual content. They could also be pictorial. This message could also be video. In short, the content could be a mixture of these, that is, multimedia. In the actual fact, most online message contents tend to involve a combination of one or more of these message formats for them to be regarded as being interesting and useful.

Convergence of technology(ies)

This is a story for another day. The fact that a smartphone can do so many things that different devices were required to do previously is technological convergence on its own. We have noted above that the smartphone has proven to be the very definition of technological convergence. Before now, to do a successful video shoot, you will need some big video camera, the camera stands, lighting that is good and effective as well as other equipment we are not able to discuss here. However, all of these are now converged on your smartphone. It is common knowledge that most people do not use up to 20 percent of the functionality of their smartphones. This makes it more like having a tool but not knowing how to effectively utilise it. As such, it is clear that so many things can be done with the smartphone that many gadgets were required for before. This usually results in making the life of the citizens/users easier. However, this could also be the annoying part of the convergence. Some have argued that the convergence of different equipment into one in the smartphone also has its drawbacks as it could cause distractions or clash of engagement while using the device for a particular purpose in addition to the fact that these many functionalities could also drain its battery fast.

The meeting points

We have mentioned many of the things that bring communication processes into focus. However, the communicators themselves are also converging. Moreover, it is also important to mention another type of convergence noticed. There are many types of way that communication convergence take place, including the convergence of the technology used for the communication. There is, therefore, another important part of this convergence not yet mentioned. This has to do with the communicators themselves. They too converge. We will look at it further below.

Communicators convergence

Convergence can also be cultural. Some call this imperialism. The global space is having the global North bestriding it culturally. As such, most of the African space is occupied by those trying to ape cultural neo-colonialism. It is clear that the colonial activities effectively undermined the African cultural space.[9] As such, the people within the African cultural space tend to replicate the cultural production of the western or eastern worlds. However, as we shall see below, there appears to be a shift in paradigm; whether there is a shift in mindset is an entirely different matter.

But what of the bottom-up convergence of culture?

What happens to the interactions and influences created across borders due to technological convergence? What happens to the platforms that have broken down borders and created interactions that were previously unimaginable unless you obtain a visa and buy a plane ticket to go 'abroad'? These are interesting questions we need to address. It is usually easier to blame the oppressor and accuse them of hegemony. However, is it not interesting that the so-called weaker partners also tend to infuse their culture into the global space. Example is the spread of the Spanish language and culture in the US.[10] It is also interesting to see the way Nigeria's film industry, Nollywood, has invaded the world; both at the film and music

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[9] See Rita Josephine Eve, "The Impact of Colonization and the Metamorphosis in African Society: A Study of the Novels of Chinua Achebe" A PhD Thesis submitted to Karunya Institute of Technology and Sciences, 2023;

I. O. A. Daniel (2016). "How did we get here? A historical profile of African women." *Gender Behaviour*. 14(3) (7693-7710).

[10] Elizabeth Chuks, 'You are in America, speak English', Woman tells Latina shoppers in rant caught on camera. *NBC News*. https://www.nbcnews.com/news/latino/speak-english-you-re-america-woman-tells-latina-shoppers-rant-n698776, 2016, Dec. 21.

level. I could recall on one occasion, as I walked out of the Johannesburg Airport in South Africa, the P-Square music was blaring through the speakers. In UNISA, when my team from the defunct DRAA was being hosted, the staff members of the university were regaling us with tales of the Nollywood films they have watched, mentioning the names of their favourite actors (e.g. Mama G.). This shows the invasion of the so-called third world being able to also dominate the world outside. I had this same experience in Dublin. However, how real is this? Domination or penetration?

The Nollywood Global Invasion

Let us look at an example of cultural convergence. Would it be called bottom-up hegemony? The question of the way Nollywood has made its way to the global stage usually seems unreal. It has even been said to be the third largest film industry after Hollywood (USA) and Bollywood (India). However, when we see how the actors are getting connected to their colleagues outside the African space, it shows the reality of this activity. A colleague recently told me that the Ghanaian actors are being told to go to Nigeria to learn how acting is done in order to get noticed. And this is not surprising as we have experienced many Ghanaian actors coming into the Nigerian film industry and making a name for themselves. Examples abound: Majid Michel, Jackie Apia, Van Vicker, Juliet Ibrahim, John Dumelo, Nadia Buari, Yvonne Nelson, etc.[11] In the same vein, from Nigeria, we see pop stars such as Davido, Burna Boy getting noticed on the world stage to the point of getting nominated or actually winning the Grammy award. Nonetheless, one may argue that what is being created here to get the award are really that they are propagating the western hegemony rather than the Nigerian originality.

Convergence of language

These communicators speak the same language. The language of the virtual world. It may be English or any other language, but the signs and structures are the same. This clearly shows that the language of the communicators using the digital platform is universal. Now, this does not mean that everyone only speaks English; it means that there is a language of the

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[11] Austine Ikeru, 27 Famous Nollywood actors who are originally from Ghana. https://austinemedia.com/27-famous-nollywood-actors-who-are-originally-from-ghana/, 2023, 19 June.

internet and content that is universal and common to the participants. This language is peculiar to these platforms for it to get across and get the expected feedback. It could also be in terms of the actual natural language. Most of them speak the English language. However, even those who do not speak the English language tend to have English sub-titles. This suggests the hegemony of the English language. Nonetheless, it also suggests that this could be the dominant language in the world. We should also not forget that, across borders, the English language has made a large inroad as a Second Language (L2) or Foreign Language (FL) to many countries and continents. It is interesting to note that most people in the world can speak the English language whereas most English language speakers do not make the same effort to learn those other languages. More importantly, the language of the internet and phone devices is a universal language of uploading and downloading. This does make it a situation of language convergence.

Enter the Generation Z

The Generation Z are those that actually exemplify the people that make use of the converged communication convergence. Let's meet these guys!

The Generation Z members are probably the children of many of us in our adult stage. I travelled to many continents inside the Mills and Boons series in my youth. I went further with the bigger novels – the Danielle Steeles of this world, etc. However, these were never lived nor real. But these guys, they travel real time. They cross borders every day. They cross the Atlantic Ocean and all the other Oceans every day. They do not need visa, neither do they bother to get one. They use the different social media platforms that afford them the enablement to break borders and engage in instant migration back and forth. This we would call virtual migration. Aneesh[12] agrees with our description of this activity, though to describe a different set of actors in India.

Is this by Astral travel? No! They do not do Astral travel. They do it live. Sometimes, while you sleep. Most times, **they are awake**. Cheap data happens at MIDNIGHT to DAWN! TikTok or Tick Tock, the chiming clock makes not much meaning here. Timelessness seems to matter less. But these

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[12] Aneesh, A. (2006). *Virtual Migration: The Programming of Globalisation*. Duke University Press (pp. 208).

people are having fun while making more contents for this platform; and from the real world. They make up the bulk of Citizen Journalism. Let's see below some of the activities engaged in during the virtual migration processes.

Challenges

Battles: On TikTok, many battles rage. They are called matches; they are tagged Live Match. Yes! Interestingly, these could be across continents. I had been involved in one with someone from Europe and with someone else in Africa. The tension in these matches is palpable. It builds. The adrenaline flows as it would in real life battles. The winner sometimes takes it all. They do not pity in defeat even though it is all a game.

Fights: Fights happen too. On Twitter, now X, there is a public square. Many issues are thus raised. These issues also get trashed. And even a lot of sparring is done there. Yes, this could be for the older generation of the users of these platforms. The truth though is that some do behave no better than children on this platform too! The Clubhouse is called Spaces on X; and it is usually live.

Sales: A lot of marketing is done here – even of the self. What gets marketed here? This could be a real life or a fake life. It is up to you to buy or ignore. Instagram (popularly referred to as IG by its users) live gives you the chance to also say your piece, no matter from where you come.

Live: You go live on Facebook, known as Facebook live. There is also Facebook watch. You are free to comment and say your piece on these platforms. This could be done in real time too. You are expected to mention where you are watching from as you could be as near as being my neighbour or probably from Bermuda.

YouTube:

I have posted quite a number of videos on YouTube. I have received comments from far and near. This is another town square. You can say your piece. Anyone can reply you there. Live is a real time conversation among participants; it does not matter your creed or location. This platform seems to aggregate many of the things the other platforms have. However, its greater advantage may be its seeming more mature system as well as serious monetisation procedure.

Contents
All these contents are made from the converged technologies as discussed
above –
Phone
PC
Tablet.

Indeed, you have different platforms to create your content, as shown in the
previous sections, and with the technology to support your efforts. The
phone can do so much these days that it has virtually replaced the other
forms of communication technologies. The phone has become the camera
for the netizens. It is also the storage disk for their contents. Some phones
have memory capacity of as much as one terabyte! It is the video editing
device to improve the content and make them even more interesting and
acceptable to the audience. Its instantaneous usage makes it more
convenient. In addition, the fact that it is handy, and can do so much, usually
makes it more acceptable and handier to the Generation Z that seemingly
carries their whole life about. Their need for instantaneous responses to their
co-travellers on the web makes it the most convenient device of all.

Indeed, the phone, the tablet and the PC could be a very interesting triangle
for the content creator. The phone could be used for most of the things. The
tablet could provide a larger screen for almost all the phone could be used
for. All the same, the computer does a lot more in some other instances. As
noted above though, the smartphone provides virtually all that is required
to communicate with the sort of crowd that uses it.

Linguistic or Pictorial
These travel far, without restrictions. On the internet, these linguistic
elements, either vocal or literal, find much special expression. They go
beyond borders, to borrow the Yoruba descriptive name for the Internet.
They cross borders and reflect their owners. However, their form and nature
can be diverse, depending on the intention behind the message. As such,
linguistic, pictorial and video forms are used as forms of the content. The
possibility of re-purposing also allows for the content forms to be changed
while the message remains essentially the same. It is much like what
happens with water in its three forms as liquid, solid (ice block) and gas
(vapour) states. It is the same water but different states of being for it. So,
content creators express themselves in these diverse forms to engage their

audience, depending on the intention and purpose of the message. Nevertheless, we need to mention that, this paper sees the pictorial as including the video forms too.

Participants

Participants: Content creators and consumers. They could be from anywhere. They could give one new opportunities or new leverage sources. They could also bring one into spaces one doesn't want if not done with care and responsibility. These were also alluded to as consumers. Within this discussion, we see them as participants considering they both consume and create messages – linguistic or pictorial.

Indeed, participants also converge in that, in this space, the creators could be consumers and the consumers could also become creators. As such, it is safer to call them participants. When we look at the citizens' journalism, we will find that these set of people are on the lookout for news. Their phones are always handy to record any situation around them. We have seen many viral Facebook videos that came as a result of someone just being at the right place at the right time or remembering to bring out their phones at the right time.[13] We all remember George Flyod's case. A case could be established against the police men that murdered him because someone had the foresight to record and post the incident online.[14] It triggered off more than even she could have imagined. Let's also look at the case of 20.10.20 alias #EndSARS protests. The killings at the Lekki Toll Gate became famous due to citizens' journalism. As such, those you would normally regard as consumers of news have become the producers of news, or at best, the casters of news.

In essence, we could safely say that all these people are participating in creating and consuming contents at the same time. This is another example of communication convergence in terms of the message or contents.

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[13] Chucks, Elizabeth"You are in America, speak English', Woman tells Latina shoppers in rant caught on camera. *NBC News*. https://www.nbcnews.com/news/latino/speak-english-you-re-america-woman-tells-latina-shoppers-rant-n698776

[14] Darnella Frazier, (2021, 25 May). 1 year anniversary. *Facebook*. https://www.facebook.com/darnellareallprettymarie/posts/1727632277437871

Technology

More and more are emerging. All of these towards making the world a more global village. There was a time the child in America is far ahead of those in Nigeria. But is this really the case today for those that can afford the technology? Is this the case with children that share these spaces on IG, FB, YT, etc. The **trends** are usually the near alike. The **trolls** are likely to be near too.

As noted above, more of the technologies for communication are converging. Many devices can now do more than the original thing they were intended for. Let us look at the example of my halogen oven. It can bake, steam, dry, fry, microwave/heat food, defrost, etc. In the same vein, our computers can be used to design many things, including houses. Just install the needed software and you will have a whole house or even an estate built in minutes or hours. The tablet and phones can do so much within the little space they have. Likewise, your phone has become your camera, voice recorder, document producer, etc. It can be used to write blog, your stories, and even sign documents such as contracts and agreements it was used to design. All these in addition to its original function of being an instrument to make phone calls as well as send text messages, emails and internet messages such as WhatsApp and Telegram, etc.

These give the opportunities for one to do a lot of things with the devices one has. This enables the user to manipulate the devices to the maximum. However, it is also a known fact that many people hold their devices but not usually able to use even 70 percent of what it can do. But is this really true of the Gen Z group. Empirical research may be necessary to establish this.

Results and Discussion
Broken down barriers

So, why is America opening its doors to more Nigerians through a 5-year visa? Only Uncle Sam (USA's informal appellation) can say. Many theories have been propounded, including that of the fact that America needs Nigerians to fill its low manpower needs in some fields. Others have propounded the theory that it is to encourage Nigerians to come and study in the US and spend their hard-earned money over there. Whatever the reason is, the fact remains that the longer stay visa will encourage more Nigerians to seek the greener pasture called the USA.

Even so, the foregoing is not the main focus of this section in this paper. The focus is on the barriers that are removed through the platform of technology. The truth could also be that these may not be far from the real time experiences that are shared daily in the technological space. Indeed, many of the theories were propounded by the creators of content on the YouTube, which this researcher watched to find answers to these questions. And probably, economic convenience; or another facet of hegemonic move! It is never wise to put many of these ulterior motives beyond the hegemonic western powers in terms of their intentions couched in the 5-year visa largesse by the USA.

The recent move by the western world to use ECOWAS against one of its members is still fresh in our memory. And to what end, just to continue to hold fast to the wealth of the Niger Republic by France. These things have become accessible to the world through the broken-down barriers made possible by the instant access to information through the technology called the phone, with internet in most cases, making it smart.

Another important thing to note is that the earthquake in Morocco, the flood in Libya, the protests in Ghana, the war in Ukraine, the UNGA in New York, the fires in Greece, the fire in Canada, the sports in China, the missile launch in North Korea, and so on, are all instantly seen across the world. The recent Mohbad saga and the unfortunate death of the Saudi reporter, Jamal Khashoggi on 2nd October, 2018, purportedly murdered with royal blessings, became a matter for the world to see instantly through the convergence of the media. The war in Sudan and its terrible consequences on the Nigerian populace had many on edge, anxiously hoping they could be rescued from the war-torn country before harm befalls them. Indeed, there is no longer anything hidden under the face of the sun. The Gen Z and communication convergence in its diverse forms have shown us.

Let's remember
Let's not forget: The internet that coordinates all these convergences is the biggest convergence space – it does not forget. Let's be responsible in using these spaces. Let's maintain a space that is still private. The world is watching. So, we do not walk naked into the market square in the global view.

Nonetheless, it is easy to get carried away by all we have discussed so far. We did mention that one may be forced into a space one did not want to be. This could happen through the Internet. This thus requires a lot of caution. One needs to protect one's privacy in this broken-down barriers and borders. It thus calls for being responsible. The open space provided by the online space requires being very responsible in the use of that space. As such, we should never forget that this space that gives us so much possibilities also opens us up to so much/many potential dangers. We should be careful not to open up too much of ourselves to the world. To cover our nakedness afterwards may become impossible; and too little too late may become our fate.

Conclusion and Recommendation

This paper set out to define, discuss and unearth the core elements in communication convergence. The meaning and types of convergence were identified and discussed. The way the three convergences played out in their different forms and contribute to communication convergence were brought to the fore. The different forms and manifestations of communication convergence were highlighted. That communication convergence eventually leads to global convergence, which leaves no room to hide oneself was also made clear. The way the Generation Z have used communication convergence for virtual migration was clearly shown in the paper. The leveraging on the Internet also revealed possible dangers that could be negative in impact and consequences for the users. The study concludes that the world has truly become a global village. Note of caution though is that despite its many advantages, the linking force of the Internet as the pivot and core of communication convergence could become a trap if not used wisely. The paper thus recommends that the citizens and netizens should make use of both the participant, content and technological aspects of the communication convergence responsibly.

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Acknowledgement

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Abstract

This study investigates the impact of re-skilling science teachers on fostering inclusive and productive employment that will improve students' performance. One of the pivotal dimensions of this research is its emphasis on inclusivity in teachers' instructional practices. In an era characterised by diverse student populations, re-skilling initiatives that cater for educators from various backgrounds, fostering a more representative teaching force is imperative. By adopting an ex post facto design through a quantitative approach, surveys, and classroom observation checklists were used to rate teachers and students to identify the existing gaps in science education and illuminate the potential solutions for equitable access to quality learning. Data were collected from 90 teachers before and after a professional development programme held in Ogun state, Nigeria. Data were analysed using descriptive statistics, t-test, and structural equation modelling (SEM). Results indicated that teachers in the experimental group scored higher than their counterparts in the other group in technology integration in their instructional practices. The outcome of this research provides insights to inform policy decisions, curricular reforms, and teacher training programs on an international scale. By shedding light on effective re-skilling strategies and the symbiotic relationship between science education and employment opportunities, this study contributes to a more inclusive, skilled, and adaptable global workforce.

Keywords: Inclusive, Instructional Practices, Re-skilling, Teachers, Workforce

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Introduction

In recent years, the demand for a highly skilled and adaptable workforce has intensified due to rapid technological advancements and changes in the global job market [1, 18]. Science education plays a pivotal role in preparing individuals to thrive in this evolving landscape. However, science education is equally undergoing transformation to impart knowledge in various forms, and continuously echoes the need for evolution. Therefore, as this transformation undergoes rapid technological advancements, the traditional roles of teachers are also evolving, necessitating a paradigm shift towards re-skilling and upskilling initiatives to ensure that science teachers are equipped to effectively integrate technology into their teaching practices. This imperative is especially crucial in the intersection of education, technology, and employment presents both challenges and opportunities [1, 3].

The integration of technology in education offers unparalleled opportunities to enhance learning outcomes, engages students effectively, and prepares them for the demands of the 21st-century workforce. However, realising these benefits requires science teachers to possess not only a strong pedagogical foundation but also proficiency in leveraging diverse technological tools and platforms. Moreover, in a global economy increasingly driven by digital innovation, the ability of teachers to foster digital literacy and critical thinking skills among students is essential for their future success and employability. Amidst this shift, a new beacon emerges in terms of an integrated Science, Technology, Engineering, and Mathematics (STEM) education which is a movement with the potential to reshape the trajectory of global employment and innovation [1, 2, 3]. Moreover, the scarcity of STEM-qualified professionals is in the heart of technological advancement. This alarming concern echoes across Africa, underscoring the importance of integrated STEM education [3, 6 19]. This paradigm shift beckons beyond the conventional silos of knowledge and embrace a more holistic approach. The shift therefore requires re-skilling science teachers with emerging pedagogies that incorporate technological tools in the classroom and several studies [30, 14] have indicated different ways of using technology and have shown positive results.

Today, despite the awareness of the importance of technology for effective teaching and learning, teachers are still not integrating technology into their classroom teaching. This problem contributes to teachers being deficient in knowledge, skills, abilities, or competencies in relation to technology use. Al-salami [4] anticipated that barriers to technology integration encompass not merely a deficiency in specific technological knowledge and skills but also a shortage of knowledge and skills related to pedagogical practices supported by technology and classroom management in a technological context. Integrated STEM education is not just a curriculum; it's a mindset, a way of thinking that empowers students to bridge disciplines, unravel complexities, and innovate solutions in STEM to solve real-world problems.

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This is the essence of integrated STEM – cultivating minds that can identify, apply, and fuse concepts from diverse fields to tackle challenges and drive progress. [7, 8, 9, 10].

An aspect of Dewey's theory suggests that teachers serve as intermediaries between the student's needs and the curriculum's demands. Dewey [10] proposed that teachers hold a distinct reservoir of professional expertise, encompassing content-specific knowledge, broad pedagogical understanding, and insights into human development as it pertains to education.

Proficient educators employ technological and pedagogical knowledge to contemplate their teaching methodologies, adjusting them through feedback and self-evaluation. This reflective approach enables teachers to continuously improve their skills, stay relevant in an ever-changing educational landscape, and provide meaningful learning experiences for all students. At the heart of this transformation are the teachers – the guiding lights who shape the future. They are the architects of change, and their skills need to evolve to lead this revolution. A resounding success in re-skilling science teachers towards technology integration is the key to unlocking a wave of productive employment opportunities across the globe. Our educators need to be more than just instructors; they need to be catalysts of innovation.

Educational systems across nations are making concerted efforts to prioritise STEM education, channelling resources into initiatives, workshops, and programs. These endeavours are commendable, yet the true measure of their success lies in their impact on students' learning outcomes. The transformative power of professional development must not be lost – it must resonate in the classrooms, empowering educators to become champions of integrated STEM learning [7, 30].

The fusion of science, technology, engineering, and mathematics is more than just a pedagogical strategy – it is a paradigm shift. It is a bridge between theory and application, between the classroom and the real world. Teachers who embrace this integration are leading their students toward a future where boundaries are blurred, and possibilities are endless.

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However, ensuring inclusive and productive employment opportunities across the globe requires not only skilled professionals but also teachers who can impart these skills effectively. Apparently, success is not solely defined by knowledge and skills [11]. Beliefs are the underpinning of action [14]. Teachers' beliefs – their self-efficacy, their perceptions of what is possible – shape the classroom experience and these beliefs can be reshaped through purposeful, well-designed professional development. It's about equipping and reskilling teachers with the belief that they can lead their students into the uncharted territories of integrated STEM education. [13, 30].

The transformation needed in STEM education requires teachers to change their beliefs, and practices. It's about fostering a generation of learners and educators who can navigate the complex landscapes of the modern world.

This study therefore seeks to examine the influence of re-skilling science teachers to promote inclusive and productive employment in Ogun state, Nigeria.

Research Objectives
The specific objectives of this study are to:
1. determine the current level of science teachers' technological pedagogical knowledge in secondary schools in Nigeria
2. examine the epistemological beliefs held by science teachers in secondary schools in Ogun State, Nigeria, regarding the role of technology in education.
3. investigate the effectiveness of comprehensive technology integration training on science teachers' competence in using technology for instructional purposes.
4. explore the impact of effective re-skilling of science teachers through technology integration training on student performance in science subjects.

Research Questions
In line with the above stated objectives, the following research questions were raised:
i. What is the level of science teachers' technological pedagogical knowledge in secondary schools in Ogun State Nigeria?

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ii.   What epistemological beliefs do secondary school science teachers
hold in Ogun State Nigeria?

Research Hypotheses

H_1: Science teachers who participated in training in technology integration
will demonstrate a higher level of competence in using technology in their
instructional practice compared to those who do not receive such training.

H_2: Effective re-skilling of science teachers through technology integration
training positively led to increased student performance (SP) in science
subjects.

Materials and Methods

This study employed an ex post facto research design, aiming to establish
causal relationships among the identified variables. The population
encompassed all science teachers (physics, chemistry, biology,
mathematics, and computer teachers) and Senior Secondary School II
students in Ogun State, Nigeria. The study collected data from a total of 90
selected science teachers and 884 students within their respective intact
classes. Among the participants, 47 were re-skilled science teachers, while
43 were non-reskilled science teachers. To ensure a representative sample,
a multistage sampling technique was utilised. The initial step involved the
stratified random sampling of nine Local Government Areas (LGAs), with
an unequal distribution of three LGAs from each senatorial district within
the state. Subsequently, a total of five secondary schools were purposively
selected from each of the chosen LGAs. The selection criteria for schools
included the availability of technological tools and resources conducive to
effective technology integration. Within each selected school, one science
teacher was purposively chosen for participation, provided they had
attended the two PSI-PMI training of trainers' program for STEM teachers
in Ogun state in Dec 2022. This criterion ensured that the selected teachers
had a substantial exposure to modern teaching methodologies and
technology integration strategies.

The professional development programme in Ogun state, Nigeria took place
between Dec 7-22, 2022 and it was a project sponsored by the Ogun State
Government under its Ogun State Economic Transformation Project
(OGSTEP). Two consulting organisations are involved viz: New Jersey
Centre for Teaching and Learning (NJCTL) www.njctl.org and African

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University of Science and Technology (www.aust.edu.ng). As a way of background, AUST in response to the request for proposals (RFP) issued by Ogun State Ministry of Education on improvement of STEM education teaching and learning collaborated with the New Jersey Centre for Teaching and Learning (NJCTL) to engage in the training of a few cohorts of teachers in selected schools to introduce the Progressive Science initiative/Progressive Mathematics Initiative (PSI/PMI) which has a successful history of outcome improvement in schools across several continents of the world. Whereas NJCTL provides its digital content and align them with extant national and regional benchmarks, AUST in conjunction with 50 facilitators trained STEM teachers. During this period, 750 trainers of teachers (TOTs) drawn from a pool of STEM teachers working within the Ogun State public school's sector. Moreover, learning objectives were aligned with the West African Examinations Council (WAEC) syllabus with the NJCTL content in a manner that ensures stakeholder buy-in as well as understanding of the pedagogic, technological, and content arrangement being introduced during the training sessions. Embedded in the training plan are a series of stakeholders sensitisation activities and practical demonstrations of a flipped classroom that ensures interactive learning, integrated formative assessment and student-focused learning.

The instruments used were Science Teachers Technological Pedagogical Knowledge Observation Checklist (STTPKOC), Chemistry Teachers Epistemological Belief Questionnaire (CTEBQ), and Chemistry Students Science Process Skills Observation Checklists (CSSPSOC). By adopting this comprehensive sampling strategy and methodological approach, the study aimed to holistically explore the impact of re-skilling science teachers for technology integration on both teacher practices and student performance, thereby contributing valuable insights to the enhancement of science education in the context of global empowerment.

Results and Findings

Research Question 1: What is the level of science teachers', technological pedagogical knowledge, in secondary schools in Ogun State Nigeria?

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Table 1: Level of Science teachers Technological, Pedagogical, Knowledge

Factors of TPK	N	Max. Score Obtainable	Min	Max	Mean	SD	Adjusted Mean	Level
PK	90	16	4	15	11.18	2.51	69.88	1
TK	90	16	4	14	8.04	2.69	50.25	2
TPK	90	12	3	9	5.55	2.11	46.25	3
Total		100						

Table 1 showed the level of science teachers' knowledge on the factors of technological pedagogical knowledge. Statistics of mean and adjusted mean were used to adjudge the factor that was possessed and applied more among the participants in in the study area. The pedagogical knowledge (11.18, 69.88) was ranked 1, followed by technological knowledge (8.04, 50.25), and technological pedagogical knowledge (5.55, 46.25). This can be represented as PK > TK > TPK. The result obtained showed that participants possessed the least knowledge on the TPK component.

Research Question 2: What epistemological beliefs do secondary school science teachers hold in Ogun State Nigeria?

Table 2: Epistemological beliefs of Science Teachers

Epistemological Beliefs	Range	N	Min	Max	Mean	Standard Deviatn	Level
NEB	0-100	78	73	100	91.83	7.79	0
SEB	102-150	12	101	120	111.71	5.91	1
	Total	90					

Note: SEB = Sophisticated Epistemological Beliefs; NEB = Naïve Epistemological Beliefs

The result obtained from the Table 2 implies that respondents with naive epistemological beliefs orientation in teaching with technology (n = 78) had significantly higher frequency of teacher-centred practices (*M* = 91.83, *SD* = 7.79) than teachers (n = 12) with sophisticated epistemological beliefs

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orientation in technology use. (M =111.71, SD = 5.91). The result implied that a higher portion of respondents in the study area possessed more naive epistemological beliefs than they possessed sophisticated epistemological beliefs.

Testing of Hypotheses

Hypothesis 1: Science teachers who participated in training in technology integration will demonstrate a higher level of competence in using technology in their instructional practice compared to those who do not receive such training.

Table 3: Independent Sample t-test for the Re-skilled and Not – reskilled Science Teachers on instructional practices and epistemological beliefs

	Group	N	M	SD	Df	T	Sig
Instructional Practices	Not-Reskilled Teachers	47	42.93	4.20	88	-2.667	.009** (Significant)
	Re-Skilled Teachers	43	47.53	4.04			
Epistemological Beliefs	Not-Reskilled Teachers	47	93.95	3.64	88	-1.703	.092 (Not significant)
	Re-Skilled Teachers	43	99.74	4.28			

Table 3 showed that the p-value associated with the t-test for instructional practices is significant (p < 0.005), indicating that there is a statistically significant difference in instructional practices between the two groups. Specifically, science teachers who underwent technology integration training (Re-Skilled Teachers) demonstrated a significantly higher mean score (47.53) in their instructional practices compared to those who did not receive such training (Not-Reskilled Teachers) with a lower mean score (42.93). Furthermore, from table 3, the difference in the mean score for

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epistemological beliefs between the two groups is not significant (p > 0.005), indicating that there is no statistically significant difference in epistemological beliefs between the two groups. In this case, science teachers who underwent technology integration training (Re-Skilled Teachers) did not exhibit a significantly different mean score (99.74) in their epistemological beliefs compared to those who did not receive such training (Not-Reskilled Teachers) with a mean score of 93.95.

Hypothesis 2: Effective re-skilling of science teachers through technology integration training positively leads to increased student performance (SP) in science subjects.

Table 4

Variables	SE	B	*P*	LL95% CI	UL95% CI
Direct effects					
TPK → EPB	.001	.53	<.01	.142	.996
TPK → SP	.003	.33	<.05	.008	.604
EPB → SP	.007	.05	Ns	-.156	.303

Note. TPK = Technological Pedagogical Knowledge, EPB = Epistemological Beliefs, SP = Students Performance, LL = lower limit, UL = upper limit, SE= standard error, ns = not significant.

The results from Table 4 provide insights into the relationship between the variables of interest. For the relationship between Technological Pedagogical Knowledge (TPK) and Epistemological Beliefs (EPB), a significant positive effect was found (β = 0.53, p < 0.005). Similarly, the association between TPK and Student Performance (SP) was found to be positive and significant (β = 0.33, p < 0.005). However, the relationship between Epistemological Beliefs (EPB) and Student Performance (SP) showed a positive effect, it was not statistically significant (β = 0.005, p = Ns).

Discussion
This study addressed the issue of re-skilling science teachers as a strategic approach to fostering inclusive and productive employment in Ogun State, Nigeria. In an era of rapid technological advancements and evolving educational paradigms, the role of science education in preparing a skilled workforce has become increasingly pivotal. However, this task is hindered

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by various challenges, such as outdated pedagogical methods, inadequate teacher training, and a lack of inclusivity in educational approaches.

This study indicated that overall, respondents had a low level of technological pedagogical knowledge and therefore, are still operating at the level 1 of Akaygun [2] scale which connotes lack of technology use. This could be interpreted as teachers still lacking the integration of technology with appropriate pedagogical knowledge in their classrooms. This result is in agreement with the studies of [7, 25] where a standard-setting method was used to investigate teachers, proficiency levels (1-lack of use, 2-simple adoption, 3- infusive application, and 4-reflective application).

Research has posited that teachers with more sophisticated epistemological beliefs are more likely to integrate technology into their lesson notes than those that possessed naïve beliefs about technology use. Invariably this could translate to practicing technology integration into the teaching of science concepts in the classroom.

This study implied that a larger percentage of the respondents in the study area possessed naïve epistemological beliefs. The findings of this study regarding the level of science teachers' epistemological beliefs were generally consistent with initial work of researchers on epistemological beliefs like that of a study carried out by [30]. Their study showed teachers' epistemological beliefs were moderately favorable towards inquiry based instructional approach. About 83.4% of the teachers were found to have only moderately favorable epistemological beliefs while 14.6% of them have unfavourable beliefs.

The result obtained in the study indicated that reskilled science teachers' TPK had significant effect on students' performance. The finding is consistent with the results of Aguilar-Gonzalez [1] which explored a study on the relationship between teachers TPCK levels, students' self-efficacy and academic achievement. It also examined the difference between teachers' TPACK levels according to gender and professional experience. The study revealed that TPACK levels of teachers were related to 12% of students' achievement.

[7]Dong, Yan, Jing Wang, Yunying Yang, and Premnadh M. Kurup. "Understanding Intrinsic Challenges to STEM Instructional Practices for Chinese Teachers Based on Their Beliefs and Knowledge Base." *International Journal of STEM Education* 7, no. 1 (September 10, 2020). https://doi.org/10.1186/s40594-020-00245-0.
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However, the results of the study disagreed with the study of Farrell [10] which found no significant relationship with teacher's VAM score and the TPACK survey overall or its individual constructs. The present study shows that participation in SPDP, epistemological beliefs are important factors responsible for technology integration in science teachers' instructional practices. The study also mirrors that of Thibaut, et al. [31] who in their research concluded that though teachers do not have enough experience during their pre-service education at the teacher training college.

Therefore, ongoing professional development for science teachers, with mentorship programs where they could be given guidance and support is needed. This mentorship can be done remotely, offering personalised advice and a safe space for discussing teaching strategies. The journey towards effective STEM instruction requires a holistic approach. Re-skilling science teachers is not a simple task; it's a movement, a transformation of mindsets and methodologies. Through purposeful Professional Development Programs (PDP), a new generation of teachers can be nurtured who will inspire and empower the students. By merging technology with STEM, students will be equipped for a world brimming with opportunities and challenges. It's time to reiterates the re-skilling for teachers. If teachers are empowered, then success can be guaranteed in the future.

The study delved into the level of Technological Pedagogical Knowledge (TPK) among science teachers, revealing a prevalent deficiency in their technological pedagogical understanding. This observation corresponds to the acknowledgment that many teachers are still at the foundational stage of technology use, lacking the seamless integration of technology and pedagogy within their classrooms. This finding underscores the importance of enhancing teachers' proficiency in merging technological tools with effective pedagogical strategies to create engaging and impactful learning experiences. Furthermore, the investigation explored the epistemological beliefs of science teachers in the Ogun State area, uncovering a majority with less sophisticated beliefs. This revelation suggests a connection between teachers' beliefs about technology and their willingness to incorporate it into their instructional practices. These results align with earlier research in the field, underlining the need to address teachers' epistemological perspectives to facilitate the integration of technology and science concepts.

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Recommendation

The study recommends that science teachers should be exposed to current technological pedagogical practices that can allow them to earn within and outside their own country through these enhanced skills. Invariably, the traditional narrative of seeking employment abroad will be challenged. A nation that invests in its educators invests in its future, fostering an environment where local talent thrives and contributes to economic growth, innovation, and societal progress. The study emphasises the role of purposeful professional development programmes in equipping science teachers with these skills which are also needed to cater to diverse learners effectively.

Governments and educational institutions can use the insights gained to design and implement more effective re-skilling initiatives. The research can also contribute to the broader conversation on curriculum development and teacher training in the context of the rapidly changing global employment landscape.

Conclusion

The study concludes that most of the participants displayed knowledge about TPCK at Levels 2 and 3, but their application was at Level 1. In a rapidly evolving era marked by technological advancements and shifting educational paradigms, the role of science education in preparing a skilled and diverse workforce has taken on heightened significance. However, this noble pursuit is impeded by several challenges, including outdated pedagogical practices, insufficient teacher training, and a lack of inclusivity in educational approaches.

The study suggests a significant link between re-skilled science teachers' TPK and students' academic performance. In the journey towards effective STEM instruction, the study advocates for a comprehensive approach to re-skilling science teachers. This process is not merely a task but a transformative movement that necessitates a shift in mindsets and methodologies. Through intentional Professional Development Programs, a generation of teachers can be nurtured to inspire and empower students. By harmonising technology with STEM subjects, students will be able to confront the opportunities and challenges of an ever-evolving world. The need to re-skill teachers resonates deeply, for in empowering teachers, there is a promising future for generations to come. This research vividly underscores the global significance of re-skilling science teachers to facilitate inclusive technology integration and to foster productive employment opportunities worldwide.

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Conflict of Interest Declaration
No conflict of interest was declared for this study.

