



NATIONAL OPEN UNIVERSITY OF NIGERIA

**INTERNATIONAL JOURNAL OF MIGRATION AND GLOBAL
STUDIES [IJMGS]**

PUBLISHED BY

CENTRE OF EXCELLENCE IN MIGRATION AND GLOBAL STUDIES

VOLUME 3, NUMBER 1, APRIL, 2023

**ISSN: 2782-7534
eISSN: 2992-3786**

EDITORIAL BOARD FOR INTERNATIONAL JOURNAL OF MIGRATION AND GLOBAL STUDIES

Editor-in-Chief

Prof. Abdalla Uba Adamu, Bayero University Kano, Nigeria

Managing Editor

Prof. Gloria O. Anetor, National Open University of Nigeria [NOUN]

Editorial Advisory Board

Prof. Olufemi Peters, National Open University of Nigeria [NOUN]

Emeritus (Prof.) Godwin Sogolo, National Open University of Nigeria [NOUN] Prof.
Hakeem I. Tijani, Morgan State University, USA

Prof. Monioluwa O. Olaniyi, National Open University of Nigeria [NOUN]

Editorial Members

Prof. Mbare NGOM, Morgan State University, USA

Prof. John A. Bewaji, The University of West Indies, Jamaica

Prof. Bridget Teboh, University of Massachusetts-Dartmouth, USA

Dr. Marek Hrubec, Centre of Global Studies, Czech Academy of Sciences, Prague, Czech
Republic

Dr. Hauwa Mahdi, University of Gothenburg, Sweden Prof. Rasheed Olaniyi,
University of Ibadan, Nigeria

Prof. Ganiyat Uthman-Adesina, National Open University of Nigeria [NOUN] Prof.
Iyabode Nwabueze, National Open University of Nigeria [NOUN]

Prof. Mohammed S. Audu, Federal University, Lokoja Prof. Akeem Akinwale,
University of Lagos

Copy Editor

Dr. Felicia Oamen, National Open University of Nigeria [NOUN]

Electronic Production Editor

Grace Egenti, National Open University of Nigeria [NOUN]

Executive Administrative Assistant

Blessing O. Alabi, National Open University of Nigeria [NOUN]

About

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.

Peer Review:

Each article is reviewed by two independent experts and the final decision is made by the Managing Editor.

Open Access Policy:

The Articles published in this Journal are published under license and is subject to copyright, reserved by the Centre of Excellence in Migration and Global Studies, National Open University of Nigeria. All works (including texts, images, graphs, tables, diagrams, photographs and statistical data) may be used for non-commercial purpose, citing appropriately the original work.

Publication Frequency:

The Journal is published twice each year in April and November.

Information for Authors

- ✦ Copies are given free only to lead Authors
- ✦ No payment for publication in this Journal
- ✦ Abstract, not more than 300 words with 3-5 keywords
- ✦ Empirical research 5500 words maximum
- ✦ Review research 7000 words maximum
- ✦ All papers must be typed in Times New Roman with 12 double line spacing
- ✦ Chicago referencing style is adopted by the journal
- ✦ Manuscript should be posted to the Managing Editor via email at cemgs@noun.edu.ng
- ✦ Tables should not be more than seven (7)
- ✦ Galley proof will be sent to authors for verification before publication.
- ✦ It is at the galley proof stage that acceptance letter can be issued to the author.

Focus & Scope

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.

GUIDELINES FOR AUTHORS/REFERENCING STYLE (JOURNAL ARTICLE, OCCASIONAL PAPER SERIES & BOOK SERIES)

Proposal should be between 2,500 and 6,500 words. The draft of your proposal should be submitted via Centre's email address (cemgs@noun.edu.ng) and the revised version (if required) should be received as specified on correspondence letter with the author(s).

Proposals are to be written in English. Authors are advised to avoid all forms of plagiarism including self-plagiarism. All ideas and works must be properly referenced. The author must properly reference his or her own work which have been used or published elsewhere. *Authors are to avoid the use of Wikipedia.* Manuscripts should be referenced using endnotes or footnotes in the Chicago Manual Style as follows:

Chicago Referencing: Basic Structure

- In Chicago style, footnotes or endnotes are used to reference pieces of work in the text.
- To cite from a source a superscript number is placed after a quote or a paraphrase.
- Citation numbers should appear in sequential order.
- If using endnotes, numbered notes will appear on a separate, endnotes page at the end of your document and before the bibliography page. The page should be titled Notes (centered at top).
- Footnotes must appear at the bottom of the page that they are referred to.

Example

Political advisors were confident in their point-lead¹.

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.

Footnotes/Endnotes are paired together with a bibliography at the end of the research publication. Make sure to consult the [Bibliography](#) section of this guide for assistance making your reference area.

Example of Chicago Referencing

The movement of people across the globe is inevitable today, and its growing importance cannot be ignored. International migration, for example, provides significant financial and social benefits for migrants, their families, and the

countries producing and receiving these individuals.¹ Currently, one out of every 35th individual represents an international migrant. However, it is interesting to know that three-quarters of all international migrants are located in only 12% of all countries across the globe.²

To have a deeper understanding of how vital immigration is on the global level, a study by the European Commission has shown that the employable age within Europe will decrease by 20 million, barely less than a decade from now. The shrinking workforce translates to an increase in the number of dependents. This could negatively impact the economic growth and competitiveness of the region. Furthermore, a report published in 2000 by the United Nations stated that migration would have to be sustained at the double the current rate to maintain the size of the workforce. Without sustained migration by 2050, the European Union will need two workers to pay for one pensioner.³

References at the end of your paper are to be referenced using bibliography

General Bibliography Rules

- The bibliography should start on a new page, 12 pt. font (Times New Roman), and be titled 'Bibliography' at the top.
- Leave two blank lines between your bibliography title and the first entry.
- Use proper formatting for each type of source and always using a hanging indent. The first line of the citation will begin on the margin, subsequent lines are indented (opposite of a footnote/endnote).
- The bibliography should be alphabetical.

Alexander Noyes. "Securing Reform? Power Sharing and Civil-Security Relations in Kenya and Zimbabwe," *African Studies Quarterly* 13, no. 4 (2013): 31, <http://www.africa.uffi.edu/asq/v13/v13i4a2.pdf>.

¹ International Migration - United Nations Population Division | Department of Economic and Social Affairs." 2013. Un.org. 2013. <https://www.un.org/en/development/desa/population/theme/international-migration/index.asp>.

² International Organization for Migration. "World Migration Report 2020." World migration report. Accessed January 14, 2022. <https://worldmigrationreport.iom.int/wmr-2020-interactive/>.

³ Emily. 2007. "The Importance of Migration and Remittances to Economic Stability and Competitiveness | Post & Parcel." Post & Parcel. May 30, 2007. <https://postandparcel.info/24553/news/the-importance-of-migration-and-remittances-to-economic-stability-and-competitiveness/>.

- Entries should be typed single-space but there should be a blank line between each separate citation. If you have multiple Penguin Press, 2008.

—, ed. *Resistance and Revolution in Mediterranean Europe, 1939-1948*. New York: Routledge, 1989.

Online Book

Rafe Esquith. *Teach Like Your Hair's on Fire: the Methods and Madness Inside Room 56* (New York: Penguin, 2007), under "What a Wonderful World," Google Books, books.google.com/books?isbn=1101201916.

E-book

Malcolm Gladwell. *Outliers: the Story of Success* (New York: Little, Brown & Co., 2011), Kobo edition, chap. 1.

Article, Online newspaper

Victoria Ptashnik. "Ottawa Lawyer Accused of Misappropriating \$500,000 Living in Paris for its 'Medical Facilities,'" *Toronto Star*, April 17, 2013, www.thestar.com.

Article, Print journal

Hanhimaki, Jussi M. "'Dr. Kissinger' or 'Mr. Henry'? Kissingerology, Thirty Years and Counting," *Diplomatic History* 27, no. 5 (2003): 637-676

Article, Online journal

Cooper, Andrew F., and Daniel Flemes. "Foreign Policy Strategies of Emerging Powers in a Multipolar World: An Introductory Review." *Third World Quarterly* 34, no. 6 (2013): 943-962. Accessed January 7, 2020. doi: 10.1080/01436597.2013.802501

Copyright Notice: The Articles published in this Journal are published under license and is subject to copyright, reserved by the Centre of Excellence in Migration and Global Studies, National Open University of Nigeria. All works (including texts, images, graphs, tables, diagrams, photographs and statistical data) may be used for non-commercial purpose, citing appropriately the original work.

Contact

Dr. Gloria O. Anetor
ganetor@noun.edu.ng

Support Contact

Blessing O. Alabi
balabi@noun.edu.ng

Table of Contents

Title/Introduction.....	i
Editorial Board.....	ii
About Journal.....	iii
Guidelines for Authors.....	iv
Table of Contents.....	vii
Editorial Brief.....	viii
Migration and the Global Drug Crisis: Genesis, Drivers, and Societal Pathology John I. Anetor and Gloria O. Anetor	1 - 35
Educational Migration as A Bridge for Achieving the SDG4 Uchenna Sydney A. Osuji	36 - 48
Japa: The Causes and Effects of the Migration of Information Technology Professionals in Nigeria Christophe Agbonkhese	49 - 77
Comparative Study of the Problems of Solid Waste Management on Human and Environment in the Last Decade: Evidence from 2012 – 2022 Benin City, Edo State, Nigeria. Agbebaku, Henry U.; Nyikun, Polycarp R; Okopi, Paul; Ayeleso, Olusoji, A; Abdullahi, Ari H and Aziegbe, Blessing I	78 - 102
The Socio-Economic and Political Implications of Forced Migration for Internally Displaced Families in Nigeria Jonathan A. Yabilyok and Everest P. Baniyet-Njei	103 - 121
The Impacts of Migration on the Socio-Economic Development of Nigeria: Empirical Insight from Nigerian Immigration Service (NIS) Chukwuemeka G. Eme	122 - 140
Developing Entrepreneurship Mindset to Maximise the Opportunities of the 21st Century Ali J. Onoja, Sanni O. Felix, Favor E. Onoja, Kelvin S. Obaka, Ayorinde S. Lemah and Sheila I. Onoja	141 - 173

Editorial Brief

This is Volume 3 Issue 1 (April edition) of International Journal of Migration and Global Studies (IJMGS). The Journal is developed and published by the Centre of Migration and Global Studies, National Open University of Nigeria. All the articles were presented at various times on virtual weekly webinar organized by the Centre, and they were peer reviewed by scholars in the field. The review is part of the international rigour that the Journal editorial is noted for. 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: Migration and the Global Drug Crisis: Genesis, Drivers, and Societal Pathology; Educational Migration as A Bridge for Achieving the SDG4; Japa: The Causes and Effects of the Migration of Information Technology Professionals in Nigeria; Comparative Study of the Problems of Solid Waste Management on Human and Environment in the Last Decade: Evidence from 2012 – 2022 Benin City, Edo State, Nigeria; The Socio-Economic and Political Implications of Forced Migration for Internally Displaced Families in Nigeria; The Impacts of Migration on the Socio-Economic Development of Nigeria: Empirical Insight from Nigerian Immigration Service (NIS); Entrepreneurship Mindset to Maximise the Opportunities of the 21st Century

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.

Prof. Gloria Anetor
Managing Editor

Migration and the Global Drug Crisis: Genesis, Drivers, and Societal Pathology

John I. Anetor^{1*} and Gloria O. Anetor².

¹Laboratory for Toxicology & Micronutrient Metabolism, Chemical Pathology Department, College of Medicine, University of Ibadan & The University College Hospital (UCH), Ibadan, Nigeria

²Department of Public Health Science, Faculty of Health Sciences, National Open University of Nigeria (NOUN), Abuja, Nigeria

Correspondence: Professor John I. Anetor johnanetor@gmail.com,
jnetor@com.ui.edu.ng

Abstract

Migration has become a major concern to the global community, because of its diverse and far-reaching consequences. Migration may simply be considered the mass movement of a collection of people from one location to another. Human migration has been part of the existence of human species and commonly a response to prevailing adverse situations or need that may include, ecological or climate change and attendant agricultural failure, environmental degradation, economic distress, persecution, insecurity or wars. One of the most well-known and recorded migration in history is the movement of the Israelites (exodus) from Egypt. Recent recognized drivers or push factors of migration are persecution, insecurity, quest for employment. Migration may be associated with crops, agricultural practice, art, culture but whether migration is associated with drug trafficking contributing to the current international drug crisis or epidemic is rarely considered. This paper examines international migration, the major driving forces focusing on the linkage between and the epidemic of drug addiction, the genesis, drivers and the ills or pathology it inflicts on society. In this paper we shall attempt to provide an evidence-based linkage between drugs misuse and migration, key drivers, and attendant harmful consequences on society (societal pathology). Very importantly, the paper attempts to proffer solutions of how the global drug crisis can be addressed; fundamentally by responsive, sustained good governance, human compassion and care and establishment of international institutions to promote health education, control and regulate migration with a delineation for drug trafficking and abuse. The overall consequences of migration related drug crisis globally are far reaching; including sociopolitical, economic, security and health, but can be mitigated by good governance, humane relationships, and functional national and international partnerships by regulatory and control agencies.

Keywords: Migration, crime rate, morbidity and mortality, drug crisis, governance, societal pathology.

Quote: ‘The line between a medicine and a poison is often exceedingly narrow’

- W. H. Haines (1904) Textbook of Legal Medicine and Toxicology

Introduction

Migration basically connotes mass movement of a people from one location to the another. Migration is not a new phenomenon.¹ Human migration is always a response to a stimulus, which may include ecological and environmental change or threat, economic, political, security and wars. Some of the common causes or drivers of mass movement or migration are shown in table 1. The most historic migration in human history is the movement (exodus) of the Israelites from Egypt due to maltreatment and oppression (Exd. 1: 1-22) as illustrated in figure 1.

Some of these drivers are clearly evident in Africa, also South America the continents with the largest migrant populations globally. Table 1 below depicts the list of the key drivers of migration. The true picture was aptly painted by Fluhaux and Haas² who examined migration in Africa, trends, patterns and drivers.²



¹ Finlayson C (2005). Biogeography and evolution of the genus Homo. Trends Ecol Evol. 20: 457-463.

² Fluhaux M. L., Haas H. (2016) African migration, trends, patterns, drivers. Comp. Migr. Stud. 4: 1

Figure 1. Illustration of the historical (biblical) exodus of the Israelites from Egypt and their guidance by a pillar of fire going ahead of them.

Materials and Methods

The method employed in this investigation, largely involved searching the credible literature reporting on migration, and the drug problem or crisis that are PubMed indexed or at least PubMed Central, Index medicus, Science Citation Index (SCI), Scopus.

Information was also sourced from important websites and reports from reputable organizations, such UNDP, ILO, WHO, IOM, UNODC, CDC, NCDC, IDA, NAFDAC, NDLEA, NBS, etc. and many others reputable sources. The information was subjected to critical and thorough analysis before arriving at a synthesis presented here.

The common and most well-known of the drivers of migration are as evident in table 1 below.

Table 1. Common drivers of migration

	Causes / Drivers	Remarks
1.	Bad governance	Evident in many African and South American countries
2	Human rights denial/ exploitation	
3.	Economic/ greener Pasteur	Linked to poor governance
4	Social & political oppression	Myanmar and Ethiopia
5.	Agricultural failure/ famine	
7	Environmental degradation/ climate change	
8.	Insecurity/ war	Exemplified by the Russian invasion of Ukraine
9	Liberation movement	South Sudan
10	Quest for better education-golden fleece	Many African countries, including Nigeria
11.	Religious persecution/ ethnic cleansing	Common in many third world countries, Myanmar China; the Holocaust dispersed the Jews all over the world
12	Abhorrent cultural practices	Killing of twins in Calabar –

		stopped by Mary Slessor
13	Medical tourism	Poor health systems

Results and Discussion

Migration and Economy

It has been recognized from history that there is an intimate nexus between trade (economics) and migration, capital like labour is a driver of production causing transborder movement or migration. International movement of labour may therefore be considered a response (one of the push or pull factors) to economic principles, which is considered conventional. Capital may move from one country in order to hire workers in another country, this is essentially what is operative when say a corporation like Mandillas sets up a production plant abroad. In the alternative, labour may depart one country in search of capital (employment) in another country, which is what obtains when workers migrate to a new country in search of employment by another organization in the new abode. Thus, it appears rational to view the politics of immigration as part of the broader integration of the world economy (globalization) and may be another illustration of the movement of factors of production from one country to another in line with the observation of Frieden et al.³ One tempting question however is, if capital drives transborder movement of labour (migration), do drugs do the same? This is an aspect of migration that has not received any attention or only very limited exploration.

This paper examines the connection between migration and the global drug crisis or epidemic, and the drivers and societal disorders or pathology. Whereas the health impacts of migration have received some measured attention, one of the most recent being that of Schwerdtle et al.⁴, the association between migration and the exploding global drug crisis is hardly explored. One of the very few reports only referred to it in passing as, mental health disorders relating to social change and substance abuse as a component of the health impacts in migrant populations. In this

³ Frieden, J. A., Lake, D. A., Schultz, D. A. (2016). World Politics: Interests, Interactions, Institutions. Norton and Company. New York. Pp 372-377.

⁴ Schwerdtle P, Bowen K, McMichael C (2018). The health impact of climate related migration. BMC Medicine. 16: DOI 10.1186/s12916-017-0981-7

report, circuitous evidence reveals a nexus between international migration and the global drug crisis.

Table 2 shows the major countries of destination during this period, two of which interestingly are among the epicentre of the current global drug crisis.

Table 2. Major Countries of destination Pre-World War 1

	Country	Observation
1	Canada	Very cosmopolitan
2	Australia	cosmopolitan
3	Argentina	Cosmopolitan
4	United States of America	Very cosmopolitan

Source: Frieden et al (2016)³

It is perhaps appropriate to take a quick look at the countries with the leading number of international migrants.

Table 3. Countries with the largest number of international migrants as of 2013.