Socio-Political Realities in Nigeria and Brain Drain Migration: Implication for Human Security and National Development

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Abstract

This paper explores the socio-political realities in Nigeria and their connection to brain drain migration; it also examines the implications for human security and national development. Nigeria, as a country with immense potential, has been grappling with various socio-political challenges, including corruption, political instability, ethnic tensions, and inadequate infrastructure. These realities have contributed to a significant brain drain phenomenon, where skilled professionals and intellectuals are leaving the country in search of better opportunities abroad. The paper investigates the underlying causes of brain drain migration in Nigeria, analyses how socio-political factors influence individuals' decisions to emigrate and the implication of brain drain migration on human security and national development. The paper adopts the dependency theory, human security approach and Sustainable Development Goals (SDGs) as its theoretical framework. These theories provide useful frameworks for understanding and addressing the socio-political realities in Nigeria and their implications for brain drain migration, human security, and national development. The findings of the study reveal that Nigeria faces various socio-political difficulties that contribute to the migration of skilled individuals. These difficulties encompass factors such as political instability, corruption, insufficient infrastructure, restricted availability of high-quality education and healthcare, ethnic and religious tensions, and insecurity. The paper concludes with the notion that addressing the socio-political realities in Nigeria and mitigating brain drain migration is crucial for ensuring human security and fostering national development. It recommends that the government must prioritise good governance, transparency, and accountability to combat corruption and create an enabling environment for socio-economic growth.

Keywords*:* Brain drain migration, Human Security, Migration, National Development, Socio-political.

Introduction

The socio-political realities in Nigeria have played a significant role in shaping the country's human security and national development. One key factor that has had a profound impact on Nigeria's progress is the phenomenon of brain drain migration. Brain drain refers to the emigration of highly skilled individuals from their home country to seek better opportunities abroad. In the Nigerian context, brain drain has had significant implications for both human security and national development. [15]

One of the major socio-political realities contributing to the brain drain in Nigeria is political instability and corruption. The country has witnessed a series of political upheavals, including military coups and flawed electoral processes, which have eroded public trust in the government.[16] Rampant corruption has significantly worsened the situation, as numerous public officials have been found guilty of embezzling substantial amounts of funds that were originally allocated for crucial developmental projects. This reprehensible act of embezzlement has had severe consequences, severely hindering the opportunities for growth and advancement that were meant to benefit the entire population. By diverting these funds for personal gain, these corrupt officials have effectively undermined the intended purpose of the projects, thus perpetuating a cycle of stagnation and depriving the community of the transformative benefits they desperately needed.

Nigeria faces numerous security challenges, including insurgencies, ethno-religious conflicts, and communal violence.[17] These security concerns have created an atmosphere of fear and uncertainty, prompting many highly skilled individuals to seek safer environments abroad. The lack of adequate security measures has also hindered investments and economic growth, exacerbating the brain drain phenomenon. The implications of brain drain migration for human security and national development in Nigeria are multifaceted. On the one hand, the loss of skilled professionals deprives the country of valuable human capital, undermining its ability to meet the

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developmental needs of its population.[18] This brain drain also perpetuates a cycle of underdevelopment, as the loss of skilled professionals reduces the capacity to innovate, research, and implement solutions to pressing social and economic challenges.

The departure of highly skilled individuals contributes to a "brain gain" in destination countries, as Nigeria's investment in education and training benefits other nations rather than its own development.[19] This further widens the development gap between Nigeria and more developed countries, as the emigrated professionals contribute to the economic growth and technological advancements of their new homes.

One significant socio-political reality in Nigeria is the lack of adequate infrastructure and public services. Basic amenities such as healthcare, education, electricity, and transportation remain inadequate and unreliable in many parts of the country.[20] The absence of essential infrastructure not only affects the quality of life for Nigerians but also limits the prospects for professional growth and development. As a result, many skilled individuals seek opportunities in countries with better infrastructure and resources. Nigeria has struggled with persistent economic challenges, including high unemployment rates and limited job opportunities. Despite being endowed with vast oil reserves, the country has experienced economic fluctuations and a heavy reliance on the oil sector.[21] This reliance has made the economy vulnerable to global oil price fluctuations, leading to job insecurity and limited avenues for career advancement. Consequently, many highly skilled individuals opt to migrate to countries with more stable and diversified economies.

Issues of governance and weak institutions have plagued Nigeria's socio-political landscape. Corruption, bureaucratic inefficiencies, and a lack of transparency have hindered effective governance and hampered national

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[20]Adepoju, A. "Migration in West Africa." International Organisation for Migration, 2005.

[21]Abada, IfeanyichukwuMicheal, and Elias Chukwuemeka. "Corruption, Governance, and Nigeria's Uncivil Society, 1999-2016." Análise Social 54, no. 231 (2) (2019): 386–408. https://www.jstor.org/stable/26747550.

development.[22] Such challenges erode public trust and confidence in the government's ability to provide an enabling environment for growth and prosperity. Consequently, skilled professionals often felt compelled to leave in search of better-governed societies that offer greater opportunities for personal and professional growth.

The implications of brain drain migration on human security and national development in Nigeria are far-reaching. The departure of highly skilled professionals exacerbates the shortage of critical expertise in key sectors, such as healthcare and engineering, which are vital for the country's development.[23] This brain drain hampers the delivery of quality services to the population, contributing to a decline in human security and well-being. Brain drain poses challenges to national development by impeding innovation and technological progress. Skilled professionals often play a crucial role in research and development, entrepreneurship, and technological advancements, which are essential drivers of economic growth.[24] With the emigration of these individuals, Nigeria experiences a loss of human capital and the potential benefits it brings in terms of innovation, productivity, and competitiveness.

Brain Drain Migration
Due to factors such as low living standards, inadequate compensation, unemployment, and insecurity, brain drain has become a prevalent global phenomenon that has persisted and escalated. According to the International Monetary Fund (IMF), 74% of African immigrants in the United States possess a high level of education. Nigeria contributes 95,000 out of the total 128,000 annual arrivals from Africa, as reported by the IMF. [25] Brain drain migration refers to the movement of highly educated and skilled individuals from less developed nations to more developed ones. It represents the integration of skilled labour markets in a globalised world and reflects the

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[22]Transparency International. "Corruption Perceptions Index 2020." Retrieved from https://www.transparency.org/en/cpi, 2021.
[23]Enibe, Ojiugo, ChigozieUmeh, and Eze Ifeyinwa. "Brain Drain and Sustainable Development in Nigeria, 2000-2015." University of Nigeria Journal of Political Economy, 2021.
[24]*Ibid*
[25] International Monetary Fund (IMF). "How Extensive is the Brain Drain?" Retrieved December 15, 2017, from www.imf.org/external/pub/ft/alldd/, 1999.

limited economic prospects available for migrants in their home countries.[26] This definition highlights the movement of talented individuals from less developed countries to more developed nations, driven by factors such as better job prospects, higher wages, and greater access to resources and opportunities. Baine et al. define brain drain as the emigration of highly skilled individuals, specifically those with tertiary education, from their country of origin to foreign nations, where they encounter more advantageous employment prospects.[27] This definition emphasises the focus on highly skilled individuals, particularly those with tertiary education, who seek better employment prospects abroad due to factors such as limited job opportunities, inadequate compensation, and limited professional growth in their home countries.

Lowell defines brain drain as the migration of individuals who have obtained higher education or professional training from their countries of origin, resulting in the loss of skilled labour and human capital from the sending nation while benefiting the receiving country by acquiring these valuable skills.[28] This definition emphasises the loss of highly skilled labour and human capital from the country of origin, which is acquired through higher education or professional training. The receiving country benefits from the influx of these skilled individuals. Brain drain is the phenomenon of highly educated workers leaving developing countries in favour of developed nations. It involves the departure of individuals who have achieved at least a tertiary education and can have negative implications for the growth prospects of the countries they leave behind.[29] This definition highlights the adverse effects of brain drain on the sending countries' growth prospects, as it results in the loss of highly educated workers, particularly those with tertiary education, to developed countries.

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[26]Özden, Çağlar, Christopher Parsons, Maurice Schiff, and Terrie Walmsley. "Where on Earth is Everybody? The Evolution of Global Bilateral Migration 1960-2000." The World Bank Economic Review 25, no. 1 (2011): 12-56.

[27]Beine, Michel, Frédéric Docquier, and Hillel Rapoport. "Brain Drain and Human Capital Formation in Developing Countries: Winners and Losers." The Economic Journal 118, no. 528 (2008): 631-652.

[28]Lowell, B. Lindsay, Allan M. Findlay, and R. B. Stewart. Brain Circulation: How High-Skill Immigration Makes Everyone Better Off. Princeton University Press, 2018.

[29]Docquier, Frédéric, and Hillel Rapoport. "Globalization, Brain Drain, and Development." Journal of Economic Literature 50, no. 3 (2012): 681-730.

Socio-Political Realities in Nigeria and Brain Drain Migration:
Implication for Human Security and National Development

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Human Security

According to the United Nations Development Programme (UNDP), human security encompasses safeguarding individuals from persistent perils like hunger, disease, and repression, while also ensuring their shield against abrupt and detrimental disruptions that disturb their daily routines, be it within the confines of their homes, workplaces, or communities.[30] Buzan et.al defines human security as the liberation of individuals from pervasive threats that undermine their fundamental rights to live with dignity, free from fear and deprivation.[31]These definitions shed light on the multidimensional nature of human security, emphasising its comprehensive scope that extends beyond mere physical safety. Human security encompasses the fundamental principle of freedom from violence, ensuring individuals are shielded from direct harm and threats to their well-being. It encompasses the protection of basic human rights, safeguarding individuals' entitlement to civil, political, economic, social, and cultural rights, which are vital for their dignity and overall flourishing.

According to Martha C. Nussbaum, human security involves the foundational allocation of essential human capabilities required to enable individuals to lead a life characterised by dignity and well-being.[32] These capabilities include elements such as life, bodily health, bodily integrity, senses, imagination and thought, emotions, practical reason, affiliation, and control over one's environment. The Human Security Report defines human security as the process of ensuring the safeguarding of the fundamental essence of every human life against significant and widespread threats.[33]

This definition emphasises the importance of protecting individuals from threats that have severe and long-lasting impacts on their lives. According to Roland Paris, human security focus on the preservation and empowerment of individuals and communities, prioritising their well-being

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[30] United Nations Development Programme. Human Development Report 1994: New Dimensions of Human Security. Oxford University Press, 1994.

[31]Buzan, Barry, Ole Wæver, and Jaap de Wilde. "Security: A New Framework for Analysis." Lynne Rienner Publishers, 1998.

[32]Nussbaum, Martha C. Women and Human Development: The Capabilities Approach. Cambridge University Press, 2005.

[33]Human Security Report Project. Human Security Report 2005: War and Peace in the 21st Century. Oxford University Press, 2005.

and capacity-building instead of emphasising territorial defence.[34] This definition highlights the shift in focus from traditional state-centric security to a more people-centred approach. Mary Kaldor defines human security as encompassing the safeguarding of individuals and communities from not only physical violence but also from the disruptive effects of social, political, and economic upheavals.[35] This definition sheds light on the broader scope of human security, which includes protection from physical violence as well as addressing the underlying social, political, and economic factors that contribute to insecurity. It highlights the need to address not only immediate threats but also the root causes that undermine the well-being and safety of individuals and communities.

National Development

Amartya Sen emphasises the importance of human capabilities and freedoms in national development. Sen argues that development should not be solely measured by economic indicators such as Gross Domestic Product (GDP), but should also consider the expansion of people's choices and opportunities. He emphasises the need for equitable distribution of resources, access to education and healthcare, gender equality, and political participation as essential components of national development.[36] Ha-Joon Chang, stresses the role of industrialisation and structural transformation in national development. Chang argues that successful development requires the strategic use of state intervention, protectionist policies, and targeted industrial policies to promote the growth of domestic industries and technological capabilities. He emphasises the importance of building a diverse and dynamic economy, rather than relying on a narrow range of commodities or sectors.[37] Jeffrey Sachs, an economist and development expert, emphasises the role of sustainable development in achieving national development. He argues that development should not only focus on economic growth but also take into account environmental sustainability, social inclusion, and good governance. Sachs advocates for a holistic approach that integrates economic, social, and environmental dimensions of

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[34]Paris, Roland. "Human Security: Paradigm Shift or Hot Air?" International Security 26, no. 2 (2001): 87-102.

[35]Kaldor, Mary. Human Security: Reflections on Globalization and Intervention. Polity, 2007.

[36]Sen, Amartya. Development as Freedom. Anchor Books, 1999.

[37] Chang, Ha-Joon. Kicking Away the Ladder: Development Strategy in Historical Perspective. Anthem Press, 2002.

development.[38] Paul Collier highlights the importance of institutions in national development. According to Collier, institutions such as governance structures, the rule of law, and property rights are crucial for economic and social progress. He argues that well-functioning institutions can foster economic growth, reduce corruption, and promote social stability.[39]

Robert Solow, in his definition, emphasises the role of technological progress in national development. Solow's growth theory suggests that sustained economic growth is driven by technological advancements and innovation. He argues that investments in research and development, education, and infrastructure are essential for fostering technological progress and long-term economic development.[40]

Daron Acemoglu and James A. Robinson, in their influential book "Why Nations Fail," argue that institutions and the political and economic systems of a country play a central role in national development. They suggest that inclusive institutions, which provide equal opportunities, protect property rights, and promote the rule of law, are key drivers of sustainable development. In contrast, extractive institutions that concentrate power and wealth in the hands of a few hinder economic growth and development.[41] Jeffrey D. Sachs, in his work on the Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs), highlights the importance of international cooperation in national development. He argues that global partnerships, financial aid, and knowledge sharing are necessary to address global challenges such as poverty, hunger, health crises, and environmental sustainability. Sachs emphasises the need for a coordinated effort among countries to achieve inclusive and sustainable development.[42]

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[38]Sachs, Jeffrey D. The Age of Sustainable Development. Columbia University Press, 2015.
[39]Collier, Paul. The Bottom Billion: Why the Poorest Countries are Failing and What Can Be Done About It. Oxford University Press, 2009.
[40]Solow, Robert M. "A Contribution to the Theory of Economic Growth." The Quarterly Journal of Economics 70, no. 1 (1956): 65-94.
[41]Acemoglu, Daron, and James A. Robinson. Why Nations Fail: The Origins of Power, Prosperity, and Poverty. Crown Business, 2012.
[42]Sachs, Jeffrey D. The Age of Sustainable Development. Columbia University Press, 2015.

Objectives

To investigate the underlying causes of brain drain migration in Nigeria, analyse how socio-political factors influence individuals' decisions to emigrate and also examine the implication of brain drain migration on human security and national development.

Materials and Methods

The study employed a qualitative methodology, gathering data from various secondary sources such as journals, official websites, literary works, documentaries, and newspapers. Each piece of information collected for this study holds relevance to its objectives. The analysis of content and utilisation of a thematic approach played a significant role in the study's methodology.

Results

Nigeria faces a range of socio-political challenges that contribute to brain drain migration. These challenges include political instability, corruption, inadequate infrastructure, limited access to quality education and healthcare, ethnic and religious tensions, and insecurity.[43] Political instability characterised by frequent leadership changes, coups, and political crises. This creates an environment of uncertainty and a lack of trust in governance systems. Corruption pervades various sectors of Nigerian society, hindering progress and discouraging skilled individuals from staying in the country. Insufficient infrastructure, such as power supply, transportation, and communication networks, impedes economic growth and development. Limited access to quality education and healthcare further exacerbates the push factors for brain drain migration. The brain drain migration from Nigeria has serious implications for human security. Human security encompasses the protection and well-being of individuals, addressing their economic, social, political, and environmental needs.[44] As highly skilled individuals leave the country, the loss of human capital affects the country's ability to address key human security concerns. Brain drain reduces the availability of professionals in critical sectors, such as healthcare, education, and research, leading to a decline in the quality of services and expertise. This negatively impacts the overall well-being and

[43]Adetayo, J. "A Study of Factors Influencing Brain Drain among Medical Personnel in Nigeria." Vol. 9 No. 1. AJOL DOI: 10.4314/njhbs. v9i1.60969, 2010.
[44]*Ibid*

security of the population. Moreover, brain drain widens the socioeconomic gap by depriving the country of skilled individuals who could contribute to poverty reduction and equitable development.

Brain drain migration poses significant challenges to Nigeria's national development. The loss of highly skilled individuals hampers the country's capacity for innovation, research, and technological advancement.[45] It diminishes the potential for economic growth and diversification, as skilled professionals play a crucial role in driving productivity and entrepreneurship. The exodus of professionals also limits the transfer of knowledge, skills, and best practices, hindering the development of local human resources. Consequently, Nigeria faces difficulties in building a sustainable and self-reliant economy which impedes progress towards achieving its development goals.

Discussion
Socio-Political Realities in Nigeria
Nigeria is home to over 250 ethnic groups, each with its own distinct culture, language, and traditions. This diversity often leads to socio-political tensions and conflicts. The country is roughly divided between the Muslim-majority north and the Christian-majority south, that further exacerbates religious fault lines.[46] These divisions have influenced political power dynamics and often contribute to social unrest and violence.[47] Nigeria faces significant governance challenges, including widespread corruption, weak institutions, and a lack of accountability. Corruption permeates various sectors of society, hindering development and exacerbating social inequalities.[48] The mismanagement of public funds and resources has led to a trust deficit between citizens and the government, resulting in public disillusionment.[49]

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[45]*Ibid*

[46]Agbiboa, Daniel Egiegba. "Ethno-Religious Conflicts and the Elusive Quest for National Identity in Nigeria." Journal of Black Studies 44, no. 1 (2013): 3–30. http://www.jstor.org/stable/23414701.

[47]OkwudibaNnoli. Ethnic Politics in Nigeria. Fourth Dimension Publishers, 1978.

[48]Transparency International. "Corruption Perception Index 2020." Accessed June 7, 2023. https://www.transparency.org/en/cpi/2020/results/nga

[49]Okereka, OnoferePrincewill. "Corruption and Development in Nigeria: A Critical Re-Examination." IISTE, 2015.

Despite being one of the Africa's top economies, Nigeria grapples with high levels of poverty and economic inequality. The country experiences a significant wealth gap, with a large proportion of the population living in poverty.[50] This economic disparity contributes to social unrest and exacerbates existing fault lines, fuelling social and political tensions.[51] Nigeria has been plagued by the Boko Haram insurgency, an extremist group that seeks to establish an Islamic state in the country. The insurgency has resulted in widespread violence, displacement, and loss of life, particularly in the north-eastern region.[52] The government's response to the insurgency has faced criticism, which underscores the challenges in addressing security threats and protection of the populace.[53]

Nigeria has a rapidly growing youth population, with a significant portion facing high levels of unemployment and underemployment. This demographic challenge places immense pressure on the government to create job opportunities and provide social services.[54] The frustration and disillusionment among the youth can fuel social unrest and political instability.

Gender inequality is prevalent in Nigeria, and women face various forms of discrimination and marginalisation. Traditional cultural norms and practices often limit women's access to education, healthcare, and economic opportunities.[55] Women's participation in politics and decision-making processes remains low, thereby hindering the progress of gender equality and women's empowerment in the country. Nigeria faces a significant challenge of internal displacement due to various factors such as conflicts, insurgency, and environmental disasters. The Boko Haram insurgency and communal clashes have resulted in the displacement of millions of people,

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[50]World Bank. "Nigeria." Accessed June 7, 2023. https://data.worldbank.org/country/nigeria
[51]Ikelegbe, Augustine. "The Economy of Conflict in the Oil-Rich Niger Delta Region of Nigeria." African and Asian Studies, 2006. doi:10.1163/156920906775768291
[52]Freedom C. Onuoha. (2014). "A Danger Not to Nigeria Alone - Boko Haram Transnational Reach and Regional Responses."
[53]Amnesty International. "Nigeria: Boko Haram brutality against women and girls needs urgent response." Accessed June 7, 2023.
[54]Olufemi A Aladejebi. "Entrepreneurship: An Option to Solving Unemployment Problem Among Nigerian Youths." European Business & Management 6, no. 6 (2020): 151-163.
[55]Tinuke Fapohunda. "Gender and Development: Challenges to Women Involvement in Nigeria's Development." ResearchGate, 2012.

particularly in the northeast and middle belt regions.[56] The displacement crisis poses humanitarian, social, and economic challenges for the affected populations and strains the capacity of the Nigerian government to provide assistance and support.

Causes of Brain Drain Migration in Nigeria
Various factors contribute to this phenomenon, and understanding its causes is crucial for devising effective strategies to mitigate its negative impact.
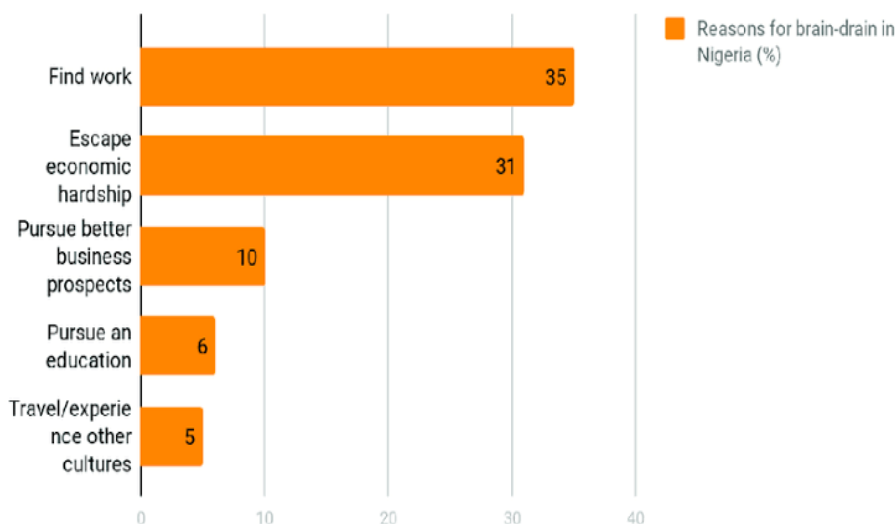
**Graph showing reasons for brain drain migration in Nigeria
Source: ResearchGate**

1.   One major cause of brain drain in Nigeria is the limited career opportunities available for highly skilled professionals. The lack of adequate job prospects and growth prospects discourages talented individuals from staying in the country. According to a study by Nwozor, Agaptus, the dearth of career advancement opportunities

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[56]IDMC (Internal Displacement Monitoring Centre). "Nigeria: Africa's largest internal displacement crisis." Accessed June 7, 2023. https://www.internal-displacement.org/countries/nigeria

in Nigeria, particularly in specialised fields, forces many skilled professionals to seek opportunities abroad.[57]

2. Economic factors play a significant role in brain drain migration. The lure of higher wages and better living standards abroad entices many skilled Nigerians to emigrate. Economic instability, inflation, and income disparities within the country also contribute to the decision to seek better economic prospects elsewhere. A study by Emeghara highlighted the economic push factors that drive brain drain migration in Nigeria. These include low salaries, limited access to funding for research, and inadequate infrastructure.[58]

3. Political instability and insecurity are major causes of brain drain migration in Nigeria. Frequent changes in government, corruption, and lack of security have eroded confidence in the country's governance system. Many highly skilled professionals perceive political instability as a barrier to career growth and personal safety, leading them to seek more stable environments abroad.[59]

4. The lack of adequate infrastructure and resources in Nigeria hinders professional development and limits opportunities for skilled individuals. Insufficient investment in education, healthcare, research facilities, and technological advancements reduces the prospects for career growth and innovation.[60]

5. The lack of recognition and limited opportunities for professional growth in Nigeria are additional causes of brain drain. Skilled professionals often seek environments that provide recognition for their expertise and offer avenues for career advancement. The absence of such opportunities in their home country becomes a driving factor for migration.[61]

Implications of Brain Drain Migration on Human Security and National Development

One of the key implications of brain drain migration on human security is the loss of human capital in sending countries. Highly skilled professionals, such as doctors, engineers, and scientists, who emigrate to other countries,

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[57]Nwozor, Agaptus. "Brain Drain and National Development in Nigeria." Landmark University, 2015.

[58]*Ibid*

[59]Ogbenika, Gregory. "Brain Drain and Migration on Nigeria's Development." Academia, 2019.

[60]Osigbesan, Oluwakemi. "Medical Brain Drain and its Effect on the Nigerian Healthcare Sector." Walden University, 2021

[61]*Ibid*

deprive their home countries of their expertise and knowledge. This loss can have a detrimental impact on the development and progress of the sending countries, as they face a shortage of skilled labour and struggle to address critical societal needs.[62] For example, a study conducted by Beine, Docquier, and Rapoport found that brain drain migration negatively affects the economic growth and healthcare systems of developing countries.[63] The implications of brain drain migration on healthcare systems are of particular concern. According to the World Health Organisation (WHO), many developing countries already face severe shortages of healthcare workers, and the outflow of skilled professionals worsens this situation.[64]
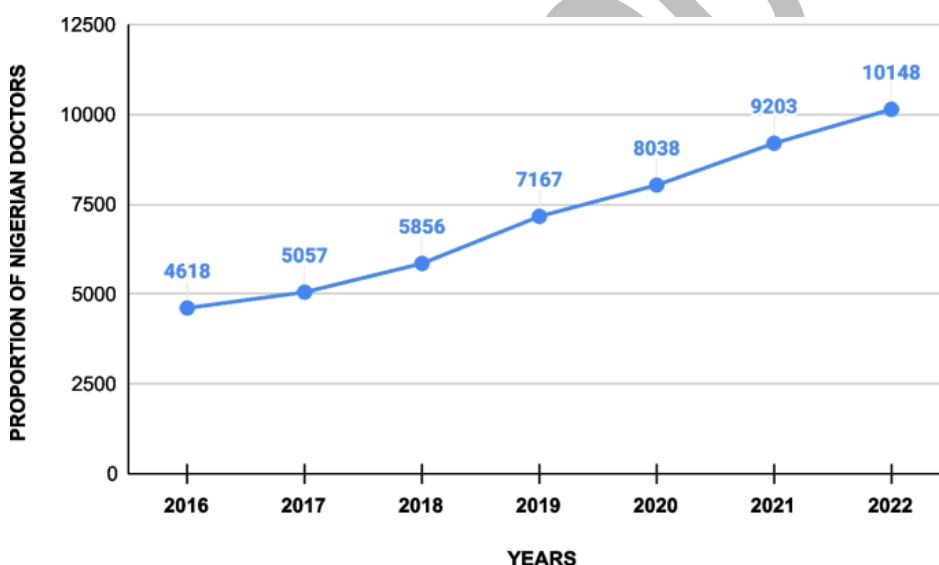
Graph showing the number of Nigerian Doctors migrating to other countries
Source: International Journal of Africa (2022)

The departure of doctors, nurses, and other healthcare professionals creates a scarcity of personnel that limits the availability of healthcare services, especially in rural and underserved areas. This scarcity leads to inadequate

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[62]Elveren, Adem Y. "Brain Drain: Causes and Consequences." ResearchGate, 2018. doi:10.1007/978-3-319-90860-1_2.

[63]Beine, Michel, FrédericDocquier, and Hillel Rapoport. "Brain Drain and Human Capital Formation in Developing Countries: Winners and Losers." The Economic Journal 118, no. 528 (2008): 631–52. http://www.jstor.org/stable/20108815.

[64]World Health Organization. "The World Health Report 2006: Working together for health." World Health Organization, 2010.

healthcare access, longer waiting times, and decreased quality of care, threatening human security by undermining the right to health for the population.

Brain drain migration also poses potential risks to national security. The loss of skilled individuals, including scientists, engineers, and technology experts, can impede a country's ability to develop and maintain advanced defence technologies and infrastructure. The diminished capacity to innovate and adapt to emerging security threats weakens a nation's defence capabilities, leaving it vulnerable to external pressures and potentially compromising its overall security.[65] The potential negative impact on national security underscores the importance of addressing brain drain migration as a critical aspect of human security.

Brain drain migration can exacerbate inequality and brain waste in the sending countries.[66] In many cases, individuals who possess higher levels of education and skills are more likely to migrate, leaving behind those with lower levels of education and limited opportunities. This creates a brain drain "poverty trap" where the least privileged individuals are unable to access quality education and employment opportunities, thus, perpetuating social and economic disparities.[67] Such disparities can fuel social unrest, inequality, and political instability, all of which pose threats to human security.

The outflow of skilled professionals from the education sector can result in an education and innovation gap in the source country.[68] The loss of qualified teachers and researchers hampers the development and advancement of education systems, which are crucial for human capital formation and knowledge creation. The resulting gap in educational opportunities and innovation can impede societal progress and limit human security.

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[65]*Ibid*

[66]Alfaro, L., Chanda, A., Kalemli-Ozcan, S., &Sayek, S. "Does foreign direct investment promote growth? Exploring the role of financial markets on linkages." Journal of Development Economics 91, no. 2 (2010): 242-256.

[67]Altbach, P. G., and Knight, J. "The internationalization of higher education: Motivations and realities." Journal of Studies in International Education 11, no. 3-4 (2007): 290-305.

[68]*Ibid*

Brain drain migration can lead to a greater dependency on foreign aid and expertise. Countries experiencing brain drain often rely on foreign assistance and technical expertise to fulfil their developmental needs, such as implementing complex projects, filling skill gaps, and training local professionals. This dependency can create an imbalance in the relationship between the country of origin and developed nations, affecting their ability to independently address developmental challenges.[69] Brain drain migration can also hinder brain circulation, which refers to the transfer of knowledge and expertise between countries.[70] The lack of return migration or limited engagement of diaspora professionals with their home countries can limit knowledge transfer and collaboration, therefore, hindering human security. Without the exchange of ideas and skills, societies may struggle to address complex challenges, such as environmental crises, public health emergencies, and technological advancements.

Brain drain migration can have social consequences in countries of origin. The departure of skilled individuals can exacerbate income inequality, as those with higher skills and education tend to have better economic opportunities abroad.[71] This can create a sense of frustration and dissatisfaction among those left behind, potentially leading to social unrest and political instability.[72] Brain drain migration can contribute to a "brain waste" phenomenon, where highly skilled migrants find themselves underemployed or unable to utilise their skills to their fullest potential in the host country.[73]

Conclusion
The socio-political realities in Nigeria have had significant implications for brain drain migration, thereby affecting both human security and national development. Nigeria, as a nation rich in resources and potential, has faced numerous challenges stemming from corruption, political instability, inadequate infrastructure, and limited access to quality education and healthcare. These factors have contributed to the mass exodus of highly skilled individuals, seeking better opportunities and improved living conditions abroad. The brain drain phenomenon has had detrimental effects on Nigeria's human security. The loss of skilled professionals in crucial sectors such as

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[69]*Ibid*

[70]Khadria, Binod. "The migration of knowledge workers: Second-generation effects of India's brain drain". Springer, 1999.

[71]Clemens, Michael A., Claudio E. Montenegro, and Lant Pritchett. "The place premium: Wage differences for identical workers across the US border." World Bank Economic Review 23, no. 3 (2009): 455-479.

[72]Saxenian, Anna. "From brain drain to brain circulation: Transnational communities and regional upgrading in India and China." Studies in Comparative International Development 40, no. 2 (2005): 35-61.

[73]*Ibid*

healthcare, education, engineering, and technology has resulted in a shortage of expertise and knowledge within the country. This has adversely affected the delivery of essential services to the population, leading to a decline in the overall quality of life and well-being. Additionally, brain drain migration has disrupted social networks and family structures, creating emotional and psychological challenges for those left behind. With the departure of skilled individuals, Nigeria's ability to innovate, develop industries, and drive economic growth is hindered. The country loses out on the potential contributions of its brightest minds, which could have been instrumental in addressing pressing issues, fostering technological advancements, and diversifying the economy. Consequently, the brain drain phenomenon perpetuates a cycle of underdevelopment, stifling progress and hindering the nation's capacity to compete on a global scale. Addressing the socio-political realities in Nigeria and mitigating brain drain migration is crucial for ensuring human security and fostering national development. By creating an environment that values and supports its skilled professionals, Nigeria can harness its potential, attract talent back to the country, and leverage the diaspora's contributions. Ultimately, a concerted effort is needed from all stakeholders to build a prosperous, inclusive, and sustainable future for Nigeria.

Recommendation

After considering several literatures and analysing the content, the following suggestions are made by the paper:

1. To enhance human security and national development, Nigeria should foster partnerships with the diaspora and capitalise on the skills and expertise of Nigerians abroad.
2. Efforts should be made to improve the overall well-being of citizens, including access to quality healthcare, education, and social support systems, thereby reducing the motivation for brain drain migration.
3. The government must prioritise good governance, transparency, and accountability to combat corruption and create an enabling environment for socio-economic growth.
4. Investments in education, healthcare, infrastructure, and research and development are essential to retain and attract skilled professionals.
5. Initiatives that promote entrepreneurship and job creation should be encouraged to provide viable alternatives to brain drain.

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Assessment of 2022 Africa Refugees Seeking Asylums in Nigeria under UNHCR'S Mandate

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Abstracts

This study examined the 2022 Africa Refugees Seeking Asylums in Nigeria Under UNHCR's Mandate. Secondary data was sourced from UNHCR websites with a data frame on 2022 Africa refugees under UNHCR's mandate seeking asylums in Nigeria. Data captured states in Africa from where displacement originated and concurrently seeking asylum in Nigeria. Pearson correlation and frequency counts were used for the statistical analysis. Findings show that Pearson correlation coefficient of the relationship between UNHCR refugees and asylum seekers in Nigeria is 0.74 which implies that there is a positive relationship between refugees under UNHCR's mandate and asylum-seekers in Nigeria. Likewise, Central Africa from where Cameroon (CMR) is a member has highest number of refugees seeking asylum in Nigeria. Nigeria has shown a commendable gesture in the context of diplomatic relations guaranteeing freedom of movement for refugees and giving them the right to work under the law. Efforts should be intensified to create a strong synergy between the government and other stakeholders in providing sustainable system for asylum seekers in Nigeria. Likewise, asylum seekers should be guided on the process of coming into Nigeria. Further studies should therefore focus on asylum in other Africa states.

Keywords: Asylums, Displacement, Refugees, States, UNHCR

Introduction

The increase in migration that has been observed in Africa since the middle of the 2010s is the result of immediate and structural reasons that are placing numerous pressures on African residents, prompting individuals and families to decide to change their lives and leave their homes[74] Migration, whether voluntary or forced, has always been a feature of both the individual and communal behaviours of humans[75]. It is worth noting that voluntary migration is intentional while forced migration is driven by emergency forces. However, forced migration is a more general and complicated problem. Forced displacement has been defined as the relocation of refugees and internally displaced people as a result of violence and natural disasters[76]. Meanwhile, forced displacement and migration have been a part of human history, and it was at its worst during World Wars I and II in the 20th century[77] . But since the end of World War II, the way conflicts happen in different places has changed. Now, intranational conflicts are more common than international ones. Nevertheless, the population of refugees, Internally Displaced Persons (IDPs), and other people who have been forced to leave their homes has continued to rise.

Accordingly, the population that has been forcibly displaced is divided into four subgroups: First, refugees are people who are accepted as needing protection under UN conventions, protocols, and UNHCR laws. Asylum seekers refer to persons who have formally sought international protection, albeit their claims for refugee status remain pending adjudication. They have yet to traverse a boundary separating nations. Other people who need international protection are those who are outside of their country or territory of origin, usually because they were forced to move across international borders. These people have not been reported as asylum seekers, refugees, or people in situations similar to refugees, but they are likely in need of international protection, such as protection from being sent back against their will and irregular access to basic services.

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[74] Wendy, Williams. *Drivers of Displacement in Africa Shifting Borders*. Centre for Strategic Studies,2019

[75] Sasha, Brown & Gilmartin, Mary. Migration and mobilities. *Social & Cultural Geography*, 8. 21, 2020

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[77] http://www.unhcr.org/en-us/figures-at-a-glance.html.

The United Nations High Commissioner on Refugees (UNHCR) estimates that 65 million people are now displaced forcefully due to political persecution and armed conflict worldwide[78]. Since 2008, environmental disasters have caused an extra 22.5 million internal displacements annually on average. The most frequently stated figure for this is 15 million annually. OCHA Services (2022) reported that in 2021, thirty-two (32) armed confrontations were reported worldwide, a small reduction from the previous year. Africa had the most conflicts (15), followed by Asia (nine), the Middle East (five), Europe (two), and America (one)[79] High-intensity armed conflicts contributed to over 53% of all instances worldwide for the first time in a decade.

Likewise, from OCHA Service report, as of 2021, at least 18 of the 49 countries in sub-Saharan Africa were engaged in some form of ongoing armed conflict. Burkina Faso, Cameroon, the Central African Republic (CAR), the Democratic Republic of the Congo (DRC), Ethiopia, Mali, Mozambique, Niger, Nigeria, Somalia, South Sudan, and Sudan were all states that had armed wars with a high level of severity. Six states comprising Benin, Burundi, Chad, Kenya, Madagascar, and Uganda, all had conflicts on a subnational level that were of a low intensity. Eleven of these 18 states suffered greater number of fatalities connected to war in the year 2021 compared to the year 2020, with the overall rise at around 19%[80].