Country	Total Migrants	As % of Total
United States	45,785, 090	14.3
Russia	11,048, 064	7.7
Germany	9, 848, 244	11.9
Saudi Arabia	9, 060, 433	31.4
United Arab Emirate (UAE)	7, 826, 981	83.7
United Kingdom (UK)	7, 439, 086	12.4
France	7, 439,086	11.6
Canada	7, 824, 069	20.7
Australia	6,468, 640	27.7
Spain	6,466, 605	13.8

United Nations Population Division ^{3a}

³ Frieden, J. A., Lake, D. A., Schultz, D. A. (2016). World Politics: Interests, Interactions, Institutions. Norton and Company. New York. Pp 372-377.

Economic Factors and the Unanswered Question

It is recognized that higher wages in wealthy nations attract workers from poorer nations embracing skilled and unskilled workers. Migration may lead to lower wages for local workers; the Heckscher- Ohlin theory or effect, which is not difficult to understand. Could this phenomenon contribute to the drug epidemic as local workers seek other ways to supplement their income?

Migration benefits destination countries in a number of ways:

- ✓ Access to larger labour force
- ✓ Lower cost of production
- ✓ Lower wages

Employers in specific industries benefit or gain from lower wages and cheap labour.

In the United States for example, migrant workers are particularly employed in the underlisted sectors:

- ✓ Agricultural
- ✓ Restaurants/ Eateries
- ✓ Hospitality industry
- ✓ Construction

Migrant workers are commonly paid lower wages that may not meet their subsistence. One is thus tempted to ask if this could be a driver for the drug epidemic as these workers resort to drug trafficking to supplement their meager wages and consequently one of the drivers of the drug crisis.

Migration: The Changing Equation

Migration not unexpectedly changes the countries of origin and destination in some ways

These ways may include:

- ✓ Posing a cultural threat to host societies.
- ✓ Introduction of diversity

^{3a} United Nations Population Division

- ✓ Changes social and political nature of local society, including drug culture where it exists.
- ✓ Threat to national security is evident in some centres.
- ✓ Westernization of migrants, including drugs were prevalent.
- ✓ Migration contributes to globalization in positive and negative ways.
- ✓ Migration may raise more questions than answers.

The Global Drug Crisis (Epidemic)

Is there any link between the global drug crisis and migration?

This question may be partly answered by the report of Feltner in the newsletter of the Council on Foreign Relations draws instructive attention to the opioid overdose in the United States which may mirror the global picture and magnitude.⁵ The investigator underscores the situation as having reached an epidemic proportion, endangering not only public health but also economic productivity and the security of the country and by extension the world as whole. The report points out that over 2 million deaths from opioid overdose or poisoning have been recorded since 2000. Fentanyl, a potent synthetic opioid has heightened the crisis. Remarkably it has been observed that a major share of the drug supply originates from Mexico, a notable major migration hot spot or nation to the United States. A similar observation has also been made in Canada⁶ another major migration destination country and the second per capita consumer of opioids globally^{6a}. Thus, the US or North American opioid epidemic may serve as an indicator of the rising global drug crisis.

Drug Abuse and Trafficking: A humanitarian Crisis

Ghada Waly, the Executive Director of the United Nations Office of Drugs and Crimes (UNODC) has also recently observed that drug misuse and illicit trafficking has become a humanitarian crisis, which has

⁵ Felter C. (2022) Council on Foreign Relations News Lett.

⁶ Canadian Institute of Health Information (2017). Opioid – Related Harms in Canada

^{6a} (International Narcotic Control Board, 2017)

^{6b} Waly G (2020) Message on International Day Against Drug Abuse and Illicit Trafficking UNODC (United Nations Office on Drugs and Crime , Vienna (June, 2020)

remained sustained for several decades ^{6b}. She emphasized that this has a number of societal consequences (societal pathology), including:

- ✓ Deterioration in health
- ✓ Untimely death of millions globally with attendant economic and social derangements
- ✓ Crippling of the economy
- ✓ Vulnerable population at risk of other pathologies

Figure 2 below illustrates the rising death toll from common drugs of abuse, corroborating Waly, observation.

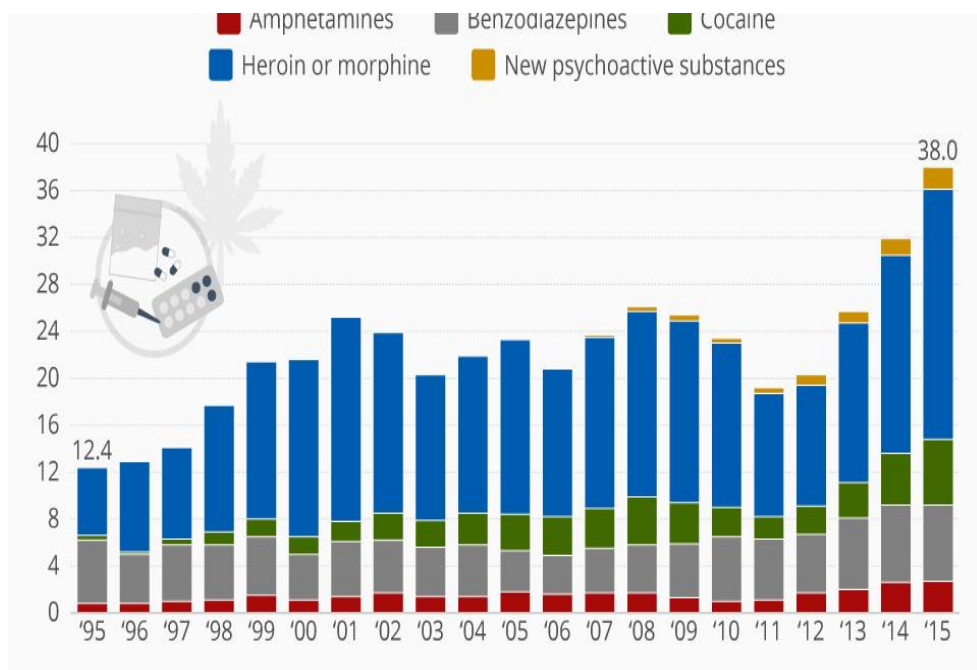


Figure 2a. Increasing death from drug misuse in about 20 years.⁷

As shown in figure 2 above, Kessel demonstrates the progressive increase in death from drug misuse, especially as regards major drugs of abuse, such as amphetamines, benzodiazepines, cocaine, heroin or morphine as well as emerging psychoactive substances.

⁷ Kessel I V. 2017. Death from drug misuse on the increase since the last 20 years. World Drug Report. UNODC

Origin of the Drug Crisis

The beginning of the drug crisis is uncertain. But the onset of the phenomenon is based mainly on speculative observations and connections. There is however general agreement that it is not new and may be traceable to the introduction of cigarettes by Columbus to the New World and the use of Tarshish in the Persian Gulf where it was employed for many deadly crimes including assassination.⁸

Evidence also exists that one of the very common drugs of abuse, amphetamine, a class of chemical compounds that share a common phenylethylamine structure was first synthesized in 1877 by Lazar Edeleanu, a Roman chemist who was working at the at the University of Berlin, Germany⁹, where he synthesized amphetamine from ephedrine. Ephedrine itself being a plant derivative isolated for the first time from the plant *Ephedra sinica* and had been extensively employed in Oriental traditional Chinese medicine for thousands of years and was at the time called ‘ma huang’.

A derivative from amphetamine, methamphetamine 3, 4-methylenedioxyamphetamine (MDMA) was later synthesized from ephedrine by the organic chemist and pharmacologist Nagai Nagoyoshi in 1893 at Tokyo Imperial University, now University of Tokyo, Japan. For nearly half century scientists were uncertain as to the pharmacological significance of amphetamine.



Molecular Structure of amphetamine, Molecular formula: C₉H₁₃N

⁸ Hansen T. 1989. Coping with Drug Abuse. CTS Publication. London. Pp1-10.

⁹ Lemos NP (2013). Amphetamines. In: Kwon TC, Magnani B, Rosano G, Shaw LM (Eds). The Clinical Toxicology Laboratory: Contemporary Practice of Poisoning Evaluation. American Association for Clinical Chemistry (AACC) Press, Washington. Pp 97-108

By the late 1920s, Smith Kline and French (SKF), a prominent pharmaceutical company at the time introduced the drug to the market as a racemic (mixture of enantiomers of asymmetric structure, mirror images) of amphetamines in the form of a vasodilating inhaler, using the trade name ‘Benzedrine’.

It is perhaps strikingly important here to remark that the stimulant effects of the drug soon came to the attention of physicians who started using it for the treatment of narcolepsy (day time sleepiness). This may at least in part be the genesis of the drug crisis as the significant stimulant effect resulted in tremendous widespread recreational use that reached an epidemic proportion between the 1940s and 1950s^{9, 10}. It is also significant to note that amphetamines were widely used for their stimulant effects by soldiers involved in the World War II (WWII) and the Vietnam war^{9,10}. These may have introduced it to their immediate circle of friends on discharge from military service and ultimately to the general public.

There is a report that seems to corroborate the use of amphetamine by military personnel that the attending (personal physician) of Adolf Hitler may have 'repeatedly injected 'Hitler with intravenous methamphetamine in the 1940s^{9, 11}.

Methamphetamine abuse progressively rose in the 1950s and 1960s when it was recognized as a social problem (societal pathology?) in the United States of America.

As a response to the magnitude of methamphetamine abuse in the U S, it was classified as a Schedule II Substance in late October 1970, as a component of the Comprehensive Drug Abuse Prevention and Control of 1970⁹. Schedule II Controlled Substances have limited medical application, but a high potential for abuse and may lead to profound psychological or physical dependence or addiction.

The German chemist Anton Kollisch, an employee of Merck synthesized MDMA in 1912 shortly before he was killed in WWI in 1916, about two years later a patent was granted to the drug (MDMA). Unfortunately, the

⁹ Lemos NP (2013). Amphetamines. In: Kwon TC, Magnani B, Rosano G, Shaw LM (Eds). The Clinical

¹⁰ Rasmussen, N (2013) Amphetamine Stimulants: The early history of their medical and non-medical uses. *International Review of Neurobiology*. 120: 9-25

¹¹ Doyle (2005), D. Adolfe Hitler's medical care. *J R Coll Physicians Edinburg*. 35: 75-82

inventor or investigator was not alive to appreciate the full impact of his contribution or invention inflicted on the world.

The drug MDMA, remained in oblivion until the 1970s, when a scientist at the university of California, Berkeley experimented with the drug and shared it among his colleagues, students and friends. This may also have contributed to the genesis of today's drug crisis.

Following this, MDMA within a short period attracted a large clandestine followership involving psychotherapists, college and secondary school students, club adherents, trans versing all age groups and gender in the United States. Like amphetamine, this abuse resulted in classifying MDMA as a Schedule I Controlled Substance in 1980⁹. Schedule I Controlled Substances incorporates substances with a high potential for abuse, without currently accepted medical application for treatment as well as absence of generally accepted safety for use of the drug or related substances, embracing those covered under medical supervision.

Ephedrine and pseudoephedrine were similarly treated for risk of use in clandestine preparation of amphetamine, culminating in the amendment of the USA Patriot Act, repealing the Methamphetamine Epidemic Act of 2005, amending the sale of ephedrine and pseudoephedrine containing products in the United States⁹.

Disappointingly, despite the extensive legislative measures at restricting possession and production of the drug from which the rest of the world borrowed marginal results were achieved in the drug crisis as corroborated by a report from the Drug Abuse Warning Network (DAWN), revealing that methamphetamine, amphetamine and MDMA accounted for 66, 308, 31, 534 and 17, 865 emergency department (ED) visits owing to distress respectively in the United States, which accounts for 11.6% of nearly one million ED visits in 2008¹²

⁵ Felter C. (2022) Council on Foreign Relations News Lett.

⁹ Lemos NP (2013). Amphetamines. In: Kwon TC, Magnani B, Rosano G, Shaw LM (Eds). The Clinical

¹² USDHHS (2011) US Department of Health and Human Services- Substance Abuse

Ever since the annual figures have climbed by > 5% in number of ED visits involving amphetamine and related compounds between 2003 and 2008^{9, 13}, an indication of the magnitude of the problem.

This illustrates the contribution of a collection of related compounds and can be extrapolated to drugs of abuse in other classes, cocaine, opioids cannabis and many others that can be combined with attendant synergistic deleterious effects.

A similar account may be weaved around these other drugs all contributing to the genesis and converging in the crisis we have today.

America, the consumer of about 67% of global drug consumption¹³ not surprisingly serves as a reservoir and source distribution after delivery from key producing countries in South America.⁵ owing to the role the U S plays in world affairs positive or negative.¹⁴

It is widely agreed as well that beginning in the 1990s, there has been an upsurge in prescription drugs, especially the use of opioids for pain relief and for reducing suffering in cases of excruciating pain, which is a welcome relief to many, but has unintendedly precipitated the drug crisis and contributed substantially to the crisis with the overt or covert action of major pharmaceutical companies from deceptive marketing unsupported by scientific evidence with the connivance of gullible physicians.¹⁵ David Michael, a former Undersecretary in the US National Institute of Occupational Health and Safety (NIOSH) holds the strong view that overabundance is a very strong contributor to the genesis of the current global opioid epidemic which took its route from the United States.¹⁶

It is undeniable, that the glut of prescription opioids in virtually unlimited quantities whether as prescription drugs or from diversion to illicit market, contributed to the current epidemic or crisis.

¹³ USDHHS, 2004

¹⁴ Michael's House, 2022

¹⁵ Klimas J (2016). Time to confront iatrogenic opioid addiction. *The Medical Post*. May

¹⁶ Michaels D. (2020). On Opioids. In: *The Triumph of Doubt: Dark Money and The Science of Deception*. Oxford. Pp 103-116

The admonition of Sir William Osler (1849-1919)¹⁷, a great contributor to the reformation of modern medical practice in Canada, the British Commonwealth and indeed the whole world may be useful here; ‘One of the duties of a physician is to educate the masses not to take drugs’. Sir Osler also observed that, ‘the desire to take drugs is perhaps the greatest feature which distinguishes man from animals.

In tackling the global drug crisis all involved, particularly physicians may need to be reminded of this timeless admonition.

Common Drugs of Abuse

The natural question is what are some of the commonly abused drugs?

These may include:

- ✓ Alcohol
- ✓ Amphetamine
- ✓ Cocaine
- ✓ Nicotine
- ✓ Heroin
- ✓ LSD
- ✓ Opioids

This may be better illustrated by the figure below to mark the International Day of Drug Abuse and Trafficking.

The Chemistry of Drugs and their Toxic Actions

It is necessary to briefly consider the chemistry of drugs and their toxic actions. Drugs are chemicals which modify the physiological integrity of the host (body) for a beneficial outcome or effect. Drugs may however have untoward or side effects that are outweighed by their beneficial effects. The goals of drugs are:

- i. To prevent disease
- ii. To cure disease

¹⁷ Bliss, M (1999). William Osler: A Life in Medicine. Oxford University Press. Oxford

Often goals I and II may not be achievable, but drugs should mitigate the progressive, devastating, or destructive features of a disease^{18,19,20}

Common Drugs of abuse and illicit trafficking that may lead to addiction and or death include:

- ✓ Alcohol
- ✓ LSD
- ✓ Cocaine
- ✓ Nicotine
- ✓ Heroin
- ✓ Opioids
- ✓ Methamphetamine

The Chemistry of Drugs and Toxic Actions: Effect on the Brain

What everyone should clearly understand about drugs which is often lacking in most people is that appropriate consumption of drugs improves the quality of life, in converse intake of drugs non-discretionally or use of mostly scheduled drugs is harmful and destroys the individual and society. Drugs are thus like a double- edged sword which have to be used and handled with caution.

The brain is the organ on which drugs of abuse have their most harmful effects. The brain is a key target organ of many drugs of abuse, such as cocaine and amphetamine and one of the organs that clinically manifests intoxications with drugs and chemical.²¹ The brain has a remarkable natural mechanism for pain management as outlined below:

- ✓ The body produces its natural chemical, opioid which binds to the receptors in the brain and nerves lessening pain and bringing relief and comfort to the patient.

¹⁸ Ebadi, M. (1996). *Pharmacology: An Illustrated Review*. Little Brown and Company. Boston, pp xi- 21

¹⁹ Harkup K (2015) *A is for Arsenic: The Poisons of Agatha Christie*. Bloomsbury Sigma, Bedford, London

²⁰ Woolley D, Woolley A (2017). *Practical Toxicology: Evaluation, Prediction, and Risk*. CRC Press, Taylor & Francis Group, Boca Raton

¹⁶ Michaels D. 2020. On Opioids. In: *The Triumph of Doubt: Dark Money and The Science of Deception*. Oxford. Pp 103-116

²¹ Hayes, A. W, Kruger G (eds) (2014) *Neurotoxicology*. In: *Principles and Methods in Toxicology*. CRC Press, New York.pp. 1596-1597

- ✓ For centuries, products derived from opium (a natural plant product) and subsequently, synthetic morphine were employed for pain relief, a kind of augmentation of the natural mechanism.
- ✓ The external intervention was an effective remedy but with addictive properties of concern.
- ✓ Owing to the beneficial effects observed in the 1960s, there followed widespread unregulated use in the 1990s ¹⁶
- ✓ The mechanisms of action of opioids are that they bind to receptors blocking them with attendant euphoric feeling craved for by users which became recognized and widely spread. Aspects of the mechanisms of drug action are depicted in figure 3 below.

It is important to recognize that consumers seeking opioid to the exclusion of medical goals irrespective of the deleterious consequences in their lives are generally considered as drug addicts which should be identified to avert the individual and societal damage that may follow.

The Chemistry of Drugs and Toxic Actions 3- Addiction

Addiction, from the foregoing (abuse, misuse, non- medical use of drugs) leads to dependence which is characterized by the following features:

- ✓ Individual becomes dependent on a particular drug.
- ✓ Requires constant supply of drugs.
- ✓ Becomes unable to stop using drugs.
- ✓ Requires medication to be liberated ⁸

Drugs only offer a temporary escape from disillusionment, anxiety, and related dysfunction. The deleterious effects may be dose dependent as observed many years ago by the father of modern toxicology, Paracelsus. Additionally, euphoria or state of exaggerated wellbeing, or pleasure is ephemeral with an aftermath of depression, melancholy, which can lead to destruction of the individual, community, and society at large.