In the year 2022, violent conflicts and military coups continued to plague the continent of Africa. Although, there were certain successes on the part of a number of nations in terms of bolstering democratic institutions across the continent. The internationalisation of internal armed conflicts, especially civil wars, is a worrying trend in sub-Saharan Africa[81]. This region has become coveted ground for geopolitical struggle between major powers and for increased middle power infiltration during the past ten years. In the year 2022, six regions in Africa have been identified as conflict-prone areas, namely Libya, South Sudan, the Central African Republic,

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[78]UNHCR, Principles on Housing and Property Restitution for Refugees and Displaced Persons, *E/CN.4/S* ,2005

[79] OCHA Service. *Report on conflicts, human rights and peacebuilding Format Analysis*, 2022.

[80] Ian, Davis. *Armed conflict and peace processes in sub-Saharan Africa.*, Stockholm International Peace Research Institute SIPRI Yearbook, 2022,

[81] Adem, Kassie Abebe. Africa Is Beset with Coups and Conflicts: How the Trend Can Be Reversed', *International Institute for Democracy and Electoral Assistance*, 2022.

Northern Mozambique, Ethiopia, as well as the north-west and south-west portions of Cameroon[82]

Based on the Global Peace Index 2022 released by the Institute for Economics and Peace, it is observed that five out of the ten nations with the lowest levels of peace worldwide are located within the Africa continent. These are Central African Republic (CAR), the Democratic Republic of the Congo (DRC), Somalia, South Sudan, and Sudan. Furthermore, Burkina Faso, Mali, Niger, Nigeria, and Somalia have been identified as being among the top ten nations globally that have witnessed the most devastating effect of terrorism.   Several coups took place in some African countries between 2020 and 2022, including Burkina Faso, Chad, Guinea, Mali (on two occasions), and Sudan. Moreover, unsuccessful coups were attempted in the Central African Republic, Djibouti, Guinea-Bissau, and Madagascar.

At the same time, intercommunal violence intensified in some parts of the continent. The anglophone separatist insurgency that had been going on in Cameroon's south-west and north-west regions, as well as the protracted insurgency in the north, have remained persistent. As government forces in the Central African Republic (CAR), supported by Russian private military companies (PMCs) and Rwandan troops, attempted to retake territory that was held by armed groups, the country's security situation grew even more precarious. Nine of the 22 governments   that make up East Africa were actively engaged in armed conflict in the year 2021. Of these, five in particular — Ethiopia, Mozambique, Somalia, South Sudan, and Sudan — were suffering either a continuation of or a rapid escalation in large-scale armed violence. Because of the violence, more than 9.6 million people have been forced to flee from their homes within the country, and more than 4.7 million have been forced to seek asylum in other countries.

According to UNHCR report, the Western Sahel and Lake Chad Basin witnessed an increase in violence and lawlessness as radical Islamist organisations (local and international) extended their activities and influence into coastal nations. In the Great Lakes Region, where relations between the DRC and Rwanda drastically deteriorated due to the ongoing conflict in the eastern DRC, interstate tensions erupted once more. Given

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[82] IEP.'*Global Terrorism Index 2022: Measuring the Impact of Terrorism'*, 2022.

the numerous regional and identity-based conflicts occurring elsewhere in the nation, Ethiopia's tenuous cease-fire between the central government and the Tigray People's Liberation Front (TPLF) is believed to be very shaky. Likewise, the Horn of Africa, notably Somalia, experienced one of its worst droughts in memory. This situation puts more pressure on the recently elected President Hassan Sheikh Mohamud to deal with the nation's escalating humanitarian problems and violence.

Regional attempts to solve some problems in Africa by 2022 have not had enough political will and leadership. This has made quite a number of people stuck in war with nowhere to go. According to UNHCR and Global index for Terrorism, at least 15 armed wars, including those in the Democratic Republic of Congo, Cameroon, Ethiopia, Mozambique, Mali, Burkina Faso, and South Sudan, have involved mistreatment of civilians by military forces of the government or non-state armed groups. In the meantime, armed battles, repression, violence between groups, poverty, and natural factors have forced people to leave their homes in many parts of Africa. In Eritrea and Cameroon, asylum seekers who were sent back against their will have been unjustly detained and abused.

The UNHCR submits that this never-ending flow of refugees has had the most effect on countries in the developing world. Over the years, the UNHCR in Nigeria has responded to the influx of asylum-seekers, particularly in border states such as Cross River, Benue, Ogun, and Taraba, by registering and assisting them in collaboration with the government. With the assistance of UNHCR, Nigeria is a generous host nation that permits refugees to travel freely and operate legally. They receive the same primary health treatment as citizens, and their children are permitted to attend local institutions. The government also provided refugee settlements with land. As part of the collaborative humanitarian response, the UNHCR prioritises protection, shelter, and non-food items such as comfort for IDPs in Nigeria. In addition to supporting water, sanitation, health, and education as priority areas, UNHCR Nigeria also provides financial assistance and assistance with self-sufficiency.

It is against this background that this study examined the 2022 Africa refugees under UNHCR's mandate seeking asylums in Nigeria.

Materials and Methods

The data used was sourced from UNHCR Websites, which is the official database for refugees' movement (**https://www.unhcr.org/refugee-statistics/download).** The data frame was on conflict-induced migrations and asylum in Nigeria in 2022. Data captured states in Africa from where displacement originated and those seeking asylum in Nigeria. Statistical Package for Social Sciences software was used for the statistical analysis in which Pearson correlation and frequency counts were used.

Results

Below is the analysis of Refugees under UNHCR's mandate and Asylum Seekers in Nigeria ,2022. The table below examined the extent of refugees under UNHCR and asylum seekers in Nigeria from States in Africa.

Regional Analysis of Refugees under UNHCR's mandate and Asylum Seekers in Nigeria ,2022

		Country of Origin	Refugees under UNHCR's mandate	Asylum seekers in Nigeria
2022		Central African Rep. (CAF)	921	232
2022		Chad (TCD)	89	31
2022	**Central Africa**	Cameroon (CMR)	86,731	279
2022		Congo (COG)	5	5
2022		Dem. Rep. of the Congo (COD)	667	97
			88413	**644**
2022	**East Africa**	Ethiopia (ETH)	8	5
			8	**5**
2022		Egypt (EGY)	0	9
2022	**North Africa**	Eritrea (ERI)	41	12
2022		Libya (LBY)	5	5
2022		Sudan (SDN)	53	11
			99	**37**

2022		Benin Republic (BEN)	5	0
2022	**West Africa**	Ghana (GHA)	5	5
2022		Guinea-Bissau (GNB)	5	0
2022		Guinea (GIN)	18	5
2022		Cote d'Ivoire (CIV)	134	5
2022		Liberia (LBR)	11	0
2022		Mali (MLI)	145	29
2022		Niger (NER)	1,439	0
2022		Sierra Leone (SLE)	23	0
2022		Togo (TGO)	27	5
			49	**1812**

Correlation Coefficients, r = 0.74
Source: https://www.unhcr.org/refugee-statistics/download

From the table above on refugees seeking asylum in Nigeria, findings show that Cameroon (CMR) has the highest number of refugees under UNHCR's mandate (86,731) followed by Central African Rep. (232), Democratic Republic of Congo (667), Chad (89) and Congo (5). Likewise, Ethiopia (ETH from East Africa has 8 while in the North Africa represented by Sudan (53) with the highest refugees followed by Eritrea (41), and Libya with 41 refugees under UNHCR mandates. Similarly, West Africa Niger producing 1,439, followed by Mali (145) Cote d'Ivoire (134) among others. On the basis of region, from the regional analysis, Central Africa has the highest volumes of refugees of 88413 followed by West Africa (1812), North Africa (99) and East Africa has the lowest (8) with refugees under UNHCR's mandate.

On the other hand, the table shows that Cameroon (CMR) from Central Africa has the highest number of Asylum-seekers in Nigeria (279) followed by Central African Republic (921), Democratic Republic of Congo (97), Chad 31) and Congo (5). Similarly, Ethiopia from East Africa has 5 while the North Africa represented by Eritrea (12) with the highest followed by

Sudan (11), and Libya with 5 asylum seekers in Nigeria. West Africa has Mali producing 29 followed by Ghana (5), Guinea (5), Cote d'Ivoire (5), with no asylum seekers from Liberia, Niger and Sierra Leone. On the basis of region, West Africa has 1812 followed by Central Africa (644), North Africa (37) and East Africa as the lowest (5) asylum seekers in Nigeria.

Moreover, Pearson correlation coefficient between UNHCR refugees and asylum seekers in Nigeria is 0.74. It thus implies that there is a positive relationship between refugees under UNHCR's mandate and asylum seekers in Nigeria. Accordingly, increase in refugees under UNHCR's mandate will automatically leads to increase in asylum seekers in Nigeria. On the contrary, decrease in refugees under UNHCR's mandate will equally leads to decrease in asylum seekers in Nigeria. The implication of the findings is that there is a strong relationship between refugees under UNHCR's and asylum seekers in Nigeria. In other word, increase in refugees under UNHCR's automatically energises the number of asylum seekers in Nigeria.

Discussion

African nations persistently encounter substantial obstacles related to forced relocation, mostly stemming from prolonged and intensifying wars, violence, and insecurity. These issues are further compounded by the influence of climate change, which exacerbates shortage of food and malnutrition.

There is no doubt that the frequent occurrence of conflicts in 2022 in Central Africa has captured the attentions of UNHCR. In that year, the region of West and Central Africa accommodated a total of 11.2 million individuals who were forcibly displaced or became stateless. This population consisted of 7.8 million internally displaced people (IDPs), 1.6 million individuals seeking asylum, and 931,200 individuals who were stateless with nowhere to go. A total of 1.1 million individuals experienced forced displacement as a result of armed conflicts, instability, and breaches of human rights. This figure includes 800,000 internally displaced persons (IDPs) in Burkina Faso, Cameroon, the Central African Republic (CAR), and Mali, as well as 138,000 refugees originating from Burkina Faso, Cameroon, Mali, Nigeria, and Sudan. In the midst of a multifaceted political and operational context, the United Nations High Commissioner for Refugees (UNHCR) effectively addressed a number of emergent situations.

These included the crisis in the far north region of Cameroon, which resulted in the displacement of numerous individuals who sought refuge in Chad. Additionally, UNHCR responded to the influx of Sudanese refugees in eastern Chad, as well as the displacement of refugees from Burkina Faso to Benin, Côte d'Ivoire, Ghana, and Togo in the Gulf of Guinea. The United Nations High Commissioner for Refugees (UNHCR) provided assistance to governments in order to address the requirements of recently displaced refugees and internally displaced persons (IDPs), with a particular focus on safeguarding, housing, and essential relief supplies. The focus of UNHCR's efforts in the Central Sahel, Lake Chad Basin, and CAR crises revolved around the principle of safeguarding and ensuring the well-being of individuals. The Project 21, an inter-agency protection monitoring system, was enhanced and expanded to encompass Burkina Faso, Chad, Mali, and Niger.

The primary factors contributing to relocation in the Central African Republic (CAR) are military operations conducted by the Central African Armed Forces and their allied forces against non-state armed groups, with concerns of potential human rights violations perpetrated by conflicting parties. Certain communities possess the ability to anticipate the imminent occurrence of conflict and then relocate to more secure regions as a preemptive action. In recent months, a series of publications such as UNHCR reports have consistently highlighted the prevalent issue of excessive use of force and ongoing violations and abuses of human rights. This encompasses several forms of human rights breaches, including conflict-related sexual violence, grave crimes against minors, the military's utilisation of educational and healthcare facilities as weapons of abuse, stigmatisation of ethnic and religious minorities, disproportionate use of force by all offenders, and countless violations of the law.

Likewise, Cameroonian refugee of both genders and different ages are officially documented as refugees in Nigerian states of Akwa-Ibom, Anambra, Benue, Cross River, Enugu, and Taraba. UNHCR distributed educational materials to around 1,600 pupils from both refugees and host communities in the states of Benue, Cross River, and Taraba.

With the assistance of the UNHCR, Nigeria has demonstrated a commendable level of hospitality by granting refugees the freedom of movement and the legal right to engage in gainful employment. Migrants

are provided with access to primary healthcare services on par with that of the host country's citizens, and their children are eligible to attend local educational institutions.

In addition, the government allocated land for the establishment of villages for refugees. The UNHCR's efforts in Nigeria are primarily directed to the protection, shelter, and provision of household goods such as blankets. These are integral components of the collaborative humanitarian response. In addition to prioritising water, sanitation, health, and education, UNHCR Nigeria also offers livelihood support for the purpose of fostering self-reliance, as well as providing monetary assistance.

Conclusion and Recommendations

African nations persistently encounter substantial obstacles related to forced relocation, mostly stemming from prolonged and intensifying wars, violence, and insecurity. There is no doubt that the frequent occurrence of conflicts in 2022 from Africa has captured the attention of UNHCR. With the assistance of the UNHCR, Nigeria has demonstrated a commendable level of hospitality by granting refugees the freedom of movement and the legal right to engage in gainful employment. In addition. UNHCR Nigeria also offers livelihood support for the purpose of fostering self-reliance. Efforts should be intensified to create a strong synergy between the government and other stakeholders in providing a sustainable system for asylum in Nigeria. Further studies should therefore focus on asylum in other Africa states with evaluation of their impacts on the socioeconomic factors.

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A Sociological Analysis of The Impact of Roman Catholic Social Teachings
on Human Development in Makurdi Diocese, Benue State

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A Sociological Analysis of The Impact of Roman Catholic Social Teachings on Human Development in Makurdi Diocese, Benue State

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Abstract

This study investigated the impact of the Roman Catholic Church's social teachings on human development in Makurdi Diocese of Benue State, Nigeria. It employed a qualitative research design using both primary and secondary data sources. The primary data were collected using oral interviews. The Directors and Coordinators of Education and Health institutions as well as the Heads of Schools and Hospitals/Clinics in Makurdi Diocese were interviewed. Secondary data were sourced from literary works such as books, journals, internet sources and various directories. Using descriptive and analytical tools, the study found that Makurdi Diocese has been actively involved in human development especially in terms of educational provision and health care delivery services. Makurdi Diocese has established 49 schools and 9 health institutions. The educational institutions in the diocese have annual average students' enrollment of 8,235 students, while the health facilities in the diocese have an average daily attendance of 150 patients across the facilities. The study made the following recommendations. First, the Catholic Church in Makurdi Diocese should consolidate on her social teachings and continue to make improvements to ensure that the intended benefits of her human development strides get to the target population in line with the Church's principle of the subsidiarity. Second, the diocese should strive to make health care delivery services available to the various Local Governments under her coverage to ensure easy accessibility of health care services especially in the rural areas among others.

Keywords: Human Development, Makurdi Diocese, Roman Catholic, Social Teaching, Sociological

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Introduction

Conceptually, the College of St. Scholastica, described the Roman Catholic Social Teachings as a set of writings and teachings from the Roman Catholic Church tradition about building a just society and living lives of connection to members of the society and around the world, amid the challenges of modern society.[1] Also, the United Nations Development Programme (UNDP) defined human development as "the process of enlarging people's choices. The choices can be enlarged by allowing them to lead a long and healthy life, to be educated, to enjoy a decent standard of living, as well as enjoying political freedom. Guaranteed human rights and ¯human development lies at the heart of social teachings of the Roman Catholic Church. As a touchstone for Catholic social thought, integral human development is central and the Church strives to promote human advancement in terms of provision of educational services, health care delivery, skills acquisition, employment creation, human development peace, and justice. The Catholic Church started intervening in issues of human development since 1891 when the industrial revolution created avenue for the exploitation of workers by the capitalist. The situation prompted Pope Leo XIII to issue an encyclical called the *Rerum Novarum* (On Workers Condition) that condemned the exploitative tendencies of workers and advocated for just wages for workers. Since then, various Popes have issued prophetic statements aimed at integral human *developm*ent.[3]

[1]The College of St. Scholastica. Catholic Social Teaching. Duluth, United States, 2019.
[2]United Nations Development Program; Human Development Report: New York, 2018.
[3] Leo Xiii, Encyclical Letter *Rerum Novarum: Acta Leonis Xiii*, 11(1892), 97-144.

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Following this intervention, the Catholic Church all over the world has been involved in social teaching especially in the areas of educational services and healthcare delivery. According to the Global Catholic Education Report, globally, Catholic schools have enrolled 35.0 million children in the primary Catholic schools; 19.3 million children in the Catholic Secondary Schools; and 6.5 million youths in the Catholic higher institutions. [4] In the area of health, the Roman Catholic Church is the largest non-government provider of health care services in the world. It has around 18,000 clinics, 16,000 homes for the elderly and those with special needs, and 5,500 hospitals, with 65% of them located in developing countries. The Roman Catholic Church manages 26% of the world's health care facilities.[5]

In Nigeria, the Catholic Church is one of the largest churches that has the spread even in the core Muslim areas in the country. Given the universal model of operations of the Church, the Catholic Church in Nigeria under the auspices of the Catholic Bishop's Conference of Nigeria has responded greatly to developmental issues especially in the direction of human development needs of education and healthcare delivery. In Benue State, the Roman Catholic Church has very significant presence with four dioceses at present. These are: Makurdi, Otukpo, Gboko and Katsina-Ala Dioceses. Each of these Dioceses in Benue State is deeply involved in education and health apostolates which are all aimed at human development.

This study therefore, focuses on the Roman Catholic Church's social teaching and human development strives in Makurdi Diocese. The choice of Makurdi Diocese is predicated upon the fact that Makurdi Diocese was the first diocese created by the missionaries in the state. Thus, studying the impact of the Catholic social teaching on human development in the Diocese has both religious, social, political, economic and academic as well as policy implications for the development of humanity in Benue State.

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[4] Global Catholic Education Report, Education Pluralism, Learning poverty, and Right to education (2021), accessed June 13, 2022, http" //www.globalcatholiceducation.org/global-report.

[5] The Pontifical Council for Justice and Peace. Compendium of the Social Doctrine of the Church, Nairobi, Kenya, Pauline Publications, Africa, 2004.

First, on the religious front, the findings of this study will unravel the contributions of the Catholic Church to human development in the State in terms of educational development and healthcare delivery. This may motivate other faith-based organisations operating in the State to borrow a leaf from the Roman Catholic Church. This will consequently help to overcome the educational and healthcare challenges of the State as well as reduce the high level of unemployment and poverty levels in the State.

Second, socially, politically and economically, this study is relevant in that, the findings of this study will show clearly the social concerns of the Roman Catholic Church for the general society as explicitly incorporated in her principle of the common good. It shows the role of the Church in political and social responsibility. Politically, it will reveal the collaboration of the Roman Catholic Church with the government and other stakeholders in providing the basic necessities of life for the citizenry in the diocese and the State. On the economic front, the findings would contribute to the Catholic Church's social teachings in terms of holistic human capabilities that lead to economic emancipation in the society.

Objectives of the Study

The broad objective of this paper is to sociologically examine the impact of the Roman Catholic Church's social teachings on human development in Makurdi Diocese of Benue State, focusing on education and health care delivery. The specific objectives of the study include:
i.   To give a brief history of the Roman Catholic Diocese of Makurdi.
ii.   To trace the emergence of the Roman Catholic education in Makurdi Diocese.
iii.   To explain the impact of the Roman Catholic education on human development in Makurdi Diocese.
iv.   To discuss the emergence of the Roman Catholic health care system in Makurdi Diocese.
v.   To highlight the impact of the Roman Catholic healthcare system on human development in Makurdi Diocese.

Materials and Methods

The study used both primary and secondary data for the investigation. The primary data were sourced from oral interviews with Director of Catholic education and the health Coordinator of Makurdi Diocese as well as the heads of sampled schools and health institutions. In doing this, eight schools and five

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health institutions were purposively selected. These are: Mount Saint Gabriel's Secondary School, Makurdi; St. Michael's Science Secondary School, Agasha; Peace College, Naka; St. John Bosco Commercial College, Aliade; St. Dominic Nursery and Primary School, Shachi-Makurdi; Immaculate Nursery/Primary School, Udei; Dr Brew Grave's Nursery/Primary School, Agagbe and Our Lady of Consolation Catholic Secondary School, Agan. The five health institutions sampled include: Bishop Murray Medical Centre, Makurdi; St. Vincent's Hospital, Aliade; St. Michael's Primary Health Care, Agasha; St. Gregory's Hospital, Ikpayongo and Father Mathias Health Centre, Naka. The secondary data were collection from the records of Catholic educational and health institutions of Makurdi Diocese.

The data were analysed using mixed methods which include, the historic analysis, qualitative and quantitative techniques such as: tables, counts and simple percentages.

Results
This sub-section presents the results of the study. The analysis in this section is presented according to the predetermined objectives of the study.

A Brief History of the Catholic Diocese of Makurdi
This sub-section has explored the historic perspective of the Catholic Diocese of Makurdi. The ecclesiastical territory of Makurdi Diocese was part of the newly formed Prefecture Apostolic of lower Niger between 1889 and 1920. The Prefecture covered the entire land area within the east of River Niger and to the south of River Benue. In 1920, its status within the Catholic Church was raised to that of Vicariate Apostolic of Southern Nigeria though maintaining its boundaries. The missionary priests who first evangelized in this area were French Holy Ghost Fathers in 1880. They were joined by Holy Ghost Priests and brothers from Ireland, and it was the latter that from 1911 began to make contact with the Benue in the Northern part of the vicariate. The strategy to evangelize the Lower Benue was hinged on the notion of the *Tiv* Mission. [6]

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[6] Wegh, Shagbor Francis. "The Emergence of the Catholic Diocese of Makurdi." In Catholic Diocese of Makurdi at 50: A celebrate of Service to Humanity, edited by Wegh, Shagbor Francis, 1-15, Makurdi Selfers Academic Press Ltd, 2010.

The idea was to launch an evangelizing drive from Ogoja in Cross River State. Father Groetz soon realised the weakness of trying to approach the *Tiv* from Ogoja. The weakness lay in the fact that Ogoja from where he expected to conduct the *Tiv* Mission was actually far from Tivland. He further pointed out that unlike the Ogoja situation where 15 different languages were spoken making evangelisation painfully slow, the *Tiv* spoke the same language. Furthermore, the *Tiv* had a very strong antipathy for anything coming from Southern Nigeria and that would not augur well for a mission launched from Ogoja.

In 1929, Father Joseph Soul one of the General Councilors, came to the vicariate for an official visitation. At the end of his visit, he found time to spare, so he visited Obudu and from there moved into Tivland. Soul spent a short time among the *Tiv*, but the impressions he had did not leave him when he returned to Paris. He kept thinking about the abandoned state of the *Tiv* and all other people of Northern Nigeria. Father Soul's visit to Tivland was however providential. The accidental visit resulted in the spiritans finally deciding to make some serious attempts to evangelize the people of the lower Benue, the Tiv, Idoma, Igala, and other smaller groups.

The German priests and brothers made tremendous efforts and covered the whole area from Idah on the River Niger to Wukari near the boundary of Benue and Adamawa provinces. A major setback though came following the outbreak of the Second World War in 1936 as all the priests and brothers being German nationals were obliged by the British authorities to leave Nigeria. By 1945 when the German Fathers were replaced by those from the English province, Bishop Heery described the Benue as the most promising Mission in all of Nigeria after Onitsha-Owerri. [7]

In 1959 Monsignor James Hagan, the Perfect Apostolic of Otukpo was made a Bishop and in 1960 he transferred his Cathedral seat to Makurdi, thus becoming the first Bishop of Makurdi. The Tiv mission project had metamorphosed into the Catholic Diocese of Makurdi. Ill-health however,

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[7]Catholic Diocese of Makurdi. 2021 Directory and Diary. Publication of the Catholic Diocese of Makurdi, 2021

forced him to resign in 1966. This led to the emergence in January, 1968 of Bishop Murray as the second Bishop of Makurdi. For 21 years that Bishop Murray administered the Diocese, the church experienced phenomenal growth in various aspects of ecclesial life. This is evident in the increase in the numbers of religious, diocesan priests, and seminarians. The hope of truly indigenous Church became more realised when the then Father Athanasius Usuah was ordained the first Co-adjutor Bishop of the Diocese. Since Bishop Usuh was installed on the 21st October, 1989 as the Bishop of the Diocese after the retirement of Bishop Murray, the Church in the Diocese within his jurisdiction continued to experience tremendous growth in terms of manpower and general development. This is evident in the creation of Otukpo Catholic Diocese in 1995 and Lafia Catholic Diocese in the year 2001. On November 28th, 2008, Pope Benedict XVI appointed Monsignor William Avenya as the Auxiliary Bishop of Makurdi. On December 29th, 2013 Pope Benedict XVI created Gboko and Katsina Ala Dioceses out of Makurdi with Bishop William Avenya and Monsignor Peter Adoboh of the blessed memory as local ordinaries.[8]

On July 8, 2014, the Holy Father Pope Francis appointed Father Wilfred Anagbe CMF as Co-adjutor for Makurdi Diocese. Monsignor Wilfred Anagbe was ordained Coadjutor on October 4, 2014. On July 25, 2015 Bishop Wilfred Anagbe Cmf, who had taken over the diocese from A.A. Usuh on March 28, 2015 was formally installed at a public ceremony at IBB square Makurdi. Since his ordination as the Bishop of Makurdi, the diocese has witnessed rapid spiritual and infrastructural growth.

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[8] Wegh, Shagbor F. "The Emergence of the Catholic Diocese of Makurdi." In Catholic Diocese of Makurdi at 50: A celebrate of Service to Humanity, edited by Wegh Shagbaor Francis, 1-15, Makurdi selfers Academic Press Ltd, 2010.

The diocese witnessed thousands who continue to require the Sacrament of Confirmation during pastoral visits. The spiritual development in the Church in Benue State may be explained by the increased realization that God is the only way to follow by the Benue people; hence the need for additional Bishops to assist Bishop Usuh who even had health challenges. The diocese is made up of Makurdi, Guma, Gwer and Gwer East local government areas. The diocese is actively involved in medical/health ministry and educational apostolate as tools of evangelisation.[9]

Emergence of Catholic Education in Makurdi Diocese

The Catholic Church in Makurdi Diocese has demonstrated tremendous interest in the area of education. The Diocese realised the use of education as a tool for the enhancement of evangelization and consequently, human development right from its inception. The missionaries firmly believed that the people needed to be educated in order to understand the challenge of the Christian message. They believed that by establishing schools, people would be trained to read the Bible and the educated ones would be able to interpret the Christian message to those who cannot read and write; and by so doing, the gospel of God will be propagated especially among the *Tiv* people that English language and Christianity were alien to them. In fact, formal education in Benue State had a religious foundation in a way based on Catholic education.[10]

The Roman Catholic Priests arrived Makurdi in 1924; and by 1927, the first primary school, Sacred Heart was established at Udei and by 1930 another primary school was established in Makurdi known as Holy Ghost Primary School. The establishment of the above-named schools was a springing point of the educational activities of the diocese and gradually, spread with the establishment of many primary schools in other areas of the State.[10]

Given the presence of primary schools, the need for secondary schools gave birth to the establishment of its first Roman Catholic Secondary School, Mount Saint Michael's Secondary School, Aliade in 1953 for boys only. St. James Minor Seminary Yandev also for boys in 1953 and Queen of the Rosary Secondary School, Gboko was opened in 1963 for girls.

Other secondary schools established by the Catholic Church were, Mount St. Gabriel's Secondary School, Makurdi in 1964, St. Andrew's Secondary School, Adikpo in 1967; St. Peter's Secondary School, Vandeikya in 1973;

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and there was a rapid increase in the establishment of secondary schools in the 1970s and 80s. This aggressive effort to evangelize through educational institutions went beyond the provision of schools for the development of the society to the establishment of higher educational institutions like St. Thomas Aquinas Major Seminary situated in Makurdi. The education provided in these schools was all encompassing and touched on religious and secular issues. The ideological formation of these schools was based on the philosophy of education of the Roman Catholic Church which upholds that, religious instructions in school is not intended to produce converts or to make mini theologians out of the recipients; but to produce good citizens; people who behave according to the norms of their society; and who will always and consistently act in accordance with right reason.[11]

Thus, schools established by the Catholic Diocese of Makurdi ensured that children got a balanced education that catered for body and soul. This is self-evident in the number of prominent well-meaning leaders, clergy, captains of industries and citizens in the country and beyond who are products of Catholic education in Makurdi Diocese.

Catholic Schools and Human Development in Makurdi Diocese
According to the Catholic Diocese of Makurdi educational services Office, there are 49 educational institutions in the Diocese. These schools are presented in the following table.

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[9]Catholic Diocese of Makurdi. 2021 Directory and Diary. Publication of Catholic Diocese of Makurdi, 2021.

[10]Udaa, Godwin. "The History of Education in the Catholic Diocese of Makurdi". In Catholic Diocese of Makurdi at 50: A Celebration of Services to Humanity, edited by Wegh Shagbaor Francis, 23-29, Makurdi: Selfers Academic Press Ltd, 2010.

[11]Udaa, Godwin. "The History of Education in the Catholic Diocese of Makurdi". In Catholic Diocese of Makurdi at 50: A Celebration of Services to Humanity, edited by Wegh Shagbaor Francis, 23-29, Makurdi: Selfers Academic Press Ltd, 2010. Print

Table 1: Number of Catholic Educational Institutions in Makurdi Diocese

Type of School	Number of Schools	Percentage
Nursery/Primary Schools	21	42.86
Secondary Schools	26	53.10
Seminary Schools	2	4.08
Total	49	100.00

Source: The Catholic Diocese of Makurdi educational services Office, 2021[12]

Table 1 has revealed that there are 21 nursery/primary schools in Makurdi Diocese which represents 42.86% of the total educational institutions in the diocese. Also, there are 26 secondary schools in the diocese which represents 53.10% of the total educational institutions in the diocese. Again, the table shows that there are 2 Seminary Schools in the diocese which represents 4.08% of the total educational institutions in the diocese. These institutions are: St. Thomas Aquinas' Major Seminary, Makurdi; St. Charles Lwanga Preparatory Seminary, Makurdi;

Mount Saint Michael's Secondary School, Aliade; Nativity College, Makurdi; Saint Joseph's Science and Technical College, Makurdi; Our Lady of Mount Carmel College, Makurdi; Mount Saint Gabriel's Secondary School, Makurdi; St. Dominic College Sachi-Makurdi; St. Joseph's College, Nyiman-Makurdi; St. Paul's Academy, Kertyo; St. Francis Xavier Secondary School, Agagbe; Holy Child Secondary School, Makurdi; St. John Bosco Commercial College, Aliade; St. Mary's Secondary School North Bank, Makurdi; St. Mark's Secondary School, Apir; St. Michael's Science School, Agasha;   Sacred Heart Secondary School, Udei;   St. Theresa's Secondary School, Gbajimba; St. Patrick's Secondary School, Ikpayongo;   St. Thomas Aquinas Secondary School, Agboughul;   St. Athanasius Secondary School, Gbajimba; Peace College, Naka; Our Lady of Consolation College, Agan; and Divine Mercy Junior Seminary, Makurdi. The Nursery/Primary Schools in the Diocese are   Dr. Brew Grave's Nursery and Primary School, Agagbe; St. Peter Private School, Wurukum-Makurdi; St. Paul Nursery/Primary School, Ahule-Makurdi; St.

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Dominic Nursery/Primary School, Sachi-Makurdi; St. Joseph Nursery/Primary School, Akpehe-Makurdi; Holy Ghost Private School, Makurdi; Holy Family Nursery/Primary School, North Bank-Makurdi; St. Theresa Private School, Makurdi; Immaculate Nursery/Primary School, Udei; St. Joseph Nursery/Primary School, Nyon; Mount Saint Michael Nursery/Primary School, Aliade; St. Mary Nursery/Primary School, North Bank; Our Lady of Perpetual Help Nursery/Primary School, Makurdi; St. Michael Nursery School, Agasha; St. Luck Nursery/Primary School, Apir; Father Hunter Academy, Nyiman-Makurdi; St. Athanasius Nursery/Primary School, Gbajimba and St. Irenaeus Nursery/Primary School, Akpehe, Makurdi.[13]

A close look at the Catholic educational institutions in Makurdi Diocese of Benue State reveals that, the Diocese provides schools both at the primary, secondary school levels and tertiary levels. This implies that, the Diocese provides educational services for young people of all the ages. Also, it can be seen that the distribution of schools in the diocese cut across all the local government areas that make up the diocese, at least each local government has one Catholic school.

In order to show the functionality of schools in Makurdi Diocese, four schools were randomly sampled in the diocese; namely, St. Dominic's Nursery/Primary School Shachi-Makurdi; Peace College, Naka; St. Michael's Secondary School, Agasha and Immaculate Nursery/Primary School, Udei and the Principals/head teachers of these schools were interviewed.

In St. Dominic's Nursery/Primary School Shachi-Makurdi, Mrs Victoria Okamgba, the head teacher, in an interview, explained that admission into St. Dominic's Nursery/Primary school, Shachi is opened to all children of primary school age irrespective of religion, tribe and ethnicity. The school teaches morals in addition to cognitive skills in line with the Makurdi Diocesan policy on education.

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[12]The Catholic Diocese of Makurdi educational services Office, Students Enrollments. Publication of the Catholic Diocese of Makurdi, 2021.
[13]The Catholic Diocese of Makurdi. 2021 Directory and Diary, 45-47, Publication of the Catholic Diocese of Makurdi, 2021.

In Peace College Naka, the Mr. Jime Justin, the principal in an interview explained that, the school admits students who are qualified to study in secondary school in line with the guidelines of the Catholic Education of the Makurdi Diocese in collaboration with the Benue State ministry of education. He revealed that, admission into the school is based on passing of the prescribed entrance examinations in addition to meeting other requirements such as age, attending and graduating from approved primary schools. The admission is opened to all qualified students without recourse to religion, tribe and ethnicity. The school teaches moral education and Catholic education in addition to conventional cognitive skills in line with the Makurdi Diocesan policy on education and Benue state ministry of education's guide lines.

In St. Micheal's Science Secondary School, Agasha in Guma Local Government area, Mr. Barnbas Msende in an interview revealed that, the school is a science faith-based secondary school that operates on the basis of the ethos of the Roman Catholic education. He stated that, admission into the school is based on passing the Catholic common entrance examinations for JSS I class and for the SS I class, it is based on writing and passing all the prescribed examinations in the Benue State Junior Secondary examinations with the qualifications to study science-based subjects in addition to internal examinations and interviews. Qualified students are admitted into the school irrespective of their religious background, tribe, nationality and ethnicity. The students who graduate from the school are exceling in various endeavour of sciences in different facets of the world.

Finally, the principal of John Bosco commercial college, Aliade in an interview also reiterated the fact that, admission into the school is opened to all students of secondary school age irrespective of religion, tribe and ethnicity. The school teaches morals in addition to cognitive skills in line with the Makurdi Diocesan policy on education and Benue state ministry of education's guidelines.

Mr. Abraham Veratoh, the Deputy Education Director and the principal, Our Lady of Consolation College, Agan, in an interview opined that, the philosophy of Catholic Education in Makurdi Diocese is based on the belief that people are created to know God, love Him, Serve Him and be with Him eternally. Thus, Catholic education in Makurdi Diocese is the sacred task of

forming the character of a child and aiding him/her to attain the purpose of existence as stated by Pope Pius XI in 1929[14].

Abraham Veratoh, further stated that, Catholic Education in Makurdi Diocese is generally viewed as the development of the whole man and it embraces the whole of man's activity: physical, intellectual, moral and spiritual. It also embraces the domestic and social activities of man. In line with the national Catholic policy on education, the Catholic Church in Makurdi Diocese uses Catholic education as a tool of evangelization and human development. Thus, in providing educational services, the Catholic Church teaches morals in the areas of self-discipline, self-confidence and sexual morality. These morals are taught alongside with the conventional educational services provided by the government and other partners in the educational sector.

Basically, the Catholic Church in Makurdi diocese just like other educational services providers, offers educational services in the areas of religious education, commercial education, humanities and arts education, sciences and technical/vocational education. The diocese has Saint Joseph's Science and Technical college, Makurdi to promote vocational studies. All these holistically develop young people for higher education in various endeavours. The Church in Makurdi diocese provides educational services with the aid of the government and other donors. The educational institutions in the diocese have an average annual school enrollment of 8,235 Students, out of which, 4,406 are from Nursery/Primary Schools and 3,829 Students from Secondary Schools.

According to Veratoh, the Catholic Diocese of Makurdi through her educational services has trained well-meaning citizens who are professors within and outside Nigeria, engineers, medical doctors, teachers, clergies, administrators, managers of reputable companies in Nigeria, accountants, lawyers, amongst other vital aspects of human endeavours. Aside these conventional educational services, the diocese has started building school for special needs at Kighir to cater for those with physical disabilities in the diocese. Veratoh further explained that, in providing these educational services aimed at holistic human development, these Catholic educational

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[14] Pius XI, Encyclical Letter Quadragesimo Anno: AAS 23(1929), 196-197.

institutions have provided employments to many people who are employed in such institutions as teachers, non-academic staff such as security personnel, drivers, cashiers, cooks, cleaners and other clerical services. The institutions have employed 1,1670 staff in the Secondary schools and 945,242 staff in Nursery/Primary schools.[16]

From the foregoing, it means that the Catholic schools in Makurdi diocese have immensely contributed to human development by training people right from the nursery school level to tertiary level of education thereby giving them the requisite skills to be productive in the society and earn income to live decent standard of living.

Emergence of Catholic Health Care System in Makurdi Diocese
The Roman Catholic Diocese of Makurdi provides psychosocial and emotional healing services through the healing ministry of Jesus. In order to provide physical healing, the Catholic Church established health institutions across the Catholic Diocese of Makurdi. These health facilities are coordinated via the Integrated Health Programme. The Catholic Diocese of Makurdi as a faith-based umbrella organisation provides health care services to the people of Benue State and beyond.[17]

The programme began her health care delivery in 1930s; the missionaries firmly believed that the people needed good health and sound minds to appreciate the Christian message. In this regard, the missionaries got involved in the healing apostolate by establishing hospitals to cure people of various ailments that could affect their physical and spiritual lives. This pastoral care for the sick made many people to be convinced about the decision to follow Christ.[18]

The earliest health care service delivery in the Diocese was a joint approach between the Government and Medical Missionaries who came to deliver health care services to the sick and disabled in some designated centres in the diocese. Those centres eventually became health posts for control of communicable diseases such as: leprosy, tuberculosis, cholera, measles and other diseases.

Clinics and hospitals in 1960s and became the first-generation health facilities in the diocese. In 1969, the late Bishop Murray founded the sisters of Nativity to augment medical services. This became necessary given the special place the Church has given to pastoral care of the sick. Thus, Diocesan hospitals like: Bishop Murray Hospital, Makurdi; St. Vincent, Aliade; St. Monica's Hospital, Adikpo; St. Thomas Hospital Ihugh were established.[18]

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[16] Educational Office of the Catholic Diocese of Makurdi. School Enrollments, Makurdi, Publication of the Catholic Diocese of Makurdi, 2022.

[17] Catholic Diocese of Makurdi. A History of the Integrated Health Programme Policy, A publication of the Catholic Diocese of Makurdi.

[18] Orhungur Moses M. "Education as a Tools for Evangelization". Catholic Diocese of Makurdi at 50: A Celebration of Services to Humanity, edited by Wegh Shagbaor Francis. Makurdi: Selfers Academic Publishing. 2010

Catholic Hospitals/Clinics and Human Development in Makurdi Diocese
According to the Makurdi Diocese Health Care Institution (MDHCI) Policy, there are nine hospitals/Clinics in Makurdi Diocese. These health institutions are presented in Table 2.

Table 2: Number of Catholic Health Facilities in Makurdi Diocese

Type of Facility	Number of Facilities	Percentage
Hospitals	4	44.40
Primary Health Centres (PHC)	5	55.60
Total	9	100.00

Source: Makurdi Diocese Health Care Institution (MDHCI), 2021[17]

Table 2 has shown that there are 4 hospitals in Makurdi Diocese which represents 44.40% of the total of health facilities in the diocese. Also, the table reveals that there are 5 Primary Health Centres (PHC) in the diocese which represents 55.60% of the total of number of health facilities in the diocese. These health care institutions are: Bishop Murray Medical Centre, Makurdi; Father Matthias Health Care Unit, Naka; St. Vincent's Hospital, Aliade; St. Gregory's Hospital, Ikpayongo; St. Michael's Clinic, Agasha; St. Francis Primary Health Centre, Agagbe; and St. Veronica's Health Clinic, Aondona, St. Martins Clinic Uoo Lele and Sacred Heart Clinic Udei. A close look at the spatial distribution of health facilities in Makurdi Diocese by the Catholic Church indicates that in each of the local government that make up the Diocese, there is at least one health facility situated in it. This implies that the Church is fair in the distribution of the health facilities aimed at catering for the health needs of the people.

In order to show the functionality of Catholic hospitals in Makurdi Diocese, a sample of four Catholic hospitals/clinics in the Diocese were selected and the units' heads were interviewed.

Mrs. Josephine Ijir, in an oral interview revealed that medical services at Bishop Murray Medical Centre, Makurdi are opened to all sick people seeking medication, irrespective of religion, tribe and ethnicity in line with the Church's social teachings. In St. Vincent's Hospital, Aliade, Jonathan

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Tsav, in an interview explained that, hospital provides medical services to the sick people who come for medical services in the hospital. He explained that the poor and the vulnerable are given a lot of concession in the hospital. Furthermore, Mrs. Veronica Maaver in an interview explained that, in St. Michael's clinic Agasha, the facility is open to any body that approaches the clinic for medical services without recourse to one's religious or tribe. The poor and the vulnerable are given even more attention than rich people in the clinic.

Father Paleve, in an interview stated that, the health facilities of the Makurdi diocese provide health care services to patients who come with ailments such as, Diarrhea cases, diabetes, accidents, snake bites cases, Tuberculosis, Malaria, severe and complicated hypertension. Other cases include antenatal services, normal delivery, assisted and caesarian section (CS) and immunization services. These services are provided at in and out-patients departments during admission. These facilities provide referral services both in and out referrals.

From the foregoing, it can be inferred that the Catholic Church in Makurdi Diocese has made concerted efforts at providing health care to the people in Benue State irrespective of religious affiliations. These wide range of medical services provided by the diocese have helped to save a lot of lives and have given people physical healings and the enablement to engage in productivity activities as well as provision of employment opportunities to people.

Discussion

Historically, the present Makurdi Diocese undergone some development stages. In 1920, the status of Makurdi Diocese was raised to that of Vicariate Apostolic of Southern Nigeria though still maintaining its boundaries. In 1959 Monsignor James Hagan, the Perfect Apostolic of Otukpo was made a Bishop and in 1960 he transferred his Cathedral seat to Makurdi, thus becoming the first Bishop of Makurdi. The Roman Catholic Priests arrived Makurdi in 1924; and by 1927, the first primary school, Sacred Heart was established at Udei and by 1930 another primary school was established in Makurdi known as Holy Ghost Primary School. The establishment of the above-named schools was a spinning point of the educational activities of the diocese and gradually, spread with the establishment of many primary schools in other areas of the State.

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In a bid to enhance human development through educational development, the Catholic Church in Makurdi Diocese continued with the establishment of schools in the area. At present, there are 21 nursery/primary schools in Makurdi Diocese which represents 42.86% of the total educational institutions in the diocese. Also, there are 26 secondary schools in the diocese which represents 53.10% of the total educational institutions in the diocese. Again, there are two Seminary Schools in the diocese which represents 4.08% of the total educational institutions in the diocese.

These Catholic schools in Makurdi diocese just like other educational services providers, offers educational services in the areas of religious education, commercial education, humanities and arts education, sciences and technical/vocational education. The schools are established in all the local government areas that made up the diocese.

The Church in Makurdi diocese provides educational services with the aid of the government and other donors. The educational institutions in the diocese have an average annual school enrollment of 8,235 Students. These schools have trained well-meaning citizens who are professors within and outside Nigeria, engineers, medical doctors, teachers, clergies, administrators, managers of reputable companies in Nigeria, accountants, lawyers, amongst other vital aspects of human endeavours. The institutions have employed 1,1670 staff in the Secondary schools and 945,242 staff in Nursery/Primary schools who earned incomes for a living.

Furthermore, in the area of health services, the Roman Catholic Diocese of Makurdi provides psychosocial and emotional healing services through the healing ministry of Jesus through the Integrated Health Programme. The programme began her health care delivery in 1930s; the missionaries firmly believed that the people needed good health and sound minds to appreciate the Christian message. In this regard, the missionaries got involved in the healing apostolate by establishing hospitals to cure people of various ailments that could affect their physical and spiritual lives. Through this programme, the Church has established four hospitals in Makurdi Diocese which represents 44.40% of the total of health facilities in the diocese. Also, the Church has established five Primary Health Centres (PHC) in the diocese which represents 55.60% of the total of number of health facilities in the diocese. These health facilities in the Makurdi diocese provide health care services to patients who come with ailments such as, diarrhea cases,

diabetes, accidents, snake bites cases, tuberculosis, malaria, severe and complicated hypertension. Other cases include antenatal services, normal delivery, assisted and caesarian section (CS) and immunization services. These services are provided at in and out-patients departments during admission. These facilities provide referral services both in and out referrals.

Aside these services, the health facilities organise medical out-reaches to rural areas and Internally Displaced Persons (IDPs) from time to time. The health sector of the Catholic Diocese of Makurdi have average patients' attendance of 150 patients daily across the health facilities and these facilities have employed a total number of 539 staff, out of which 182 are medical related personnel while the other (357) are non-medical.

Conclusion and Recommendations

From the findings of this study, it is clear that the Catholic Church in Makurdi Diocese has a long-standing history in Benue State. The diocese has made remarkable achievements in the area of human development in the state especially in the areas of education and health care delivery which are the core drivers of human development according the United Nations Development Programme. These achievements are done with the collaborative efforts of the state government especially in the area of education where the government assists in the payment of salaries of some of the staff of grant aided schools and the provision of some learning facilities. For sustainability and further advancement, the diocese should consolidate on these developmental strides and continually evolve strategies to improve on these strides in order to deliver the gains of social teachings of the Church to the people.

Arising from the above findings, the paper makes the following recommendations:

a.   The Catholic Church in Makurdi Diocese should consolidate on her social teachings and continue to make improvements to ensure that the intended benefits of her human development strides get to the target population in line with the Church's principle of the common good and subsidiarity.

b.   The Dioceses should strive to make health care delivery services available to the various local governments of her coverage to ensure easy of accessibility of health care services especially in rural areas.

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c.   The Diocese should strive to establish a Catholic conventional tertiary institution like a University or Polytechnic in addition to St. Thomas Aquinas Major Seminary. This will in no small measure ameliorate the challenge of admissions into higher institutions of learning in Benue State.

Conflict of Interest Declaration:
The Authors have clearly declared that, there is no conflict of interest here.

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Women's Knowledge, Attitude and Practice of Abortion among IDPs in Benue State, Nigeria

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Abstract

It is estimated that about 73 million abortions are carried out yearly worldwide. Regrettable, 45%, which is more than half of the global estimates are performed unsafely and what is more, 97% of these unsafe abortions take place in developing countries. This study sought to examine knowledge, attitude, and practice of abortion among internally displaced women (IDW) in Benue state, Nigeria. The study examined the liberal, conservative and the natural law theory of abortion. A cross sectional study with a self-administered questionnaire was used to collect data from 560 displaced adults, and a total of 15 displaced elderly men and women as well as health workers were selected as key informants for the study. Findings of the study revealed that majority, 72.86% women had some knowledge of abortion. There was a general disapproval of abortion practice by IDPs women with a magnitude of 77.50% of the total population and the study however discovered that there was high practice of abortion among displaced women particularly the young girls in Benue State. The study concluded if proper education is not taken to IDPs; behaviour change is not modified and encouraged; contraceptive use is not introduced, abortion will one day hold sway among IDPs. Therefore, the researcher recommended adequate sensitisation about the implications of unsafe abortion. There should be more orientation to dissuade the use of abortion and rather encourage contraceptive use to reduce unintended pregnancies and their attendant need for induced abortion.

Keywords: Abortion, Attitude, Internally Displaced Persons, Knowledge, Practice.

Introduction

It is estimated that about 73 million abortions are carried out yearly worldwide[83]. Regrettable, 45%, which is more than half of the global estimates are performed unsafely and what is more, 97% of these unsafe abortions take place in developing countries, where reproductive health is critical especially for internally displaced persons (IDPs)[84] [85]. More so, it is sad to note that unsafe abortion is a leading cause, though preventable, of maternal deaths and morbidities. It can lead to physical and mental health complications as well as social and economic burdens for women, communities and health systems[86]. Estimates by the United Nations statistics Division, show that, between 2015 and 2019, there were 2,170,000 abortions in Eastern Europe, 299,000 in Northern Europe, and 377,000 in Western Europe, and 464,000 in Southern Europe[87]. This shows that within the period 2015-2019, Europe recorded a total of 3.1 million abortions out of the 73 million global cases indicating a low incidence rate.

Internally displaced persons are people who have been forced to leave their homes, but have remained within the borders of their country of origin[88].

The number of IDPs worldwide is 71.1 million as at the end of 2022, and three-quarters of the world's IDPs live just in 10 countries of the world. These displacements primarily are as a result of wars and violence due to ethnic conflicts and religious violence, as well as natural disasters such as famine and floods. More than half of the total people displaced globally in 2018 were women and girls, who experienced displacement and face

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[83] Bearak Jonathan, Anna Popinchalk, Bela Ganatra, Ann-Beth Moller, Ozge Tuncalp, Cynthia Beavin, Lorraine Kwok, and Leontine Alkema. "Unintended Pregnancy and Abortion by Income, Region, and the Legal Status of Abortion: Estimates from a Comprehensive Model for 1990-2019". The Lancet Global Health, 8 no. 9 (2020). https://doi.org/10.1016/s2214-109x(20)30315-6.

[84] "Abortion". World Health Organization, November 25, 2021. https://www.who.int/news-room/factsheet/detail/abortion.

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[86] "Unsafe Abortion: Global and Regional Estimates of the Incidence of Unsafe Abortion and Associated Mortality in 2008". World Health Organization. Accessed August 27, 2023. https://ww.who.int/reproductivehealth/pulications-detail-/unsafe-abortion-2008/.

[87] Op. Cit., Bearak et al., p.1.

[88] Op. Cit., Titivos et al., p.1.

challenges differently from men and boys[89]. Relating to the above, Marlow, Kunnuji, Esiet, Buloye and Izugbara[90] state that young women and girls in displaced settings are particularly vulnerable to unwanted pregnancies, unsafe abortion, and gender-based violence as well as early forced marriage. These plights indeed call for investigation for possible solutions.

According to the Guttmacher Institute[91], between 1990-1994 and 2015-2019, there were 886,000 cases of abortion in the United States, 97,500 The total cases in America were 6.3 million which were slightly higher than Europe. From 1990 through 2019, Central Asia had 705,000 unintended pregnancies and 560,000 were aborted[92]. Asia had 51.7 million cases which is significantly higher than that of America or Europe. Africa in total had a sum total of 10.2 million abortions performed that period which is moderate compared to the horrendous cases in Asia.

In Nigeria, abortion is illegal until when performed to save a woman's life. However, abortions are still common, and most are unsafe which may be due to lack of knowledge of the repercussions involved or because of the restrictions on abortion in the country coupled with the upsurge of unwanted pregnancies[93]. In Benue State, many young girls have been forced to flee their homes and settle as internally displaced persons and keep risking their lives with unsafe abortions due to unwanted pregnancies[94]and probably because of poor knowledge and attitude towards the practice of abortion. Many young girls in IDPs encounter the challenge of absence of safe sexual and reproductive health services. Poor knowledge may likely lead to poor attitude and practice of abortion by women of reproductive age. It against this backdrop that this study is carried out.

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[89] "Women and Girls in Internal Displacement". IDMC - Internal Displacement Monitoring Center. March 1, 2020. https://www.internal-displacement.org/publicatioins/women-and-girls-in-internal-displacement

[90] Marlow Heather M., Michael Kunnuji., Adenike Esiet., Funsho Bukoye, and Chimaraoke Izugbara. "The Sexual and Reproductive Health Context of an Internally Displaced Persons' Camp in Northeastern Nigeria: Narratives of Girls and Young Women". Frontiers in Reproductive Health 3(2022). https://doi.org/10.3389/frph.2021.779059

[91] "Global and Regional Estimates of Unintended Pregnancy and Abortion. Guttmacher Institute, 2022. The Guttmacher Institute, 501(3). https://www.guttmacher.ort/fact-sheet/global-and-regional-estimates-of-unintended-pregnancy-and-abortion.

[92] Ibid.

[93] "Abortion in Nigeria". Guttmacher Institute, August 24, 2022b. https://www.guttmacher.org/fact-sheet/abortion-nigeria.

[94] Ibid.

Of course, few studies have been conducted about abortion in Nigeria. More so, the few that are carried out such as that of Lamina[95] on "prevalence of abortion and contraceptive among women seeking repeat induced abortion in Western Nigeria", did not cover knowledge and attitude of women especially those in IDPs camps in Nigeria and Benue state particularly. This study, therefore, specifically aims to assess knowledge, attitude and practice of abortion among women in IDPs camps in Benue State, Nigeria.

Although a study conducted in Lagos state, Nigeria on female students, shows that many of them had some knowledge of abortion, however, this knowledge seems to be inadequate which may hinder the utilisation of safe abortion services[96]. Similarly, Espinoza, Samandiri and Anderson[97], revealed that although adolescents are cognizant of abortion as a service, their knowledge of legality, methods of termination and access points for abortion is low. Studies are increasing about abortion. Nevertheless, not much is done on IDPs. A study by Abioloa, Oke, Balogun and Olatona[98], revealed that the attitudes of respondents which supported abortion were generally poor, only a few of the respondents had a supportive attitude towards abortion. In a similar trend, Omo-Aghoja, Omo-Aghoja, Okonofua, Aghedo, Umueri, Otayohwo, Feyi-waboso, Onowhalpor and Inikori[99], found that culture and religion abhor abortion and the participants of their study demonstrated a disapproval towards abortion, as they stated that abortion is problematic, prone to complications, and can even lead to death. Contrary to the above assertions, Oshoding[100] in a study in Bendel (now

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[95] Lamina Mustafa Adelaja. "Prevalence of Abortion and Contraceptive among Women Seeking Repeat Induced Abortion in Western Nigeria". Journal of Pregnancy (2015): 1 – 7. https://doi.org/10.1155/2015/486203.

[96] Mekuira Mulugeta, Dechasa Daba, Teka Girma, and Adamu Birhanu. "Assessment of Knowledge on Abortion Law and Factors Affecting it among Regular Undergraduate Female Students of Ambo University, Oromia Region, Ethiopia, 2018: A Cross Sectional Study. Contraceptive and Reproductive Medicine 5 no. 1 (2020): https://doi.org/10.1AAAA186/s40834-020-00136-3

[97] Espinoza Cecilia, Ghazaleh Samandari, and Kathyrin Anderson. "Abortion Knowledge, Attitudes, and Experiences among Adolescent Girls: A Review of the Literature". Sexual and Reproductive Health Matters 28 no.1 (2020): https://doi.org/10.1080/26410397.2020.1744225

[98] Op. Cit., Abiola et al., p.6.

[99] Omo-Aghoja, L.O., Omo-Aghoja, V.W., Aghoja, C.O. F.E., OKonofua F.E., Aghedo O., Umueri, C., Otayohwo R., Feyi-waboso P., Onowhakpor E.A., and Inilori, K.A. "Factors Associated with the Knowledge, Practice and Perceptions of Contraception in Rural Southern Nigeria." Ghana Medical Journal 43, no. 3 (2020): https://doi.org/10.4314/gmj.v43j3.55326.

[100] Oshodin Osakyuki G. "Attitude towards Abortion among Teenagers in Bendel State of Nigeria". Journal of the Royal Society of Health 105, no. 1 (1985): 22-24. https://doi.org/10.1177/146642408510500105.

Edo) State, Nigeria, found that majority of the teenagers especially females who were 14-17 years old, generally strongly feel that abortion is desirable.

Consequently, though there is high restrictive law on abortion is Nigeria, it is estimated that 1.25 million induced abortions occurred in 2012[101]. This shows that a significant number of women especially the displaced may be practicing abortion in Nigeria probably due to unplanned pregnancies. According to Bankole, Adewole, Hussain, Awolude, Singh and Akinyeme[102], there are many cases of clandestine abortions, despite the restrictive abortion law in Nigeria, due to the country's low contraceptive prevalence which leads to a substantial number of women having unintended pregnancies.

This study examines the liberal theory, the conservative theory and the natural law theory on abortion in explaining knowledge, attitude and practice of abortion. According to the liberal view, abortion is a private activity which should be permissive by those who wants to commit it[103]. This theory is liberal defense of a permissive abortion policy which rests in denying the moral standing of the fetus. This view justifies one of the objectives of the study stating the practice of abortion. The conservative theory states that abortion is synonymous with homicide and it should be restricted without levity[104]. Contrary to the liberal view, the conservatives ascribe full moral standing to the fetus. This theory relates to the objective of this study regarding attitude towards abortion and is in line with the stand of those who have a negative tendency towards the commission of abortion for whatever reason. The basic premise or assumption of the natural law theory is that we discover the highest principle of natural law by looking at aspects of our human nature. Therefore, natural law theory argues that abortion is morally wrong, and that it should not be allowed or permitted.

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[101] Op. Cit., Guttmacher Institute, 2022b, p.3.

[102] Bankole Akinrinola, Isaac F. Adewole, Hussain Olutosin Awolude, Susheela Singh, and Joshua O. Akinyemi. "The incidence of abortion in Nigeria". International Perspectives on Sexual Reproductive Health 41 no. 4 (2015): 170-181. https://doi: 10.1363/4117015.

[103] Sumner, L.W. (1981). Abortion and moral theory. Princeton University Press. https://doi.org/10.2307/j,ctt7zvdmc

[104] Ibid.

Objectives

This study seeks the following objectives:

i.   To assess if internally displaced women in Benue State have knowledge about abortion.
ii.   To find out attitude of internally displaced women towards abortion.
iii.   To assess whether internally displaced women in Benue State practice abortion.

Materials and Methods

This study was carried out in Benue State. Benue is located in North Central geopolitical zone of Nigeria and the state comprised of 23 local government areas. Although the exact number of displaced people in Benue state is unknown, there are not less than two million (2,000,000) persons displaced from their ancestral homes due to continued herders-farmers violent conflicts[105]. Displaced people live not only in official and unofficial camp settings but also in uncompleted buildings, market squares, church premises and stay in houses of neighbours within the state.

The population of this study was all displaced adults. This population was chosen because men and women are involved in sexual and reproduction process. Also, the study selected 15 people including the elderly displaced men and women as well as health workers as key informants.

A multi-stage sampling was employed for the study, using probabilistic or scientific and non-probabilistic sampling procedures. First, a cluster random sampling was used to divide the 23 local government areas in Benue state in to 3 clusters. They are Zone A which comprised all the local governments in Benue North; Zone B, consisted of all the local governments in Benue West and Zone C, covered the local councils in Benue South. Secondly, a purposive sampling was used to select 2 local governments in each of the clusters; Zone A: Logo, Kwande; Zone B: Guma, Gwer-West; Zone C: Okpokwu and Agatu, making it 6 clusters. The justification for the purposive sampling was because only the local governments that have IDPs were chosen. Thirdly, a systematic random sampling was used to select 100 subjects in each of the six clusters bringing a total of 600 subjects as sample

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[105] Duru, Peter. "Benue Now Home to 27 IDP Camps, Close to 2m IDPs". Vanguard. April 1, 2022. https://www.vanguardngr.com/2022/04/benue-now-home-to-27-idp-camps-close-to-2m-idps.

size of the study. The study sample was determined by Taro Yamen's formula with a confidence level of 0.04.

A self-administered structured questionnaire and a key informant interview guide were used as method and instrument of data collection. Data gathered for the study were anlaysed quantitatively and qualitatively.

Results
The results of this study were based on the number of questionnaires returned by respondents to the researcher. A total of 600 copies of structured questionnaires were distributed to 600 IDP women and only 560 copies were returned valid for data analysis as presented below.

Table 1: Bio-data of respondents

Variable	Frequency (N=560)	Percentage
Sex		
Male	246	43.93
Female	314	56.07
Religion		
Christianity	335	59.82
Islam	105	18.75
Traditional	125	21.43
Age		
18-24	58	10.36
25-31	208	37.14
32-38	142	25.36
39-44	102	18.21
45 above	50	8.93
Marital Status		
Single	140	25.00
Married	102	18.21
Divorced	98	17.50
Separated	220	39.29
Educational Status		
None	02	0.36
FSLC	40	7.14
SSCE	242	43.21
NCE/ND	210	37.51
HND/Degree	60	10.71
Masters	0	0
PhD	0	0

Source: Field Study, 2022.

Data in Table 1 shows demographic variables of respondents. Regarding respondents' sex. More females than the men representing 314 (56.07%) participated in the study. This higher participation of female was due to the fact that females who carry pregnancy were more likely to experience abortion and have relevant opinions to issues of abortion than their male counterparts.

Religious affiliation shows that Christians 335 (59.82%) participated in the study more than traditionalists and Muslims. The predominance of Christian respondents stems from the fact that Benue is a Christian dominated state and more Christians are displaced and live as IDPs than other religions.

On age characteristics of respondents, data in Table 1 shows that those aged 25-31 participated in the study more than the other categories. Their predominance in the study could not be unrelated to being mature enough to have pregnancy and experience abortion. This age bracket is considered as the prime childbearing age and many fell within this category and participated more than the rest.

The marital status of respondents shows that, those who were once married but separated from their husbands 220 (39.29%) participated in the study more than the other categories. This could be because they were separated from their spouses due to the conflicts that pushed them out of their homes. They might have unwanted pregnancies that warranted induced abortions.

Educational attribute of the respondents shows that secondary school certificate examination (SSCE) holders participated mostly in the study than the other levels of educational attainment. Perhaps, this category of respondents did not have advanced knowledge of contraceptives and experience unwanted pregnancies to seek for induced abortion.

Table 2: Knowledge of abortion by IDPs women

Items	Responses		Total
	Yes	**No**	
Are you aware of abortion?	408(72.86)	152(27.14)	**560(100)**
Do you know if women in this abode commit abortion?	420(75.00)	140(25.00)	**560(100)**
Do you know where or how abortion is carried out?	429(76.61)	131(23.39)	**560(100)**
Have you ever heard of abortion from friends, relatives and health officials?	398(71.07)	162(28.93)	**560(100)**

Source: Field Study, 2022. *(Note: All figures in parentheses are percentages)*

In Table 2 shows data about knowledge of abortion by internally displaced women in Benue State. From the data, majority 408 (72.86%) affirmed that they are aware of abortion, 470 (75.00%) respondents also agreed that they know women that commit abortion among the displaced. Furthermore, 429 (76.61%) respondents said 'yes' they know where and how abortion can be done, and 398 (71.07%) affirmed that they heard of abortions from friend, relatives and from healthcare practitioners.

Unwanted pregnancies have pushed young ladies to know what abortion is. They hear of it from friends, elderly women and they also know where or how it is carried out. **(Source: KII, 10ᵗʰ March, elderly displaced woman, aged 52, Makurdi LGA, 2022)**.

Table 3: Attitude towards abortion by IDPs women

Attitude	Frequency	Percentage
Positive	126	22.50
Negative	434	77.50
Total	**560**	**100**

Source: Field Study, 2022.

Table 3 shows various responses towards abortion among IDPs women in Benue State. A very high number of respondents, 434 (77.50%) were not in support of the practice of abortion by women. This finding may not be unconnected with the fact that majority of women in the study were Christians and Christian teaching abhor and strongly preach against the practice of abortion and condemn those who indulge in such acts as not just profane but nefarious before man and God.

I have been here for 2 years since displacement. Although some people do abortion, it's rare for one to discuss the issue of abortion, in fact many women detest it because it's illegal and against morality here. **(Source: KII, 25th March, male elder, Aged 68, Gwer-West LGA, 2022)**

Table 4: Practice of Abortion by IDP women

Items	Responses		Total
	Yes	**No**	
Do you know women who have ever committed an abortion?	401(71.61%)	159(28.39%)	**560(100)**
Abortion is carried out with the use of herbal mixtures or visit to unqualified health officials.	365(65.18%)	195(34.82%)	**560(100)**
Young unmarried ladies commit abortion More	329(58.75%)	231(41.25%)	**560(100)**
Many women who commit abortion get sick or die.	450(80.36%)	110(19.64%)	**560(100)**

Source: Field Study, 2022. *(Note: All figures in parentheses are percentages)*

Table 4 presents responses concerning the practice of abortion by IDP women. The data show that 401(71.61%) practiced abortion. Also, 365 (65.18%) respondents confirmed that abortion is carried out using herbal mixtures or through unqualified health practitioners, 329 (58.75%) respondents stated that young women who are single commit abortion more than their married counterparts, and 450 (80.36%) nodded in affirmation that, many victims of abortion get sick or die.

This is my third year working as a health officer with displaced persons. Young ladies on getting pregnant resort to drinking of pawpaw leaves and start bleeding. Some go to towns and do it with health practitioners in secret. And sometimes complications arise because some of these people are not very skillful. Many of the victims hide and die because of shame to report for medical care. Some report and we manage their situations.

(Source: KII, 28th March, Female, Midwife, Aged 39, Guma LGA, 2022).

Discussion
Findings of this study reveal that many of the internally displaced women (IDW) in Benue State have known what abortion is. They know it from friends, relatives and other health officials. They also demonstrated some knowledge of how and where to abort. This finding is similar to that of Abiola, Oke, Balogun, Olatona and Adegbesan-Omilabu[106] who carried out research in Lagos and found that girls in secondary schools have some knowledge of abortion.
Secondly, the study found that majority of the respondents 77.50% to be precise displayed a negative attitude toward abortion. In essence, they disapprove abortion. This finding confirms that of Abiola, Oke, Balogun, Olatona and Adegbesan-Omilabu[107] who also found in their study that attitudes of many of their respondents toward supporting abortion were generally poor. Also, a study by Omo-Aghoja, Omo-Aghoja, Feyi-Wabosa

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[106] Abiola, Adul-Hakeem O, Oluwabunmim A. Oke, Mobolanle R. Balogun, Foluke A. Olatona, and Maymunah A. Adegbesan-Omilabu. "Knowledge, Attitude, and Practice of Abortion among Female Students of Two Public Senior Secondary Schools in Lagos Mainland Local Government Area, Lagos State". Journal of Clinical Sciences no. 2 (2016): https://doi:10.4103/2408-7408.179682.
[107] Op. Cit, Abiola et al., p.8.

and Esume[108] found that, culture and religion abhor abortion and in that regard respondents of their study frowned at the practice of abortion. On a different note, however, a study by Oshoding[109] found that female teenagers in a study had a positive attitude and strongly feel that abortion should be given green light to be practiced in Nigeria.

The study also found that the practice of abortion is high amongst internally displaced women in Benue state. This finding is akin to the findings by the Guttmacher Institute[110] that abortion practice is high in Nigeria with 27 per 1000 women of child bearing age in North Central Nigeria. This high rate of abortion is not unconnected to the lack of contraceptive use which triggers unwanted pregnancies among young unmarried women in IDP centres.

Conclusion and Recommendation

Abortion is regarded as one of the high factors of maternal complications and death, especially when performed by unskilled practitioners. Maybe because of this reason, there is stringent legislation prohibiting abortion in Nigeria. Again, many people hold abortion as a bizarre practice and detest it. Therefore, due to the legal and moral restraint on abortion, women who need abortion service carry it out clandestinely and mostly in the hands of quacks. Some, wrongfully self-administer abortion medications. This has brought a lot of complications, morbidities and death to women bearing children especially in low and middle-income populations. Internally displaced women demonstrated an average knowledge of abortion, have a lukewarm attitude towards it but continue to commit it. Thus, this study concludes that, there is high rate of maternal morbidity and mortality due to inadequate knowledge on safe sex and reproductive health.

1.   The study recommends that there should be an educational campaign about the dangers of committing abortion especially through unskilled practitioners and non-recommended medications, particularly among internally displaced persons. The relevant stake

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[108] Omo-Aghoja, L.O., Omo-Aghoja, V.W., Aghoja, C.O. F.E., OKonofua F.E., Aghedo O., Umueri, C., Otayohwo R., Feyi-waboso P., Onowhakpor E.A., and Inilori, K.A. "Factors Associated with the Knowledge, Practice and Perceptions of Contraception in Rural Southern Nigeria." Ghana Medical Journal 43, no. 3 (2020): https://doi.org/10.4314/gmj.v43j3.55326.

[109] Oshodin Osakyuki G. "Attitude towards Abortion among Teenagers in Bendel State of Nigeria". Journal of the Royal Society of Health 105, no. 1 (1985): 22-24. https://doi.org/10.1177/146642408510500105.

[110] Op. Cit., Guttmacher Institute, p.2.

holders should consider the issue of unsafe abortion as a public health problem among women who are displaced and are vulnerable to circumstances that leads to abortion.

2. The attitude of internally displaced women generally is negative to the practice of abortion. Therefore, National Orientation Agency (NOA), Primary Health Care Centres (PHCC) and religious organisations should continuously engage Internally Displaced Women and teach them about abortion so that they can develop a more accommodating attitude toward abortion.

3. Contraceptives should be made easily accessible and affordable to unmarried women who do not want unplanned pregnancies to curtail the issue of seeking for induced abortion. On the whole, there should be improved provision of sexual and reproductive healthcare services to displaced populations to check unplanned pregnancies. Meanwhile, women who have developed complications in the course of abortion should not be left unattended to.

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Open, Distance and e-Learning (ODeL): A Panacea for the Administration of Education in Emergencies in Nigeria

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Abstract

The level of trauma associated with national emergencies oftentimes is dependent on the response of the government and the people. When an emergency strikes a country, a responsible government usually adopts innovative measures to mitigate and adapt to the negative effects of the phenomenon. Access to quality and decent learning opportunities and a more conducive teaching-learning environment during emergencies is crucial not only to equip learners with adequate knowledge and competencies but also to prevent vulnerabilities to; school dropout, child marriage, exploitation, child labour, violence, human trafficking, poverty, ignorance and diseases. This conceptual paper looks at issues historically and holistically by sourcing secondary data from both print and online resources to address issues using descriptive case study to position Open, Distance and e-Learning (ODeL) as an innovative method for effective delivery of quality education in emergencies (EiE). The study concludes that *integration of ODeL into the existing national policy on education for conflict, insecure and emergency regions could play a cost-effective and transformative role in improving accessibility, continuity, flexibility and quality education-in-emergency. It was suggested that more studies need to be carried out to better understand the roles of emerging technological advancements and their proper management and application in the teaching and learning cycle in both emergency and stable situations.*

Keywords: Distance, Education, Emergency, Insecurity, Covid-19

Quote: 'I Truly Believe That Education is the Antidote for Ignorance, Poverty and War'
- M. Jimenez. Arizona State University Lodestar Centre for Philanthropy and Nonprofit Innovation, 2018.

Introduction

Education as a weapon to boost competencies, skills, and socio-economic growth and as a weapon to eradicate poverty, ignorance and inequality has no substitute. Despite the numerous benefits of education to the individual and the societies, it is often the first service to be suspended and the last to be restored during insecurity and emergencies.

The Nigerian educational system has come under continuous attacks resulting in learning loss, loss of lives and properties. The concern, however, is to embrace innovations in educational delivery in line with the digital transformations in improving the accessibility to flexible and standard education for sustainable development and preparing the education sector for the challenges of emergencies.

During emergency and insecure situations, staff and resource shortages prevent education systems from meeting the needs of the learners. Decision-making to assess the turbulent level and efficient humanitarian services is hindered due to data gaps and coordination challenges. Education is affected by both natural and artificial (man-made) crisis[1]. Emergencies can lead to migration, relocation and displacement which often time affects the educational pursuits of school-aged children.

Adequate focus must be given to education as opined by Olugbeko[2], that education apart from being a public good is also the right of the citizens to access standard education because it is a panacea to the global security challenges and global sustainable development goals. Without any doubt, the more the people are educated, the more secure the nation. Insecurity is simply defined as "an emerging or existing threat to one's physical, psychological or emotional comfort.

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[1]Report of the Committee on the Rights of the Child on Its General Discussion on the Rights of the Child to Education in Emergencies Situation." *Right to Education Initiative*, (2008) www.right-to-education.org/resource/report-committee-rights-child-its-general-discussion-right-child-education-emergencies.