Allures of Drugs

It may be appropriate to examine the allures into drug addiction.

It is coincidental that there is a convergence between the drivers of migration and drug addiction.

Some of the drivers or the key drivers of drug addiction include:

- ✓ Disillusionment
- ✓ Unhappiness

- ✓ Unemployment
- ✓ Uncertain future
- ✓ Prolonged reduction of income
- ✓ Low self esteem
- ✓ Lack of contentment (greed).

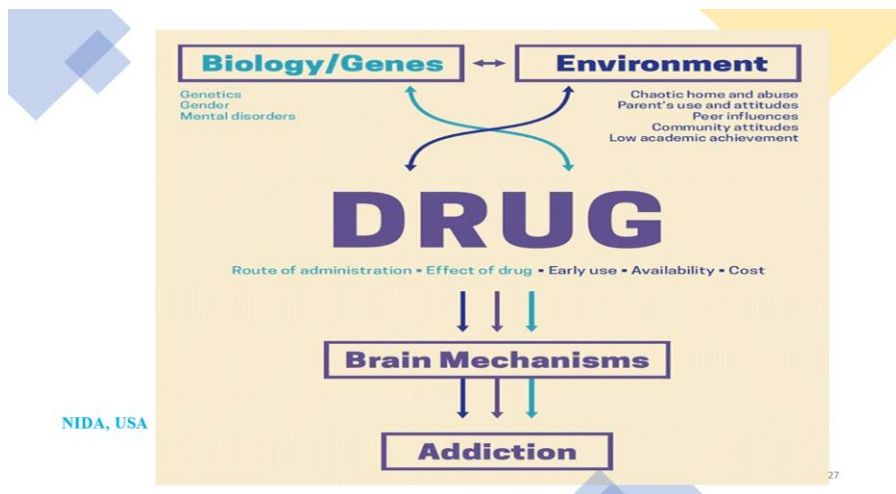
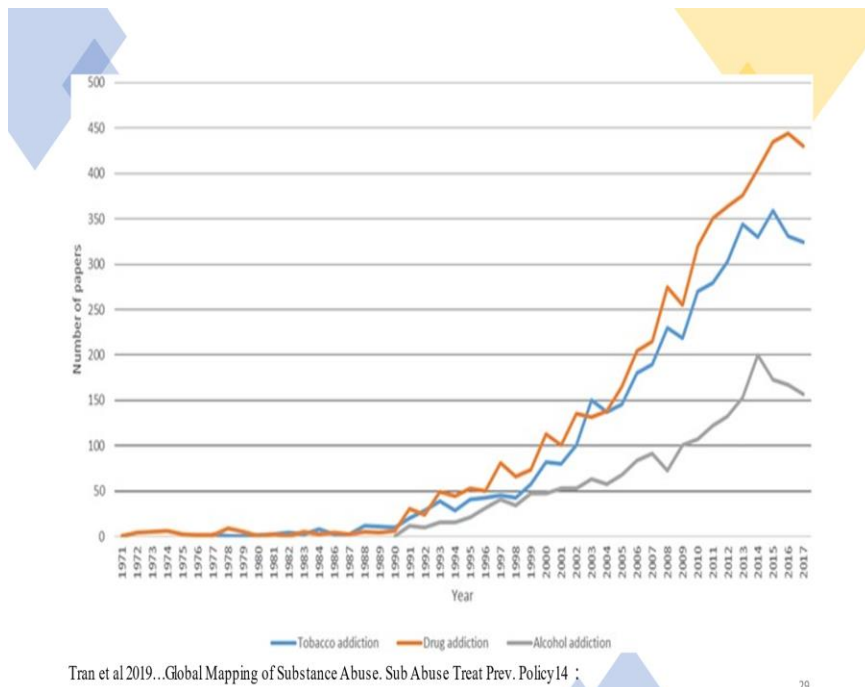


Figure 3b. Determinants of Addiction and Modifiers. Source: National Institute of Drug Abuse, NIDA (USA)²²

²² National Institute of Drug Abuse (NIDA) USA



29

Figure 4a. Trends in drug abuse

The trend of drug²³ abuse may also parallel transborder seizures indirectly suggesting a link between migration and the drug crisis.

²³ Tran, B. X, Moir M, Latkin C A, Hall BJ, Nguyen C T et al. (2019). Global mapping of substance abuse. Sub. Ab. Treat. Prev. Policy. 14: 1

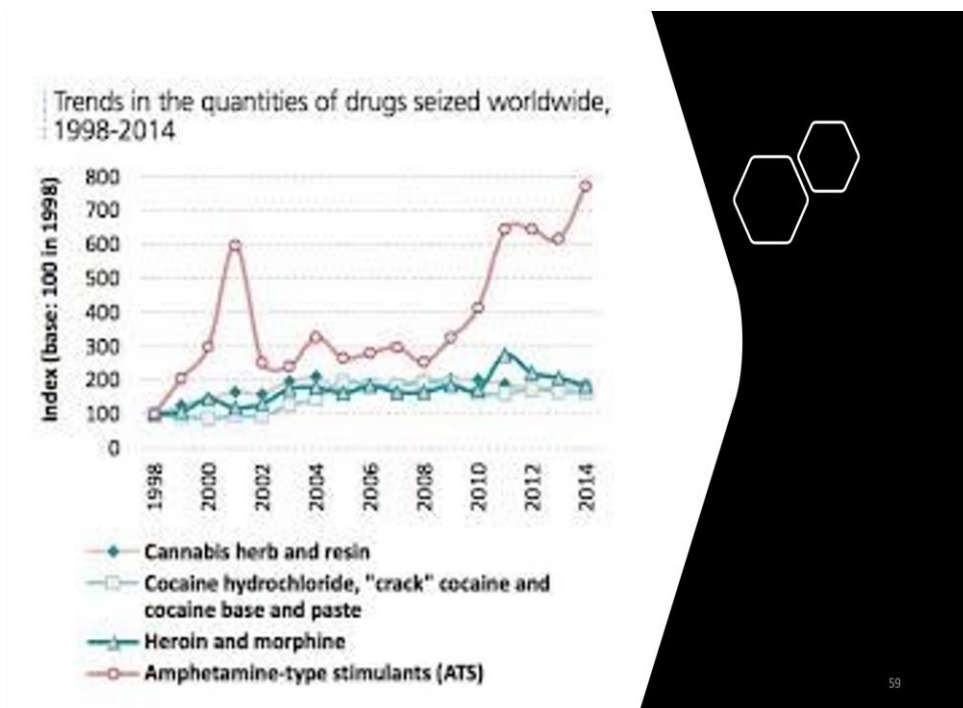
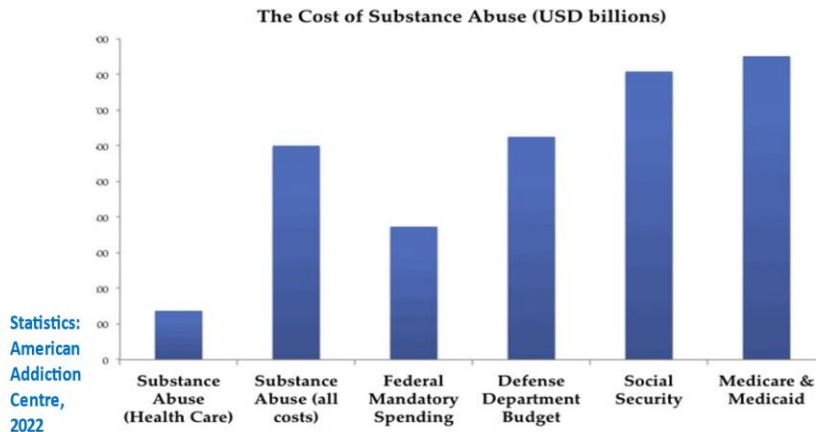


Fig. 4b. Trends in the quantities of drugs seized globally between 1998 and 2014. Source: United States Border Protection²⁴

The trend of drugs seized over one and a half decades between 1998 and 2014 appears to parallel the rising volume of migrants as shall be evident below (US Border Protection,²⁴ suggesting a link between migration and the global drug problem.

²⁴ UNODC (2018)

COST OF DRUG TO SOCIETY- USA



30

Source: Statistics American Addiction Center ²⁵

Figure 6a. Shows the prominent position drug abuse now occupies compared to major government services.; defense, social security, Medicare, and Medicaid

THE WEST AFRICAN DRUG CRISIS: A DISCONCERTING SITUATION

The drug problem in West Africa is very disconcerting and appears to at least in part parallel migration and intense trans-border activities in the sub-region as shown in table 4.

Table 4. Trends in drug use and trafficking in West Africa

	Quantity / Proportion	Period	Remark
1.	53 tons of cocaine were seized in West Africa	2019-2021	
2.	52 tons of hashish were seized in WA	2021	

²⁵ Statistics American Addiction Center

3.	77% of global tramadol is made in WA	-	Indicator of the magnitude of the drug crisis in the sub-region
4.	31.6 % of West Africans, 15-64 years old abuse drugs		
5.	<i>70% of drugs in West Africa originate from Latin America</i>		A major drug hot spot and migration hub in the world
6.	275 million West Africans abuse drugs		Size of the problem
7.	36.3 million West Africans suffer from drug use disorders		A Pointer to the public health crisis

UNODC. 2021. World Drug Report²⁶

Disturbing Projection of Drug Use in West Africa

At a meeting held at the Cervantes Institute in Dakar in April 2022, it was reported that drug use is projected to rise to 40% in the short-term and 43% by 2030. Very disturbingly, youth who are the dominant group involved in migration activities is reported to be at greatest risk.²⁷

The 2019 World Drug Report (UNODC, 2019) in an observation in Africa, remarked that while fentanyl and its analogues are the major problems of synthetic opioid crisis in North America, the situation in West, Central and North Africa is different. The African sub-regions are experiencing a crisis with tramadol, another synthetic opioid. The global seizures of this drug (tramadol) are reported to have leaped from less than 10 kilogram in 2010 to about 9 tons in 2013 and reached an all-time high of 125 tons.²⁸

The Nigerian Sombre Picture

The level of drug use in Nigeria is high²⁸ Nigeria is a leading country in the West African sub-region. It is therefore not surprising that with the level of free migration in the West African community that the country has its own fair share of the drug crisis, probably associated with migration.

²⁶ UNODC. 2021. World Drug Report

²⁴ UNODC (2018)

²⁷ UNODC (2022)

²⁸ UNODC (2019)

This is corroborated by the report of UNODC ²⁴, which stated that Nigeria was facing hard times with drug misuse.

The report indicated that the prevalence of drug misuse was led by the Southwest geopolitical zone, followed by that of North-West zone. As reported by Molobe and Odukoya ²⁹, the leading countries in drug use or trafficking in West and North Africa are Niger, Chad and Libya, these are well known migration routes to Europe, suggesting an association between migration and drug trafficking and drug misuse in West Africa. The Northern geopolitical zones taken together, account for nearly 36% (35.6%) of drug use or movement in Nigeria. ²⁴ The report of Molobe and Odukoya appears to corroborate the observation of the United Nations Drug Report ^{27,28}.

The drug crisis in Nigeria may be considered sobering, the age group most involved in drug use is the most economically productive age group, 30-39 years. Over 14.3 million Nigerians are involved in hard drug use, 376,000.00 Nigerians are believed to be high risk drug users. ³⁰ The economic impact of drug use is also striking, the high-risk group is known to expend about half a million naira on drugs annually, while each consumer spends about # 132,000.00. For cannabis as a specific substance abuse, about # 140,000.00 is spent per person according to the National Bureau of Statistics. ³⁰

Rural- urban drift or migration has also been identified as a response to poor socioeconomic situation, including poverty. ³¹ It has been observed that a huge number of young people are migrating from villages to Port Harcourt, in Nigeria and that there is an associated rise in associated sexually transmitted diseases ³¹. This is unsurprising, even though drugs including alcohol was not mentioned they are recognized to exist in clusters, the Niger Delta is reported to have the highest incidence of HIV/AIDS in Nigeria, probably a correlate the rising prostitution and teenage pregnancy in the region. This appears corroborate the Lancet Report ³²

²⁹ Molobe, I. D., Odukoya, O.O. (2021). The prevalence of drug use and illicit trafficking: a descriptive cross-sectional study of irregular migrant returnees in Nigeria. *Journal of Migration and Health*. 3: 100034

³⁰ National Bureau of Statistics, 2018

³¹ Tamuno, N. T. (2011). *Oil Wars in the Niger Delta: 1849-2009*. Sterling- Horden Publishers Ltd, Ibadan. Pp 171-190

³² Lancet Report (2010) AIDS 2010: (Editorial). 376: 2

associating drugs with high-risk behaviour. Increased violence, a recognized feature of drug misuse has also been reported from the Niger Delta Region, curvilinearly connecting drugs and migration with social vices, in this case internally as opposed to international migration.

Prevalence of Drug Abuse in Nigeria by geopolitical zones (2017)

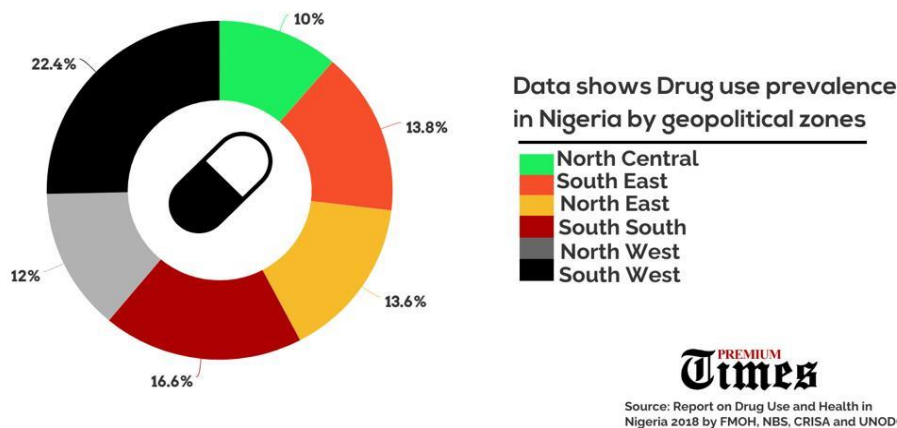
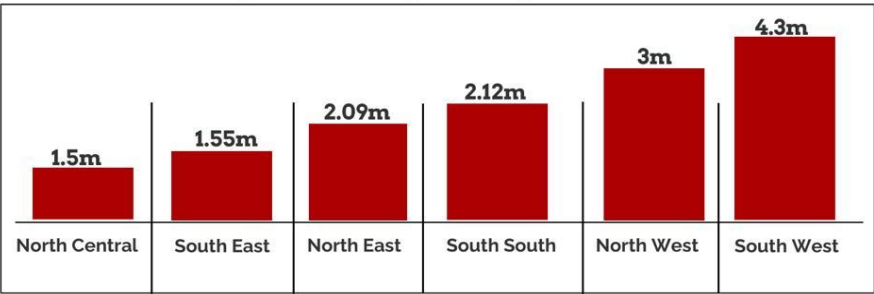


Figure 6b. Prevalence of Drug misuse according to geopolitical zone.
Source: NBS, UNODC



^{32a} UNODC (2008) Global drug seizure

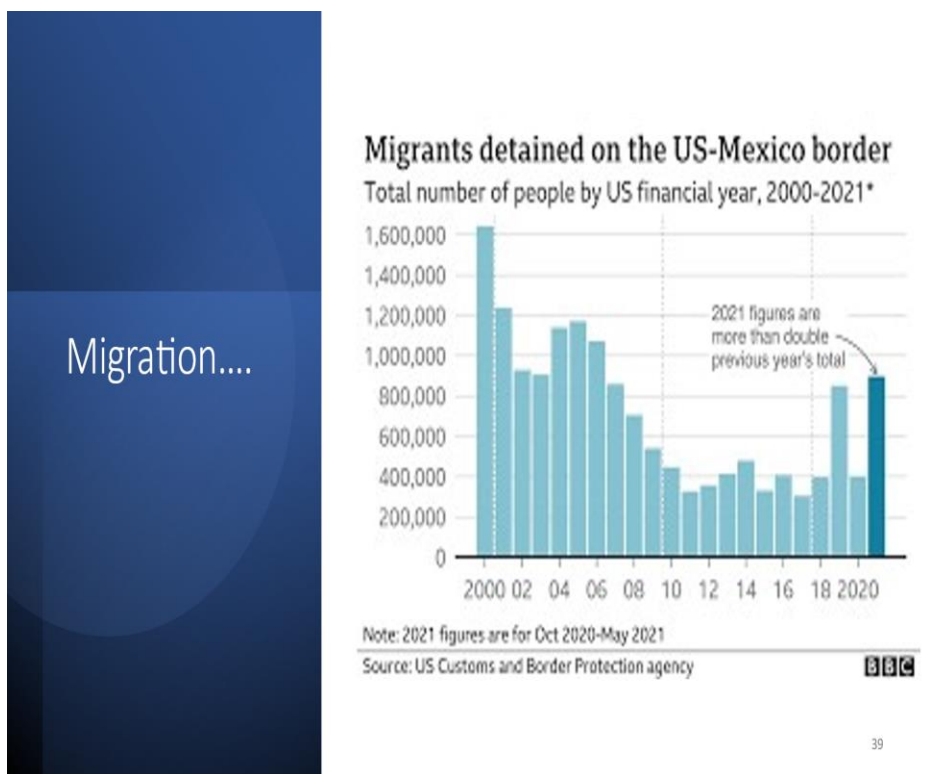


Fig. 8. Large number of Migrants detained at the US-Mexico border. US Customs and Border Protection Agency 25

As evident from figure 8 there is rising volume of migrants which more than doubled from 2019 to 2021, suggesting the pressure of migration on that axis, which is also a major drug movement axis or pathway. This appears corroborated by the sharp rise in migrant encounters in the Mexico boarder a major international migration route (BBC,2021).³³ This correlation and the data for global drug seizure, figure 7 appears to argue strongly for a link between migration and the global drug crisis. This appears very significant and remarkable.