[2]Olugbeko, S.O. and Asagba E.N. Quality Education as a panacea to Global Security Challenges: A Case Study of Nigeria. Paper presented at *the International Conference on Arts, Economics and Management, 2014.*

According to Ayoko[3], the fallout of any form of emergency is usually overwhelming on the students, the school, the community, and the government, this may increase the rate of school dropout by susceptible students, destruction of school infrastructures, and loss of lives and property.

The ongoing war between Russia and Ukraine has led to the total closure of various levels of educational institutions and several foreign students have had to abandon their educational pursuits by fleeing for safety[4].

According to PBSO News[5], although, Gaza's education system was experiencing critical challenges before the war outbreak between Israel and Palestine, about 17 higher institutions of learning and over 800 lower schools were destroyed by bomb blasts.

Man-made disasters like bomb explosions, urban fires, chemical spills, civic insurrection, bandit attacks, war, bandit attack, trafficking, and ethnic conflict or natural disasters like tsunamis, typhoons, drought, volcanic eruption, cyclones, land erosion, floods, earthquakes, typhoons, climate change, tornadoes, the landslide can result in emergencies that can discourage the potential for academic excellence due to the associated trauma and the socio-economic effects such as loss of livelihood, malnutrition, loss of properties and extreme poverty. Some students may not be able to cope with the socioeconomic impacts.

The unplanned movement of people during turbulent situations harms the educational progression of school children because when they are swept along with their parents in forced movement, they leave behind their educational activities and usually settle in places where there are no adequate provisions for physical schools. This situation may lead to school dropout, child marriage, child commercialisation or child soldiers.

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[3]Ayoko Victor Olugbenga. "Understanding the 'Falling-Out' Factors that Contribute to School Dropout and the Ways Forward: Analysis of Government Failures, Cultural Beliefs, Disasters, Pandemic and Forced Migration". A paper presented at *the International Conference on Modern Education Studies, 25th-26th June 2022:* Konya, Turkey

[4]Kurapov, A., Pavlenko, V., Drozdov, A. Y., Bezliudna, V., Reznik, A., and Isralowitz, R. *Toward an understanding of the Russian-Ukrainian war impact on university students and personnel.* Journal of Loss and Trauma, 28(7), June 2022, 1-8.

[5]PBSO NEWS Weekend. *The devastating effect of the Israel-Hamas war on education in Gaza*, Mar 24, 2024.

The COVID-19 experience was an eye-opener to the flaws in the global education space and taught a lesson that with the ICT advancements in the twenty-first century, most countries are not prepared for new approaches for the delivery of innovative pedagogies needed for the management of educational crises. Gaps exist in innovations to mitigate and adapt to accessible education in conflict areas. The delivery of education in emergencies requires solid evidence and solutions-driven academic research. This position paper attempts to contribute to filling the gap

Objectives
This study aims to look into a series of emergency and insecurity occurrences that have militated against the smooth administration of education globally and locally and to justify the use of ODeL approaches in the smooth delivery and continuation of education during emergencies. Specifically, the historical experience of management of education in emergencies and the impeding challenges to stimulate research contributions, advance the acceptance of the ODeL approach and ideas in the administration of schools in emergencies.

Materials and Methods
This conceptual paper sourced secondary data from both print and online resources on the impacts of emergency crises on the administration of schools and positioned Open, Distance and e-Learning (ODeL) as a potential approach to the effective administration of sustainable education in emergencies in Nigeria.

The Concept of Open Distance and e-Learning (ODeL)
According to Naidu,[6] ODeL consists of three domains known as Open learning, Distance learning and e-Learning.

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[6]Naidu, S. E-Learning a Guidebook of Principles, Procedures and Practices (2nd Revised Ed.). *New Delhi Commonwealth Educational Media Centre for Asia (CEMCA)*. Scientific Research Publishing, 2006.

Open learning is an educational philosophy that promotes quality, flexible and accessible education to every individual with minimal restrictions by eradicating the barriers caused by age, geography, and time constraints. Distance Education (DE) is a form of a teaching-learning process where the learners and the teachers are dispersed in different geographical locations using ICT to bridge this physical and instructional gap. E-learning is simply the use of the Internet of Things (IoT), Information and Communication Technology (ICT), Artificial Intelligence of Things (AIoT) and digital devices in teaching, learning and instructional delivery.

ODeL originates from the features of accessibility, affordability and openness provided by open learning, DE, and e-learning. It involves the interactive teaching and learning process without the necessity for face-to-face contact. ODeL involves the use of the Internet of Things (IoT), digital devices Artificial Intelligence of Things (AIoT) and information and communication technology (ICT) to develop educational materials for instructional delivery and management of the educational programmes, this makes it possible to reach a large sum of learners in their different and safe locations. ODeL delivery can be asynchronous, synchronous or blended.
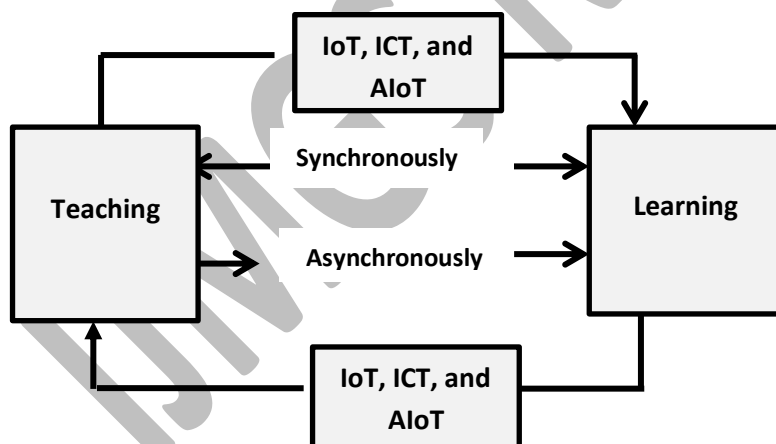
Figure 1: Teaching-Learning Model in ODeL
Source: Ayoko & Ayoko (2023)

The Concept of Education-in-Emergency (EiE)

Emergency has become a regular reoccurrence globally and when it happens, proactive measures are usually adopted by the government to arrest the devastating effects of the phenomenon.

Education in emergencies entails the provision of physical, cognitive and psychosocial quality learning opportunities that can sustain lives for all ages and at all levels of education during turbulent situations such as pandemics, natural and artificial disasters, conflicts, wars, terrorism, situations of violence, and forced displacement INEE[7] clarified that "Education in emergencies is a wider concept than 'emergency education response' which is an essential part of it".

The instrumentality of EiE ensures equitable and inclusive rights of children and young people to quality education in line with the focus of SDG4, Quality EiE encourages cognitive development, psychosocial support, well-being and hope in students during a crisis.[8]

Theoretical Framework

The theory of disaster and risk management by an American expert in emergency administration by the name of David McEntire in 2004 was formulated to provide a proactive all-in-one paradigm for the management of turbulent and hazardous phenomena that followed the terrorist attacks on the World Trade Centre and the Pentagon that occurred on 11th of September 2001 in the United States of America.

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[7]INEE 2018. "Annual Report | INEE." *Inee.org*, inee.org/resources/inee-2018-annual-report2018."
www.educacionyfp.gob.es/inee/indicadores/indicadores-internacionales/ocde/2018.html.
[8]United Nations. "United Nations Sustainable Development Summit 2015: Sustainable Development Knowledge Platform." *Un.org*, 2015, sustainabledevelopment.un.org/post2015/summit.

According to McEntire, [9] the strategies to be employed should be based on the nature of the emergency, disaster or insecurity and must include: Strategies taken in readiness for any disastrous occurrences; strategies taken to eliminate or reduce the effects of an already occurred disaster; strategies taken to rescue the victims of the disaster as at the time of disaster occurrence; and strategies taken to normalise the disaster affected area and victims. This theory explains that emergencies are inevitable and may result in unrecoverable impacts unless proactive and urgent decisions and steps are taken concerning preventing, responding, recovering and mitigating issues in the emergency. Emergency management policies and strategies for executing them must be put in place so that society is not submerged in an unrecoverable critical situation that will threaten its existence.
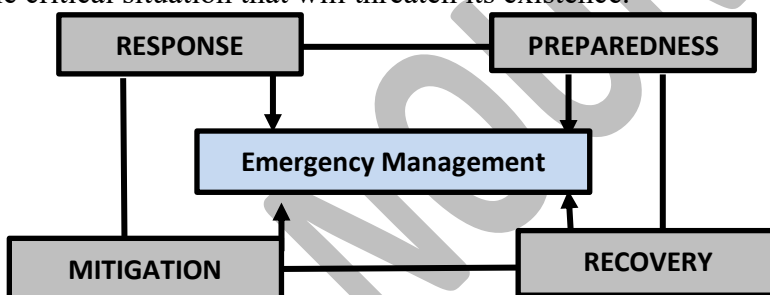
Fig. 2: Model of Emergency Planning and Management
Source: Ayoko & Ayoko (2023)

The fact remains that we cannot stop crises, insecurities, disasters and emergencies but we can formulate policies and innovations that will control the adverse effects on life and property.

We need to take advantage of the waving digital transformation and build the capacity to be able to distribute knowledge through effective teaching and learning via ICT to the ever-growing population. To achieve this, there is a need to sustain educational development through the ODeL approach during all the phases of disaster, insecurity, emergency and turbulent situations. Innovative actions can be taken by government and policymakers to prevent insecurities, disasters or emergencies through the implementation

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[9]McEntire, D. "Emergency Management in the United States: Disasters Experienced, Lessons Learned, and Recommendations for the Future". In: McEntire, A., Ed., "*Comparative Emergency Management: Understanding Disaster Policies, Organisations, and Initiatives from Around the World*", FEMA, Washington DC, (2012). https://training.fema.gov/hiedu/aemrc/booksdownload/compemmgmtbookproject/

of the ODeL approach at all levels of education especially in crisis-prone locations to prevent loss of life and properties.

The principle of education mitigation through the ODeL approach agrees with the fact that some man-made or natural events may happen but the impacts must be absorbable with minimal damage to educational sustainability.

The lessons from COVID-19 have shown that ODeL can be a viable preparedness approach to sustainable education. Preparedness involves critical policies to prevent and recover from turbulent situations. It is a continuous action that should entail all levels of government and the private sector to determine vulnerability and identify needed resources, policies, technology and innovations. In the preparedness phase, plans for sustainability are put in place as a shock absorber before a turbulent situation. Immediately after the occurrence of emergencies, comes the response phase. ODeL approach can be used to deliver mass education to reduce the likelihood of prolonged school closure and school dropout associated with forced migration from compromised or insecure locations. ODeL was used as a response strategy during the lockdown that follows the recent COVID-19 pandemic at all levels of education across countries. ODeL can also be indicated in the recovery phase of disaster, insecurity and emergency planning and management. It plays an active role in the stabilisation of the process of sustainable development in education. Without any doubt, ODeL as a teaching-learning approach is viable for the planning administration and management of Education in Emergencies.

Results
Overview of Global Emergency issues and their Effects on Educational Planning and Administration

Emergencies have forcibly displaced (internally and externally) an estimated 35 million children globally and caused half of the school-going-age children of refugees to fall out of the school system. Girls in crisis-affected countries are nearly 2.5 times more likely to fall out of school compared to girls in other peaceful countries.

* Between 2015 and 2019, over 22,000 teachers and students were harmed by 11,000 attacks on schools across 93 countries.[10]
* A total of 79.5 million people were forcibly displaced globally in 2019: 4.2 million asylum-seekers, 26 million refugees and 45.7 million internally displaced.[11] (UNHCR, 2020)
* Before the COVID-19 pandemic in 2019, about 50% of the global out-of-school population made up of 127 million (31% for girls and 27% for boys) primary and secondary school-age children and young people living in crisis-affected countries were already out of school.[12] (INEE, 2020)
* The crisis-affected countries are home to 49% of the world's out-of-school primary and secondary school-age children and young people.[12] (INEE, 2020)
* Only 2.4% of total humanitarian aid was given to education in the year 2020.[12] (INEE, 2020)
* Less than 1/3 of refugees are enrolled for secondary education: 36% are male and 27% female refugees.[13] (Save the Children, 2020)
* It was estimated that 235 million people will need humanitarian assistance and protection in 2021. This implies that 1 in every 33 people needs help globally. This is a sharp increase from the 1 in every 45 people estimated for 2020, which was already the highest figure in decades[14] (UNOCHA, 2020).

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[10]GCPEA, Education under Attack 2020." *Education under Attack 2020*, eua2020.protectingeducation.org/.
[11]UNHCR. *Coming together for refugee education.* Education Report 2020. https://www.unhcr.org/uk/publications/education/5f4f9a2b4/coming-together-refugee-education-education-report-2020.html
[12]INEE 2020. "Annual Report | INEE." *Inee.org*, inee.org/resources/inee-2020-annual-report
[13]Save the Children. *The future is now*. London: Save the Children Alliance, (2020) http://www.savethechildren.net/alliance/media/newsdesk/2010-05- 11.html
[14]UNOCHA. *Cox's Bazar 5W Data - Education Sector*. January-June 2020. https://data.humdata.org/dataset/ cox-s-bazar-5w-data-education-sector.

Overview of Nigerian Insecurity and Emergency Issues and their Effects on Educational Administration and planning

The insecurities, Socio-economic issues, and emergencies across Nigeria have limited school children's access to quality education. For over 15 years, the northeastern part of Nigeria has been under continuous attacks by the book-haram insurgents. Similarly, the bandits' menace also affects some rural communities in some parts of North-central and northwest Nigeria, including large-scale ransom kidnaps in schools. In the southeast, the irregular school closure due to the sit-at-home order will ultimately compromise the standard of education in the region. The rate of occurrences of insecurity in Nigeria has become an alarming social issue because of its direct consequences on the administration of schools, the economy, society and sustainability in general.

According to Ogunode, [15] the incidents of security threats and emergency occurrences in the recent past in Higher Education in Nigeria include the followings:

(1) In 2011, the increase in tuition fees led the students of the University of Calabar on a rampage that resulted in the loss of academic months due to the destruction of buildings, cars, facilities and staff properties worth millions of Naira that ensued. (2) In 2012, the Boko Haram terrorist group massacred about 40 students of Federal Polytechnics Mubi. (3) In 2013, failed accreditation due to inadequate laboratory facilities for engineering and medical students led to a demonstration by students of the University of Abuja. (4) In 2013, school properties were vandalised and a student lost his life during a riot by students of the University of Uyo against the school authorities due to inadequate lecture halls and an increase in intra-campus transport fares. (5) On August 16th 2013, at Abia State University, persons suspected to be cultists were held hostage and gang-raped by a female student. (6) On 18th December 2013, a senior lecturer of Olabisi Onabanjo University (OOU), Ogun State Department of Sociology was killed by suspected cultists.

[15]Ogunode, Niyi Jacob, Conrad Ugochukwu Ukozor and Victor Olugbenga Ayoko. "Insecurity Challenges and Higher Education in Nigeria". *Best Journal of Innovation in Science, Research and Development*, vol. 2, no. 5, 1 May 2023:387–404.

(7) On 3rd April 2015, a lecturer by the name of Mrs. Awala George, was kidnapped at the University of Port Harcourt but was later freed eight days later by police. (8) In July 2015, A university of Lagos lecturer raped an 18-year-old admission seeker. (9) On August 29, 2015, A lecturer of Calabar sexually assaulted a year four law student. (10) On May 23rd 2016, the academic staff of the University of Calabar withdrew their services for one week because of the attack on lecturers and the kidnap of three persons from the Staff Quarters. (11) In July 2016, a female undergraduate kidnapped her friend for ransom at Babcock University, Ogun State. (12) In 2017, amidst intense gun shootings, a Professor at the University of Calabar, Department of Zoology was kidnapped by gunmen and whisked away to a waiting boat at the Big Qua River that borders the university. (13) On 16th January 2017, three people including a professor were killed by two suicide bombers at the University of Maiduguri. (14) In May 2019, persons suspected to be rival cultist groups butchered a final-year male student at Cross River State University of Technology in the classroom. (15) On February 17, 2020, kidnappers abducted an Associate Professor at the University of Calabar, Institute of Public Administration, and a ransom of N50 million was demanded by the kidnappers. (16) In April 2020, three students were killed after their abduction. They were buried in a shallow grave at the University of Port-Harcourt. (17) On 27th May 2020, a policeman on duty in Calabar staff quarters was killed and his gun was stolen by assassins. (18) In March 2021, thirty-nine students were abducted when gunmen attacked the Federal College of Forestry Mechanisation in Afaka.

They were released a month later, after ransom had been paid. (19) In May 2021, Greenfield University, Kaduna was attacked and 16 students were kidnapped. Five of them died while others were released two months after payment of millions of Naira as ransoms. (20) In 2021, lecturers and children of the University of Abuja were kidnapped by bandits that invaded the higher institution. (21) On January 10, 2022, the Nigerian Army University was attacked by suspected members of the terrorist group Boko Haram. (22) On April 2, 2023, two female students were abducted by armed bandits at the Federal University Gusau (FUGUS) in Zamfara State.

In the same vein, Adedeji[16] documented the insecurity occurrences in the recent past in primary and secondary schools across Nigeria as follows;
(1) On July 29, 2009: Boko Haram members attacked Success International Private School, Maiduguri and set four buildings on fire. (2) On September 14, 2010: Boko Haram insurgents attacked Yerwa Primary School, Maiduguri and set ablaze 36 classrooms and offices. (3) On April 2, 2012: in Daura, Yobe: Boko Haram members set ablaze the principal's office, 2 blocks of 6 classrooms and certificates and books in Government Senior Secondary School, Daura, Yobe state before taking away power generators, computers and the school bus. (4) On February School, Maiduguri. In addition, Kulagumna Primary School along the Ali Kotoko area of Maiduguri metropolis was set on fire and Abba Ganaram Primary School was also burnt by Boko Haram insurgents. (5) On February 28, 2012: a bomb detonated by insurgents destroyed three schools and Gomari Costain Primary School in Maiduguri Borno state. (6). On March 1, 2012: Boko Haram insurgents attacked and razed down two buildings at Success International School, old Maiduguri. (7). On March 7, 2012: A school near the border with Yobe state was burned by the Boko Haram insurgents. (8).

On April 14, 2012: Gamboru II Primary and Junior Secondary School and Kulagumna Primary School in Maiduguri metropolis were set ablaze overnight by Boko Haram insurgents. (9) On June 18, 2012: A battle between government forces and Boko Haram insurgents led to the destruction of five primary schools, six churches, a police station and a police outpost in Damaturu Yobe state (10) On July 22, 2012: Thirty classrooms were burnt and teachers working late in the school were killed at Yobe Children's Academy, Damaturu, Yobe state. (11) On August 19, 2012: targeted explosions burnt down a part of the Central Primary School in Damagum Local Government, Yobe State. (12) On August 30, 2012: Two residents were killed, classrooms, a police station and the Lower Sharia court were all burnt to ashes by suspected Boko Haram in Goniri, Gujba Local Government Area, Yobe (13) On September 4-5, 2012: Boko Haram burnt to ashes a fire station, two primary schools, two religious affairs buildings and an electoral office in the northeastern city of Damaturu.

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[16]Adedeji, M.S., Adams, O.T., Adebayo, A.S., Areo, Y.M., and Adams, TA. (2021). The Challenges of Insecurity within Nigerian Educational System: Role and Responsibility of the Government. In Ochigbo, Beetseh, and Abubakar (ed.), *Global Insecurities: Challenges and the ways forward. 1st ed. Akure: Science and Education Development Inst., Nigeria*:121-125.

(14) On September 30, 2012: Boko Haram Islamists bombed an area around an Islamic boarding school leaving three people wounded in Zaria, Kaduna state. (15) On October 1, 2012: Around 10 pm, gunmen suspected to be Boko Haram members opened fire on students of the Adamawa State University, the School of Health Technology, and the Federal Polytechnic, in Mubi, Adamawa State killing twenty-six of them. (16) On March 12, 2013: the Nigerian Police in Kano state confirmed that the headmaster and three teachers from Dan Maliki primary were wounded by Gunmen. (17) On March 13, 2013: Gwange I Primary School and Gwange III Primary School were consecutively set ablaze by unknown assailants. (18). On March 18, 2013: Yelwa Central School, Ali-Alaskiri Primary School, Shehu Sanda Kyari Secondary School and Mafoni Day Secondary School in Maiduguri, Borno fell victim to multiple attacks with four teachers as casualties.

(19) On March 24, 2013: members of the Boko Haram completely burnt down Lajada Private School; Godiya Primary School; and Standard Private School in Biu, Borno state. (20) On April 9, 2013: In Dikwa, Borno State, four staff of the Borno State Schools Feeding Committee and two teachers were killed at their residence. (21) On June 16, 2013: seven teachers and two students of Government Secondary School, Damaturu, Yobe State were killed by suspected Boko Haram members**.** (22) On January 9, 2014: A member representing Gwoza/Chibok/Damboa in the House of Representatives confirmed about eight gunmen burnt down many primary schools and other public buildings in his constituency and that 90, 000 packets of chalk, exercise books and pens worth N38 million procured for distribution to schools were destroyed by these attackers. (23) On February 11, 2014: Abba Ashigar School of Business and Administrative Studies, Konduga close to Maiduguri was attacked by Gunmen with explosives with 20 female students abducted from the school including a medical doctor and five female street traders. Many drugs and medical equipment were also carted away (24) On February 24, 2014: Federal Government College Buni Yadi, Gujba Local Government Area of Yobe State was attacked by Boko Haram suspected of killing twenty-nine male students and burning down twenty-four structures that include the students' hostel, Administration block and staff quarters**.** (25) On February 26, 2014: Three catholic churches and a primary school were set ablaze in Shuwa, Adamawa state during an attack on several villages in Michika and Madagali Local Government Areas. (26). On April 14th 2014, there was global condemnation when about 276 girls were abducted from Government Secondary School, Chibok. Some of the girls are still in captivity even though some were later released. (27) On March 15, 2015: Insurgents escaped with at

least 400 out of the 200 women and 300 pupils detained at Zanna Mobarti
Primary School, Damasak, Borno state since November 24, 2014, after
expulsion by security forces from Chad and Niger. (28) On May 8, 2015: the
College of Administrative and Business Studies (CABS) at Potiskum, Yobe
state, was attacked by a suicide bomber armed with Improvised Explosive
Devices (IED) and an AK47 rifle suspected to be a member of the Boko Haram
sect by shooting sporadically at teachers and students. (29) On March 2, 2016:
unknown gunmen abducted three students of a private secondary school,
Babington Macaulay Junior Seminary, Ikorodu, Lagos state (30). On January
13, 2017: unknown gunmen abducted Ten students and staff of Nigerian Tulip
International College in Isheri, (former Nigerian Turkish International College)
Ogun State. (31) On January 16, 2017: three people including a professor were
killed at the University of Maiduguri when a bomb was detonated by two
teenage suicide bombers. (32) On May 25, 2017: six students of Lagos State
Model College, Igbonla-Epe were abducted despite security presence in the
school. (33). On 19th February 2018, Government Girls Science and Technical
College students numbering 111 were abducted in Dapchi, Yobe. (34) In July
2021, Bethel Baptist High School students totalling 53 were abducted from
their school premises in Kaduna, Kaduna and held for months. About N250
million was paid by the Nigerian Baptist Convention to secure the release of
the students. (35) On August 14, 2023, at about 3:0pm, bandits invaded BECO
Comprehensive School, kiwi, Plateau State killing two teachers.

According to Atabo,[17] "In addition to the abductions, over 180 schoolchildren
were killed and nearly 90 injured in 70 attacks between April 2014 and
December 2022, with an estimated 60 school staff kidnapped and 14 killed.

Twenty-five school buildings were reportedly destroyed during that period.
Save the Children stated that the majority of these attacks took place in North-
West Nigeria (49 attacks), followed by North-Central Nigeria (11 attacks).

These attacks have long-lasting consequences for communities and children's
access to education, often leading to the mass withdrawal of children from
school and school closures.

In Katsina state in the North-Western part of the country, nearly 100 schools
remain closed due to insecurity, affecting the education of over 30,000
children. In the aftermath of attacks, children and communities were left
traumatised, and the majorities do not receive psychological support."

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[17]Atabo Angela. 1683 children kidnapped in Nigerian schools in 8 years, PM News, 8th
Aug. 2023.

Discussion
Importance of Education in Emergencies

1). EiE provides a sense of community to displaced or traumatised children by providing a safe location for play and learning which stabilizes them and prepares them for the new normal situation which can prepare them for a return to familiar routines. In the emergency period, education is a weapon for protection of Out-of-school children from associated risks such as rape, recruitment into criminal activities, violence, child marriage poverty and school dropout.[18]

2). The continuity provided by EiE Gets children back into learning activities. This places them better able to break the long-term cycle of poverty, diseases or conflict by developing the competencies and knowledge required to establish peace, build community relationships and economic development. Another Importance of education in an emergency is that it makes the sustainability of academic progress already achieved possible by the maintenance of earlier investments made by students, parents, communities and the government. Education in an emergency gives hope and the platform for recovery from the psychosocial effects of violence, crisis and displacement caused by emergencies. EiE encourages tolerance, peace-building, inclusion, human rights awareness, conflict resolution, empowerment of girls and protection for the poorest and the most vulnerable.[19]

The Roles of ODeL in Delivery of Education in Emergency and Insecure Situations: Lessons from the Covid-19 Pandemic

ODeL can also be applied in curbing educational discontinuity caused by displacement or forced migration in emergency and insecure contexts.

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[18]NORRAG, The Year of Global Reports on TVET, Skills & Jobs Consensus or Diversity? Forthcoming Issue of NORRAG NEWS." *NORRAG* -, 2 Jan. 2013, www.norrag.org/2012-the-year-of-global-reports-on-tvet-skills-jobs-consensus-or-diversity-forthcoming-issue-of-norrag-news/. Accessed 16 Aug. 2023.
[19]NORRAG. Education and Development in the Post-2015 Landscapes. *Resources.norrag.org*,resources.norrag.org/resource/6/education-and-development-in-the-post-2015-landscapes**. Communications and delivery of educational materials during the emergency period of the COVID-19 epidemic.

According to Kirk,[20] the facilitative mechanisms known as flexible learning initiatives could sustain the delivery of access and certification issues rapidly and widely during emergencies to out-of-school children and youth.

A study carried out by Shraim[21] in Palestine indicated that teachers and educational decision-makers confirmed that mobile digital devices are useful tools for the effective delivery of education at a distance.

The COVID-19 pandemic has forced educational institutions to change their behaviours and mode of operations during lockdown to maintain social distancing which led to learning from home (distance) by using appropriate devices as a bridge. The advancement in technology has already led to the digital transformation of our daily activities and technology-based education delivery and learning by many education institutions worldwide.

The transition to emergency remote teaching and learning, (Education in Emergency) during the unprecedented time during the COVID-19 pandemic resulted in the paradigm shift that brought opportunities that led the education sector worldwide to change the ways of teaching and learning rapidly[22].

Without any doubt, the Education sector was deeply affected by the emergency brought about by covid-19 pandemic[23] this informed the decision to shift to ODeL mode by educational institutions due to the social distancing and lockdown. According to Durak[24], primary, secondary and high schools in Turkey continue their teaching-learning process completely via distance education.

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[20]Kirk, J. (Ed.). *Certification counts: Recognising the learning attainments of displaced and refugee students.* Paris: IIEP, 2009.

[21]Shraim K., Crompton H. The use of technology to continue learning in Palestine was disrupted by COVID-19. *Asian Journal of Distance Education.* 2020, 15, 1–20.

[22]Bozkurt, Aras, et al. "A Global Outlook to the Interruption of Education due to COVID-19 Pandemic: Navigating in a Time of Uncertainty and Crisis." *Asian Journal of Distance Education, vol. 15, no. 1, 5 June 2020:1–126,* zenodo.org/record/3878572#.YQOa-Y4zbIV, https://doi.org/10.5281/zenodo.3878572.

[23]Alam, M et al. Paradigm shifting of education system during COVID-19 pandemic: A qualitative study on education components. *Heliyon*, *8*(12), 20222. https://doi.org/10.1016/j.heliyon.2022.e11927.

[24]Durak, Gürhan, et al. "COVID-19 Pandemi Döneminde Türkiye'deki Üniversitelerin Uzaktan Eğitim Sistemlerinin İncelenmesi." *Necatibey Eğitim Fakültesi Elektronik Fen ve Matematik Eğitimi Dergisi, vol. 14, no. 14, 4 J*uly 2020 :787–810, https://doi.org/10.17522/balikesirnef.743080.

The application of open and distance learning modes to sustain the continuity of education in emergencies is not a new concept. The Justifications for the use of ODeL in Emergency and insecure Situations are as experienced in France, Australia, Sri Lanka, South Africa, Angola, Namibia, and New Zealand.

In 1980, basic education for adults was provided through distance education in health and other areas of the Namibian Education Project (later called the Namibian Extension Unit)[25]. This was set up in Zambia during the fight for independence for the benefit of political refugees from Namibia and Angola. The Namibian government established distance education from secondary to degree level with support from development donors after independence in the 1990s.

In South Africa, the United Nations High Commissioner for Refugees (UNHCR) supported refugees and members of the African National Congress (ANC) who were in exile to provide distance education in collaboration with the Solomon Mahlangu Freedom College in Tanzania.[26]

The measles epidemics of 1985, 1991 and 1997, made New Zealand shut down its whole school system and operated open schools for weeks through correspondence[27].

In Australia, the radio (School of the Air) was used to deliver education to residents of remote farms scattered across locations and in small towns where there were no qualified teachers to teach some specialised courses. These open schools also served in times of emergencies[28].

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[25]Namibian Extension Unit. A Brief Account of the Distance Education Programme for Namibians. Namibian Extension Unit, 1985.
[26]UNDP. Assistance to the Solomon Mahlangu Freedom College (SOMAFCO): African National Congress of South Africa (ANC) - (mission). Project findings and recommendations. 1992
[27]Donald Bewley & Palmerston North. Distance Education in New Zealand; An Historical Sketch. Journal of Distance Learning, 2(1), 1996

Outside the commonwealth, the largest open school system was operated by France known as France's Centre National d'Enseignement à Distance (CNED). The centre catered for thousands of vulnerable French children during the outbreak of World War II. The success of all of these open school systems captured the imagination of the world[28]

In Sri Lanka, a German development partner (GTZ) funded Open School was inaugurated in 2005 to cater for marginalised groups of young people including children whose parents do not initially recognise formal education; people in correctional centres or prisons; children of indigenous groups of Sri-lanka known as Veddah communities; school going-age children of plantation workers and most especially, victims of armed conflicts in the eastern and northern parts of sri-lanka[28].

Citing the Director-General, Michael Imodu National Institute for Labour Studies (MlNlLS),[29] reported that social vices such as kidnapping and banditry can be curbed by quality education.

In addition, education is the only weapon that can retard all negative tendencies affecting national growth and development.   Education is second to none because 'after education is education'

Looking at these historical initiatives in emergency management from countries like France, Australia, South Africa, Angola, Namibia, Sri Lanka and New Zealand, the global covid-19 experiences, the current trends in digital transformation, the Internet of Things (IoT) and Artificial Intelligence of Things (AIoT), integrating of ODeL into the existing national policy on education for conflict, insecure and emergency regions could play a cost-effective and transformative role in improving accessibility, continuity, flexibility and quality education-in-emergency.

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[28]Charlotte Creed and Roslyn Louise Morpeth. Continuity Education in Emergency and Conflict Situations: The Case for Using Open, Distance and Flexible Learning. Journal of Learning and Development, 1(3). https://doi.org/10.56059/jl4d.v1i3.25

[29]Daily Trust reporter. *Sound Education, Solution to Insecurity*. Daily Trust, 7 Feb 2022

Conclusion and Recommendation

Implementing ODeL in an emergency or insecure situation is complex but possible. The recent transformation triggered by the rapid COVID-19 pandemic has led to many trial initiatives which have created a bunch of experiences and recommendations for the way forward on the ODeL approach as an initiative that might be applicable during any emergency.

The current trend in the applications of Artificial Intelligence of Things (AIoT) in ODeL technologies has boomed significantly in various higher institutions and it has increased the engagement, security, mental well-being and motivation of the students to learn remotely during crises. More studies need to be carried out to better understand the roles of emerging technological advancements and their proper management and applications in the teaching and learning cycle in both emergency and stable situations.

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development-in-the-post-2015-landscapes.

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Climate Change and Forced Migration in Lake Chad

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Abstract

Lake Chad, a once vast and bountiful waterbody, has undergone significant shrinkage over recent decades, witnessing major reduction of its original expanse. This study explored the multifaceted challenges faced by the lake and its adjacent communities, delving into the intricate interplay climate change, human activities, and socio-economic repercussions. Through a combination of historical data analysis, comparative evaluations with other global regions, and detailed narratives of affected communities, we discerned the pivotal role of erratic precipitation patterns, rising temperatures, and heightened evaporation rates in the lake's decline. The ramifications of these ecological shifts resonate deeply within local communities, impacting agriculture, fishing, and traditional livelihoods, subsequently catalysing forced migration patterns. Yet, amid these challenges lies the resilience and adaptability of the affected communities. This paper illuminates potential international, national, and grassroots interventions, emphasising transboundary water management, infrastructural advancements, and community-led initiatives. Lake Chad's story emerges as an urgent testament to the broader challenges of global climate change, underscoring the need for proactive, collaborative action to forge a sustainable path forward. Adelekan, Ibidun, Cassidy Johnson, Mtafu Manda, David Matyas, Blessing U. Mberu, Susan Parnell, Mark Pelling, David Satterthwaite, and Janani Vivekananda. 'Disaster Risk and Its Reduction: An Agenda for Urban Africa'. International Development Planning Review 37, no. 1 (1 January 2015): 33–43.

Keywords: Adaptive livelihoods, Climate Change, Drought, Forced Migration, Lake Chad Basin

Introduction

Lake Chad, located in the Sahelian zone of West and Central Africa, is one of the continent's largest and most important freshwater bodies. Bordered by Chad, Cameroon, Nigeria, and Niger, it serves as a vital resource for millions of people, playing a crucial role in the region's ecology, economy, and culture. Historically, Lake Chad has been a lifeline for local communities, supporting diverse livelihoods, including fishing, farming, and pastoral activities. The lake's ecosystem provides habitats for numerous species of fish and aquatic birds, making it an essential ecological zone and a potential hotspot for biodiversity.[111]

However, in the past few decades, the effects of climate change have significantly altered the lake's dynamics. With increasing temperatures and changing precipitation patterns Lake Chad has experienced alarming episodes of shrinkage. Satellite images from the past 40 years show a decrease of about 90% of its original size in the 1960s.[112]

The consequences of this environmental shift have been profound, leading to the core issue addressed in this paper: forced migration. As the lake's resources dwindle, so do the livelihoods it supports. The reduced water levels have led to decreased fish stocks, less arable land, and fewer water sources for pastoral activities. Consequently, many communities that have depended on the lake for generations are finding it hard to sustain their livelihoods, pushing them to make the hard decision to leave their ancestral lands in search of better opportunities elsewhere. [113]

In this paper, we will delve deeper into the interconnected dynamics of climate change, the changing state of Lake Chad, and the consequent forced migration patterns, aiming to shed light on this pressing issue and offer recommendations for sustainable interventions.

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[111] Maha Skah and Rida Lyammouri, 'The Climate Change-Security Nexus: Case Study of the Lake Chad Basin', *Policy Center for the New South*, 2020, https://www.policycenter.ma/sites/default/files/RP%20-%2020-08%20%28skah%20%26%20Lyamouri%29.pdf.

[112] Michael T. Coe and Jonathan A. Foley, 'Human and Natural Impacts on the Water Resources of the Lake Chad Basin', *Journal of Geophysical Research: Atmospheres* 106, no. D4 (2001): 3349–56, https://doi.org/10.1029/2000JD900587.

[113] Uche T. Okpara, Lindsay C. Stringer, and Andrew J. Dougill, 'Lake Drying and Livelihood Dynamics in Lake Chad: Unravelling the Mechanisms, Contexts and Responses', *Ambio* 45, no. 7 (1 November 2016): 781–95, https://doi.org/10.1007/s13280-016-0805-6.

Historical and Geographical Overview of Lake Chad

Lake Chad, ensconced in the Sahelian zone of West-Central Africa, has an illustrious history intertwined with both nature and humanity. Geographically, the lake spans the crossroads of Chad, Cameroon, Nigeria, and Niger, making it one of the African continent's most significant inland water bodies. Historically, it's considered one of the ancient lakes, dating back several millennia. [114]

The lake's surface area has seen substantial historical fluctuations due to its shallow depth and climatic changes. Once reputed to be the world's sixth-largest lake, satellite observations from the past few decades indicate that the lake has undergone significant size reductions, a trend that's been particularly alarming since the 1960s.[115] Its topographical setting is unique. Positioned between the arid Saharan deserts in the north and the lush rainforests in the south, Lake Chad forms an essential ecological bridge, housing a mix of Sahelian and Sudanian flora and fauna. This confluence of habitats enriches its biodiversity and plays a pivotal role in regional weather patterns, particularly rainfall regimes.[116]

Objectives

This paper examines the nexus between climate change and migration in the Lake Chad region. It provides historical context, evaluates climatic drivers, and explores socio-economic impacts on local livelihoods, emphasizing connections to migration. The study investigates migration patterns, distinguishes between voluntary and climate-induced migration, and offers a comparative analysis with global implications. It concludes by advocating for collaborative, multi-pronged global efforts in mitigation and adaptation.

Materials and Methods

This research adopts a desktop-based approach, focusing primarily on secondary data sourced from published works, online repositories, databases, and digital archives to holistically understand the impacts of climate change on Lake Chad and its implications for forced migration.

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[114] Binh Pham-Duc et al., 'The Lake Chad Hydrology under Current Climate Change', *Scientific Reports* 10 (26 March 2020): 5498, https://doi.org/10.1038/s41598-020-62417-w.

[115] Coe and Foley, 'Human and Natural Impacts on the Water Resources of the Lake Chad Basin'.

[116] E. Odada, L. Oyebande, and A. J. Oguntola, 'Lake Chad: Experience and Lessons Learned Brief', *International Lake Environment Committee Foundation*, 2005, https://www.semanticscholar.org/paper/Lake-Chad%3A-experience-and-lessons-learned-brief-Odada-Oyebande/c081a17d3bf32351813a870343399d6277e80dc0.

Platforms such as JSTOR, Google Scholar, ScienceDirect, and Web of Science were searched extensively to extract scholarly articles, conference papers, and research reports pertinent to the topic.

Documents from the United Nations, World Bank, NGOs, and national governmental agencies were accessed for policy reports, white papers, and other official publications. Research articles and reports published within the last two decades were prioritised to ensure the most recent and relevant data is considered. Only peer-reviewed articles, official reports, and recognised studies were included. Any source not providing empirical evidence or lacking credibility was excluded.

Desktop research, while comprehensive, relies on secondary data, which might have its biases. The research acknowledges potential limitations regarding data recency, regional representation, and depth of certain studies.

Review
Importance of Lake Chad to the Surrounding Countries and Communities

For the riparian countries of Chad, Cameroon, Nigeria, and Niger; Lake Chad isn't just a geographical entity; it's a life source. The lake and its tributaries form a complex web that directly or indirectly supports the livelihoods of nearly thirty million people. [117]

- **Economically**: Lake Chad is a hub of activities. Its waters boost fisheries, providing food and employment to countless locals. The fertile lands on its banks have been the bedrock of agriculture for centuries, sustaining numerous crops that feed millions.

- **Ecologically**: Beyond human sustenance, the lake's ecosystem is a haven for biodiversity. It's home to various fish species, aquatic plants, and migratory birds. Its wetlands, recognised as sites of international importance under the Ramsar Convention, are crucial for global biodiversity conservation efforts. [118]

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[117] Oluwatuyi S. Olowoyeye and Rameshwar S. Kanwar, 'Water and Food Sustainability in the Riparian Countries of Lake Chad in Africa', *Sustainability* 15, no. 13 (2023): 10009, https://doi.org/10.3390/su151310009.

[118] E. Odada, L. Oyebande, and A. J. Oguntola, 'Lake Chad: Experience and Lessons Learned Brief', *International Lake Environment Committee Foundation*, 2005, https://www.semanticscholar.org/paper/Lake-Chad%3A-experience-and-lessons-learned-brief-Odada-Oyebande/c081a17d3bf32351813a870343399d6277e80dc0.

- **Socio-culturally**: Communities around Lake Chad have a deep spiritual and cultural connection to the lake. Festivals, folklore, and daily rituals revolve around the lake, cementing its significance in the region's collective consciousness.[119]

Overview of Past Migrations and Demographic Changes in the Region

The Lake Chad basin has always been a melting pot of cultures due to centuries of migrations, trade routes, and conquests. Historically, the Kanem-Bornu Empire, one of the oldest African empires, thrived around Lake Chad, signifying the region's importance as a centre of commerce and culture.[120]

However, in recent decades, demographic dynamics around Lake Chad have been less about prosperity and more about survival. As the lake has shrunk, so have the opportunities for traditional occupations. According to UN Deputy Secretary-General Amina Mohammed,[121] 2.3 million people across the region are displaced. The primary drivers for this migration are loss of livelihoods and increased competition for dwindling resources. Most displaced persons are moving toward urban centres, leading to increased urbanisation rates but also straining city resources.[122]

Lake Chad, with its rich history and pivotal role, stands at the forefront of the battle against climate change and its human consequences. The demographic shifts of recent years, driven by a mix of ecological, economic, and socio-political factors, are a testament to the broader challenges humanity faces in this era of rapid global changes.

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[119] Olowoyeye and Kanwar, 'Water and Oluwatuyi S. Olowoyeye and Rameshwar S. Kanwar, 'Water and Food Sustainability in the Riparian Countries of Lake Chad in Africa', *Sustainability* 15, no. 13 (2023): 10009, https://doi.org/10.3390/su151310009. Food Sustainability in the Riparian Countries of Lake Chad in Africa'.

[120] Carlos Magnavita, Zakinet Dangbet, and Tchago Bouimon, 'The Lake Chad Region as a Crossroads: An Archaeological and Oral Historical Research Project on Early Kanem-Borno and Its Intra-African Connections', *Afrique : Archéologie & Arts*, no. 15 (15 December 2019): 97–110, https://doi.org/10.4000/aaa.2654.

[121] Usigbe, 'Drying Lake Chad Basin Gives Rise to Crisis', Africa Renewal, 24 December 2019, https://www.un.org/africarenewal/magazine/december-2019-march-2020/drying-lake-chad-basin-gives-rise-crisis.

[122] Frederic Noel Kamta and Jürgen Scheffran, 'A Social Network Analysis of Internally Displaced Communities in Northeast Nigeria: Potential Conflicts with Host Communities in the Lake Chad Region', *GeoJournal* 87, no. 5 (1 October 2022): 4251–68, https://doi.org/10.1007/s10708-021-10500-8.

Climate Change and Lake Chad:
Current State of the Lake and How It Has Changed Over Time

Lake Chad, once an emblem of abundance in the Sahelian region, has undergone dramatic transformations over the last half-century. While its surface area naturally fluctuated over the past millennia, the scale and speed of recent reductions are unprecedented. From sprawling over approximately 25,000 square kilometres in the 1960s, it has dwindled to cover less than 2,500 square kilometres in certain drought-affected years.[123] This reduction, over 90% of its original size, has alarming implications for ecosystems and human populations alike.

Several factors contributed to Lake Chad's decline, including over-extraction of water for agriculture, coupled with the increasing demands of a burgeoning population, which has stressed the lake's resources. However, climate change has contributed to these trends, making the lake a vivid illustration of the adverse impacts of global warming.

Impact of Climate Change on Precipitation Patterns, Temperature, and Evaporation Rates

Climate change has asserted its influence on Lake Chad through a multi-pronged approach:

Precipitation Patterns: The Sahel, encompassing Lake Chad, has historically been characterised by its seasonality and variability in rainfall. Recent studies indicate an alteration in these patterns, with extended dry spells interspersed with sporadic, intense rainfall events.[124] Such irregularities decrease the freshwater input into Lake Chad and impact the recharge rate of the lake's tributaries. This phenomenon is attributed to shifts in the Intertropical Convergence Zone (ITCZ) influenced by global climate perturbations.

Temperature: The Sahelian region has not been immune to the global trend of rising temperatures. Over the past century, the region has experienced a

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[123] Ross Maidment, Richard Allan, and Emily Black, 'Recent Observed and Simulated Changes in Precipitation over Africa', *Geophysical Research Letters* 42 (12 September 2015), https://doi.org/10.1002/2015GL065765.

[124] Jacques Lemoalle et al., 'Recent Changes in Lake Chad: Observations, Simulations and Management Options (1973–2011)', *Global and Planetary Change* 80–81 (1 January 2012): 247–54, https://doi.org/10.1016/j.gloplacha.2011.07.004.

temperature increase at a rate faster than the global average.[125] This uptick in temperature is consequential for Lake Chad; a warmer climate contributes to higher evaporation rates and places stress on the aquatic ecosystems, potentially leading to a decrease in biodiversity.

Evaporation Rates: Lake Chad's expansive but shallow nature makes it highly susceptible to evaporation. Evaporation rates have intensified due to the dual challenge of reduced rainfall and increasing temperatures. Research suggests that the accelerated evaporation in the lake is both a cause and consequence of its diminishing size. As the water volume decreases, the lake becomes more prone to further evaporation, creating a feedback loop that exacerbates its shrinkage.[126]

Consequences for Agriculture, Fishing, and Other Livelihoods
The repercussions of Lake Chad's decline, amplified by climate change, reverberate through various socio-economic spheres:

- **Agriculture**: The lake's waters feed the surrounding floodplains, making them fertile grounds for agriculture. As water levels decrease, these floodplains recede, reducing the arable land available for cultivation. The unpredictability of rainfall further exacerbates food insecurity, making it difficult for farmers to plan their sowing and harvesting cycles. Crops like millet and sorghum, staples in the region, face reduced yields, impacting not just food availability but also the economic stability of farming communities.[127]

- **Fishing**: Lake Chad, once teeming with fish, has seen a decline in its stocks. With shrinking habitats and increased competition, many fish species face threats of local extinction. For the numerous fishing communities around the lake, this translates to reduced catches, impacting both their nutrition and economic well-being.

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[125] Christopher B. Field et al., eds., 'Climate-Resilient Pathways: Adaptation, Mitigation, and Sustainable Development', in *Climate Change 2014 Impacts, Adaptation, and Vulnerability* (Cambridge: Cambridge University Press, 2014), 1101–31, https://doi.org/10.1017/CBO9781107415379.025.

[126] Jacques Lemoalle et al., 'Recent Changes in Lake Chad: Observations, Simulations and Management Options (1973–2011)', *Global and Planetary Change* 80–81 (1 January 2012): 247–54, https://doi.org/10.1016/j.gloplacha.2011.07.004.

[127] Ephraim Nkonya, Alisher Mirzabaev, and Joachim Von Braun, eds., *Economics of Land Degradation and Improvement – A Global Assessment for Sustainable Development* (Cham: Springer International Publishing, 2016), https://doi.org/10.1007/978-3-319-19168-3.

The decline in fisheries has further cascading effects on associated industries like fish processing and trade.[128]

- **Other Livelihoods**: Beyond agriculture and fishing, other livelihoods, such as pastoralism, are also under strain. Pastoral routes have been disrupted, and with fewer water sources, herders face challenges in sustaining their livestock. This often leads to forced migration of the agrarian communities.[129]

Lake Chad stands at the nexus of climate change challenges and human adaptability. The changing climate patterns, reflected in the lake's transformation, offer a poignant reflection of the broader challenges faced by vulnerable ecosystems and communities globally.

Forced Migration: Causes and Consequences:
Distinguishing between Voluntary and Forced Migration
Migration is a multifaceted phenomenon, deeply rooted in historical, economic, and environmental contexts. At its core, migration can be categorised into voluntary and forced. Voluntary migration typically arises from an individual's pursuit of better economic opportunities, education, or lifestyle. On the other hand, forced migration occurs when individuals or groups are compelled to leave their homes, usually due to unforeseen or uncontrollable circumstances such as war, persecution, natural disasters, or environmental degradation.[130]

The line between these two can often blur, particularly in contexts like Lake Chad, where environmental degradation exerts indirect pressures. Such conditions may not forcibly evict residents in the immediate sense but can gradually erode the viability of their livelihoods, making their migration seem involuntary for all practical purposes.

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[128] Nwamaka Okeke-Ogbuafor et al., 'Proposed Solutions to the Problems of the Lake Chad Fisheries: Resilience Lessons for Africa?', *Fishes* 8, no. 2 (February 2023): 64, https://doi.org/10.3390/fishes8020064.

[129] Mark Moritz et al., 'Too Many People and Too Few Livestock in West Africa? An Evaluation of Sandford's Thesis', *Journal of Development Studies* 45, no. 7 (2009): 1113–33.

[130] Philip Martin, 'Managing Labor Migration: Temporary Worker Programs for the 21st Century', *Department of Economic and Social Affairs*, 2006. https://www.un.org/en/development/desa/population/events/pdf/other/turin/P07_Martin.pdf.

Direct Links Between Changing Climate, Decreasing Lake Size, and Migration

The shrinking size of Lake Chad is not just an environmental concern but a significant human issue. As established in previous sections, climate change, marked by erratic precipitation patterns and rising temperatures, has been a pivotal factor in the lake's decline. This environmental degradation directly impacts livelihoods dependent on the lake, from agriculture to fishing.

When traditional means of subsistence become untenable due to the lake's shrinking size, residents face the heart-wrenching decision to relocate to a more supporting environment because their means of livelihood could no longer be sustained in their location. According to the Internal Displacement Monitoring Centre,[131] many inhabitants around Lake Chad have been displaced multiple times, first due to climatic factors and subsequently due to conflict, which can be seen as a byproduct of resource scarcity.

Social, Economic, and Political Implications of These Migration Patterns

- **Social Implications**: The displacement of communities disrupts the social fabric. Families are often separated, and traditional societal roles can be upended. New migrants can face challenges in assimilating into host communities, leading to potential social tensions. Once severed, cultural and historical ties to ancestral lands can lead to a loss of identity and cultural heritage.[132]

- **Economic Implications**: Migration can lead to the abandonment of viable land and local resources, leading to economic losses. Migrants, especially those forcibly displaced, often find themselves in precarious economic positions in their new locations, without the assets or skills required for new jobs.

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[131] IDMC, 'Displacement in The Lake Chad Basin', IDMC - Internal Displacement Monitoring Centre, 2018, https://www.internal-displacement.org/sites/default/files/publications/documents/2018-GRID-spotlight-lake-chad-basin.pdf.

[132] Richard Black et al., 'The Effect of Environmental Change on Human Migration', *Global Environmental Change* 21, no. 1 (December 2011): S3–11, https://doi.org/10.1016/j.gloenvcha.2011.10.001.

Their displacement can lead to urban crowding, pressuring already strained resources in host areas.[133]

- **Political Implications**: Large-scale migrations, particularly when infused with elements of force or compulsion, can become politically charged issues. They can lead to disputes over resources in host areas, strained public services, and sometimes policy changes or restrictive migration laws. The Lake Chad basin, which stretches across several national borders, sees these political ramifications play out on an international stage, with countries sometimes blaming each other for mismanagement or overuse of shared resources.[134]

The narrative of Lake Chad isn't just an environmental tale; it's also a deeply human story of resilience, adaptability, and, unfortunately, displacement.

Results
Case Studies: Narratives of Affected Communities and Their Coping Mechanisms
The experiences of communities surrounding Lake Chad are emblematic of the broader challenges of environmental change and forced migration. While the overarching narrative of Lake Chad's decline and its implications is well-documented, it's essential to delve deeper into individual stories to understand the human dimension of this crisis. This section presents two community-based case studies that offer a microscopic view into the lived experiences of Lake Chad's residents.

The Buduma Community: Fishing and Fluidity
The Buduma, traditionally known as the 'people of the grasses,' have historically been a fishing community, navigating the waters of Lake Chad on their distinctive boats called "dugus." Over generations, they have honed

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[133] Cecilia Tacoli, 'Crisis or Adaptation? Migration and Climate Change in a Context of High Mobility', *Environment and Urbanization* 21, no. 2 (1 October 2009): 513–25, https://doi.org/10.1177/0956247809342182.

[134] Uche T. Okpara, Lindsay C. Stringer, and Andrew J. Dougill, 'Lake Drying and Livelihood Dynamics in Lake Chad: Unravelling the Mechanisms, Contexts and Responses', *Ambio* 45, no. 7 (1 November 2016): 781–95, https://doi.org/10.1007/s13280-016-0805-6.

the skills to fish in the lake's shallow waters, ensuring a sustainable catch without depleting resources.[135]

However, with the lake's receding shores, their livelihoods have come under threat. The reduced fish stocks and increased competition with other fishing communities led to economic strains. Many Buduma people found it challenging to maintain their traditional lifestyle, leading to an identity crisis among the younger generation.

Impact on the Buduma Community:
The shrinking of Lake Chad has led to a decrease in fish populations that have been a primary source of food and income for the Buduma people for generations. Factors such as inconsistent rainfall, increased temperatures, and heightened evaporation rates have all contributed to the depletion of fish stocks. This depletion has led to a decrease in fish catches, directly affecting the Buduma's primary source of sustenance and income.[136]

The Buduma community, historically fisherfolk, also practiced flood-recession agriculture. The declining lake levels and unpredictable rainfall have affected flood patterns, making it hard to determine the best times for planting crops. This unreliability has negatively impacted the cultivation of staples such as millet and sorghum.[137]

As the lake's resources have dwindled, many Buduma people have been forced to migrate in search of new livelihoods. This has resulted in an influx of people into urban areas, often straining already overburdened infrastructures and causing competition for resources and employment opportunities.[138]

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[135] Jeremiah Aluwong, 'Ethnic Groups In Nigeria: The Buduma People', *Connectnigeria Articles* (blog), 5 June 2020, https://articles.connectnigeria.com/ethnic-groups-in-nigeria-the-buduma-people/.

[136] Jeremiah Aluwong, 'Ethnic Groups In Nigeria: The Buduma People', *Connectnigeria Articles* (blog), 5 June 2020, https://articles.connectnigeria.com/ethnic-groups-in-nigeria-the-buduma-people/.

[137] E. Odada, L. Oyebande, and A. J. Oguntola, 'Lake Chad: Experience and Lessons Learned Brief', *International Lake Environment Committee Foundation*, 2005, https://www.semanticscholar.org/paper/Lake-Chad%3A-experience-and-lessons-learned-brief-Odada-Oyebande/c081a17d3bf32351813a870343399d6277e80dc0.

[138] E. Odada, L. Oyebande, and A. J. Oguntola, 'Lake Chad: Experience and Lessons Learned Brief', *International Lake Environment Committee Foundation*, 2005, https://www.semanticscholar.org/paper/Lake-

Adaptation Strategies of the Buduma People

In response to the reduced fish stocks and unreliable agricultural conditions, the Buduma people have diversified their livelihoods. Many have turned to animal husbandry, engaging in small-scale rearing of goats, sheep, and poultry, as an alternative source of income.[139] This phenomenon also entails significant implications for the environment, including increased pressure on the availability of potable water, the necessity for effective waste disposal mechanisms, and additional requirements for both human and livestock sustenance. Consequently, contributing to environmental degradation. The Buduma community has united to advocate for their rights and raise awareness of the impacts of climate change on their lives. They have engaged with local, national, and international actors, highlighting the need for sustainable resource management and mitigation of climate change impacts.[140]

To adapt to the erratic rainfall patterns, the Buduma people have adopted water-saving technologies, such as rainwater harvesting and the use of drought-resistant crop varieties. These measures help conserve water and improve the efficiency of agricultural practices.[141] The experiences of the Buduma community illustrate the importance of resilience and adaptation in the face of climate change. Their ability to diversify livelihoods, advocate for their rights, and adopt sustainable practices serve as a testament to human adaptability in the face of environmental challenges.

The Kanembu Farmers: Agriculture Amidst Aridity

The Kanembu community predominantly practices agriculture in regions near Lake Chad, relying on the lake's waters for irrigation. Historically, they cultivated millet, sorghum, and wheat, taking advantage of the fertile

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Chad%3A-experience-and-lessons-learned-brief-Odada-
Oyebande/c081a17d3bf32351813a870343399d6277e80dc0.

[139] Uwe A. Schneider et al., 'Impacts of Population Growth, Economic Development, and Technical Change on Global Food Production and Consumption', *Agricultural Systems* 104, no. 2 (2011): 204–15.

[140] Uwe A. Schneider et al., 'Impacts of Population Growth, Economic Development, and Technical Change on Global Food Production and Consumption', *Agricultural Systems* 104, no. 2 (2011): 204–15.

[141] Uwe A. Schneider et al., 'Impacts of Population Growth, Economic Development, and Technical Change on Global Food Production and Consumption', *Agricultural Systems* 104, no. 2 (2011): 204–15.

floodplains.[142] But as the lake receded, these floodplains started disappearing, and freshwater became scarce. Crops began failing, pushing the Kanembu to the brink of food insecurity.

Impact of Climate Change on Kanembu Farmers:

Kanembu farmers, who inhabit the Lake Chad basin, have experienced shifts in precipitation patterns due to climate change. The increasingly erratic and unpredictable rainfall has made it difficult for farmers to plan their planting and harvesting seasons, often leading to crop failure.[143] The altered precipitation patterns and rising temperatures have degraded soil fertility in the region. The reduced soil moisture and increased evaporation have adversely affected the nutrient availability in the soil, making it less conducive for crop cultivation.[144]

Warmer temperatures have created a favourable environment for the proliferation of pests and diseases. Kanembu farmers have reported increased attacks on their crops by pests such as locusts and grasshoppers, as well as crop diseases like mildew and blight, resulting in reduced yields. The shrinking of Lake Chad has led to a decline in water availability for irrigation. This scarcity has forced Kanembu farmers to reduce the cultivated area and switch to drought-resistant crop varieties.[145]

The loss of livelihoods has forced many Kanembu farmers to migrate to urban areas for alternative employment. This forced migration has led to overcrowding in urban areas, increased competition for scarce resources, and heightened social tensions.[146]

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[142] Vincent Hiribarren, 'Kanem-Bornu Empire', in *The Encyclopedia of Empire*, ed. Nigel Dalziel and John M MacKenzie (Oxford, UK: John Wiley & Sons, Ltd, 2016), 1–6, https://doi.org/10.1002/9781118455074.wbeoe014.

[143] Ephraim Nkonya, Alisher Mirzabaev, and Joachim Von Braun, eds., *Economics of Land Degradation and Improvement – A Global Assessment for Sustainable Development* (Cham: Springer International Publishing, 2016), https://doi.org/10.1007/978-3-319-19168-3.

[144] Ephraim Nkonya, Alisher Mirzabaev, and Joachim Von Braun, eds., *Economics of Land Degradation and Improvement – A Global Assessment for Sustainable Development* (Cham: Springer International Publishing, 2016), https://doi.org/10.1007/978-3-319-19168-3.

[145]Ephraim Nkonya, Alisher Mirzabaev, and Joachim Von Braun, eds., *Economics of Land Degradation and Improvement – A Global Assessment for Sustainable Development* (Cham: Springer International Publishing, 2016), https://doi.org/10.1007/978-3-319-19168-3.

[146] Diana Reckien et al., 'Climate Change, Equity and the Sustainable Development Goals: An Urban Perspective', *Environment and Urbanization* 29, no. 1 (1 April 2017): 159–82, https://doi.org/10.1177/0956247816677778.

Adaptation Strategies:

Kanembu farmers have diversified their crop cultivation in response to the changing climate. By planting a mix of drought-resistant and traditional crops, they reduce their risk of total crop failure and enhance their resilience to climatic shocks.[147] Kanembu farmers have sought alternative water sources for irrigation, such as rainwater harvesting and boreholes. These alternatives have helped mitigate the effects of water scarcity on their agricultural practices.[148]

Kanembu farmers have adopted improved farming techniques, such as mulching, terracing, and contour ploughing, to conserve soil moisture, prevent erosion, and enhance soil fertility.[149] The Kanembu farmers have formed cooperatives to pool resources, share knowledge, and collectively advocate for government support. These cooperatives have been instrumental in acquiring seeds, fertilisers, and other inputs, accessing markets and securing better prices for their produce.[150]

Faced with the loss of livelihoods and escalating conflicts over scarce resources, many Kanembu farmers have been forced to migrate to urban areas. While this migration has led to overcrowding and increased social tensions in urban centres, it has also provided some farmers with access to alternative employment opportunities and relief from the immediate pressures of climate change.[151]

The experiences of the Kanembu farmers reflect the broader challenges agricultural communities face in adapting to climate change. Their ability to diversify crops, adopt improved farming techniques, and cooperate as a community exemplifies the importance of resilience and adaptation in the face of environmental change.

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[147] Fatima Denton et al., 'Climate-Resilient Pathways: Adaptation, Mitigation, and Sustainable Development', 2015, 1101–31, https://doi.org/10.1017/CBO9781107415379.025.

[148] Uche T. Okpara, Lindsay C. Stringer, and Andrew J. Dougill, 'Lake Drying and Livelihood Dynamics in Lake Chad: Unravelling the Mechanisms, Contexts and Responses', *Ambio* 45, no. 7 (1 November 2016): 781–95, https://doi.org/10.1007/s13280-016-0805-6.

[149] Fatima Denton et al., 'Climate-Resilient Pathways: Adaptation, Mitigation, and Sustainable Development', 2015, 1101–31, https://doi.org/10.1017/CBO9781107415379.025.

[150] Fatima Denton et al., 'Climate-Resilient Pathways: Adaptation, Mitigation, and Sustainable Development', 2015, 1101–31, https://doi.org/10.1017/CBO9781107415379.025.

[151] Okpara, Stringer, and Dougill, 'Lake Drying and Uche T. Okpara, Lindsay C. Stringer, and Andrew J. Dougill, 'Lake Drying and Livelihood Dynamics in Lake Chad: Unravelling the Mechanisms, Contexts and Responses', *Ambio* 45, no. 7 (1 November 2016): 781–95, https://doi.org/10.1007/s13280-016-0805-6.Livelihood Dynamics in Lake Chad'.

Discussion

Potential Solutions and Interventions for Climate-Induced Migration in the Lake Chad

Climate change and its subsequent effects on Lake Chad have exerted immense pressure on the region's ecosystems and communities. Addressing these challenges requires a multi-tiered approach involving international, national, and local responses. Let's explore potential interventions and solutions that can alleviate the impacts and foster resilience in the affected communities.

International Responses:

Transboundary Water Management: The Lake Chad Basin Commission (LCBC), encompassing Cameroon, Chad, Niger, Nigeria, and the Central African Republic, plays a pivotal role in coordinating water management and conservation efforts.[152] Further strengthening the LCBC through enhanced cooperation, data-sharing, and international support can be instrumental in addressing water scarcity.

Financial Aid and Technical Assistance: International bodies, such as the United Nations and the World Bank, can provide financial and technical assistance to support local and national initiatives addressing climate change and migration in the region. For instance, the World Bank's Lake Chad Region Recovery and Development Project aims to contribute to the recovery of the Lake Chad region by facilitating regional coordination and crisis monitoring, enhancing connectivity, and promoting agricultural livelihoods in selected provinces of the Republic of Cameroon, the Republic of Chad, and the Republic of Niger.[153]

National Responses:

Infrastructure Development: Countries surrounding Lake Chad can invest in infrastructure to enhance water storage, irrigation efficiency and reduce

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[152] Oluwatuyi S. Olowoyeye and Rameshwar S. Kanwar, 'Water and Food Sustainability in the Riparian Countries of Lake Chad in Africa', *Sustainability* 15, no. 13 (2023): 10009, https://doi.org/10.3390/su151310009..

[153] World Bank, 'Development Projects : Lake Chad Region Recovery and Development Project', Text/HTML, World Bank, 2023, https://projects.worldbank.org/en/projects-operations/project-detail/P161706.

evaporation and conserving the little precipitation obtained for optimal use, mitigating the impacts of varying rainfall patterns.[154]

Migration Policy Frameworks: National governments can develop policy frameworks specifically targeting climate-induced migration. This would involve strategies to accommodate and integrate migrants, ensuring that their rights and livelihoods are protected.

Local Responses:
Community-based Adaptation: Encouraging community-led initiatives allows for solutions tailored to local needs. This might involve the creation of water user associations, community-driven conservation initiatives, or locally managed disaster risk reduction programs.[155]

Diversification of Livelihoods: Local communities can be supported in diversifying their income sources. For instance, moving beyond traditional fishing to include aquaculture or introducing drought-resistant crops for farming.

Adaptive Strategies and Resilience-building Measures:
Ecosystem Restoration: Efforts can be intensified to restore the lake's ecosystems. These include afforestation projects, wetland restoration, and controlling invasive species, which can enhance the lake's resilience to climatic shocks.[156]

Early Warning Systems: Installing early warning systems for extreme weather events can help communities better prepare for and respond to potential crises.

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[154] Ibidun Adelekan et al., 'Disaster Risk and Its Reduction: An Agenda for Urban Africa', *International Development Planning Review* 37, no. 1 (1 January 2015): 33–43, https://doi.org/10.3828/idpr.2015.4.

[155] Christophe Béné et al., 'Resilience: New Utopia or New Tyranny? Reflection About the Potentials and Limits of the Concept of Resilience in Relation to Vulnerability Reduction Programmes', *IDS Working Papers* 2012 (1 September 2012), https://doi.org/10.1111/j.2040-0209.2012.00405.x.

[156] Richard Munang et al., 'Climate Change and Ecosystem-Based Adaptation: A New Pragmatic Approach to Buffering Climate Change Impacts', *Current Opinion in Environmental Sustainability*, Terrestrial systems, 5, no. 1 (1 March 2013): 67–71, https://doi.org/10.1016/j.cosust.2012.12.001.

Education and Awareness: Building awareness about sustainable resource usage, conservation, and the impacts of climate change ensures that communities can proactively respond to challenges.

Recommendations for Policymakers, NGOs, and International Bodies
Holistic Planning: Policies should consider the interconnectedness of water, food, and energy security. Adopting a nexus approach ensures that solutions in one domain do not adversely impact another.

Enhanced Research and Data Collection: There's a need for continuous research and data collection on Lake Chad's hydrology, climate patterns, and migration dynamics, ensuring that policies are evidence-based.[157]

Engage Local Communities: Policymakers and NGOs must prioritise the voices and needs of local communities, ensuring that interventions are locally relevant and sustainable.

Foster Collaborative Partnerships: Addressing the challenges of Lake Chad necessitates collaboration among various stakeholders, including governments, NGOs, international bodies, and the private sector.

The situation in Lake Chad is a testament to the intricate interplay of climate change, environmental degradation, and human resilience. Adopting a multi-tiered, holistic, and community-centric approach can significantly mitigate the challenges and build a sustainable future for the Lake Chad region.

Conclusion
The story of Lake Chad is one intricately woven into the fabric of changing climates, rising human demands, and the resilience of communities that have made this region their home for generations. Once an emblematic landmark sprawling over 25,000 square kilometres, Lake Chad has witnessed an alarming reduction of over 90% of its original size in a few

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[157] MRichard Munang et al., 'Climate Change and Ecosystem-Based Adaptation: A New Pragmatic Approach to Buffering Climate Change Impacts', *Current Opinion in Environmental Sustainability*, Terrestrial systems, 5, no. 1 (1 March 2013): 67–71, https://doi.org/10.1016/j.cosust.2012.12.001.unang et al.

decades.[158] The implications of this transformation, both ecologically and societally, provide a deep reflection into the broader challenges climate change poses on global scales.

As delineated in this paper, the erratic shifts in precipitation patterns, compounded by escalating temperatures and increased evaporation rates, have played pivotal roles in Lake Chad's current predicament.[159] The manifestations of these changes reverberate through various dimensions of human lives, impacting agriculture, fishing, and other traditional livelihoods. Communities that once thrived on the lake's bounty now face the harrowing realities of dwindling resources, food insecurities, and economic instabilities.[160]

Yet, amidst the scientific data and ecological changes lies the profound human narrative. The stories of communities uprooted from their homes, tales of fishermen facing the spectre of local fish species' extinction, and narratives of farmers grappling with unpredictable rainfalls paint a vivid picture of the socio-economic repercussions of climate change.[161] Furthermore, the comparative analysis of Lake Chad's situation with other global regions underscores that this isn't an isolated incident but rather a harbinger of what might unfold on larger scales if interventions are not instituted.[162]

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[158] Ross Maidment, Richard Allan, and Emily Black, 'Recent Observed and Simulated Changes in Precipitation over Africa', *Geophysical Research Letters* 42 (12 September 2015), https://doi.org/10.1002/2015GL065765.

[159] Sharon E. Nicholson, 'The West African Sahel: A Review of Recent Studies on the Rainfall Regime and Its Interannual Variability', *International Scholarly Research Notices* 2013 (17 February 2013): e453521, https://doi.org/10.1155/2013/453521; Chris C. Funk and Molly E. Brown, 'Declining Global per Capita Agricultural Production and Warming Oceans Threaten Food Security', *Food Security* 1, no. 3 (1 September 2009): 271–89, https://doi.org/10.1007/s12571-009-0026-y.

[160] Mark Moritz et al., 'Too Many People and Too Few Livestock in West Africa? An Evaluation of Sandford's Thesis', *Journal of Development Studies* 45, no. 7 (2009): 1113–33.

[161] Christophe Béné et al., 'Resilience: New Utopia or New Tyranny? Reflection About the Potentials and Limits of the Concept of Resilience in Relation to Vulnerability Reduction Programmes', *IDS Working Papers* 2012 (1 September 2012), https://doi.org/10.1111/j.2040-0209.2012.00405.x.

[162] Christophe Béné et al., 'Resilience: New Utopia or New Tyranny? Reflection About the Potentials and Limits of the Concept of Resilience in Relation to Vulnerability Reduction Programmes', *IDS Working Papers* 2012 (1 September 2012), https://doi.org/10.1111/j.2040-0209.2012.00405.x.

It becomes evident that solutions cannot be myopic. Addressing the challenges of Lake Chad mandates a comprehensive, multi-tiered approach encompassing international, national, and local strategies. As we've explored, there's a dire need to bolster transboundary water management, introduce infrastructural improvements, champion community-led initiatives, and adopt ecosystem restoration projects, among other interventions.[163] The confluence of policies, strategies, and grassroots movements can pave the path towards a more sustainable and resilient future for the Lake Chad region.

The situation of Lake Chad stands as a potent symbol of the broader environmental and socio-economic challenges looming in the face of global climate change. It is not just a call to action but an urgent clarion call. The intertwined fates of ecological systems and human communities necessitate moving beyond mere acknowledgment to proactive, comprehensive, and collaborative action.

This paper has aimed to illuminate the intricacies of this situation, highlighting both the challenges and the potential pathways forward. In the end, Lake Chad's story is a testament to human adaptability, resilience, and the indomitable spirit of communities. With concerted efforts, there remains hope that this iconic lake and its intertwined lives can witness a renaissance.

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[163] Ibidun Adelekan et al., 'Disaster Risk and Its Reduction: An Agenda for Urban Africa', *International Development Planning Review* 37, no. 1 (1 January 2015): 33–43, https://doi.org/10.3828/idpr.2015.4.

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Banditry and Forced Migration: Implication on Children Education and Peacebuilding in Kaduna State (2017-2022)

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Abstract

Contemporary threats to national security amongst which is banditry had led to perpetration of violence and consequent forced migration of rural communities from their habitual place of residence. Insecurity had forced the closure of schools either through population displacement and utilisation of schools as forced migrant camps; despite the deployment of military personnel. The study investigated factors sustaining banditry activities; consequences of banditry on forced migration and out-of-school children; effects of forced migration and out-of-school children on peacebuilding. The study used qualitative data approach with secondary data analysis. It was revealed that, scholarly discourse indicated prevalent commonality of sustainable factors reinforcing displacement and educational inaccessibility. Government dearth of constructive response in addressing the problem of ungoverned spaces, farmers/herders dispute, poverty/unemployment, illiteracy, injustice, global/domestic sponsorship of banditry had been the catalyst worsening the situation. Banditry triggering forced migration had aggravated out-of-school children issue, with already 20 million added to 35% illiterates among adult population in Nigeria. It concluded that, national dreams of African and global power status are only attainable through addressing collective national insecurities such as illiteracy, poverty and unemployment, which are the catalyst. The study suggested the need to address commonality of factors ungoverned spaces, through relocation of security forces institutions/establishment to occupy the ungoverned spaces through increased military presence, constructive exploitation of human/material resources, training of local vigilante groups for community's resilience and effective response to violence.