This is coupled with the countries of greatest migrant population, Bolivia, Columbia and Peru that are also linked with intense drug trade, consumption and trafficking.

³³ BBC, 2021

Migrant encounters at the US-Mexico border have risen sharply in recent months

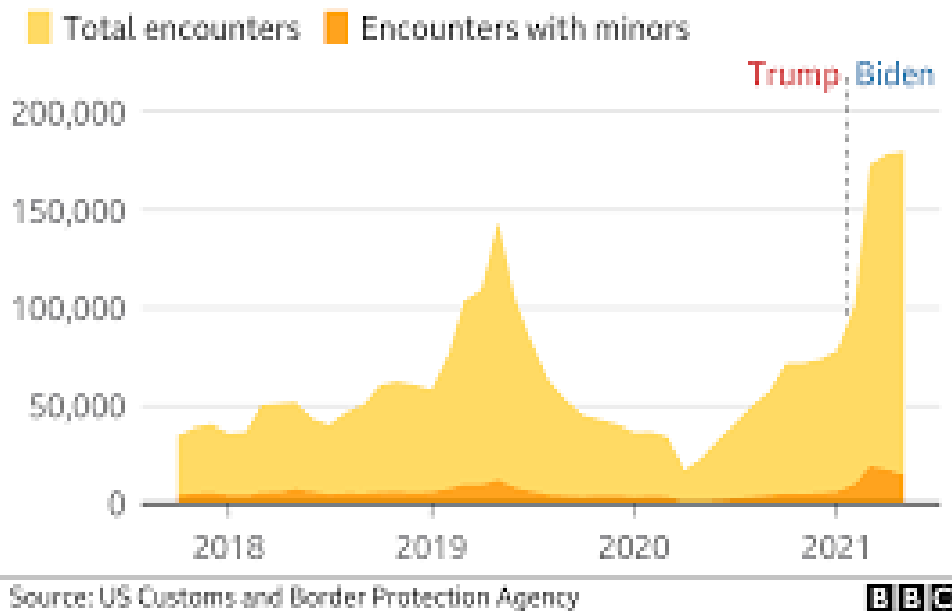


Figure 9a. Upsurge in US- Mexico border migration

TRAFFICKING IN DRUGS.....



45

Figure 9b. Major trafficking routes also routes of intense migration.
Source: CIA, USA

Economic Drivers of the Global Drug Crisis

Table 5. shows the economic worth of drugs, serving as a driver of the global drug crisis.

Table A. Global Drug Market Annual Values (US\$)

Market	Value
Cannabis	\$183 billion to \$287 billion
Cocaine	\$94 billion to \$143 billion
Opiates	\$75 billion to \$132 billion
ATS	\$74 billion to \$90 billion
Global Total	\$426 billion to \$652 billion

Source: Global Financial Integrity (GFI) (2017)

This is a very tempting economic factor which may serve as a stimulus to keep interest in the drug trade burning and fueling the global drug crisis.

Societal Pathology of the Global Drug Crisis

Hard drugs are known to be used in facilitating crimes as they eliminate any form of inhibition. Many countries put very stiff penalties, including death especially in the Muslim world, Indonesia, Singapore, Saudi Arabia etc. Many studies have established a parallel between drug use and crime rate as demonstrated in Canada.³⁴

Among the damaging effects of drugs which were well encapsulated by Waly³⁵ are:

- ✓ Corruption
- ✓ Crime
- ✓ Drug trafficking
- ✓ Drug addiction
- ✓ Violence

These social vices have far reaching community and larger societal consequences (pathology) that may contribute to upheaval and damaging occurrences.

Drug overdose deaths per 100,000 by race and ethnicity reveals that 19.1 – 23.6 for whites, 16.1- 27.3 for blacks , 8-12. 8 for Hispanics, 2.5 – 3.7 for Asians and for American Indians and Alaskan Natives 18.8 – 29.8 (CDC National Centre for Health Statistics, 2018).³⁶ The overdose death rates appear to be higher for the more migrant populations, African and American Indian Alaskans.

The Canadian picture reveals that this second highest migrant destination country and second highest per capita consumer of opioid worldwide International Narcotic Control Board.³⁷ Over 21 million opioid prescription.^{37b} Opioid prescription rose in 25 years and 4000 deaths of opioid overdose in 2017 ³⁸ and Opioid overdoses accounts for 16

³⁴ Juristat, 2019

³⁵ Waly G (2020) World Drug Report. UNODC

³⁶ CDC National Centre for Health Statistics, 2018

³⁷ International Narcotic Control Board, 2016

^{37b} Institute of Health Information, 2016

³⁸ Boyd S (2018). Drug use, arrests, policing, and imprisonment in Canada and BC, 2015-2016. Vancouver

hospitalizations per day. These data appear to show some association between migration and crime and death rates, some of the societal pathology of the drug crises.

It should not be forgotten in history that one of the tragedies that befell humanity was the holocaust³⁹, a horrible decision that exterminated over six million Jews in a gas chamber masterminded by Adolfe Hitler who was later found to have been under the influence of drugs, amphetamine ¹¹. This is an extreme illustration of what inhuman actions individuals can take under the influence of drugs.

This is also playing out today in America, known to consume about 67 % of global drug consumption ¹⁶ and has the highest record of gun violence nearly all of which are connected with mental health disorders often traceable to substance abuse.

Alarming Death Rate from Drugs

CDC, 2017



¹¹ Doyle D (2005) Adolf Hitler's medical care. J.R. Coll. Physicians Edinburgh. 35: 75-82.

¹⁶ Michael House, (2022)

³⁹ Gutam Y, Abraham, M (2014) (eds). Documents on the Holocaust: Selected Sources on the Destruction of the Jews of Germany, Austria, Poland, and the Soviet Union. Pergamon Press/ Elsevier

Figure 12: Drug overdose contributing to greater mortality in the United States- one of the societal pathologies of the drug crisis

Source: CDC (2017)

Among the deleterious effects of drugs which appear from evidence that may be bumpy or tortuous is that there is a connection between migration and the current global drug crisis, described as having reached humanitarian crisis ³⁵.

Some of the attendant adverse societal effects or outcomes include:

- ✓ Deterioration in health
- ✓ Premature death of millions worldwide
- ✓ Devastating effects on economic production and wasteful diversion or resources
- ✓ Vulnerable group (the youths) at greater risk
- ✓ Increased societal violence (domestic and) external.
- ✓ Increased global insecurity and terrorism.
- ✓ Family disharmony, including marital instability with attendant societal multiplier effect.

As shown in figure 12. above, overdose deaths contributed most to the totality of other causes of death in the United. This observation may not come as a surprise as it is congruent with the recognition that the United States is the consumer of 67% of illicit drugs globally ^{16, 40}.

The 2019 World Drug Report gives the scientific community a global view of the dynamics (supply and demand) of drugs, especially of the key drugs of abuse, opiates, cocaine, cannabis, amphetamine-type stimulants (ATS) and the recently developed psychoactive substances, and more importantly their impact on human health. The report underscores the fact that with improved investigations and accruing more accurate data, the deleterious consequences of drug misuse are becoming more evident and make clear that they are more widespread than hitherto thought (UNODC, 2019) and may parallel trends in migration. The suggestion by LeBeau and

¹⁶ Michael House, (2022)

³⁵ Waly G (2020) World Drug Report. UNODC

⁴⁰ CDC, 2017

Montgomery (2020)⁴¹ that the challenges require forensic laboratories for proper investigation, policy formulation and management appear sound and worthy of adoption.

Conclusion

An analytical attempt was made to link here in the intersection between migration and the drug epidemic. A set of drivers or factors appears to be determinants in the existence of humans that when altered may compel their dislodgment from one location to another. Traditionally, these may commonly include, economic, search for better education, insecurity, including wars as eloquently demonstrated by the situations in Ukraine, Pakistan, Nigeria, Ethiopia, Libya, Iran and about three decades ago, Rwanda and Uganda. Agricultural failure leading to famine, possibly a consequence of climate change could also be a driver of migration. What has remained largely unexplored is that there is a strong nexus between migration and harmful drug use and trafficking and rarely considered. Evidence, if windy, from this analysis appears to provide a link between the current global drug epidemic and migration.

This disturbing observation is associated with a number of aberrant outcomes that may threaten societal cohesion and lead to societal dysfunction, as shown by economic instability and decline in productivity, poor cognition, violence among others, all of which need to be addressed urgently and creatively.

The key message from this study, is that anomalous outcomes from migration related drug misuse are surmountable, if individual and collective will exists, which derives from good governance that is largely absent in most of the migration nations of origin compared to destination nations and a major driver or contributor to migration and the attendant drug crisis.

While the evidence presented here linking migration and the global drug crisis may be windy, it provides early warning for the global community

⁴¹ LeBeau M, Montgomery M. (2020) Drug-Facilitated Crimes. In: Levine B. S. Kerrigan S (eds). Principles of Forensic Toxicology, Springer. Switzerland AG, pp 35-43

to act; adoption of the precautionary principle^{42, 43} rather than strict adherence to weight of evidence is strongly admonished as a rational pathway. The precautionary principle should be adopted while more evidence is awaited from creative studies to avert the emergence of epidemic of severe generalized neurological disorders and other pathological correlates as well as insurmountable attendant social upheaval. Under the precautionary principle, lack of complete scientific or proven certainty (accepting existence of gaps) does not justify postponement of cost - effective measures (inaction) to prevent significant potential health risk or societal disorder.

Suggested Action Plan

Collectively and as individuals, we should endeavour to install good government by electing good leaders to ensure or promote good governance which has sound education, justice, equity zero or minimal corruption as the basis. This should be relentlessly pursued by the global community.

Aristotle's (384- 322) dictum or admonition that, 'all who have meditated the art of governing mankind have been convinced that the fate of the empire depends on the education of youth', who are disproportionately engaged in the migration movement and drug misuse. Education here refers to true schooling in knowledge, ethics, and good judgment.

At the individual level, we may emulate Don Bosco (1815-1888) who came to the need of the ones commonly attracted to the glamour of migration by being a father, teacher, friend, confidant, counsellor, leader and colleague to the youths and in the process counteracting the drivers of migration and attendant allurements to drugs, alcohol or substance abuse.⁴⁴ According to Bosco (a Rev father), 'these boys are not bad, take care of them before they enter crime'. Bosco inculcated in them the virtue of hard

⁴² Gilbert SG (2005). Public Health and the Precautionary Principle. Northwest Public Health. Spring/ Summer

⁴³ Goldstein BD (2006). The precautionary principle: Is it a threat to toxicological science? *Int. J Toxicol.* 25: 3-7

⁴⁴ Lemoyne JB (1967). Biographical Memoirs of St, John Bosco. Vol IV, New Rochelle, New York. Pp 52-56

work and working well finding fulfilment, an antidote to migration. This friend of the youth was also known to often say, ‘it is not enough to love the young; they must know that they are loved’. This helps to resist the lure of migration until it becomes inevitable. He was additionally often heard to say, ‘In every young person, a point of goodness is accessible, and it is the primary duty of the educator to discover the sensitive cord of the heart so as to draw out the best in the young people’. Thus, in the process reducing the attraction to migration-associated drug use involvement and decreasing the global drug crisis.

Don Bosco was one of the pioneers of Mutual Aid Societies (MAS) that were established as collaborative financial support to young migrant Catholic workers in the city of Turin in Italy. In 1850 Don Bosco drew up regulations to assist apprentices and their companions when any of them was unintentionally without work or fell ill. This is the kind of welfare scheme, a product of good governance needed today to address destitution that push young people to migration and drug or substance misuse. We all seemed to have failed in this regard and should therefore call for ‘*mea culpa, mea culpa*’ (call for forgiveness).

A kind of global, regional, and individual examination of conscience with a cry for forgiveness, for it is the failure of the elders, especially the leadership that is one of the key drivers of migration and associated drug misuse.

Another figure, that gave succor to the young and one can say detoxified the world or ‘dedrugged’ a toxic world is, Saint (Mother) Theresa of Calcutta, by coming to the aid of the needy and destitute. She was known to always say, ‘Not all of us can do great things, but we can do little things with great love’. Let us emulate her. Yet another reformer who attempts to tackle the problem of drugs is Peter Breggin⁴⁵, a psychiatrist who insists that drugsless approach is better in handling stress associated mental dysfunction that may unwittingly drive the individual to addiction. He admonished against toxic psychiatry and was described as the ‘Conscience of American Psychiatry’.

⁴⁵ Breggin P. R (1991). Toxic Psychiatry. St. Martin Press. New York

Like Don Bosco, Breggin advocated that therapy and empathy must replace drugs, electroshocks, and biochemical theories.

Absence of the human touch is thus also a driver of migration, precipitating drug crisis. Peter Breggin is known to often ask ‘must it be drugs?’

Recommendations

From the ‘windy’ relationship established between migration and the global drug crisis, the following recommendations appear expedient:

- ✓ Promotion of good governance and justice globally
- ✓ Establishment of educational programmes in schools on migration and world (international) affairs as every youth is a potential migrant particularly in third world countries.
- ✓ Enlargement of employment opportunities and welfare programmes- expanding industrial base
- ✓ Development of health education programmes on drugs- positive and negative aspects
- ✓ Establishment of Drug Addiction / Drug Abuse Warning Network (DAWN)
- ✓ Development of Counselling Units on Drug Abuse in all places of worship.
- ✓ Establishment of National Poison Control Centres- replicated in states and local governments all over the world.
- ✓ Development of Toxicovigilance programmes in every community, particularly in the developing countries
- ✓ Establishment of Drug Testing Centres (Forensic Toxicology Laboratories)
- ✓ Establishment of National Institute of Drug Abuse (NIDA)- NDLEA is not coping.
- ✓ Establishment of Agency for Humane Society and Education in Values
- ✓ Sustainable Development Goal to be revised to ensure healthy lives and promote wellbeing for all- incorporating migration and drug misuse disorders.

Summing it all up in the words of Kilburn (Brain and Chemical Plagues):

The response of a population to over exposure to drugs has broad health, social and economic implications aptly captured by Kilburn ⁴⁶:

‘Imagine a plaque so generalized, so devastating, yet so insidious that most of humankind becomes dysfunctional, suppose further that this dysfunction affects the brain so that perception and memory gradually fade, disorganizing behavior, thrusting its victims into a world of diminishing prospects and individual (societal) disorganization. Should such individual dysfunction rise above a trivial frequency, the collective cost to society could be enormous.

***Conflict of interest:** none declared by the authors.

Bibliography

- Amatsu H, Kubota, S (1913). *Über die pharmakologische Wirkung des ephedrins und mydriatins*. Kyoto Igaka Zassi 10: 301- 309.
- Bliss, M (1999). *William Osler: A Life in Medicine*. Oxford University Press. Oxford.
- Boyd S (2018). *Drug use, arrests, policing, and imprisonment in Canada and BC, 2015-2016*. Vancouver.
- Breggin P. R (1991). *Toxic Psychiatry*. St. Martin Press. New York
- Canadian Institute for Health Information. *Pan- Canadian Trends in the prescribing of Opioids, 2012-2016*. Ottawa: The Institute.
- Canadian Institute of Health Information (2017). *Opioid – Related Harms in Canada*.
- Dhalla, I. A., Mamdani, M. M., Siviloti M.L.A., Kopp, A., Qureshi, O., Juurlink, D. N. (2009). *Prescribing of opioid analgesic and related mortality before and after the introduction of long-acting oxycodone*. *Canad. Med Assoc. J.*.....
- Doyle (2005), D. *Adolfe Hitler’s medical care*. *J R Coll Physicians Edinburg*. 35: 75-82.

⁴⁶ 46. Kilburn, K. H. (1998) *Chemical Brain Injury*. Van Nostrand-Reinhold, New York

- Ebadi, M. 1996. *Pharmacology: An Illustrated Review*. Little Brown and Company. Boston, pp xi- 21.
- Felter C. (2022) Council on Foreign Relations News Lett.
- Finlayson C (2005). Biogeography and evolution of the genus *Homo*. *Trends Ecol Evol*. 20: 457-463.
- Fluhaux M. L., Haas H. (2016) African migration, trends, patterns, drivers. *Comp. Migrn. Stud*. 4: 1
- Frieden, J. A., Lake, D. A., Schultz, D. A. (2016). *World Politics: Interests, Interactions, Institutions*. Norton and Company. New York. Pp 372-377.
- Gilbert SG (2005). Public Health and the Precautionary Principle. *Northwest Public Health*. Spring/ Summer.
- Goldstein BD (2006). The precautionary principle: Is it a threat to toxicological science?
- Gutam Y, Abraham, M (2014) (eds). *Documents on the Holocaust: Selected Sources on the Destruction of the Jews of Germany, Austria, Poland, and the Soviet Union*. Pergamon Press/ Elsevier.
- Hansen T. 1989. *Coping with Drug Abuse*. CTS Publication. London. Pp1-10.
- Harkup K (2015) *A is for Arsenic: The Poisons of Agatha Christie*. Bloomsbury Sigma, Bedford, London.
- Hayes, A. W, Kruger G (eds) (2014) *Neurotoxicology*. In: *Principles and Methods in Toxicology*. CRC Press, New York.pp. 1596-1597.
- International Narcotic Control Board. *Narcotic Drugs Technical Report: Estimated World Requirement for 2017. Statistics for 2015-2017*.
- Kessel I V. 2017. Death from drug misuse on the increase since the last 20 years. *World Drug Report*. UNODC.
- Kilburn KH (1997). Introduction: The brain's new chemical plaques. In: Kilburn KH, ed. *Chemical Brain Injury*. Nyvan Norstrand. P1.
- Kilburn, K. H. (1998) *Chemical Brain Injury*. Van Nostrand-Reinhold, New York
- Klimas J (2016). Time to confront iatrogenic opioid addiction. *The Medical Post*. May.
- Lancet Report (2010) *AIDS 2010 : (Editorial)*. 376: 2

- LeBeau M, Montgomery M. (2020) Drug-Facilitated Crimes. In: Levine B. S. Kerrigan S (eds). *Principles of Forensic Toxicology*, Springer. Switzerland AG, pp 35-43.
- Lemos NP (2013). Amphetamines. In: Kwon TC, Magnani B, Rosano G, Shaw LM (Eds). *The Clinical Toxicology Laboratory: Contemporary Practice of Poisoning Evaluation*. American Association for Clinical Chemistry (AACC) Press, Washington. Pp 97-108.
- Lemoyne JB (1967). *Biographical Memoirs of St, John Bosco*. Vol IV, New Rochelle, New York. Pp 52-56. Michael's House, 2022
- Michaels D. 2020. On Opioids. In: *The Triumph of Doubt: Dark Money and The Science of Deception*. Oxford. Pp 103-116.
- Molobe, I .D., Odukoya,O.O. (2021). The prevalence of drug use and illicit trafficking: a descriptive cross-sectional study of irregular migrant returnees in Nigeria. *Journal of Migration and Health*. 3: 100034.
- National Institute of Drug abuse (NIDA) (NIDA), USA Rasmussen, N (2013) Amphetamine Stimulants: The early history of their medical and non-medical uses. *International Review of Neurobiology*. 120: 9-25.
- Schwerdtle P, Bowen K, McMichael C (2018). The health impact of climate related migration. *BMC Medicine*. 16: DOI 10.1186/s12916-017-0981-7 Statistics American Addiction Center (2022)
- Tamuno, N. T. (2011). *Oil Wars in the Niger Delta: 1849-2009*. Sterling-Horden Publishers Ltd, Ibadan. Pp 171-190.
- Tran, B. X, Moir M, Latkin C A, Hall BJ, Nguyen C T et al. (2019) . Global mapping of substance abuse. *Sub. Ab. Treat. Prev. Policy*. 14: 1
- United Nations Population Division, (2013)
- United States Border Protection (2018)
- UNODC (2019) *World Drug Report*
- UNODC (2022) *World Drug Report*.
- UNODC 2021. *World Drug Report*

USDHHS (2008) US Department of Health and Human Services-
Substance Abuse Warning Network.