Keywords: Banditry, Forced-Migration, Children-Education, Peacebuilding

Introduction

Contemporary threats to national security comprise banditry, armed robbery, kidnapping and insurgency, employed terrorism to achieved its objectives. Banditry is one major imminent danger to both physical and psychological safety humanity faced daily. Rural and semi-urban areas had borne the brunt of this menace. Internal Displacement Monitoring Centre[1] pointed out the consequences of displacement like delayed development, retardation of long-term investment gains. Capital expenditure on schools' reconstruction, expansion and rehabilitation is aimed at enrolment of school age children. Insecurity that forced the closure of these schools either through population displacement and utilisation of schools as forced migrant camps, undermined development gains.

Closure of classes due to forced migration and camping of its victims, halted government efforts towards addressing lack of school access in Nigeria. Population of out-of-school children increased at geometric progression rate. Increased banditry had exacerbated the lack of school access these kids faced[2]; [3]United Nations Children Emergency Funds (UNICEF) estimated 20 million children lacking access to learning opportunities[4]. The formal school environment provides the chances refined technical know-how.

Lack of school access results to skills underdevelopment and possible susceptibility for recruitment to perpetrate violence. [2]"Out of School Children in Nigeria: Causes, Social Implication and Way Forward."

International Journal on Integrated Education, 5, no.12, 2022 pointed out that, children who are out of school are often used to perpetrate crime and other ills in society, become deficient in skills development required for job vacancies which are only obtainable through the school system.

[1] IDMC: *Youths and Children in Internal Displacement*. Norwegian Refugee Commission/ (2022).
[2]Ogunode, Niyi J, Adanna, Chinwuba M, and Ayoko, Victor O. "*Out of School Children in Nigeria: Causes, Social Implication and Way Forward.*" International Journal on Integrated Education, 5, no.12, 2022, 82-91
[3]Haruna, R., Ahmad., U & Abubakar, A. "*As Out-of-School Children Scourge Worsens… Nigeria Risks Losing Out on Literacy, Skilled Workforce.*" *Leadership Newspaper*, November, 2022
[4]Abdulsemiu, Monsuroh. "*Despite Alternative Intervention, Number of Out-of-School Children Keeps Rising in Nigeria.*" The Cable*, Oct. 15th, 2022

With millions of out-of-school kids in society, humanitarian crises resulting from insecurity that fueled displacement of rural populace, there is a long way to addressing human suffering. Banditry enterprise have an available labour market for replenishing its depleting forces with illiterate kids in the streets. Ndanusa, Abayomi and Harada in "Examining the fragments and causes of increasing out-of-school children in Nigeria[5], stated that, the army of out-of-school children poses threat to national security if nothing is done. Human population displacement of 59.1 million, saw insecurity producing 53.2 million victims while natural disasters took 5.9 million. National insecurities particularly violent conflict had led to forced migration of 3.2 million and natural disaster had 107,000[1]. Forced residential relocation retard children educational progression. Jumare[6] asserted that in Kaduna, 1.2 million children's access to education advancement had been retarded resulting from banditry among others.

Okoh et al[7] in "Out of School Children: Enhancing Factors and Consequences for Sustainable Development in North Central Geo-Political Zone, Nigeria." declared that poverty, child labour, teenage pregnancy and distance from school triggers out-of-school crises in North Central geopolitical zone.

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[5]Ndanusa, Mohammed N, Abayomi, Quadri K, and Harada, Yoshifumi. "*Examining the fragments and causes of increasing out-of-school children in Nigeria.*" Journal of Africa Studies and Development, 13, no.4, 2021, 66-73.

[6]Jumare, Dalhatu A. "*Effect of the School Feeding Program on Enrolment and Retention of Public Primary School Pupils in Selected Local Governments in Kaduna State, Nigeria* (2015-2019)." August, 2022 Available at https://www.researchgate.net/publication/3627803

[7]Okoh et al. "*Out of School Children: Enhancing Factors and Consequences for Sustainable Development in North Central Geo-Political Zone, Nigeria.*" American Journal of Educational Research, 8(10), 2020, 804-811

Olapeju and Peter[8] point out that, the factors of vast ungoverned spaces, high rate of youth unemployment resulting to poverty, arms proliferation, weak security architecture among others as the catalyst for banditry sustainability. Huge land mass with thick forest provides the needed cover for criminal operations like abductions. Maishanu[9] identifies Changes in land ownership; encroachment and sales of grazing land, and weapons to be the fueling factors for violence that threaten peaceful coexistence. Punch Editorial[10] states that, arrested bandits claimed their motivations for abductions for ransom, and trafficking in human persons and body parts to be unemployment and poverty.

Poverty and unemployment had energized utilisation of terrorism activities. Kidnappings and general insecurity due to banditry created a plethora of crises. Concerns for safety had obviate rural dwellers farming activities, housing challenges, and movement to safe areas.

These crises affect every dimension of a child's live, implications on security and education among others, pointed to educational disruption resulting learning losses and reduced social interaction for these kids in the future[1]. While paraphrasing Atubi[11] points to a weak security architecture that had sustained banditry activities that exacerbate human displacement and schools' closure[12]. Abdullahi and Mukhtar[12] also point to forced migration of citizens resulting to denial of learning opportunities.

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[8]Olapeju, Rosenje M, and Peter, Adeniyi O. "*The Impact of Banditry on Nigeria's Security in the Fourth Republic: An Evaluation of Nigeria's Northwest*." Zamfara Journal of Politics and Development, 2, no.1, 2021, 1-26

[9]Abubakar, M. "*The Causes and Consequences of Armed Banditry, Kidnapping and Cattle Rustling in Some Selected Communities in Zamfara State*." Bakolori Journal of General Studies, 12, no.2, 2021, 3604-3629

[10]Punch Editorial. "*Addressing the Root Causes of Banditry, Terrorism in Nigeria*." *Punch Nigeria*, 3rd June, 2023 Available at https://punchng.com/addressing-root-causes-of-banditry-terrorism-in-nigeria/

[11]Atubi, Onamrewho F. "*Banditry in North West and North Central Nigeria: Analysis of the Causal Factors and Trend*." 2022 Available at https://www.researchgate.net/publication/363093551

[12]Abdullahi, Ahmad S and Mukhtar, Jamilu I. "*Armed Banditry as a Security Challenge in Northwestern Nigeria*." African Journal of Sociological and Psychological Studies, 2, no.1, 2022, 45-62

Threat to law and order often produced twin crises of population dispersal and school access denial to children. Schools in vulnerable communities had been closed due to banditry, those in urban areas were taken to shelter displaced migrants. Brigid et al[13] perceive the implications of banditry in the form of poverty, unemployment and arms proliferation which uprooted people from their habitual residential environment to IDP Camps. Brigid et al assert that military response alone could not address the malaise but requires eliminating poverty, unemployment weak security system, fragility Nigerian state, arms proliferation and corruption[13].

Ikiyei et al[14] point out the destructive effect of population displacement on educational development of future greats could be imagined with their possible recruitment to perpetrate violence with uncontrolled weapons.

Lack of security institutions presence except for ad-hoc joint taskforces, is responsible for violence that generate forced migrations and school inaccessibility by children[15]. The school been an institution charged with training and developing children's personalities for societal advancement is not available to out-of-school children. This non-availability is a function of violence induced human forced relocation from habitual place of residence. Out-of-school situation had compounded national insecurities such as illiteracy, poverty, unemployment, and other contemporary threats, and their continuing production presented an investment that had yielded sporadic release of violence through banditry and insurgency[14].

Peacebuilding requires training the mind on conflict management, resolution and transformation. Building in the heart of men the defenses for peace through understanding that foreclose dispute relation (UNESCO Constitution, 1945). Children who could not attend school are faced with social stigma of illiteracy, lack of skills for a globalised society, exposure to violence and menial jobs[14]. If education promote human, political, social and economic security of the individual, the absence of it, potent danger to present and future peacebuilding[16].

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[13]Brigid, Ochi I, Boniface, Ortindi, and Okonkwo, Arinze E. "*Crisis of Banditry and the Internally Displaced Persons in Nigeria: A Political Economy Approach.*" Scholars Journal of Economics, Business and Management, 9, no.11, 2022, 247-256

[14]Ikiyei et al (2022). "*Out-of-School Children in Nigeria: A Creation by Society and its Implications for Nation Building.*" British Journal of Contemporary Education, 2, no.2, 2022, 17-32.

[15]Ogbu et al. "*Arms Proliferation and Armed Banditry in Nigeria: Challenges and Prospects for Sustainable Development.*" Studies in Politics and Society: Contemporary Nigerian Political Economy; Governance, Security and Development, 5, no.1, 2017, 1-21

[16]Onwuadi et al. "*Improving Literacy Education Provisions to Tackle National Security Challenges in Ebonyi State, Nigeria.*" Library Philosophy and Practice (e-journal), 2021, 5107

Building peace requires laying foundation. This entails developing the skills for positive interactions among people in society. Leaving behind the education line, millions of people present a challenge of vulnerability to crime. Is'haq *et al*[17] believe that ineffective security is a factor to increased danger to human safety.

Therefore, lack of it will be catastrophic national peace and security[17]. The victims of a lack of school access cannot be extricated from the society: same applicable to its consequences. To achieve peacebuilding, various military, educational and social intervention had been rolled out. Though, spate of violence had only subsided but not eliminated.

Perpetration of violent actions against rural communities had been sustained for sometimes now. Most rural communities had been sacked due to increased spate of violence. Lack of access to farms engendered hunger and starvation. People had been moving to places of safety for food and accommodation. Mohammed Lere, in "Military Denies Allegation of Bias in Southern Kaduna." *Premium Times Nigeria*, May 6th, 2023 points out that Military Operation Safe Haven lack of effectiveness, had only managed but the resolution of factors for persistence of attacks on communities. Heavy presence of military and security establishments in Kaduna had not dissuade bandits from attacking private and public schools, abductions, maiming and killing of vulnerable populations., Ayitogo[18] point out the lack of political will to confront the menace, inadequate response to bandit's activities were considered the fueling factors for its sustainability.

Security and military institutions inability to halt banditry had resulted into kidnapping for ransom, cattle rustling and allegations of trafficking in human body parts. These criminal enterprises find reinforcement with arms proliferation and illiteracy. The combination of these had undermine security and emboldened these terrorists. Availability of arms and illiterates had worsened insecurity and put rural communal life under imminent danger. Government lack of political will that empowers security forces to flush these criminal gangs raised concerns as to their oath of office.

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[17]Is'haq, Bello A, Musa, Aisha, and Abdulhafiz, Zainab. *Education and Insecurity in Nigeria. Oasis Educational Consults.* (2019).

[18]Ayitogo, Nasir. Analysis: *Why Insecurity Persist in Kaduna Despite Heavy Military, Security Presence*. Premium Times Nigeria, April 17th, 2022

Lack of response to intelligence on imminent attacks on vulnerable areas had made government look suspicious and or complicit. The suspicion drew from the ground that, most unsecured areas are blessed with abundant natural resources. Insecurity provides unrestricted exploration and exploitation.

Banditry activities had exacerbated population displacement. Rural-urban migration had taken a new dimension. It is accompanied with schools' closure from point of displacement to the point of resettlement. IDP camps are mostly schools in urban centres. Faced with inadequacy of classes and the corresponding challenges of resettling rural migrants, the out-of-school situation becomes a significant problem to educational security. Dearth of effective resettlement structures for emergency situations had compounded the problems of lack of school access. This translates to dearth of education with the consequences of producing illiterates.

Peacebuilding is centred on understanding the causes of conflict, management or removal of these factors, and the possible transformation of same. Lack of education undermine significantly, the peacebuilding process. This is done through the recruitment of illiterates, armed them to commit criminal offences of national security dimensions. The national security strategies had failed to address these problems. Employing illiterates' energies destructively degenerate into violent attacks on communities with the attendant consequences on children education and communal dispersal: leading to skills underdevelopment and urban slums.

Banditry leading to forced migration reinforces lost educational opportunities. Lack of learning affects educational security, an element of national security. Educational insecurity established lack of knowledge and skills development increases the rate of unemployment. An idle mind is said to be a devil's workshop. This enhances the production of potential criminals and vulnerable groups available for recruitment into nefarious activities by disgruntled personalities. Dearth of knowledge aid conflict conflagration which threaten peace and security.

While there had been concerns with the occupation of rural forests termed ungoverned spaces. Many securities establishment and their residential accommodations are within the city centres. Military and paramilitary barracks abound in Kaduna, Zaria, and Kafanchan. Barracks accommodate security forces away from the civilian populace, especially the military.

Beside Nigerian Army School of Artillery Barracks in Kachia, most military establishment and security forces residential apartment are concentrated in the urban centres. The rural communities are for this reason, at the mercy of criminal elements occupying the ungoverned spaces.

Complains of corruption against senior military and security forces leadership which impinged on their remuneration and subsequently morale had been addressed by the government. While huge percentage of national budget had gone to internal security operations, most field operatives put on the uniform, take up arms against these criminal due to lack of alternative means of livelihood but patriotism. The incentive to fight is not because of good remuneration that encourage them to defend the state against its enemies, but to feed their homes. While huge amount is budgeted for their allowances, little gets to their pockets. Dilapidated and poor schools' infrastructures had foreclosed educational opportunities. Most schools' renovation today is carried by old student associations, which is the central responsibility of the state in its contract with the citizens. While response to distress calls by communities under attacks had been forthcoming from security forces, communities had not been empowered to defend itself against their attackers.

Objectives for the Study
The study examined the:
- Factors sustaining banditry activities.
- Consequences of banditry on forced migration and out-of-school children.
- Effects of forced migration and out-of-school children on peacebuilding.

Material used in Literature Review
A review of sustainable factors for banditry, its effects on forced migration, out-of-school children and peacebuilding; and the response measures to address population displacement and educational insecurity were carried.

Factors sustaining banditry activities
Daily Trust Editorial[19] states that, rural-urban migration is no longer a search for better life but need for survival. Farmers/herders conflict, government neglect and dearth of swift response from security agencies

constitute some of the causative factors sustaining these criminals' activities. Survival instinct pushed victims of bandit's attacks, moving from places of danger to safety. The editorial states that, socio-political and economic marginalisation of Fulani's by Hausa's due to alleged heavy compensation not commensurate to crops destruction, had turned young Fulani's from minor criminals to major highway robbers.

Dearth of effective conflict management and resolution by the village heads, police and judges had transformed minor dispute into a monster consuming everyone in its way.

These governmental institutions are responsible for dispute settlement. Ineffective dispute management and resolution had caused these young Fulanis to engage their energies destructively. Young Fulani's who are supposed to be bankers, engineers, doctors and other professionals are now occupying the forest areas, executing brutal acts against fellow citizens. They have been changed from innocent humans to brutal criminals. Communal self-help initiatives saw formation of vigilante groups to arrest bandits' situation. Whether known or suspected bandits were alleged to have been killed. This led to organisation of Fulani groups to counter the situation which had mutated to serious criminal enterprise[19]. Lack of effective coverage of rural areas by law enforcement agencies, engendered vigilante usurpation of their roles, which now threaten law and order.

Abdulsalam et al[20] state that, northwest region forestlands are vast, rugged and dangerous. Bandits employed large forest belt cover to camped their victims, exploit the knowledge of the terrain against security forces, and perpetrate abductions, cattle rustling and stage raid of village and return to safety unchallenged. Terrain gives these merchants of violence comparative advantage for arms trade, trafficking in human and body parts, and criminal mining of natural resources. Criminal collusion between Chinese corporation and highly placed Nigerians in illegal exploitation of gold, drives banditry and violent crimes in Northwest, Northcentral and Southwest regions of Nigeria. Bandits are the pawns in chess game of illegal mining operations and smuggling for global markets. Illegal mining sponsors, fund banditry and cattle rustling to cause violent conflict in resource endowed communities[21].

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[19]Dailytrust Editorial. "*Remote Causes of Banditry*." Daily trust Newspaper, July 31st, 2021
[20]Abdulsalam, Aisha A, Olayiwola, Richard A, and Akinniyi-Duyile, Praise F. "*Impact of Banditry on Rural Development in Kaduna State*." KIU Journal of Social Sciences, 8, no.2, 2022, 71-80

Ogbonnaya[21] states that, Nigeria will need to deal decisively with these criminal networks of local and international collaborators. Sponsorship of criminal enterprise requires human and material resources. Combination of illiteracy, arms and the funding of recruitment and purchase of weapons are the precondition for causing chaos, chasing away of target communities for reason of unrestricted mineral exploration. The political will to decisively halt illegal mining operations seemed paralyzed. Akinyetun[22] asserts that, government ineffective control of ungoverned spaces, weak governance, and unresolved protracted conflicts make citizens vulnerable to terrorists' groups, human traffickers and bandits to operate human trafficking, piracy, cattle rustling, and illegal mining which reinforces the sustenance of an informal economy.

Itiyonzughul, and Jonah[23] point out that the vast forest belt from Kachia, Kajuru, Chikun down to Birnin Gwari became the fortified enclaves from where bandits abduct victims and returned for negotiations with relatives. According to Ojo, Oyewole and Aina (2023), fragile security, weak border management, climate change, resource competition, informal security, jungle justice, ethno-religious cum communal factors, drug abuse are causative factors. Others are state complicity, foreign powers meddling, traditional rulers' weapons suppliers among others. Foreign sponsors and local collaborators operate freely in a chaotic atmosphere created by them. Banditry constitutes the means for mining and smuggling illegal gold to the global market.

Huge gold deposits exist in Birnin Gwari axis. Ethno-religious conflict angle exists on the southern and central parts of Kaduna state. Herders/farmers conflict had snowballed into violent attacks, population displacement, and occupation of interior rural villages by bandits.

Itiyonzughul and Jonah[23] in Hope Uzodinma, state that, banditry is aimed at bringing down the government of Muhammadu Buhari. Banditry

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[21]Ogbonnaya, Maurice. "*Illegal Mining Drives Rural Banditry and Local Conflicts.*" ENACT/European Union. 2020a available at https://enactafrica.org/enact-observer/illegal-mining-drives-nigerias-rural-banditry-and-local-conflicts

[22]Akinyetun, Tope S. "Banditry in Nigeria: Insights from Situational Action and Situational Crime Prevention Theories." *ACCORD*, Mar. 15, 2022

[23]Itiyonzughul, Thaddeus T, and Jonah, Changwak E. "Dynamics and Economic Consequences of Rural Banditry in Northern Nigeria." International Journal of Social Sciences and Humanities Reviews,12, no.1, 2022, 263-275

sponsorship have economic and political objectives. The economic angle sought to achieve unrestricted mining and sale of gold; the political goal is to undermine state security. Illegal funds from this criminal enterprise could recruit and finance terrorist acts that threatens national security.

Confronting the problem of unrestricted instrument of violence got south, when the military were allegedly accused of compromise. The banditry issue established a demand and supply market for arms trade. Maishanu[9] "…. Soldier Arrested supplying Ammunitions, Uniforms…") cited Zamfara State Government points out the arrest of a serving soldier and his girlfriend by the military, who supplied ammunitions and military uniform to bandits. Bashir M. Jajira, in "Security was Compromised to Allow Bandits Raid Nigerian Defence Academy, Kill Officers: DHQ." *People Gazzette*, 24th August, 2021, states that, the security architecture of the Nigerian Defence Academy was compromised early this morning by unknown gunmen who gained access into the residential areas, killing two soldiers and abducted one. An attack on the premier military academy indicated increased confidence by these criminals, but, psychological defeated the neighboring communities. Ahmad Sahabi, in "We Can't Be Distracted- Army Dismissed Claims of Being Compromised in Protecting Kaduna LGA." *The Cable*, 6th May, 2023 cited Oya James, Operation Safe Haven Spokesperson who stated that, the military cannot be distracted in their duty to protect lives and properties, with claims of compromise.

Oluwasanjo[24] citing Bashir Salisu Magashi former defence minister, states that, politicians, opinion and religious leaders had been compromised by Boko Haram and Bandits. Oluwasanjo citing Magashi added that, lack of political and traditional elites' presence in their constituencies, created a vacuum; failure of religious leaders to provide counter narrative to extremist views; lack of efficient intelligence and the will to utilised available intelligence by security forces, had emboldened insurgents and bandits to attack communities, kidnapped students and kill others. To address insecurity, government often set aside funds for unforeseen security exigency.

Security vote is an unbudgeted and unaccounted funds meant to address unexpected security challenges. Page[25] points out that, though, a military dictatorship concept, it is actually used for security, political campaigns and outright embezzlement by heads of government agencies. He cited

Transparency International estimated secret cash expenditure of N241b unaccounted for in 2018. Obinna[26] states that security funds run into billions of naira and vary based on state level of security individual states required. Fighting Boko Haram required Nigerian government coughing $1billion. while slush security vote issue persists, poor criminal justice system, ethnic profiling and criminality propelled by poverty enhanced banditry and terrorism ravaging northern Nigeria. Despite the humongous expenditure on security, banditry and other threats to national security had consumed thousands and displaced millions of victims, among them are children which put their education in danger (Adeyemi, 4th April, 2022).

Banditry, Forced Migration, and Out-of-School Children
Daily Trust Editorial[19] points out the transformation of minor criminals into armed robbers on highways, kidnapping victims for ransom and brutalisation to send a message, raiding villages and rustling cattle. village attacks displace rural dwellers from their habitual places of residence to the urban areas.

Families' relocation for safety in urban centres affect children school access. While they left their schools in the villages, poverty hinders their parent ability to pay their tuition in the cities.

Abdulsalam et al[20] state that, banditry is becoming a severe problem in Nigeria due to massive unemployment, weak security, poverty, and the porousness of the country's borders. Unemployment and poverty are product of illiteracy, which aggravate lack of school access due to ignorance and financial difficulties. Save the Children[27] states that, substantial number of displaced children lack access to safe, inclusive and quality education due to overcrowding, and schools' occupation by armed groups and displaced communities. Benhura, and Naidu[28] assert that, banditry, a form of armed conflict, uproot people from places they called home, and violates right to education. This violation translates to illiteracy and possible skills underdevelopment.

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[24]Oluwasanjo, Ahmed. "*Nigerian Security Compromise by Northerners, Agencies: Defence Minister*." People Gazzette, 30th July, 2021. Available at https://gazettengr.com/nigerias-security-compromised-by-northerners-agencies-defence-minister/

[25]Page, Matthew T. "*Camouflaged Cash: How Security Votes Fuel Corruption in Nigeria*." Transparency International Defence and Security, 2018 Available at https://ti-defence.org/wp-content/uploads/2018/05/DSP_Nigeria_Camouflage_Cash_Web2.pdf

[26]Obinna, Emelike. "*Security Votes Still Top Secret in Nigeria as Insecurity Worsen*." BusinessDa*y*, 28th March, 2021.

[27]Safe the Children. *"Internal Displacement and Children."* 2020 Available at https://www.un.org/internal-displacement-panel/sites/www.un.org.internal-displacementpanel/files/published_save_the_children_submission.pdf

[28]Benhura, Abigail R, and Naidu, M. "Delineating Caveat for (Quality) Education During Displacement: Critiquing the Impact of Forced Migration on Access to Education." Migration Studies, 9, no.2, 2021, 260-278

Poverty and insecurity worsened rural-urban migration. Fakokunde *et al*[29] point out an alarming rate of young people moving from villages to the cities in search of greener pastures, which increases social vices, when hope for better life in their resettled areas are dashed. Rural insecurity and lack of job opportunities in urban areas, created crises between expectation and realization.

Kidnapping for ransom witnessed individual and collective fund raising of millions of Naira among victims' families. This reduced people disposable income, therefore, affecting their purchasing power and ability to fund their children education in their new environment. He added that bandits raised down schools; while fear of abduction and killings, forced teachers away from villages. Schools closure and teacher-migration adversely affected educational access and learning opportunities for an army of school age children.

Adamu Mohammed, and Muhammad Abdullahi[30], observe that, banditry, heinous and persistent criminal activities had completely destroyed rural communities' social and economic conditions. Itiyonzughul and Jonah[23] state that banditry is usually accompanied with kidnapping, terror, and death; resulting to displacement of farmers; burning and raiding of silos; cattle rustling leading to decrease livestock. This affected food production and made starvation a reality. Farmers ability to produce food and cash crops for feeding and selling to provide for their family needs, education inclusive had been obviated by internal displacement. Brigid et al[13] discover that, banditry imposes untold hardship on the people; affecting their means of livelihood and exposed them to illegal means of sustenance. Parents faced with this problem, only scrambled for means of survival rather children training.

Wakaso (2021) report that, more than 200 children from bandits ravaged communities living in Central Primary School Gwada, Shiroro LGA, were out of their homes and out-of-school. Though camped in a school, they watched other children attend school. Reasons such as never attend school before, no school presence from displaced communities, over age and expressed inferiority between urban and rural kids, were responsible for refusal to attend school.

[29]Fakokunde et al. "*Influence of Rural to Urban Migration on Criminal Behaviour in Kaduna South, Kaduna State, Nigeria*." KIU Journal of Social Science, 6., no.3, 2020, 163-174
[30]Abdullahi, Ahmad S and Mukhtar, Jamilu I. "*Armed Banditry as a Security Challenge in Northwestern Nigeria*." African Journal of Sociological and Psychological Studies, 2, no.1, 2022, 45-62

Children going to school before, will eagerly continue their education when such opportunity present itself. Similarly, pupils share classes with people running away from communal violence[31]. Escalated attacks targeted at vulnerable groups like women and children often violates latter's educational right[32].

Forced Migration, Out-of-School Children, and Peacebuilding

Disrupting education aggravate lost learning opportunity. Benhura and Naidu[28] conceive quality education to mean the one that provides all learners with capabilities required to become economically productive. It causes them to develop sustainable livelihoods that enhances individual wellbeing. Economic productivity eliminates unemployment and built individual ability to resist recruitment into violence, therefore, entrenching societal order, and peacebuilding. Uprooting people from their ancestral homes results to lack of educational access and exacerbate vulnerabilities that undermined educational security and peace.

Cazabat[33] states that, education can help to foster security by reducing the likelihood of conflict and violence, and by increasing psychosocial stability. Adelore, and Majaro-Majesty[34] assert that illiteracy has been identified as one major factor which promotes conflict and violence in Nigeria's multiethnic communities. Foundations for peacebuilding had progressively weakened due to sporadic violent disputes. Most bandits are products of educational insecurity.

Duchi[35] states that, illiteracy had been fingered to be responsible for the increasing insecurity in Nigeria. National Commission for Mass Literacy, Adult and Non-Formal Education said, 35% of Nigeria's adult population are illiterate. They comprise a pool of possible recruits for nefarious activities due to lack of capacity.

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[31]Adebajo, Kunle. "*Displaced by Bandits 2: Sokoto School Where Pupils Share Classroom with Majesty IDP's*". *Humangle Media* Aug. 5, 2021.

[32]Ojewale, Oluwole, and Balogun, Omalara. "*Banditry Impact on Women and Children in Nigeria Needs a Policy Response.*" LSE Firo Lalji Insitute for Africa. 2022 Available at https://blogs.lse.ac.uk/africaatlse/2022/01/10/banditry-impacts-on-women-children-in-nigeria-needs-policy-response-kidnappings-ssi-education/

[33]Cazabat, C. "*The Ripple Effect: Multidimensional Impact of Internal Displacement. IDMC, Geneva, Switzerland.*" 2018

[34]Adelore, Omobola and Majaro-Majesty, Henry. "*Literacy Teaching Methods and Peacebuilding in Multi-Ethnic Communities of Nigeria.*" Australian Journal of Adult Learning, 48, no.1, 2008, 163-187

[35]Duchi, Elisha M. "*Emerging Issues in Peacebuilding and National Security: Perspectives on the Enforcement of the Educational Right Violation in Nigeria.*" In Peace Building and Nationalism.Edited by Iroye, Samuel O, and Ibebunjo, Basil O, 136-152. Abuja, FCT: Department of Peace and Conflict Resolution, National Open University of Nigeria, 2022.

Understanding each other's perspectives to an issue during interaction is the foundation for peace. This eliminates probable conflict conflagration, engender security and enhance peacebuilding. Ethno-religious factor of banditry results from inability to manage value-based differences among elites. The illiterates constitute the pawns in the political and economic chess game envelope in ethnicity and religion. Poverty factor enhanced vulnerabilities when disgruntled elites recruit low self-esteem persons to carry out assignments which they do not know the true picture. Dudenhoefer[36] disclosed that Victims of violence, the out-of-school kids most often turned out to be the perpetrators of violent conflict when recruited as bandits or child soldiers. The efficacy of conflict management, resolution and transformation in the peacebuilding process is therefore neutralised.

Materials and Methods
The study adopted a qualitative approach using secondary data analysis. It breaks down factors sustaining banditry activities, and its consequences on dispersal of rural communities and out-of-School children. It also analyzed effects of forced migration and lack of school access by children on peacebuilding; and the response measures to address forced migration and educational insecurity.

Abraham Maslow Hierarchy of Needs
Displacement, out-of-school, and peacebuilding constituted key needs. Safety and security are the basics for a functional living. Without the foundation for peace, there will be conflict.

This will lead to forced migration, and subsequently educational inaccessibility. Need for food, economic, health, housing, education securities are pivotal to building a creative and prosperous society. Forced migrants are faced with problem of housing insecurities, diseases, unemployment, and illiteracy. The challenge is the possible generational

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[36]Dudenhoefer, Anne-Lynn. (2016). "*Understanding the Recruitment of Child Soldiers in Africa. Conflict Trends 2016/2.*" Accord.

transfer of educational inaccessibility when out-of-school kids become adults. This present not just an individual need but societal. Providing security for all citizens is the primary purpose of government. This affirmed binding consent between the state and citizens, using government as the machinery[37].

Government responsibility is to provide the need for safety and security of communities under banditry attacks. This prevents population displacement, forestalled school inaccessibility, and enhanced individual's capacity to handle conflict, and therefore, built peace. Excruciating insecurity that uproots indigenous populations from their habitual residential areas obviate this need. Safety and security are the foundation for the physiological, love and belonging, self-esteem, and self-actualization. Humanity needs law and order for general security, food to prevent starvation, educational security to have knowledge that help resolve problems facing it, health security prevent pandemic. Education enhances individuals' self-esteem and act as the ladder to self-actualization.

Results of the Study
The study discovered that:
- Scholarly discourse indicated prevalent commonality of sustainable factors reinforcing displacement and educational inaccessibility.
- Banditry triggering forced migration had aggravated out-of-school children issue, with already 20 million added to 35% illiterates among adult population in Nigeria.
- Lack of education precludes individual understanding, which made destructive conflict inevitable.

Discussion
Government dearth of constructive response in addressing ubiquitous factors like ungoverned spaces, farmers/herders dispute, poverty/unemployment, illiteracy, injustice, global/domestic sponsorship of banditry had been the catalyst worsening the situation (Ogunode, Adanna, & Ayoko, 2022). Removing these causes provided the most effective positive steps in neutralising destructive conflict relations exacerbating insecurity which had led to citizen's forced relocation undermining education access for children. Building peace requires erecting structures that foreclose emergence of destructive conflict relations. Forced movement of young persons obviate the possibility for establishing the culture of peace education that reinforces the foundation of peacebuilding.

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[37]Ebimaro, Sampson. "*PCR422: Globalization and Peace vol.1.*" Edited by Faluyi, Emmanuel K. Abuja, FCT: National Open University of Nigeria 2015

Displacing millions of children worsens national insecurities with the production of out-of-school children, who may become functional illiterates, lacked the skills for employment either by themselves or others. Akpan, Daniel A (2015) states that national insecurity is caused by the failure of national government to address the problems of its people. Such problems include hunger, poverty, illiteracy, unemployment, inequality, injustice among others. Failure to resolve these problems, brings the possibility for recruiting the illiterates and the unemployment to perpetrate violence, and therefore aggravate conflicts, which led to disruption of communal life resulting to displacement.

Illiteracy undermines people's ability to cope with technological innovation, resist manipulation and add to national development. Negative dispute relation endangered peacebuilding process. Akpan, Dominic. A (2015), adds that, illiteracy is the inability of an individual to read or write and change behaviour to conform to modern norms of the society or the inability of an individual to reason or act civilly and meet with the societal values of his age. An individual's inability to think and act within the context of societal norms, rules and regulation disrupt the normalcy of one's immediate community, which generate negative dispute relations generally, and hampers the peace of the environment in particular.

Conclusion

In conclusion, the national and indeed Africa dream of becoming a global power can only be attained through addressing collective national insecurities of which illiteracy, poverty and unemployment are the catalysts. The place of education in capacity building against violent conflict which enhance national and global security must never be relegated. The notion of ungoverned spaces made caricature of a supposed African giant, with huge population and natural resources.

Constructive exploitation and utilisation of huge mineral resource deposits to develop the human resource capacity of individual citizens is key to reclaiming global respect and power. Existence of human and material resources are in conflict with the vast forestland enhancing banditry narratives. Recruitment of youths into the armed forces and deploying them to protect national territories, is central to security and peace of urban and rural communities. Concentration of barracks in cities does not reflect its core purpose.

Recommendations

The study suggests that:

- Government should put to effect, the political will that addresses commonality of factors, through relocation of security forces institutions/establishment to occupy the ungoverned spaces.
- Constructive exploitation of human/material resources be made to eliminate individual vulnerabilities towards manipulation for violence.
- Training of local vigilante groups for community's resistance and effective response to violence.

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An Investigation of Immigrants' Contributions to Food Production and
Community Development in Uhonmora-Ora, Edo State, Nigeria

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An Investigation of Immigrants' Contributions to Food Production and Community Development in Uhonmora-Ora, Edo State, Nigeria

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Abstract

Recent studies have investigated the impact of immigrants on community development, but there are only limited studies that focus on internal immigrants in a destination like Nigeria where there is evidence of intercity migration associated with agricultural activities and food production. Like many Nigerian communities, Uhonmora has witnessed an influx of immigrants from adjoining states that impact the community's agricultural value chain. This study evaluates the contributions of immigrants in the Uhonmora community, Edo State, Nigeria to food production and community development. Data were obtained from the 8 quarters within the community where most of the immigrants reside, work, and recreate. A total of 300 usable questionnaires were administered to the immigrants and residents out of 330 copies. Thus, 37 copies of the questionnaire were administered in each of the quarters while the remaining 4 copies were administered to key community stakeholders including the head of the community, chairmen of development levy and disciplinary committees, and the public relations officer. The mixed method approach and chi-square statistical analysis were used for the study. The chi-square (X^2), at 7 degrees of freedom and 0.05% significant level = 14.067 revealed that tc<tt 3.74 is less than the theoretical value of 14.067. The study revealed that a high influx of immigrants in the Uhonmora-Ora community has a significant increase in food production and socioeconomic development (trading activities, job opportunities, tourism, and provision of amenities). Nonetheless, the increasing population of immigrants in the community has implications for collaborative community planning to guide against the proliferation of unplanned land uses that negate the principles of sustainable development. The study recommends that similar studies be conducted in other Nigerian agrarian communities experiencing the influx of immigrants to unravel the challenges and prospects of accomplishing any or the combination of the aims of sustainable development goals.

Keywords: Immigrants, Food production, Community development, Sustainable development

Introduction

There is no generally acceptable definition of migration since most definitions use time and space criteria. In the evaluation of the contexts and concepts of migration, either from the perspective of the kinds and patterns, migration kinds and patterns could be identified, examined, evaluated, and classified as major, minor, forms, attributes, and measures[1,2;3]. The major attributes of migration patterns are migration by type, distance, and motive. The minor attributes of migration patterns are migration for; tourism and recreation, commercial, periodic, medical, seasonal, educational, forced, impelled, free, mass, vocation, rural-rural, rural-urban, urban-urban, urban-rural, international, labour, sex, pull and push, long-term etc. On the other hand, measures of migration are immigrants and emigrants.

However, these forms, types, distances, and motives of migration are induced by the combination of the push and pull factors, and socio-economic hubs of some places and regions over others.[4.] Consequently, the rate and volumes of immigrants and emigrants have increased remarkably over time in the 21st Century. These increases can be attributed to a combination of factors including improvements in technology, modes of transportation, and communication. Other factors include perceived information, job opportunities, variance in natural endowment, socioeconomic reasons, adventures, tourism, human development, security, famine, and natural disasters among different demographic groups[5].

[1]Agbebaku, H.U. (1999). Effects of Immigrants in Uhonmora-Ora, Owan West Local Government Area, Edo State. Nigeria: *A B.Sc. Project Submitted to the Department of Geography and Regional Planning*, Edo State University, Ekpoma. Edo State.

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Several studies[6,7,8]have investigated trends in population migration across destinations but none have investigated the immigrant population on the increase in food production and sustainable development in Uhonmora and this is the research gap. However, most of these studies are focused on popular destinations with huge economic potential and less on developing destinations for immigrants. Studies focusing on migration within the Nigerian context, especially in rural communities experiencing an influx of immigrants, perhaps, due to inherent socioeconomic benefits and sustainability of the communities associated with immigrant activities are limited[9]. Thus, this study seeks to investigate the impact of the immigrant population on the increase in food production and sustainable development in Uhonmora, Edo State, South-South Nigeria where there is evidence of immigrants from within and neighboring states.

Objective of the Study

The objective of this research is to investigate the impacts of the immigrant population in the Uhonmora community, on food production and community development from 2014-2023. This is achieved by asking and analysing the following questions from the residents' and immigrants' perspectives: (a)What are the reasons for the immigrants' relocation from their previous destinations to the Uhonmora community? (b)To what extent has the immigrant population enhanced food production and development in the Uhonmora community?

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[6]Dao, T.H., Docquier, F., Maurel, M., and Schaus, P. (2021). *Global Migration in the Twentieth and Twenty-First Centuries: The Unstoppable Force of Demography. Review of World Economics, 157, 417-449*

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Literature Review
Attributes of Migration

According to the studies of[10,11,12,13,14]at the global level, there are four broad classifications of migration patterns. These are migration by duration, migration by motive, migration by distance, and measures of migration.

Migration by duration is the length by which migrants stay at their destination. The study identified the following groups as types of migration. These include long-term, seasonal, daily, periodic, and labour migration. These patterns of movement formed the earliest type of migration and were practised in America, Europe Asia, and Africa. Each of these sub-types of migration by duration has unique characteristics and effects on the source and destination points. Today the friction of distance has been overcome by rapid advancement in transport technology both in advanced and developing countries.

Migration by the motive of the migrants. These classifications include forced migration, free migration, sex migration, impelled migration, and mass migrants having no power to decide whether to migrate or not. This migration pattern has displaced innocent groups from their homeland. The pattern of movement is influenced by political crisis, slave trade, and intertribal wars.

The impelled migration involved some groups of people with little power/decision whether to migrate or not. Furthermore, the studies of Ajaero and Agbebaku[15,16] observed that the free migration classification, centred on the will of the migrants, is the decisive factor. People travelled to places of their will because of the perceived information they had about the area. The improvement in transport facilities has enhanced mass migration internally and internationally, not minding the season of the year, neither the weather conditions nor funds involved.

[10]Agbebaku, H.U. (1999). Effects of Immigrants in Uhonmora-Ora, Owan West Local Government Area, Edo State. Nigeria: *A B.Sc. Project Submitted to the Department of Geography and Regional Planning*, Edo State University, Ekpoma. Edo State.

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Migration by Distance is grouped into internal and international. Internal migration is where human movement has resulted in massive population shifts within a sovereign country. There are four basic recognisable types namely, rural-rural, rural-urban, urban-rural, and urban-urban migration. However, the rural–rural migration pattern is common in third-world countries, including Nigeria. In the African and Nigerian contexts, the vast proportion of this trend of movement is seasonal.

Similarly, the distance covered by migrants is short and driven by proximity to the catchment location, In the largely rural and agrarian community of Uhonomra, the principal factors inducing this migration pattern are the rich soil fertility, security, low cost of living, and availability of land resources. Thus, the movement of the tribes of Ebira, Igala, Aiyewure, Idoma, Owori, Igbo, Calabar, and others are typical examples of this form of migratory movement that constitutes a 35% influx to the community population[17.]

In Nigeria, rural-urban migration has been the most common pattern of movement of people from rural areas to urban centres and this pattern of migration constituted about 45% of the community. Thus, this pattern of migration accounts for about 15%, and these classifications are open to retirees. Because at the end of their working life, they chose to relocate to rural areas and engage in other forms of activities[18,19,20.] Similarly, urban-urban migration involves the movement of urban dwellers from cities proper to suburban areas due to overcrowding, congestion, high rents/bills, and less healthy conditions. In Nigeria, this pattern of migration accounts for about 10%. However, people migrate from one urban centre to another for an improved standard of living, business activities, and bilateral agreements[21.]

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[17]Majebi, E.C and Agbebaku, H.U. (2023). Assessment of the Socioeconomic Impact of Immigrants on Sustainable Development in the Last Decade in Uhonmora-Ora, Edo State, South-South, Nigeria. *International Journal of Migration and Global Studies [IJMGS].* 3(1), 78 -102. http://ijmgs.nou.edu.ng/current-journal/

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Measures of Migration are of two types of migration movement. This is, via immigrants and emigrants or net and gross migration. The movement of the human population across international boundaries is calculated in the same way using the corresponding terms of immigrants and emigrants. Applying these measures to the Uhonmora settlement, the community has kept no proper records of immigrant data such as the number of immigrants population from 2014 – 2023, accounting for seasonal increases and decreases in human.

Applying these measures to the Uhonmora settlement, the community has kept no proper records of immigrant data such as the number of immigrants population from 2014 – 2023, accounting for seasonal increases and decreases in human population, increases and decreases in food production, income, and expenditure variation, variation in size/hectare of farmlands allotted to immigrants, social vices, and social works[22,23].

Causes of Migration
Several factors stimulate migration patterns and the volume of the influx of immigrants to places. The factors responsible can be classified into the following subgroups according to the studies of Onokerhoraye and Majebi.[24,25] Consequently, these causes can be of two kinds, the major and minor causes. The major causes are physical, economic, social, political, medical, and educational. On the other hand, the minor causes of migration include cultural, medical, educational, religious, tourism and recreation.

Impacts of Immigrant Population on Sustainable Community Development
The evaluation of the impacts of the immigrant population on the increase in food production in the community shows that the influx of immigrants from 2014 – 2023 has contributed significantly to the increase in human population, food production, and economic development of Uhonmora-Ora during this period of study. Other positive impacts of the immigrant population include the areas of agricultural development, trade, marriage, health, housing, and music[26]. For instance, there has been a remarkable increase in agricultural output in the community during the period under review. The influx of immigrants especially the tribes of Ebira, Igala, Ogori, Aiyewure, and Idoma had adopted the system of huge cultivation of farmlands and cropping before the commencement of the rainy season while in some cases, the practice of double cultivation within a farming season as against the default methods of farming practice of the indigenous people of Uhonmora. In addition, the practice of early planting, farm seedlings, and commercial farming has resulted in gradual changes in methods and innovation for different heaping, cropping, mulching, and preservation as against the old methods of the people of Uhonmora-Ora.

[22]Ajaero, C.K and Madu, I.A. (2014). Rural-Urban Migration and Livelihoods in Southeastern Nigeria. *Developing Country Studies* 4(6), 6-15.

[23]Ajaero C.K and Onokala P.C. (2013). The Effects of Rural-Urban Migration on Rural Communities of Southeastern Nigeria. *International Journal of Population Research*.

[24]Onokerhoraye, A.G. (1984). *Social Services in Nigeria; An Introduction.* London, Kegan Paul. 12-23.

[25]Majebi, E.C and Agbebaku, H.U. (2023). Assessment of the Socioeconomic Impact of Immigrants on Sustainable Development in the Last Decade in Uhonmora-Ora, Edo State, South-South, Nigeria. *International Journal of Migration and Global Studies [IJMGS].* 3(1), 78 -102. http://ijmgs.nou.edu.ng/current-journal/

[26]Dao, T.H., Docquier, F., Maurel, M and Schaus, P. (2021). *Global Migration in the Twentieth and Twenty-First Centuries: The Unstoppable Force of Demography. Review of World Economics, 157, 417-449.*

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Thus, the increase in food crop production is felt mainly with the harvest of plantain, cassava, rice, maize, and yam cultivations. Thus, during the harvesting seasons, some individual and group farmers transport their products to neighbouring and distant states of the six geo-political zones inclusive of the federal capital territory, Abuja for better economic values. Consequently, during the harvesting periods, the prices of these farm produce are relatively cheap at the source area owing to food surplus and limitations of poor preservative technology mainly on plantain and vegetable products that are highly perishable. Thus, the practice of acquiring fresh land annually, and the use of fertilisers, insecticides, and chemicals, speaks volumes about soil fertility and boost in food production. Furthermore, the volume of trading activities on these food items has increased to neighbouring states because the immigrants employ farming techniques from other tribes outside their homes of origin[27,28,29].

Thus, new commodities and techniques came into the trading system in exchange and maximisation of the benefits of the concept of comparative cost advantage on food products, demand, and supply chain were all introduced and sustained by the people of Uhonmora in enhancing the sustainable development of food items[30]. However, some of the negative impacts of the immigrant population were observed from the combination of factors such as; inadequate haulage and transportation arrangement, problem of distance, bad road networks, inadequate labour force to bring these products out from the farm sites, inadequate storage device to preserve the produce and loss of economic values. Thus, during the off-harvesting period, there is the incessant scarcity of some food supply and hikes in prices owing to the large influx of humans at the peak of the farming season which refused to go after the season[31]. Other challenges are in the areas of increase in social vices, legal persecution, land fragmentation, laziness among some youths, and broken marriages on the parts of the visitors and host community.

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[27]Majebi, E.C and Agbebaku, H.U. (2023). Assessment of the Socioeconomic Impact of Immigrants on Sustainable Development in the Last Decade in Uhonmora-Ora, Edo State, South-South, Nigeria. *International Journal of Migration and Global Studies [IJMGS].* 3(1), 78 -102. http://ijmgs.nou.edu.ng/current-journal/

[28]Onokerhoraye, A.G. (1984). *Social Services in Nigeria; An Introduction.* London, Kegan Paul. 12-23.

[29]Ohimai, E.A. (2023). *Granted Interview.* Historian and Elder Spoke Man of Uhonmora-Ora Community.

[30]Atafo, F.A. (2023). *Granted Interview.* Historian and Elder Spoke Man of Uhonmora-Ora Community

[31]Agbebaku, H.U. (1999). Effects of Immigrants in Uhonmora-Ora, Owan West Local Government Area, Edo State. Nigeria: *A B.Sc. Project Submitted to the Department of Geography and Regional Planning*, Edo State University, Ekpoma. Edo State.

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Surveys have shown that there has been an increase in the level of crimes, court cases/disputes between some deviant immigrants and the host community.[32,33,34.] Some handful of the immigrant population are fined/sued and viz-a-viz over the breach of cultural norms, failed contracts, agreements, and levies on sustainable development of the community[35.] In addition, the inadequacies of the community management to have a database of these immigrants' population year in and out are other challenging factors. Thus, the annual cultivation of rice and plantain in commercial quantity has exposed the land to the annual occurrence of deforestation, loss of carbon dioxide, fire outbreaks, encroachment of forest reservation, and degradation of the ecosystem.[36]

Materials and Methods

Study Area

Uhonmora–Ora is one of the six Ora communities in Owan West Local Government Area, Edo State, Nigeria. The Community is located between Latitude $6^0 10^{'} N$ and $6^0 45^{'} N$ and Longitude $6^0 10^{'} E$ and $6^0 40^{'} E$. The community is bounded to the North by Sabongida-Ora, North-East by Eme-Ora, and South by Ozalla communities of the Ora clan that constitute parts of the Owan-West Local Government Area. Uhonmora is in the southwestern part of the Ora clan, close to a terminal town (Sabon Gida-Ora), which eases the immigration of people from neighboring states on the perceived information about the soil into the community. Uhonmora-Ora comprises 8 quarters which include Oduosi, Ukpafoga, Ukhuedeodu, Ukpafisi, Ukpokhunmu, Ukpafekhai, Ukpafortisi, and Ukhuoro. The community is characterised by rich dark sandy and loamy soil that promotes farming activities and consistently positions the community to limelight. The terrain is relatively flat and simple undulating topography of about 78.64 metres above sea level. The community records its highest degrees of temperature $(36.1^0 C)$, in February and March and the lowest temperature $(19.4^0 C)$ in April and May. The community experiences heavy rainfall that lasts between March and November each year. The annual rainfall is between 2000mm and 3000mm.

[32]Majebi, E.C and Agbebaku, H.U. (2023). Assessment of the Socioeconomic Impact of Immigrants on Sustainable Development in the Last Decade in Uhonmora-Ora, Edo State, South-South, Nigeria. *International Journal of Migration and Global Studies [IJMGS]*. **3(1), 78 -102**. http://ijmgs.nou.edu.ng/current-journal/

[33]Agbebaku, H.U. (1999). Effects of Immigrants in Uhonmora-Ora, Owan West Local Government Area, Edo State. Nigeria: *A B.Sc. Project Submitted to the Department of Geography and Regional Planning*, Edo State University, Ekpoma. Edo State.

[34]Ohimai, E.A. (2023). *Granted Interview*. Historian and Elder Spoke Man of Uhonmora-Ora Community

[35]Atafo, F.A. (2023). *Granted Interview*. Historian and Elder Spoke Man of Uhonmora-Ora Community.

[36]Majebi, E.C and Agbebaku, H.U. (2023). Assessment of the Socioeconomic Impact of Immigrants on Sustainable Development in the Last Decade in Uhonmora-Ora, Edo State, South-South, Nigeria. *International Journal of Migration and Global Studies [IJMGS]*. 3(1), 78 -102. http://ijmgs.nou.edu.ng/current-journal/

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The community is well-drained by 3 major rivers and several streams of water sources that are seasonal. The three major rivers are River Owan, River Oruen, and Obvioti River. These major rivers meandered and cut across eight-quarters of the community and played significant roles in the community's sources of surface and groundwater supply. At the confluence point of the three rivers, at River Owan, the water goes separate ways with variations in color and taste. The community is characterized by sedimentary rocks, brownish earth, grassland, and forest vegetation. The community is a large rural agrarian settlement and the inhabitants engage in farming, and trading in agricultural produce[37]. Uhonmora-Ora is known to produce food and cash crops such as maize, plantain, garri, rice, yam, cocoyam, vegetables and cocoa, rubber, palm oil, orange, and timber products for the local government, state, and Nigeria. Farming activities are the main occupation of the indigenes and immigrants of different tribes.

These sets of people take advantage of the fertility of the soil to cultivate large hectares of land/commercial farming. The immigrants exhibit different traditional practices based on ecological adaption and conditions which lead to varying systems of farming that brought a gradual change of ideas, skills, and new methods of farming and food preservation to the people of Uhonmora. Given these, the socioeconomic characteristics of the people of Uhonmora centred on primary activities rather than secondary and tertiary ones throughout the season[38]. These include crop production, selling of merchandise, petty trading, and marketing of their produce within and outside the community periodic market. Selling and buying of the farm products are carried out mostly by women of both the indigenes of the host community and immigrants of other tribes[39]. The community had a population estimate of 785,676 as at 2016. The male and female populations were put at 342,554 and 443,122 respectively[40]. Mapping of the study area was generated using geo-informatic tools such as Global Positioning System (GPS) and Geographical Information System (GIS) techniques. The global positioning system, Garmin Channel 78. sc model was used to determine the coordinates (x, y), and location. The derived map shows the thematic sampling location imagery of the major immigrants' stronghold in the study area.

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[37]Majebi, E.C. and Agbebaku, H.U. (2023). Assessment of the Socioeconomic Impact of Immigrants on Sustainable Development in the Last Decade in Uhonmora-Ora, Edo State, South-South, Nigeria. *International Journal of Migration and Global Studies [IJMGS]*. **3(1), 78 -102**. http://ijmgs.nou.edu.ng/current-journal/

[38]Agbebaku, H.U. (1999). Effects of Immigrants in Uhonmora-Ora, Owan West Local Government Area, Edo State. Nigeria: *A B.Sc. Project Submitted to the Department of Geography and Regional Planning*, Edo State University, Ekpoma. Edo State

[39]Ohimai, E.A. (2023). *Granted Interview*. Historian and Elder Spoke Man of Uhonmora-Ora Community.

[40]NPC, (2016). National Population Commission. Benin City, Edo State.

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Both primary and secondary data collection were implored to facilitate the research. The primary source comprised mainly of field observations, interviews, questionnaire administration, and mapping. The secondary data explored were sourced from documentary materials and established sources. Since the research was purely experimental, data from primary sources were mainly used for the study. To get primary data, the sampling techniques and population of immigrants helped in the study as the sample frame. Thus, the systematic random sampling techniques were adopted to ascertain the distributional spread of the immigrants across the eight quarters of the community for questionnaire administration, thus, this constitutes the research instrument used for the study. In addition to questionnaire administration, interviews were conducted with some key community stakeholders.
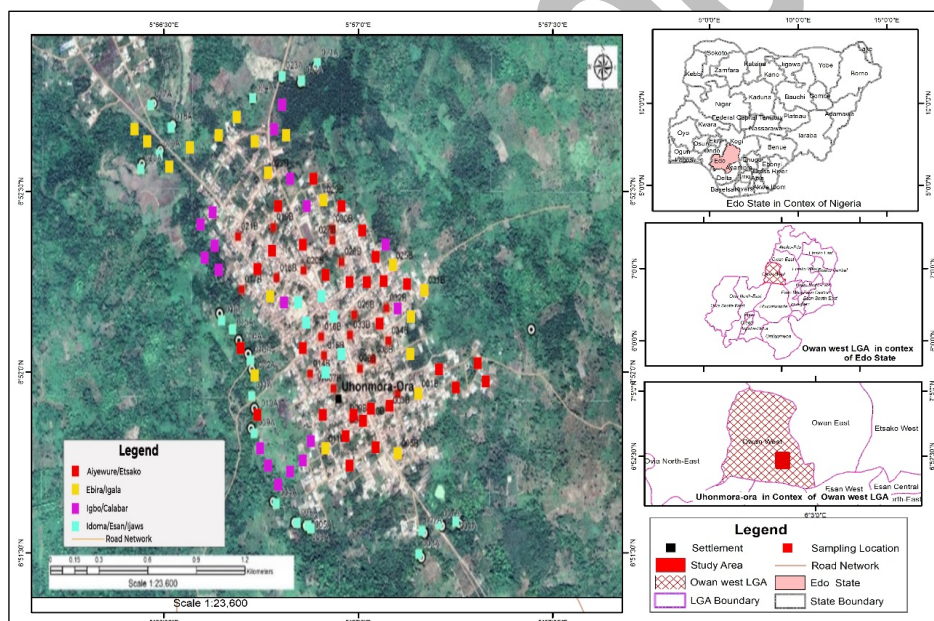
Fig. 1: Map of Edo State, Owan West Local Government Area, Uhonmora-Ora Showing Sampling Location Imagery of the Major Tribe of Immigrants.

Source: GIS and Cartography Unit, LASU (2023).

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Selection of respondents and questionnaire distribution

For this study, 80% of the population which constitutes the major stronghold of the immigrants across the 8 quarters of the community was randomly selected as respondents. In doing this, the major densely populated streets across the 8 quarters were used respectively for the study. A total of 330 copies of questionnaires were administered across the 8 quarters in the community. From this total number of 330 questionnaires, 300 were returned while 30 were not returned. This signified that only 90% which accounts for 300 copies of the questionnaires was used for the study, while the remaining copies of 10% which accounts for 30 could not be retrieved across the 8 quarters. Thus, from the 300 copies that constituted the sample size, a default number of 37 copies were administered in each of the eight quarters, while the remaining 4 copies were administered to a group of indigenes, such as community/village head, chairman; community development levy, chairman; disciplinary community, and public relation officer respectively, thus, bringing the total to 300. In each of the quarters and selected streets with densely and diverse immigrants, the 2nd middle, and 2nd to last households were administered with questionnaires. However, some forms of assistance were given to most of the respondents as the majority of them were illiterate and could not effectively complete the questionnaire. Data from the field were analyzed using descriptive techniques of maps, tables, and percentages while the use of chi-square analysis constitutes the inferential statistical techniques.

Results

The results of the study on the evaluation of the impacts of the immigrant population on the increase in food production and development in the Uhonmora community from 2014 – 2023 were summarized and presented in Tables 1 to 7 respectively.

Table 1: Reasons for Migrants' Departure (Push Factor)

Reasons for Migration	No. of Immigrants	Percentage (%)
Inadequate Farmlands/Inadequate Soil Fertility	164	54.6
Inadequate Job Opportunities	41	13.6
Inadequate Socio Amenities	20	6.6
Inadequate Institutions	30	10.0
Others	45	15.0
Total	**300**	**100**

Source: Fieldwork, 2023

The result from Table 1, shows the reasons for immigrants' departure from sources destination point of Uhonmora-Ora. From Table 1, many of the immigrants migrate to Uhonmora because of inadequate farmlands/poor soil fertility in their areas of origin and this singular factor propelled them to migrate to Uhonmora community. From the study, 164 of the examined population, representing 54.8% of the respondents, indicated inadequate farmland, and soil fertility. This was followed by responses from inadequate job opportunities that motivated them to migrate for settlement in Uhonmora, thus this could be based on the perceived information about the community as the land flowing with milk and honey. This represents 13.6% of the given population. Next to this were the responses from inadequate institutions, which represents 10%. The responses from inadequate socio-amenities represent 6.6% while the remaining 15% represent other combinations of reasons for the departure of immigrants to Uhonmora. The implication of the reason for the push factor of immigrants from their place of origin to Uhonmora-Ora community is that the acquisition of large farmlands is becoming difficult for both the indigenes and visitors.

These findings are consistent with the summation of Agbebaku and Majebi [41,42] that certain reasons are responsible for immigrants' departure from the source area.

Table 2: Composition of Immigrants' State of Origin

State of Origin	No. of Immigrants	Percentage (%)
Edo	94	31.3
Kogi	68	22.6
Delta	51	17.0
Igbo	42	14.0
Others	45	15.0
Total	**300**	**100%**

Source: Fieldwork, 2023

[41]Agbebaku, H.U. (1999). Effects of Immigrants in Uhonmora-Ora, Owan West Local Government Area, Edo State. Nigeria: *A B.Sc. Project Submitted to the Department of Geography and Regional Planning*, Edo State University, Ekpoma. Edo State.
[42]Majebi, E.C and Agbebaku, H.U. (2023). Assessment of the Socioeconomic Impact of Immigrants on Sustainable Development in the Last Decade in Uhonmora-Ora, Edo State, South-South, Nigeria. *International Journal of Migration and Global Studies [IJMGS]*. 3(1), 78 -102. http://ijmgs.nou.edu.ng/current-journal/

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The result from Table 2 shows that distance imposed a limiting factor as migration tends to decrease with distance. From the Table, most of the respondents are from different ethnicities and states of origin. From the table, 94 which represents 31.3% of the respondents are from Edo, as state of their origin.

These groups of immigrants took advantage of proximity and perceived information about the community for migration and settlement. This is followed by the origin from Kogi state, these immigrants accounted for 22.6%. Next to this is the indigene from Delta state, which represented 17%, and the origin from the Igbo-speaking states represented 14%. In contrast, the remaining 15% are from other states and tribes of the federation. The implication of immigrants' composition to the community is more to the proximity of distance to destination point and the concept of migration by duration while the prevailing high cost of movement is another hindering factor. These findings are consistent with the summation of Nnorom and Agbebaku [43,44] that migration to a place can be in the patterns of migration by duration, migration by motive, and migration by distance.

Table 3: Occupational Status of Immigrants

Occupational Status	No. of Immigrants	Percentage (%)
Farming	164	56.4
Civil Servant	7	2.3
Trading	87	29.0
Others	42	14.0
Total	**300**	**100**

Source: Fieldwork, 2023

[43]Nnorom, K and Daniel R.O. (2022). Rural-Urban Migration and Attitude to Community-Based Development Activities: A Study of Migrants in Enugu Metropolis. *JUPEB Journal of Development and Educational Studies* 1(1), 29- 48

[44]Agbebaku, H.U. (1999). Effects of Immigrants in Uhonmora-Ora, Owan West Local Government Area, Edo State. Nigeria: *A B.Sc. Project Submitted to the Department of Geography and Regional Planning*, Edo State University, Ekpoma. Edo State

The result from Table 3, shows the occupational status of immigrants in Uhonmora. As the table indicates, 54.6% of the people interviewed were engaged in farming. This could be due to one or the combination of; the soil fertility which they capitalised on, self-interest in farming, their low educational status, or inability to secure civil service jobs. This was followed by responses from the trading occupation which represents 29%. These include the petty trading of buying and selling farm produce and selling them within and outside the state. Thus, the trading occupation is carried out mostly by women and some immigrant males in the community. Other categories of occupation include blacksmith, rubber/palm-wine and oil tapping, repairers, and painters - representing 14%. The remaining 2.3% of the respondents are those engaged in civil service jobs such as cleaners, massagers, environmental attendants, and security personnel. The implication of farming activities as the major occupational status of the immigrants indicates an increase in food production activities and sustainable development in the community. These findings are consistent with the summation of Nnorom and Agbebaku [45,46,47] that the drive for an occupational status of immigrants is a determinant factor for departure from the source area.

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[45]Majebi, E.C and Agbebaku, H.U. (2023). Assessment of the Socioeconomic Impact of Immigrants on Sustainable Development in the Last Decade in Uhonmora-Ora, Edo State, South-South, Nigeria. *International Journal of Migration and Global Studies [IJMGS].* 3(1), 78 -102. http://ijmgs.nou.edu.ng/current-journal/

[46]Nnorom, K and Daniel R.O. (2022). Rural-Urban Migration and Attitude to Community-Based Development Activities: A Study of Migrants in Enugu Metropolis. *JUPEB Journal of Development and Educational Studies* 1(1), 29- 48

[47]Majebi, E.C and Agbebaku, H.U. (2023). Assessment of the Socioeconomic Impact of Immigrants on Sustainable Development in the Last Decade in Uhonmora-Ora, Edo State, South-South, Nigeria. *International Journal of Migration and Global Studies [IJMGS].* 3(1), 78 -102. http://ijmgs.nou.edu.ng/current-journal/

Table 4: Natures of Food Crops Production

State and Tribe	Nature of Food Crops Cultivated in Priority	No. of Immigrant population	Percentage (%)
Kogi (Igala, Ebira, Idoma)	Yams, cassava, beans and vegetables, others	164	56.4 56.7
Benue (Idoma, Igala)	Yams, rice, cassava, plantain, vegetables and others	41	13.6
Delta (Urhobo, Ijaws)	Cassava, plantain vegetables, and others	20	6.7
Other States: Edo, (Ayewure, Esan &Auchi) Taraba, (Kuteb), cross-river (Ogoja), Enugu, Anambra & Imo (Igbos), Ondo & Kwara (Yoruba's)	Plantain, palm oil, cassava, rice, cocoyams, vegetables, and others	75	24.0
Total		**300**	**100**

Source: Fieldwork, 2023

The result from Table 4 shows the nature of food production on the priority scale by the immigrants to Uhonmora. From the table, 164 of the respondents, which represent 56.7% of the population from Kogi state tribes account for the highest food production in the community. These tribes cultivate more yam, cassava, beans, and vegetables. This was followed by the combination of tribes from diverse states, which accounts for 24.0%, their food production consists of plantain, palm oil, cassava, rice, cocoyam, and vegetables. The tribes of the Urhobo and Ijaws from Delta state represent 6.7%, their contributions to food production are more of cassava, plantain and vegetables, and other crops. The remaining 13.6% of the respondents were from the cultivation of yams, rice, cassava, plantain vegetables, and others. The implication of immigrants on the nature of food crop production is on the diverse crop cultivation, trade and investment opportunities to both the indigenes and visitors. These findings are consistent with the summation of Majebi, Nnorom and Agbebaku [48,49,50] that certain reasons are responsible for immigrants' departure from the source area.

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[48]Majebi, E.C and Agbebaku, H.U. (2023). Assessment of the Socioeconomic Impact of Immigrants on Sustainable Development in the Last Decade in Uhonmora-Ora, Edo State, South-South, Nigeria. *International Journal of Migration and Global Studies [IJMGS]*. 3(1), 78 -102. http://ijmgs.nou.edu.ng/current-journal/

[49]Nnorom, K and Daniel R.O. (2022). Rural-Urban Migration and Attitude to Community-Based Development Activities: A Study of Migrants in Enugu Metropolis. *JUPEB Journal of Development and Educational Studies* 1(1), 29- 48

[50]Agbebaku, H.U. (1999). Effects of Immigrants in Uhonmora-Ora, Owan West Local Government Area, Edo State. Nigeria: *A B.Sc. Project Submitted to the Department of Geography and Regional Planning*, Edo State University, Ekpoma. Edo State.

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Table 5: Quantity of Food Production in Tones

Year	No. of Immigrants	%	Quantity of Food Production in Tones (Plantain, Garri and Rice)
2014	Not Available	0	Not Available
2015	Not Available	0	Not Available
2016	17	5.6	5
2017	22	7.3	9
2018	29	9.6	12
2019	32	10.6	18
2020	36	12.0	22
2021	41	13.6	27
2022	52	17.3	31
2023	71	23.6	35
Total	**300**	**100%**	**159**

Source: Fieldwork, 2023.

The result from Table 5, shows the quantity of food production in tones for this period of study in Uhonmora-Ora. From the table, the study observed the variation and increase in food crop production in the community. From the result, it was observed that the increase in food production was low in the first quarter of the study, moderate in the second quarter, and high in the last quarter of the period of study. Thus, these variations and increase in food production as listed in Table 4, could be attributed to a combination of factors such as; the incessant increase in the numbers of immigrants population every year, fertility of the soil as the blessed land flowing with milk and honey, availability of farming land, availability of labour force, availability of funds with a low-interest rate, low levy/task demand from the community, favourable rainfall, temperature and humidity, and expansion of marketing of the agricultural product to states of the urban centres. The implication of the quantity of food production in tones is that there would be an increase in food production, trade, investment and labour opportunities for both the indigenes and visitors to the community in particular and the state at large. Thus, these findings are consistent with the summation of Majebi, Majebi, and Agbebaku [51,52,53,54] that certain reasons are responsible for the increase in food production.

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[51]Dao, T.H., Docquier, F., Maurel, M., and Schaus, P. (2021). *Global Migration in the Twentieth and Twenty-First Centuries: The Unstoppable Force of Demography. Review of World Economics, 157, 417-449*

[52]Agbebaku, H.U. (1999). Effects of Immigrants in Uhonmora-Ora, Owan West Local Government Area, Edo State. Nigeria: *A B.Sc. Project Submitted to the Department of Geography and Regional Planning*, Edo State University, Ekpoma. Edo State.

[53]Majebi, E.C and Agbebaku, H.U. (2023). Assessment of the Socioeconomic Impact of Immigrants on Sustainable Development in the Last Decade in Uhonmora-Ora, Edo State, South-South, Nigeria. *International Journal of Migration and Global Studies [IJMGS]*. 3(1), 78 -102. http://ijmgs.nou.edu.ng/current-journal/

[54]Nnorom, K and Daniel R.O. (2022). Rural-Urban Migration and Attitude to Community-Based Development Activities: A Study of Migrants in Enugu Metropolis. *JUPEB Journal of Development and Educational Studies* 1(1), 29- 48

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Table 6: Count of Community Development Projects

Year	No. of Immigrants	%	Total No. of Community Development Projects
2014	Not Available	0	Not Available
2015	Not Available	0	Not Available
2016	17	5.6	-
2017	22	7.3	2
2018	29	9.6	1
2019	32	10.6	6
2020	36	12.0	3
2021	41	13.6	4
2022	52	17.3	17
2023	71	23.6	10
Total	**300**	**100%**	**43**

Source: Fieldwork, 2023

The result from Table 6 shows the counts of community development projects that were observed in the community during the period in Uhonmora. From the Table, the nature of the local developmental projects for sustainability in the community centred on the contribution towards fundraising through annual development levy for the development of a town hall, motor parks, and market. In addition, their contributions to community projects were felt in the enhancement of communal works such as maintenance of local bridges, farm and cemetery roads, and funding of vigilante groups and court/land cases. From the study, it was observed that in the years 2022 and 2023, more funds were raised and the consequent increase in the number of community projects was recorded in the community from 2014 to 2021. Thus, these counts imply that the immigrant population and state of community development are instrumental towards the counts of developmental projects and communal works in the community of Uhonmora-Ora.

Table 7: Impacts of Immigrant Population on Increase in Food Production

Year	No. of Immigrants	Qty of Food Production	Total
2014	Not Available	Nil	0
2015	Not Available	Nil	0
2016	17	5	22
2017	22	9	31
2018	29	12	41
2019	32	18	50
2020	36	22	58
2021	41	27	68
2022	52	31	83
2023	71	35	106
Total	**300**	**159**	**459**

Source: This Study, 2023

Chi-square text: $X^2 = \Sigma \dfrac{[0-E]^2}{E}$

Hypothesis Testing

Hi: There is a significant relationship between the immigrant population on increase in food production in Uhonmora-Ora

Extract from Table 7

Observed(0)	Expected (E)	$(0 – E)2$	$\dfrac{(0-E)^2}{E}$
17	14.37	6.91	0.48
3	7.62	6.86	0.90
22	20.26	3.02	0.14
9	10.26	2.99	0.27
29	26.79	4.88	0.18
12	14.20	4.84	0.34
32	32.67	0.44	0.01
18	17.32	0.46	0.02
36	37.90	3.61	0.09
22	20.09	3.64	0.18
41	44.44	11.83	0.26
27	23.55	10.90	0.50
52	54.24	5.01	0.09
31	28.75	5.06	0.17

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71	69.28	2.95	0.04
35	36.71	2.95	0.07
			3.74

Source: This Study, 2023

$X^2 = 3.74$

Where O	=	Observed variable
E	=	Expected variable

Degree of Freedom = V – K

V = row (2 - 1)

K = column (8 – 1)

V – K = (7 x 1) = 7

Chi-Square (X^2) at 7 degrees of freedom and 0.05% significant level= 14.067. Therefore, tc<tt is 3.74 is less than the theoretical value of 14.067. Implying we reject the Ho and accept the Hi. Thus, the results. Given these analyses, the results show a significant correlation between the immigrant population's increase in food production in Uhonmora-Ora.

Discussion

The study revealed that the majority of the immigrant population migrated to Uhonmora due to a combination of factors. These range from the inadequacies of farmlands and inadequate soil fertility in their respective areas of origin. Thus, this singular factor propelled them to migrate to Uhonmora based on the perceived information about the community. Thus, the implication of the reason for the push factor of the immigrants from their destination to the Uhonmora community is that the acquisition of farmlands was easier in the past but at present, the acquisition of large farmlands is becoming difficult for both the indigenes and visitors owing to the incessant increase in immigrant populations. But where such desired sizes are available, they are located and acquired in the interior and fringe areas of the community. In addition to these challenges, the friction of distance is now a barrier to farmers in the quest for large farmlands owing to the immigrant population and desire to acquire farming land with huge soil fertility.

Furthermore, the study revealed that the increase in food production was low in the first quarter from 2014 to 2016. Moderate in the second quarter from 2017 to 2019 and high in the last quarter from 2020 to 2023 of the periods of study. These variations and increase in food production as listed in Tables 4 to 5 and 7, could be attributed to a combination of factors such as; the incessant increase in the yearly numbers of immigrants population, fertility of the soil as the blessed land flowing with milk and honey, availability of farming land, availability of labour force, availability of funds with a low-interest rate, low levy/task demand from the community, the favourable rainfall, temperature and humidity, and expansion of

marketing and trade investment opportunities of the agricultural product to states of the urban centres. In addition, community development projects were low from 2014 to 2017, moderate from 2018 to 2020, and much better from 2021 to 2023 as presented in Table 6. The steady increase in the count of community projects is directly a function of the constant increase in the immigrant population, fertility of the soil as a blessed land and records keeping.

Conclusion and Recommendations

This study has established that immigrants are a significant part of the Uhonmora-Ora community in Edo State, South-south Nigeria. They contribute to food production which has influenced ancillary activities including trading, domestic tourism, and the provision of limited basic social infrastructure which do not seem commensurate with the influx of immigrants to the community. These findings have implications for collaborative community planning to guide against the proliferation of unplanned land uses that negate the principles of sustainable development. Consequently, the local authorities, immigrants, and indigenous residents are a significant component of the envisaged drive towards sustainable food production and the overall development of the community. As the findings of this research are peculiar to the study site, other studies could be conducted in other Nigerian/similar cities experiencing the influx of immigrants to unravel the challenges and prospects of accomplishing any/combination of the sustainable development goals.

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