Waly G (2020) Message on International Day Against Drug Abuse and
Illicit Trafficking UNODC (United Nations Office on Drugs and
Crime, Vienna (June, 2020) Waly G (2020) World Drug Report.
UNODC.

Woolley D, Woolley A (2017). Practical Toxicology: Evaluation,
Prediction, and Risk. CRC Press, Taylor & Francis Group, Boca
Raton.

Educational Migration as A Bridge for Achieving the SDG4

Uchenna Sydney A. Osuji

Faculty Of Education
National Open University of Nigeria, Abuja
osujiojiugwo2006@yahoo.com
uosuji@noun.edu.ng

Abstract

Education of migrant children and youths is a very important aspect for the achievement of the Sustainable Development Goal number four (SDG4). It can also be used for the attainment of the economic and social benefits of improved livelihood, better health management, enhanced political participation, reduction of gender inequalities and promotion of g life- long learning. A major purpose of conceiving the SDG4 is to have equitable and inclusive education as a necessary tool for developing inclusive and equitable societies. This correlates with the international human right's position to guarantee the right to quality education for all. It means that when migrants have a guaranteed quality education, the SDG4 target is partly achieved. This is a gateway to having inclusive and sustainable development and peace. The vision of the SDG4 is life transformation through education, which is a key driver to development in all aspects of life and in the achievement of other SDGs. The rest of this paper discusses education as a driver to migration, the SDG4, some statistics, why educational migration outside Nigeria and educational migration as a bridge towards achieving the SDG4.

Keywords: Education, Migration, Bridge, SDG4, Achievement.

Introduction

People's movement, both intra and inter country related have come to be a key element of the contemporary socio- economic reality of our time. There are different reasons why people migrate. These may include but not limited to such forms of mobility as migration for economic reasons, employment, higher earnings, better opportunities, improved services and standard of living. According to Devictor, the major reason for people's migration is to have improvement of their circumstances.¹ Apart from this, people also move as a result of displacement, which can arise from political, social and economic unrest, conflict or war, and disasters which can be natural or man- made. There is also the educational migration, which is the concern in this discourse. Educational migration can be described as people moving to study outside their countries of birth for a duration not less than one year. This includes the quest for higher education which has greatly increased as a result of globalization. Educational institutions in different countries now compete to attract students of international status. This has become market driven exercise for such institutions. This is why Scldhther and Knopp opined that educational services and the provisions have become an important export, cost effective industries for countries that have leading positions in the international market.² It implies that educational migration has generated much consequences which exert significant or considerable influence on the shape, development and the functioning of the outflow and influx areas. It has also impacted on the demographic spheres of the academics, cultural life, socio- economical life and the labour market. We are all aware of the fourth United Nations Sustainable Development Goals (SDG4) of the 2030 agenda which is hinged on "Ensuring inclusive and equitable quality education and promote life- long learning opportunities

¹ Devictor, X. (2016), How does education affect migration? In Browne, E. (2016) How does education affect migration from fragile and conflict-affected areas? HEART Helpdesk report. http://www.heart-resources.org/wp-content/uploads/2016/11/HEARTHelpdesk_Education-Migration.pdf?x30250

² Scldhther, J, & Knopp, S, B. (2017), The Impact of Educational Related Migration on International Statistics in the U.S.; Cited in Alaluusua, S. (2017). Rural to urban migration and young female domestic workers in the 21st century Lima, Peru. Conference paper for Migrating out of Poverty: From Evidence to Policy, London, March 28–29

for all”.³ This goal simply implies that we leave no one behind in education. If this is the case, we need to provide answers to such questions as:

- To what extent does education drive migration?
- What does SDG4 mean as regards to migration?
- What does statistics say about educational migration?
- Why educational migration outside Nigeria?
- How is educational migration bridging the achievement of SDG4?

Theoretical Framework

This discourse is hinged on the causal model by De Jong and Fawcell.⁴ This model which is broad and encompasses many components of other theoretical views of migration is called ‘Value- Expectancy’ model. This model can be summarized by saying that the strength of a tendency to act in a certain way depends on the expectancy that the act will be followed by a given consequence or goal and the value of that consequence or goal to the individual.⁵ We note two elements in this model. These two elements are goals and expectancies. It implies that the goal for migration in this discourse is education. The decision by people to migrate for educational purposes is hinged on the probability that they will achieve their goal. It also means that the desire for further education falls within the expectancy component. Therefore, the value derivable from the goal motivates individuals to decide to migrate and to realize the expected goal which is education. This model can be said to be relevant to this work for the fact that it explains the value placed on further education and the expectancy of the goal to be realized.

Method

This work is based on documentary review. It means that information for the work was collected by interrogating existing documentary evidence. It

³ OECD and GEMR.(2018). Learning from Data. Paris, Organisation for Economic Co-operation and Development/ Global Education Monitoring Report

⁴ De Jong, G. F., & Fawcett, J. T. (1981). Motivations for migration: An assessment and a value-expectancy research model. In G. F. De Jong & R. W. Gardner (Eds.), *Migration decision-making* (pp. 13–58). Pergamon

⁵ Crawford, T. J. (1973). Beliefs about birth control: A consistency theory analysis. *Representative Research in Social Psychology*, 4(1), 53–65

is not an empirical study. Therefore, only existing documents were consulted as secondary sources of information.

Education as a Driver to Migration

Educational access is very fundamental in the society. This is because people's life, opportunities, people's economic and civic involvement, the integration of migrants and the extent to which they overcome various forms of discrimination can be influenced by education. Education can be regarded as a fundamental human right. It can also be described as a transformational force for poverty eradication, sustainability and peace. It means that when people move, whether voluntarily or otherwise, they are advised not to leave their right to education behind. Most of the times, education provides the essential component which assists the government to develop the necessary capacities used for the support of migrants in their process of integration and /or reintegration. It also provides different societies the understanding of migration, why it occurs, how it occurs and its influence.

Younger people migrate for better quality education. Likewise, most countries have education as the main reason for migration.⁶ It should be acknowledged that the more educated people are, the more they are likely to migrate for further education. Internal migration for the pursuit of higher education can be linked to differences in quality and affordability of the education. Graduates of post primary schools and high schools are more likely to go to universities, polytechnics and other higher institutions. These higher educational institutions are mostly located in the urban areas and cities. The people's aspirations and preferences for higher education cause them to move or migrate. A report across 53 countries shows that the probability of migration doubled among those that have primary education in comparison with those with no education.⁷ From the same report, the probability tripled when compared with those that have secondary education, and quadrupled among people that have tertiary

⁶ Gavonell, M. F. (2017). Patterns and Drivers of Internal Migration among Youth in Ethiopia, India, Peru and Vietnam. Oxford, UK, Young Lives, Oxford Department of International Development, University of Oxford. (Working Paper 169.)

⁷ Bernard, A., Bell, M. and Cooper, J. (2018). Internal Migration and Education: A Cross-National Comparison. (Background paper for Global Education Monitoring Report 2019.)

education. In most countries especially in Africa, the people who migrate from rural to urban areas are the more educated. Although these days, both educated and the non- educated migrate. This migration has neither pattern nor is it normal. It is caused by insecurity in the Nigerian situation. It therefore means that education is the major prompter of variations in migration.

It has also been reported that when children migrate from rural to urban areas for the purpose of getting education, their educational attainment is higher than those in the rural areas where access to quality education is very low.⁸ Of course there are exceptions. For instance, children who are subjected to child labour by their guardians in the cities are not likely to meet these expectations. Studies have revealed that many of the children from the rural areas who are taken to the cities are made to work as domestic helps for their urban households. This category of children belongs to the most vulnerable to non- attendant to school. According to International Labour Organization (ILO), about 17.2 million children aged from 5 to 17 years were engaged in paid or unpaid domestic works in 2012 in their employer's home. Two thirds of this number were girls.⁹

One can see that education has multiple influences on migration. The youths aged between 15 to 25 years form a group which most strongly use migration for education.¹⁰ This is because they consider education as a route out of poverty and it also gives them the opportunity to improve their lives and that of their families' economic conditions. It has become clearer that education drives migration. Both of them can combine to have a multifaceted process which involves educational institutions, individuals' communities, regions and countries. This process leads people

⁸ Tamanja, E. M. J. (2016), Child Migration and Academic Performance: The Case of Basic Education in Ghana. *Journal of Education and Practice*. 7, 15, p 109—120

⁹International Labour Organization (ILO) (2018). ILO, UNHCR Strengthen Partnership to Promote Employment for Refugees and Jordanian Host Communities in Jordan. Geneva, Switzerland, International Labour Organization. www.ilo.org/pardev/news/WCMS_634696/lang--en/index.htm. (Accessed 16 August 2022.)

¹⁰ Browne, E. (2017). Evidence on Education as a Driver for Migration. K4D Helpdesk Report. Brighton, UK: Institute of Development Studies P 1—23.

to develop knowledge, skills and competences in order to contribute to the social and economic development for themselves and their societies. Since education is perceived as an investment in the human agent, it means that every decision taken about education and migration may be intertwined in different dimensions. This shows that education plays a very important role at many stages of the individuals' migration.

Sustainable Development Goal4(SDG4)

The United Nation's 2030 Agenda for Sustainable Development include 17 Sustainable Development Goals (SDGs). The concern of this paper is the Sustainable Development Goal number 4, otherwise called SDG4. This seeks to ensure inclusive and equitable, quality education and the promotion of life- long learning opportunities for all. The question asked in relation to this is –what is the role of education and training to ensure humane and orderly migration geared towards promotion of international cooperation on migration and arising issues, in order to promote the achievement of the SDG4. To provide probable answer to this question, we need to understand very well the range of the educational engagements to the scope of SDG4. The overall purpose, targets and means for such implementation will be considered before linking them together.

SDG4 can be described as an offshoot of the Millennium Development Goals'(MDG) uncompleted education agenda. They were proposed during the United Nations' summit on sustainable development in Rio de Janeiro in 2012. The 17 SDGs are interconnected goals conceived in such a way that success in one lead to achieving the others that are closely related. These are made possible by providing some clear guidelines, including targets which countries are required to adopt based on their own challenges and priorities. According to UNESCO, SDG4 is focusing on three underlying principles which include:¹¹

- looking at education as fundamental human and an enabling right,
- taking education as a public good,
- focusing on gender equality as linked to a right in education for all.

¹¹ UNESCO (2017). Practical Application of the Comprehensive Refugee Response Framework: Preliminary Progress Update. A report presented by United Nations High Commissioner for Refugees, Geneva, Switzerland

The SDG4 is an advocacy for the commitment of all countries of the World, irrespective of income level or developmental status to ensure equal opportunities for the accessibility of quality education at all levels, including the life- long learning propositions. In this context, education can be provided through both formal and informal(training) perspectives. In whatever environment education is provided, the key element is the quality. This is to ensure equal opportunities for both youths and adults to have access to quality learning throughout their lives. It goes to show that SDG4 is not only about formal education as a means of acquiring knowledge, skills and competences, training is also included for skills acquisition. The implication is that education is viewed as a holistic and comprehensive approach for quality, access, rights, inclusiveness and life-long learning. Whereas training is concerned with the activities which mostly involve transfer of skills. SDG4 has seven outcome targets and three means of implementation. To this effect, the key parameters of focus are access, inclusion and equity, gender equality, quality and life- long learning.

From the fore going, the link between education and migration is seen. How education drives and remains the key for the management of migration is also shown. We therefore have the responsibility to solicit for measures that tend to develop inclusiveness, responsiveness and resilience in the education systems geared towards meeting the needs of all migrants, especially those within the crises contexts which include Internally Displaced Persons (IDPs) and refugees. There is the need to equip them for sustainable development future so as to prevent potential forced migration. It is hoped that this will help to bridge the gap for the achievement of the SDG4.

What Do Statistics Say?

The number of people moving from one country to another is staggering. In the year 2000, 173 million people were reportedly living outside their countries of origin. This figure does not include migration within the same country. The figure increased to 250 million in the year 2015 and also increased to 258 million in the year 2017. In relation to educational migration, the United States of America has the highest number of international students in their tertiary education system. For instance, in the 2015 to 2016 academic year, the number was one million. The number

was 740,000 in the year 2006. It increased to 1.6 million in 2010 and to two million in 2015. The focus of this discourse is the educational migration from Nigeria. Nigeria can be regarded as the number one country in Africa in terms of sending people out for the pursuit of education. More than 84,735 Nigerian students were studying in different countries overseas in the year 2017. This number dropped to 76,338 in 2018.¹²

Year Net Migration Rate Growth Rate

2022	-0.280	-2.780%
2021	-0.288	-2.370%
2020	-0.295	-2.640%
2019	-0.303	-2.260%
2018	-0.310	-2.820%
2017	-0.319	-2.450%
2016	-0.327	-2.680%
2015	-0.336	-2.330%
2014	-0.344	-2.550%
2013	-0.353	-2.750%
2012	-0.363	-2.680%
2011	-0.373	-2.860%
2010	-0.384	-2.540%
2009	-0.394	-2.480%
2008	-0.404	7.730%
2007	-0.375	8.380%
2006	-0.346	8.810%
2005	-0.318	10.030%
2004	-0.289	11.150%
2003	-0.260	7.880%
2002	-0.241	8.560%

¹² United Nations (2013), Department of Economic and Social Affairs, Population Division World Population Prospects: The 2012 Revision

Year Net Migration Rate Growth Rate

2001 -0.222 9.360%

2000 -0.203 10.330%

Table 1; statistics showing growth rate of Nigerian student migration from year 2000 to 2022.

Source: file:///C:/Users/User/Desktop/MIGRATION/Nigeria%20Net%20Migration%20Rate%201950-2022%20_%20MacroTrends.html

- The current net migration rate for Nigeria in 2022 is **-0.280** per 1000 population, a **2.78% decline** from 2021.
- The net migration rate for Nigeria in 2021 was **-0.288** per 1000 population, a **2.37% decline** from 2020.
- The net migration rate for Nigeria in 2020 was **-0.295** per 1000 population, a **2.64% decline** from 2019.
- The net migration rate for Nigeria in 2019 was **-0.303** per 1000 population, a **2.26% decline** from 2018.

The Russia-Ukraine war may have impacted on this figure. The countries of interest are mostly America, United Kingdom, Canada, Malaysia, South Africa, Australia, Ireland, Norway, France, Turkey, Poland, Estonia, Greece, and recently Ghana, Benin, China, among others.

Table 2: Top 5 countries or areas of destination for Nigerian students in 2013

United Kingdom of Great Britain and Ireland	17452
United states of America	7011
South Africa	2575
Finland	857
Saudi Arabia	701
Total	28596

Source: The 2013 Revision (United Nations database, POP/DB/MIG/Stock/Rev.2013).

The report of a study carried out by Sussex University earlier in the year 2022, shows that 89.87% of young Nigerians prefer to study overseas. This study used 4000 respondents across Nigeria. This result implies that, if given the opportunity, many more Nigerians will travel outside the country in search of education.

Why Educational Migration Outside Nigeria?

It should be noted that the statistics provided in this discourse are not comprehensive. This is because it reflects only those registered and pursuing their higher education abroad. There are also people who travelled for greener pastures who are now engaged in either part-time or full-time studies. There are many Nigerian students studying in different African countries who are not included in these statistics. Every individual who wants to migrate in pursuance of educational ambitions outside the country must consider these three Cs. They are cost, curriculum and country. The question is why do Nigerians like to pursue their higher education outside Nigeria. The answer is quite simple. The educational system in Nigeria has deteriorated so much.¹³ The reasons include but not limited to:

- long running strikes in Nigeria
- graduates from Nigerian higher institutions are largely unemployable
- lack of investment in education
- unqualified people superintending and making policies in education
- outdated curriculum which has no relevance to the realities of the changing society and demands of the current labour market
- general lack of faith in the educational system
- the educational environment is no longer competitive
- large scale corruption in the educational system in particular and the country in general.

Educational Migration Bridging the Achievement of SDG4

It should be noted that educational migration is a global phenomenon which has so much economic, cultural and social implications. It should also be acknowledged that education drives migration flows. These are affected significantly by the people's movement. Education serves as a bridge which improves the educational status of children and youths. Educational migration also serves as a bridge towards achieving the

¹³ Olawale, S. S. (2022), Statistics of Nigerian Students Studying Abroad. C:\Users\user1\Desktop\MIGRATION AND EDU\Statistics of Nigerians Studying Abroad and Destinations – Information.html//Amazon.co.uk.(retrieved 20th August 2022).

SDG4. This is especially true, when ‘No one is left behind’ in education. The major role conceived for the SDG4 is to be formative in nature. It is meant to draw all countries’ attention to the core issues which had not been available before the year 2015. This is a clarion call to prompt all countries to have triggered investments in education and to have a robust national monitoring mechanism for education. This includes educational migration, equity, inclusion, quality and life- long learning. To achieve the SDG4 before the year 2030, we need to make sure that everyone including the migrants, the IDPs and the displaced children and youths have quality education. This call is not particularly for any country, but for all the countries of the world.

Conclusion

Access to quality education is a fundamental influence to migration. It has influence on people’s opportunities in life, their economic and civic involvement and their degree of integration. Migration is a prominent element that impacts all the SDGs including the SDG4. Educational migration helps people to develop knowledge, skills and competences in order to contribute to social and economic development. Since SDG4 is inspired by a humanistic vision of education and development based on human rights, dignity, social justice, inclusion, protection, cultural, linguistic and ethnic diversity with a shared responsibility and accountability, there is the need to encourage reasonable educational migration. Government should as a matter of urgency provide adequate competitive educational environment and policies which can induce continuous curricula reforms that change as the society changes. Government should also conduct studies to find out the major reasons why young people prefer to study outside the country, with a view to reducing the rate of educational migration.

Recommendations

The Nigerian government should respond to make the teeming population of youths acquire the necessary knowledge, skills and competencies in order to fit well into the globalized and modernized society, through the provision of access to quality education.

All hands must be on deck in order to improve the quality and visibility of the Nigerian universities so as to improve on their world ranking.

The carrying capacities of the Nigerian universities and other higher institutions should also be improved in order to absorb the majority of

Nigerian students seeking admissions to these higher institutions and therefore meet the booming demand for higher education in the country.

The three tiers of government in Nigeria should make adequate strategies to create jobs for the graduates of the higher institutions.

Bibliography

Bernard, A., Bell, M. and Cooper, J. 2018: *Internal Migration and Education: A Cross-National Comparison*. (Background paper for Global Education Monitoring Report 2019).

Browne, E. 2017: *Evidence on Education as a Driver for Migration*. K4D Helpdesk Report. Brighton, UK: Institute of Development Studies P 1—23.

Crawford, T. J. “Beliefs about Birth Control: A Consistency Theory Analysis.” *Representative Research in Social Psychology*, 4, no.1 (1973) 53–65.

Devictor, X. 2016, How Does Education Affect Migration. How does education affect migration from fragile and conflict-affected areas? In Browne, E. (2016) *The Routledge Handbook of Refugees in India*. Edited by S. Irudaya Rajan.

Geoff, I. (2022), 89.87% “Young Nigerians Prefer to Study Abroad”, says report. *The Guardian May 20*.

G. F. De Jong & R. W. Gardner, eds. *Motivations for Migration: An Assessment and a Value-Expectancy Research Model*. In *Migration decision-making* (pp. 13–58). Pergamon. De Jong, G. F., & Fawcett, J. T. (1981).

International Labour Organisations, 2018. ILO, UNHCR *Strengthen Partnership to Promote Employment for Refugees and Jordanian Host Communities in Jordan*. Geneva, Switzerland, International Labour Organization Accessed 16 August 2022. www.ilo.org/pardev/news/WCMS_634696/lang--en/index.htm

Olawale, S. S. (2022), “Statistics of Nigerian Students Studying Abroad”. C:\Users\user1\Desktop\MIGRATION AND EDU\Statistics of Nigerians Studying Abroad and Destinations – Information.html//Amazon.co.uk. (retrieved 20th August 2022).

Organisation of Economic Co-operation & Development (OECD) and Global Education Monitoring Report (GEMR). 2018. *Learning*

- from Data*. Paris, Organisation for Economic Co-operation and Development/ Global Education Monitoring Report.
- Oxford, UK, Young Lives, Oxford Department of International Development, University of Oxford. (Working Paper 169.) *Patterns and Drivers of Internal Migration among Youth in Ethiopia, India, Peru and Vietnam*. Gavonel, M. F. (2017).
- Scladhter, J, & Knopp, S, B. “The Impact of Educational Related Migration on International Statistics in the U.S”. Cited in Alaluusua, S. (2017). *Rural to Urban Migration and Young Female Domestic Workers in the 21st Century Lima, Peru. Conference paper for Migrating out of Poverty: From Evidence to Policy, London, March 28–29*.
- Tamanja, E. M. J. “Child Migration and Academic Performance: The Case of Basic Education in Ghana”. *Journal of Education and Practice*. 7, 15, p 109—120.
- United Nations Educational, Scientific and Cultural Organization (UNESCO), *Practical Application of the Comprehensive Refugee Response Framework: Preliminary Progress Update*. A report presented by United Nations High Commissioner for Refugees, Geneva, Switzerland (2017).
- United Nations (2013), Department of Economic and Social Affairs, Population Division World Population Prospects: The 2012 Revision

Japa: The Causes and Effects of the Migration of Information Technology Professionals in Nigeria

Christopher Agbonkhese

Department of Computer Science and Mathematics,
Mountain Top University, Prayer City Nigeria

cagbonkhese@mtu.edu.ng

Abstract

This study focuses causes and effects of the migration of IT professionals in Nigeria. It begins by providing a background on the notion of migration before proceeding to describe information technology professionals and the various categories they fall into. The report then went on to explore and describe the many effects of the exodus of IT professionals on Nigeria's industries. The study came to the conclusion that the number of IT professionals leaving Nigeria will increase as long as the difficult economic, political, and social situation in Nigeria is not improved. This trend will be exacerbated by the growing demand for IT specialists around the world, particularly in Europe. The net effect is negative impacts across the various sectors in the Nigeria.

Keywords: Japa, Information Technology Professionals, Migration, Causes and Consequences, Nigeria, Tech.

Introduction

Human migration is not a recent phenomenon. Since the beginning of recorded history, migration has been an element of the human condition. The commercial age, from around 1500 to 1800, saw the arrival of merchant capitalists from Europe who went to Africa to establish protectorates and live on vast tracts of land for more than three hundred years. This is when the phenomena of migration first emerged¹. Furthermore, according to the National Geographic Society², migration has occurred throughout human history, beginning with the earliest groups of people moving from East Africa to their current location in the cosmos. Because of how widespread migration is, both industrialised and developing nations view it as their top national security threat. When people migrate, either alone or in groups, it may be said that they are responding to a crisis that has economic, political, and sociocultural components in order to survive. International migrants primarily aim to enter developed economies. According to Wachter³, colonial ties between Europeans and Africans had an impact on current global migratory movements. Additionally, the majority of economies in the universe experience external migration as a result of high unemployment rates, a lack of social amenities, poverty, economic crises, political instability, insecurity, low pay, and other undesirable factors. Youths in Nigeria have no choice but to emigrate because the labor market is unable to give them jobs.

For the economies of the developing and developed world, external migration has repercussions with regard to economic, sociocultural, and political factors. For instance, some international migrants had to deal with the tight immigration laws put in place by governments of major destinations countries to address the issues associated with external migration. Additionally, due to incorrect documentation, the majority of these immigrants have lost their rights to health care, freedom of travel,

¹ Goldin, I. & Reinert, K. (2006). *Globalization for Development: Trade, Finance, Aid, Migration, and Policy*. Washington, DC: World Bank and Palgrave Macmillan.
<https://openknowledge.worldbank.org/handle/10986/6996>

² Ranjana Disha. "Human trafficking: *A study exploring its causes, current efforts and challenges*." Society, National Geographic. (2015)

³ Wachter and Rohrrose (2008). "*Migration at the Southern borders of the European Union: "The EUs migration policy."*

employment, and education, among other rights. Once more, some migrants may adopt hedonistic lifestyles in order to survive. According to Yang⁴, these unacceptable lifestyles include armed robbery, rising crime, prostitution, and pickpocketing. These lifestyles give rise to some vocations that are referred to as "3D employment."

These are laborious, hazardous, and nasty jobs. The economic, political, and social drivers of migration are typically overcome as a result of these difficulties. According to statistics from the World Migration Report of 2020, there were 272 million international migrants in the world in 2019⁵. This is equivalent to 3.5% of the world's population. Additionally, male and female migrants made up 52% and 48% of the total international migrant population, respectively. Additionally, 74% of immigrants from abroad were between the ages of 20 and 64 when they began working. Additionally, with 17.5 million migrants, India was the top country of origin for international migrants. With 11.8 and 10.7 million foreign migrants, respectively, Mexico and China are in second and third place. However, with 50.7 million international migrants, the United States continued to be the top destination for migration. Again, according to the IOM, more than 600 000 African migrants have entered Italy since 2014 via the perilous Central Mediterranean route⁶.

However, just in 2017, about 120 000 African migrants arrived in Italy. It is understandable why Ranjana⁷ noted that "it has become a serious issue of the twenty-first century due to rapid globalisation, industrialisation, urbanisation, and related migration patterns which are forcing people to move from one place to another in search of livelihood options and

⁴ Yang, D. (2008). "International migration, remittances and investment: Evidence from Philippine migrants' exchange rate shocks." *The Economic Journal*,: 591 - 630.

⁵ McAuliffe B, & Khadria M. (2020). "Providing perspective on migration and mobility in increasingly uncertain times. In M. McAuliffe & B. Khadria (Eds.), *World Migration Report*." Geneva IOM, 1-498.

⁶ Kirwin, M. & Anderson, J. (2018). *Identifying the factors driving West African migration*. West African Papers. OECD Publishing.

⁷ Ranjana. D. (2015). "Human trafficking: A study exploring its causes, current efforts and challenges." Society, National Geographic.

employment opportunities". Nevertheless, Abedi-Lartey⁸ noted that migration has been identified as a survival tactic used by the poor, particularly the rural populace as a catalyst in the transformation process of not only the destiny of individual migrants, but also the conditions of family members left behind, local communities, and the wider regions through remittances.

In order to understand the potential push and pull forces causing the high rate of external migration in the nation, it was necessary to examine the causes and effects of international migration in Nigeria. Understanding the fundamental drivers of migration internationally and illustrating the complex repercussions of external migration in Nigeria would help policymakers make the best judgments possible about this matter and shed light on the best economic development measures to implement. despite all of the federal, state, and local governments' efforts.

Population movement can be divided into three categories: emigration from the country, migration into the country, and internal migration inside the country's borders. In Nigeria, all three types of migration are present, and each has a unique impact on the national economy⁹. The remainder of this essay will refer to international migration whenever the word "migration" is used.

Objectives of the Study

The objectives of this study are to:

- i. Provide a comprehensive analysis and insights into the root causes of the migration of IT professionals from Nigeria, and
- ii. Explore the effects of this migration on Nigeria's economy and some sectors such as IT, Banking, Healthcare, Defense, etc.

Methodology

The methodology adopted for this study was to conduct a comprehensive review of existing literature on the subject, including academic studies,

⁸ Abedi-Lartey, Michael. "Causes of rural-urban migration on Sankana in the Nadowli-Kalio District of Ghana and its effects on community development" (2016).

⁹ Karzanova, V. & Adedokun, I. "Impact of migration on the economy of Nigeria: Recent Trends." Vestnik NSUEM 3 - 9. (2019)

government reports, and news articles. This was to provide a foundation of knowledge on the current state of IT migration in Nigeria, as well as existing theories and research on the topic.

Literature Review

The migration of IT professionals in Nigeria has been a subject of study for researchers and scholars in recent years. Several studies have examined the causes and effects of this migration, as well as its implications for Nigeria's economy and future prospects.

One study¹⁰ explored the reasons for the migration of IT professionals in Nigeria, using data from a survey of 200 IT professionals. The study identified factors such as poor remuneration, lack of job satisfaction, and poor working conditions as the main reasons for the migration of IT professionals in Nigeria. The study also noted that the migration of IT professionals could have negative effects on Nigeria's economy, such as a loss of human capital and a reduction in the country's ability to compete globally in the IT sector.

Another study¹¹ examined the effects of the migration of IT professionals on Nigeria's economy, using data from the National Bureau of Statistics. The study found that the migration of IT professionals could have negative effects on Nigeria's economy, such as a loss of human capital, reduced competitiveness in the IT sector, and a drain on the country's financial resources.

¹⁰ Ogunyomi, O. P., & Agboola, O. P. (2018). An Assessment of the Causes and Consequences of Brain Drain in the Nigerian Information Technology Sector. *International Journal of Social Sciences and Humanities Reviews*, 9(2), 93-105. Adeoti, J. O., & Adekunle, O. I. (2018). Effects of Brain Drain on Nigeria's Economy: A Critical Analysis. *Journal of Emerging Trends in Economics and Management Sciences (JETEMS)*, 9(1), 28-38.

¹¹ Adeoti, J. O., & Adekunle, O. I. (2018). Effects of Brain Drain on Nigeria's Economy: A Critical Analysis. *Journal of Emerging Trends in Economics and Management Sciences (JETEMS)*, 9(1), 28-38.

A study by Udejaja and Bello¹² explored the future prospects of Nigeria's IT sector in the face of the migration of IT professionals. The study noted that the migration of IT professionals could create opportunities for the development of local talent and the establishment of new IT companies in Nigeria.

The migration of IT professionals in Nigeria is a complex issue that has significant implications for Nigeria's economy and future prospects. The studies reviewed in this literature review suggest that the migration of IT professionals is driven by factors such as poor remuneration, lack of job satisfaction, and poor working conditions. The migration of IT professionals can have negative effects on Nigeria's economy, such as a loss of human capital and reduced competitiveness in the IT sector. However, the migration of IT professionals could also create opportunities for the development of local talent and the establishment of new IT companies in Nigeria, provided that the government implements policies and programs to support the growth of the IT sector.

Information Technology Professionals (ITP)

The majority of the world's 100 million computer users have no idea how a computer works inside and out. The excitement of opening the box is comparable to that of raising a car's hood. The needs of users for designing, locating, retrieving, using, configuring, programming, maintaining, and comprehending computers, networks, applications, and digital objects are addressed by technology professionals. They anticipate academic computer science to foster the development of computing professionals, keep abreast of emerging technologies, and sustain research initiatives that advance these goals. Professionally minded students look to faculty for a thorough, current understanding of a world with many disparate parts, for help making sense of quickly evolving technologies, for help formulating and providing answers to significant problems, and for instruction in efficient professional practices. In other words, everyone now depends just as much on IT specialists as they do on information technologies.

¹² Udejaja, C. C., & Bello, O. O. (2017). Brain Drain and Its Implications for the Development of Nigeria's Information Technology Industry. *International Journal of Applied Engineering Research*, 12(19), 8814-8824.

Information technology (IT) professionals are individuals who possess technical skills and expertise in various areas of the IT industry, including software development, system administration, cybersecurity, database management, and network engineering. They play a critical role in designing, developing, and maintaining technology infrastructure in organizations¹³. According to the United States Bureau of Labor Statistics (BLS), the demand for IT professionals is expected to grow faster than the average for all occupations, with an estimated increase of 11% from 2019 to 2029¹⁴.

The role of IT professionals has become increasingly important as organizations rely more on technology to support their operations and meet customer demands¹⁵. However, there is a global shortage of skilled IT professionals, leading to a phenomenon known as "IT brain drain," where professionals migrate from their home countries to seek better job opportunities and working conditions elsewhere¹⁶.

In Nigeria, the IT industry is still developing, and there is a shortage of skilled professionals to meet the growing demand¹⁷. This has led to a significant number of Nigerian IT professionals migrating to other countries in search of better opportunities and higher salaries. The migration of IT professionals from Nigeria has significant economic, social, and political implications for the country, and understanding the causes and effects of this phenomenon is critical for policymakers, employers, and IT professionals themselves.

¹³ Battista, A., & Batsakis, S. (2019). The impact of digitalization on the IT job market: A review. *Technological Forecasting and Social Change*, 146, 950-961.

¹⁴ Bureau of Labor Statistics. (2021). Occupational outlook handbook: Computer and information technology occupations. U.S. Department of Labor. Retrieved from <https://www.bls.gov/ooh/computer-and-information-technology/home.htm>

¹⁵ Wu, J., & Li, N. (2018). The impact of technology on the future of work. *Journal of Business Research*, 88, 141-146.

¹⁶ Mazzarol, T., & Soutar, G. N. (2002). "Push" and "pull" factors influencing international student destination choice. *International Journal of Educational Management*, 16(2), 82-90.

¹⁷ Jegede, D. A., Salami, A. O., & Agunbiade, O. M. (2019). An appraisal of the Nigerian information technology industry: Challenges and prospects. *Cogent Social Sciences*, 5(1), 1-15. <https://doi.org/10.1080/23311886.2019.1582791>

Compared to computer scientists and engineers, they make up a significantly larger and more varied group. As stated in Table 1, they are classified into three professional groups. The first category covers the intellectual core of the field's primary technical IT areas. The second category consists of other well-established areas that heavily utilize IT; even while their practitioners concentrate on problems unique to their fields, they make significant use of IT and frequently contribute fresh IT innovations. The third category includes the knowledge and expertise required to support the IT infrastructures that are used by everyone.

Table 1: Categories of Information Technology Professional

Information Technology Professional		
IT-Specific Disciplines	IT-Intensive Disciplines	IT-Supportive Occupations
<ul style="list-style-type: none"> Artificial intelligence Computer science Computer engineering Computational science Database engineering Computer graphics Human-computer interaction Network engineering Operating systems Performance engineering Robotics Scientific computing Software architecture Software engineering System security 	<ul style="list-style-type: none"> Aerospace engineering Bioinformatics Cognitive science Digital library science E-commerce Financial services Genetic engineering Information science Information systems Public policy and privacy Instructional design Knowledge engineering Management information systems Multimedia design Telecommunications Transportation 	<ul style="list-style-type: none"> Computer technician Help desk technician Network technician Professional IT trainer Security specialist System administrator Web services designer Web identity designer Database administrator

The Nigeria IT Sector (Before Now)

Before now, the IT sector in Nigeria was characterized by a lack of infrastructure, low internet penetration, and a shortage of skilled professionals. However, the Nigerian government recognized the potential

of the IT industry to drive economic growth and has made several efforts to support its development¹⁸.

One of the major initiatives was the establishment of the National Information Technology Development Agency (NITDA) in 2001, which has been responsible for the development and implementation of policies and programs aimed at promoting the growth of the IT industry in Nigeria¹⁹. The government has also introduced policies to encourage local content development and reduce the reliance on foreign technology products. The growth of the IT sector has also been driven by private sector investments, with many local and foreign companies investing in the development of IT infrastructure and services²⁰. The rise of technology hubs, such as the Co-Creation Hub in Lagos, has also played a crucial role in fostering innovation and entrepreneurship in the sector²¹. However, the IT sector in Nigeria still faces significant challenges. These include a shortage of skilled professionals, limited access to funding for startups, and a lack of regulatory clarity¹⁷. Additionally, the country's poor infrastructure, including unreliable power supply and limited internet connectivity, has also hindered the growth of the sector¹⁸.

The IT sector in Nigeria is one of the fastest-growing industries is the information and communications technology sector (often known as the "tech sector"). In 2020, the sector produced 15% of the nation's GDP, second only to agriculture, despite the COVID-19 epidemic. This maintained a five-year pattern, with the industry growing at an average rate of 18% from 2016 to 2019. Nigeria is now the largest IT market on the African continent, with 90 tech centers and a sizable and growing

¹⁸ Iroegbu, P. (2018). Nigeria's tech sector is growing fast, but it's still facing a number of challenges. CNBC. Retrieved from <https://www.cnbc.com/2018/08/16/nigeria-tech-sector-growth.html>

¹⁹ Jegede, D. A., Salami, A. O., & Agunbiade, O. M. (2019). An appraisal of the Nigerian information technology industry: Challenges and prospects. *Cogent Social Sciences*, 5(1), 1-15. <https://doi.org/10.1080/23311886.2019.1582791>

²⁰ Jegede, D. A., Salami, A. O., & Agunbiade, O. M. (2019). An appraisal of the Nigerian information technology industry: Challenges and prospects. *Cogent Social Sciences*, 5(1), 1-15. <https://doi.org/10.1080/23311886.2019.1582791>

²¹ Iroegbu, P. (2018). Nigeria's tech sector is growing fast, but it's still facing a number of challenges. CNBC. Retrieved from <https://www.cnbc.com/2018/08/16/nigeria-tech-sector-growth.html>

client base²². 72% of the population, or more than 200 million people, currently have access to a mobile phone, and by 2025, internet penetration is anticipated to rise from 2% to 65.3 percent. The biggest tech corporations in the world are all represented there, including IBM, Microsoft, Google, and Cisco. Even Twitter, which was restricted in the country, is aware of how important the sector is. By 2027, according to Jobberman's prediction, the sector would add 88 billion US dollars to the GDP. Unfortunately, despite this rise, more young people in Nigeria did not manage to obtain employment.

In 2017, only 497,000 persons, or 1% of the workforce, were employed in the sector. This was caused by the lack of computer literacy among young people, who felt unprepared for the employment¹⁹. Despite the fact that this is a key component of the country's new National Digital Economy Policy and Strategy 2020–30, Nigeria was ranked 122 out of 140 countries for the development of digital skills in the Global Competitiveness Report¹⁹. The infrastructure for tech training was not appropriately constructed to teach more advanced digital skills, despite the fact that the Nigerian economy required them. Despite Nigeria's dire need for more skilled tech workers, many prefer to look for chances elsewhere-Japa. There aren't any reliable statistics on the migration of tech workers, but it's safe to say that major businesses in Nigerian migrants' primary countries are numerous. However, this does not imply that all such migration results in a "brain drain"; on the contrary, it sometimes benefits the migrant as well as their communities of origin and destination. One of the first internet start-ups in Nigeria was Jumia, which was formed in 2012 by two Nigerian graduates of the Harvard Business School. Many diaspora returnees have established businesses that employ thousands of people. Iroko TV, Flutterwave, and Bamboo are a few tech startups started by diaspora returnees. However, in Nigeria, this function of migrants as generators of human capital and job generation is rarely brought up. One region that is ideally positioned to gain from Nigerian tech talent is Europe.

²² World Bank. (2021). Migration and Remittances: Recent Developments and Outlook. Retrieved from <https://www.worldbank.org/en/topic/migrationremittances/brief/migration-and-remittances-recent-developments-and-outlook>

The number of tech professionals employed in the European Union (EU) increased by one-third between 2005 and 2015, and another ten percent growth is anticipated by 2025¹⁹. Similar to Nigeria, there are fewer people available in Europe to fill these positions, and the training and education sector has not been able to keep up with demand from employers. Once more, the industry has appeared immune to the pandemic's impacts, and the need for skilled workers is only getting worse¹⁹. As can be seen in Figure 1, there is a lack of workers in the IT sector in 24 Member States.

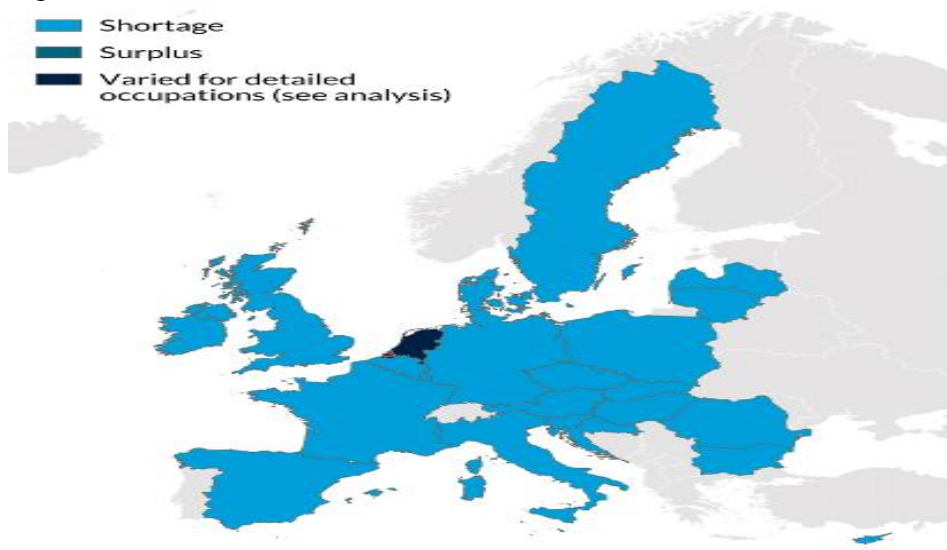


Figure 1: The need for IT professionals in 24 European Union (EU) Member States

Causes of the Migration of Information Technology Professionals

This unprecedented voluntary migration from Nigeria—which has not occurred since World War II—appears to be driven by five key factors. These include the need for better career opportunities, the country's increased level of insecurity, the obligation to ensure a better future for one's children, the necessity of further education, and Nigeria's poor governance²³.

²³ Kirwin, M. and Anderson, J. (2018). Identifying the factors driving West African migration. West African Papers. OECD Publishing, 2018.

A recent research survey reveals that about 45% of Nigeria's adult population plans to relocate to a different nation in five years. Nigerians placed first out of the 12 nations questioned from Africa, the Middle East, Europe, and North America among those who strongly want to move abroad²¹. Seven out of ten Nigerians planned to relocate if the chance presents, according to a poll conducted in 2021. The recent rush of Nigerians leaving the country marks the biggest emigration from the nation since the civil war's end, more than 50 years ago. The characteristics of those who are moving are important. They are primarily young adults with skills, such as medical professionals, nurses, IT specialists, university professors, and technicians. They also include young people who finished their education overseas but choose to remain in their home country because it had little to offer them in the way of employment possibilities, career opportunities, or even basic safety. Some of them hold degrees from top universities both domestically and overseas²⁴. This population is more detrimental to the possibilities for national progress.

Our growing demographic hemorrhage's main strategic worry is the emigration of young, educated Nigerians. Our future depends on the ones who are departing. Our sharpest minds and energies are being depleted. Our IT geniuses, medical researchers, economists, biotechnologists, and other professionals are boarding planes to warmer climates in droves. Many of them don't have any immediate intentions to go back home. A worrying pessimism that things won't get better anytime soon permeates the mindset of many of these young people who are running away. They are relocating because the location we call home has become a wasteland of disasters, with no chances or hope. The country's unemployment rate increased five-fold between 2010 and 2020 (from 6.4% to 33.3%), which results in a lack of employment options.

A rise in unemployment, as shown by Nigeria's figures, indicates more individuals are being driven below the poverty line because unemployment either causes or enhances the likelihood of poverty. In

²⁴ Karzanova V, and Adedokun I (2019). "Impact of migration on the economy of Nigeria: Recent Trends." *Vestnik NSUEM*, 2019: 3 - 9.

recent months, youth unemployment and poverty have been particularly prevalent, and punishing inflation has made matters worse. More individuals are now living in poverty as inflation has increased from roughly 7% a decade ago to over 20.52% recently (August 2022).

With the steady increase of societal tensions caused by the actions of kidnappers, bandits, secessionists, terrorists, and other types of criminality, the security challenge is getting worse by the day. With 8,281 deaths in nine months and 3,490 kidnappings in just eight months in 2021, the level of insecurity has grown to be a serious concern²⁵. With no apparent plan, ASUU has been on strike for almost nine months. Students at universities therefore stay at home. To "japa" is the only way to solve these specific Nigerian issues (a Yoruba slang for escape). Young people, even parents in the middle of their careers, would flee Nigeria at the first chance if its sociopolitical and economic environments remain unfavorable and strangulating. It is unlikely that this trend will change soon. Tragically, the regions most important to our country are also the ones most negatively impacted by the current migrant flow. Due to the massive emigration, we might quickly lose our comparative and competitive advantages in fields like IT, engineering, medicine, and other highly skilled occupations. The opportunity cost of this relocation may be too large to consider in the future. The irony in certain situations is that the majority of these travelers acquired their education and training at public institutions supported by the Nigerian government, and developed nations would merely collect the benefits that should have gone to Nigeria (a reversed aid from Nigeria to developed countries).

Effects of the Migration of ITP in Nigeria

Although some studies have indicated that migration has both good and adverse impact on sustainable development, in the Nigerian economy, the negative effects seem to have outweighed the benefits. Regarding beneficial effects, the remittances sent by the diasporas support economic expansion and development. The migration of IT professionals from Nigeria has had both positive and negative effects on the country's economy, education, IT sector, healthcare, banking, defense, and other

²⁵ Abedi-Lartey, A. (2016). "Causes of rural-urban migration on Sankana in the Nadowli-Kalio District of Ghana and its effects on community development." 2016.

sectors. The rest part of this paper presents a critical discussion on these effects.

Effects on the Economy

Nigeria has been facing a significant brain drain of its skilled workforce in recent years. This includes IT professionals who migrate to other countries for better job opportunities and higher salaries. The loss of these skilled workers is detrimental to the Nigerian economy, as it loses human capital, which is a vital factor for economic growth²⁶. On the other hand, remittances from Nigerian migrants have been a significant source of foreign exchange for the country. According to data from the World Bank, Nigeria received personal remittances worth \$22 billion in 2017, or roughly 5.86% of its GDP. The average transaction cost of sending remittances home in the same year was 18.30% of the country's GDP, but the growth rate of GDP in the same year was 0.801%, hence this had little to no effect on the country's growth and development. In 2019, remittances from Nigerians living abroad were estimated at \$25 billion, which is about 5% of the country's GDP²⁷. These remittances have helped to boost the country's foreign reserves and support the economy.

Effects on Education

One positive effect of the migration of IT professionals on the education sector in Nigeria is the potential for knowledge transfer and capacity building. Skilled IT professionals can bring with them a wealth of knowledge and expertise that can be shared with educators and students in Nigeria. This knowledge transfer can help to develop the IT education sector in Nigeria, leading to the development of new courses and programs that can benefit both the IT industry and other sectors of the economy²⁸.

²⁶ Odeyemi, T. I. (2021). Brain drain and the Nigerian educational system: Analysis and way forward. *European Journal of Education Studies*, 8(4), 311-325.

²⁷ World Bank. (2021). Migration and Remittances: Recent Developments and Outlook. Retrieved from <https://www.worldbank.org/en/topic/migrationremittances/brief/migration-and-remittances-recent-developments-and-outlook>

²⁸ Ojo, S. O., & Oyelade, O. J. (2019). Information technology (IT) education in Nigeria: A review. *International Journal of Emerging Technologies in Learning (iJET)*, 14(06), 123-139. doi: 10.3991/ijet.v14i06.9443

Another potential positive effect of the migration of IT professionals on the education sector in Nigeria is the potential for international collaborations and partnerships. As skilled IT professionals migrate to other countries, they can establish links with universities and research institutions, leading to potential collaborations and partnerships in areas such as research, training, and curriculum development. Such collaborations can help to strengthen the IT education sector in Nigeria and promote innovation and knowledge exchange²⁹

However, the migration of IT professionals can also have negative impacts on the education sector in Nigeria. One potential negative effect is the loss of skilled teachers and educators. When skilled IT professionals leave Nigeria, they take with them the knowledge and expertise that they have gained through years of teaching and research. This loss can be particularly damaging for the education sector, which relies heavily on specialized knowledge and expertise. According to³⁰, the migration of skilled IT professionals can result in a brain drain, leading to a shortage of skilled teachers and educators in the IT education sector.

Another potential negative effect of the migration of IT professionals on the education sector in Nigeria is the risk of brain drain and negative economic impacts. The migration of highly skilled IT professionals can lead to increased competition for jobs and higher salaries in destination countries, which can in turn lead to brain drain and negative economic impacts in Nigeria. This brain drain can further exacerbate the shortage of skilled teachers and educators in the IT education sector³¹.

In addition to these potential positive and negative effects, the migration of IT professionals can also have broader societal impacts in Nigeria. For example, the migration of skilled IT professionals can lead to a loss of role models for students, particularly those from underrepresented groups in

²⁹ Akande, T. M., Salami, A. O., & Sanusi, A. R. (2020). Brain drain and its implications on Nigeria's educational system: A critical review. *Journal of Education and Practice*, 11(2), 1-7.

³⁰ Adegbuyi, O. A., & Adeleke, A. A. (2021). Brain drain and its impact on the Nigerian education sector. *Journal of Education and Practice*, 12(13), 84-91.

³¹ Okeke, N. N. (2019). Rural infrastructure development in Nigeria: Lessons and policy implications. *Journal of Rural Studies*, 70, 88-95.

the IT field. However, according to³², the migration of skilled IT professionals can also inspire students to pursue careers in the IT industry and can lead to greater international awareness and exposure.

Effects on IT

One positive effect of the migration of IT professionals on the IT industry in Nigeria is the potential for knowledge transfer and skill development. Skilled IT professionals can bring with them a wealth of knowledge and expertise that can be shared with their colleagues in Nigeria. This knowledge transfer can help to develop the IT industry in Nigeria, leading to the development of new technologies and systems that can benefit both the IT industry and other sectors of the economy³³.

However, the migration of IT professionals can also have negative impacts on the IT industry in Nigeria. One potential negative effect is the loss of critical knowledge and expertise. When skilled IT professionals leave Nigeria, they take with them the knowledge and expertise that they have gained through years of training and experience³⁴. This loss can be particularly damaging for the IT industry, which relies heavily on specialized knowledge and expertise. According to³⁵, the migration of skilled IT professionals can result in a brain drain, leading to a shortage of skilled workers in the IT industry. The lack of skilled IT professionals has led to a skills gap in the industry, which has slowed down the growth and development of the sector³⁶. The IT sector in Nigeria is still in its early

³² Ojo, S. O., & Oyelade, O. J. (2019). Information technology (IT) education in Nigeria: A review. *International Journal of Emerging Technologies in Learning (iJET)*, 14(06), 123-139. doi: 10.3991/ijet.v14i06.9443

³³ Ajayi, O. A., Ibikunle, F., & Okolie, C. U. (2021). Brain Drain and National Development in Nigeria: The Information Technology Industry Experience. In *Proceedings of the 2nd International Conference on Computing, Mathematics and Engineering Technologies (ICOMET 2021)*: 349-356.

³⁴ Auta, A., Strickland-Hodge, B., & Mazhar, M. (2018). Electronic health records and healthcare quality in Nigeria: A systematic review. *Journal of health informatics in developing countries*, 12(1), 33-48.

³⁵ Adebayo, O. A., Adeyemo, A. A., & Adeyemo, D. A. (2021). Brain drain and the Nigerian information technology sector. *Journal of Business and Social Sciences Research*, 5(1), 25-36.

³⁶ Adekoya, F. (2021). Nigeria's IT sector struggles with skills gap. *Financial Times*. Retrieved from <https://www.ft.com/content/07921c3a-a2b1-4e64-8d1e-200fbd7b52a9>

stages and needs to develop further to compete with other countries. The migration of skilled professionals reduces the sector's potential to grow and innovate.

Another potential negative effect of the migration of IT professionals on the IT industry in Nigeria is the risk of intellectual property loss. The use of intellectual property in the IT industry requires careful management and protection. When skilled IT professionals move to new countries, there is a risk that they will take with them intellectual property or confidential business information. This can be particularly concerning for the IT industry, which relies heavily on the protection of intellectual property. According to³⁷, Nigeria's weak legal framework for intellectual property protection can increase the risk of intellectual property loss by IT professionals who migrate to other countries.

Effects on Healthcare

The migration of IT professionals has had limited effects on Nigeria's healthcare sector. Nigeria has one of the lowest ratios of healthcare workers to patients in the world, with only 0.2 doctors per 1,000 people³⁸. The migration of IT professionals has not affected this ratio significantly, as healthcare professionals are already in short supply in the country. However, the use of IT in healthcare has been slow to develop in Nigeria, and the migration of skilled IT professionals could have been beneficial to the sector's development. One positive effect of the migration of IT professionals on the health sector in Nigeria is the potential for improved healthcare services. Skilled IT professionals can bring with them a wealth of knowledge and expertise that can lead to the development of new technologies and systems that can benefit the healthcare sector. For instance, the use of electronic health records (EHRs) can improve the

³⁷ Odeyemi, T. O., & Adewoye, O. J. (2019). The impact of intellectual property laws on the development of the Nigerian software industry. *International Journal of Law and Management*, 61(6)

³⁸ World Bank. (2021). *Migration and Remittances: Recent Developments and Outlook*. Retrieved from <https://www.worldbank.org/en/topic/migrationremittances/brief/migration-and-remittances-recent-developments-and-outlook>

quality of healthcare by reducing errors and improving communication among healthcare providers³⁹.

However, the migration of IT professionals can also have negative impacts on the health sector in Nigeria. One potential negative effect is the loss of critical knowledge and expertise. When skilled IT professionals leave Nigeria, they take with them the knowledge and expertise that they have gained through years of training and experience. This loss can be particularly damaging for the health sector, which relies heavily on specialized knowledge and expertise. The migration of skilled IT professionals can result in a brain drain, leading to a shortage of skilled workers in the health sector.

Another potential negative effect of the migration of IT professionals on the health sector in Nigeria is the risk of data breaches and cybersecurity threats. The use of EHRs and other health technologies requires careful management of sensitive patient data. When skilled IT professionals move to new countries, there is a risk that they will take with them sensitive information or intellectual property. This can be particularly concerning for the health sector, which relies heavily on the protection of sensitive patient information. Nigeria's lack of a strong cybersecurity framework can increase the risk of data breaches and cybersecurity threats by IT professionals who migrate to other countries⁴⁰.

Effects on Banking

One positive effect of the migration of IT professionals on the banking sector in Nigeria is the potential for increased innovation and technological advancement. Skilled IT professionals can bring with them a wealth of knowledge and expertise that can lead to the development of new technologies and systems that can benefit the banking sector. The migration of skilled IT professionals can contribute to the development of

³⁹ Auta, A., Strickland-Hodge, B., & Mazhar, M. (2018). Electronic health records and healthcare quality in Nigeria: A systematic review. *Journal of health informatics in developing countries*, 12(1), 33-48.

⁴⁰ Olawoye, O. A., Odeyemi, K. A., Adeniji, A. A., & Adagunodo, E. R. (2020). Cybersecurity threats in Nigeria: Reviewing the policy framework for the health

innovative payment systems, which is critical for the growth of the banking sector⁴¹.

However, the migration of IT professionals can also have negative impacts on the banking sector in Nigeria. One potential negative effect is the loss of critical knowledge and expertise. When skilled IT professionals leave Nigeria, they take with them the knowledge and expertise that they have gained through years of training and experience. This loss can be particularly damaging for the banking sector, which relies heavily on specialized knowledge and expertise. The migration of skilled IT professionals can result in a brain drain, leading to a shortage of skilled workers in the banking sector⁴².

Another potential negative effect of the migration of IT professionals on the banking sector in Nigeria is the risk of cybersecurity threats. When skilled IT professionals move to new countries, there is a risk that they will take with them sensitive information or intellectual property. This can be particularly concerning for the banking sector, which relies heavily on the protection of sensitive financial information. Nigeria's lack of a strong cybersecurity framework can increase the risk of cybersecurity threats by IT professionals who migrate to other countries⁴³.

Effects on Defense

The migration of IT professionals has had limited effects on Nigeria's defense sector. The sector relies on indigenous talent to develop its IT systems and cybersecurity measures. However, the sector could benefit from the expertise of skilled IT professionals in the areas of data analytics, artificial intelligence, and other emerging technologies.

One positive effect of the migration of IT professionals on defense in Nigeria is the potential for increased innovation and technological

⁴¹ Ezeoha, A. E., & Ezech, O. N. (2019). Fintech and mobile banking innovation in Nigeria: Challenges and opportunities. *International Journal of Scientific & Technology Research*, 8(6), 2252-2258.

⁴² Ezejiofor, R. A., Ukwuoma, F. C., & Emejulu, I. A. (2021). An empirical analysis of the impact of brain drain on the Nigerian banking sector. *Journal of Public Administration and Governance*, 11(2), 85-95.

⁴³ Ogbonna, A. E., Uwadiogwu, O. A., & Ogbonna, E. F. (2020). Intellectual property and the Nigerian software industry. *Journal of Intellectual Capital*, 21(3), 334-349.

advancement. Skilled IT professionals can bring with them a wealth of knowledge and expertise that can lead to the development of new technologies and systems that can benefit defense organizations. The migration of skilled IT professionals can contribute to the development of cybersecurity strategies and solutions, which is critical for defense organizations⁴⁴.

However, the migration of IT professionals can also have negative impacts on defense in Nigeria. One potential negative effect is the loss of critical knowledge and expertise. When skilled IT professionals leave Nigeria, they take with them the knowledge and expertise that they have gained through years of training and experience. This loss can be particularly damaging for defense organizations, which rely heavily on specialized knowledge and expertise. The migration of skilled IT professionals can result in a brain drain, leading to a shortage of skilled workers in Nigeria⁴⁵.

Another potential negative effect of the migration of IT professionals on defense in Nigeria is the risk of intellectual property theft. When skilled IT professionals move to new countries, there is a risk that they will take with them sensitive information or intellectual property. This can be particularly concerning for defense organizations, which rely heavily on the protection of sensitive information. Nigeria's lack of a strong intellectual property framework can increase the risk of intellectual property theft by IT professionals who migrate to other countries⁴⁶.

Effects on Transportation

The transportation sector is also undergoing transformation with the adoption of smart transportation systems and technologies. The shortage of skilled IT professionals can limit the capacity for the development of

⁴⁴ Abubakar, I. M., Abubakar, A. T., & Abubakar, A. G. (2021). The impact of human capital flight on economic growth in Nigeria: a panel data approach. *Journal of African Business*, 22(1), 57-75.

⁴⁵ Olubiyi, O. O., Mbarika, V., Ayo, C. K., & Adewumi, A. O. (2019). Factors influencing the migration of software professionals from Nigeria. *Information Development*, 35(2), 203-217.

⁴⁶ Ogbonna, A. E., Uwadiogwu, O. A., & Ogbonna, E. F. (2020). Intellectual property and the Nigerian software industry. *Journal of Intellectual Capital*, 21(3), 334-349.

intelligent transportation systems, reducing the efficiency and safety of transportation services⁴⁷. IT professionals have been able to leverage technology to create innovative solutions that address the challenges of transportation in Nigeria, such as traffic congestion, poor road infrastructure, and lack of safety. These solutions include ride-sharing applications, navigation tools, and real-time traffic monitoring systems⁴⁸. Another effect of the migration of IT professionals on transportation in Nigeria is the emergence of e-hailing services such as Uber and Bolt. These services have transformed the transportation sector in Nigeria by providing reliable and convenient transportation services to commuters. E-hailing services have also created employment opportunities for drivers, contributing to the reduction of unemployment in the country⁴⁹. The migration of IT professionals has also led to the development of logistics and supply chain management solutions in the transportation sector. IT professionals have been able to develop and deploy technologies that optimize the transportation of goods and services, reducing delivery time and cost. These solutions include fleet management systems, route optimization tools, and real-time tracking and monitoring systems⁵⁰. However, the migration of IT professionals has also had negative effects on transportation in Nigeria. One of the most significant challenges facing the sector is the lack of adequate infrastructure, particularly in rural areas

Effects on Agriculture

Agriculture is a critical sector for economic development in Nigeria. The shortage of skilled IT professionals can limit the capacity for the development of precision agriculture technologies, reducing the efficiency and productivity of the sector⁵¹.

⁴⁷ Okeke, C. O., & Azubike, A. O. (2019). Intelligent transportation systems in Nigeria: opportunities and challenges. *International Journal of Computer Science and Information Security*, 17(1), 145-150.

⁴⁸ Adesina, O. S., & Adesina, O. F. (2020). Smart transportation systems in Nigeria: Overview and prospects. *Transportation Research Procedia*, 48, 3214-3220.

⁴⁹ Oghenovo, I., & Okoro, C. (2020). Uber and Bolt transportation services: App-based e-hailing services in Nigeria. *Journal of Transport Geography*, 84, 102710.

⁵⁰ Akinwale, A. A., & Adeyemo, O. J. (2019). Information technology and logistics performance in Nigeria. *International Journal of Physical Distribution & Logistics Management*, 49(8), 806-825.

⁵¹ Adejumo, A. O., & Oni, O. A. (2019). Smart farming and the future of agriculture in Nigeria. *IOP Conference Series: Earth and Environmental Science*, 331(1), 012040.

One of the most significant effects of the migration of IT professionals on agriculture in Nigeria is the adoption of new technologies. The expertise of IT professionals has led to the development and deployment of new agricultural technologies such as precision agriculture, remote sensing, and data analytics. These technologies have helped to increase the efficiency and productivity of farming operations in Nigeria, leading to increased yields and improved food security⁵². Another effect of the migration of IT professionals on agriculture in Nigeria is the emergence of e-commerce platforms that connect farmers with consumers. These platforms, which include Farmcrowdy and Thrive Agric, have been able to leverage technology to create market access for smallholder farmers who would otherwise struggle to sell their produce. Through these platforms, farmers can access markets beyond their local areas, improving their income and reducing food waste⁵³. The migration of IT professionals has also led to the development of agricultural extension services in Nigeria. These services provide farmers with information and advice on best practices in farming, as well as access to inputs and markets. IT professionals have been able to develop and deploy mobile applications that provide farmers with real-time information on weather, pests, and diseases, as well as advice on crop management⁵⁴. However, the migration of IT professionals has also had negative effects on agriculture in Nigeria. One of the most significant challenges facing the sector is the lack of adequate infrastructure, particularly in rural areas.

Effects on Entertainment

The entertainment sector in Nigeria is a significant contributor to the economy. The migration of IT professionals can have a negative impact on

⁵² Wada, M. A., & Abdulmumini, S. (2021). The impact of ICT on agricultural development in Nigeria. *International Journal of Innovative Research and Development*, 10(3), 301-311

⁵³ Kleemeier, E. (2020, June 18). How Nigerian agtech startups are bridging the gap in agric. *This Day Live*. <https://www.thisdaylive.com/index.php/2020/06/18/how-nigerian-agtech-startups-are-bridging-the-gap-in-agric/>

⁵⁴ Chukwu, V. U. (2017). The role of information and communication technology in agricultural development. *Journal of Emerging Trends in Computing and Information Sciences*, 8(12), 624-631.

the sector by reducing the capacity for the development of technology-driven solutions for content creation and distribution⁵⁵.

One of the most significant effects of the migration of IT professionals on the entertainment sector in Nigeria is the emergence of new media platforms. These platforms, which include social media, streaming services, and video sharing sites, have revolutionized the way Nigerians consume and produce entertainment content. According to a report by PricewaterhouseCoopers (PwC), the Nigerian music industry grew by 9.6% in 2020, largely driven by digital music consumption through streaming services such as Spotify, Apple Music, and YouTube⁵⁶. The development of these new platforms has also led to the emergence of new stars and the diversification of the entertainment industry beyond traditional music and film. Another effect of the migration of IT professionals on the entertainment sector in Nigeria is the adoption of new technologies. The use of technology in the production and distribution of entertainment content has become more widespread, thanks to the expertise of IT professionals. For instance, Nigerian filmmakers are now embracing virtual reality technology to enhance their storytelling techniques and create immersive experiences for viewers⁵⁷. This has helped to elevate the quality of Nigerian movies and increase their global appeal. Additionally, the migration of IT professionals has led to the growth of the Nigerian diaspora entertainment industry. Nigerian expatriates who have migrated to other countries, particularly in Europe and North America, have been able to establish successful careers in the entertainment industry, leveraging their IT expertise to produce high-quality content that resonates with both Nigerian and international audiences. For example, the Nigerian-American musician Jidenna has

⁵⁵ Oluwatobi, S. A., Onakoya, O. A., Okorie, U. E., & Oke, G. O. (2019). The role of information and communication technology (ICT) in the growth of Nigerian entertainment industry. *Library Philosophy and Practice*, 2019, 1-14.

⁵⁶ PwC. (2021). *Nigeria's entertainment & media outlook 2020-2024*. Retrieved from <https://www.pwc.com/ng/en/publications/entertainment-and-media-outlook.html>

⁵⁷ Aguilar, L. (2021, March 25). *Nigeria's Movie Industry Embraces Virtual Reality*. Voice of America. <https://www.voanews.com/africa/nigerias-movie-industry-embraces-virtual-reality>

been able to create a unique sound that blends traditional Nigerian music with hip-hop and R&B, garnering international acclaim⁵⁸.

However, the migration of IT professionals has also had negative effects on the Nigerian entertainment sector. One of the biggest challenges facing the industry is the lack of adequate funding and infrastructure. Many IT professionals who have left Nigeria have done so because of the limited opportunities for professional growth and development, as well as the unstable economic and political environment. This has made it difficult for local entrepreneurs and creative to access the capital and resources they need to establish successful ventures in the entertainment industry⁵⁹.

Conclusion

This article presented the leading causes and effects of the migration of Information Technology Professionals (ITPs) in Nigeria. It describes the notion of Information Technology Professionals, and the contributions of these professionals to the Nigerian economy. The study reveals that the principal causes of the migration of ITPs in Nigeria are not lack of unemployment in the nation, rather, that it is motivated by wealth prospects, safety and security, as well as better conditions of living in an advanced economy. The migration of IT professionals from Nigeria has had both positive and negative effects on the country's economy, education, IT sector, healthcare, banking, defense, and other sectors. The loss of skilled professionals has been detrimental to the economy and the IT sector, but remittances from migrants have helped to support the economy. The migration of skilled IT professionals has also had a positive impact on the banking sector, while the healthcare and defense sectors have been less affected.

⁵⁸ Okonofua, O. (2019, May 21). Jidenna's Nigerian-American Sound. *The New Yorker*. <https://www.newyorker.com/culture/culture-desk/jidennas-nigerian-american-sound>

⁵⁹ Oyekan, J. (2019, February 8). Funding Nigeria's Creative Industry: The Challenges and Opportunities. *Al Jazeera*. <https://www.aljazeera.com/features/2019/2/8/funding>

Bibliography

- Abedi-Lartey, A. (2016). Causes of rural-urban migration on Sankana in the Nadowli-Kalio District of Ghana and its effects on community development. *Journal of Rural Studies*, 42, 150-160
- Abubakar, I. M., Abubakar, A. T., & Abubakar, A. G. (2021). The impact of human capital flight on economic growth in Nigeria: a panel data approach. *Journal of African Business*, 22(1), 57-75.
- Adebayo, O. A., Adeyemo, A. A., & Adeyemo, D. A. (2021). Brain drain and the Nigerian information technology sector. *Journal of Business and Social Sciences Research*, 5(1), 25-36.
- Adegbuyi, O. A., & Adeleke, A. A. (2021). Brain drain and its impact on the Nigerian education sector. *Journal of Education and Practice*, 12(13), 84-91.

- Adejumo, A. O., & Oni, O. A. (2019). Smart farming and the future of agriculture in Nigeria. IOP Conference Series: Earth and Environmental Science, 331(1), 012040.
- Adekoya, F. (2021). Nigeria's IT sector struggles with skills gap. Financial Times. Retrieved from <https://www.ft.com/content/07921c3a-a2b1-4e64-8d1e-200fbd7b52a9>
- Adeoti, J. O., & Adekunle, O. I. (2018). Effects of Brain Drain on Nigeria's Economy: A Critical Analysis. Journal of Emerging Trends in Economics and Management Sciences (JETEMS), 9(1), 28-38.
- Adesina, O. S., & Adesina, O. F. (2020). Smart transportation systems in Nigeria: Overview and prospects. Transportation Research Procedia, 48, 3214-3220.
- Aguilar, L. (2021, March 25). Nigeria's Movie Industry Embraces Virtual Reality. Voice of America. <https://www.voanews.com/africa/nigerias-movie-industry-embraces-virtual-reality>
- Ajayi, O. A., Ibikunle, F., & Okolie, C. U. (2021). Brain Drain and National Development in Nigeria: The Information Technology Industry Experience. In Proceedings of the 2nd International Conference on Computing, Mathematics and Engineering Technologies (ICOMET 2021) (pp. 349-356).
- Akande, T. M., Salami, A. O., & Sanusi, A. R. (2020). Brain drain and its implications on Nigeria's educational system: A critical review. Journal of Education and Practice, 11(2), 1-7.
- Akinwale, A. A., & Adeyemo, O. J. (2019). Information technology and logistics performance in Nigeria. International Journal of Physical Distribution & Logistics Management, 49(8), 806-825.
- Auta, A., Strickland-Hodge, B., & Mazhar, M. (2018). Electronic health records and healthcare quality in Nigeria: A systematic review. Journal of health informatics in developing countries, 12(1), 33-48.
- Battista, A., & Batsakis, S. (2019). The impact of digitalization on the IT job market: A review. Technological Forecasting and Social Change, 146, 950-961.

- Bureau of Labor Statistics. (2021). Occupational outlook handbook: Computer and information technology occupations. U.S. Department of Labor. Retrieved from <https://www.bls.gov/ooh/computer-and-information-technology/home.htm>
- Chukwu, V. U. (2017). The role of information and communication technology in agricultural development. *Journal of Emerging Trends in Computing and Information Sciences*, 8(12), 624-631.
- Ezejiolor, R. A., Ukwuoma, F. C., & Emejulu, I. A. (2021). An empirical analysis of the impact of brain drain on the Nigerian banking sector. *Journal of Public Administration and Governance*, 11(2), 85-95.
- Ezeoha, A. E., & Ezech, O. N. (2019). Fintech and mobile banking innovation in Nigeria: Challenges and opportunities. *International Journal of Scientific & Technology Research*, 8(6), 2252-2258.
- Goldin, I. & Reinert, K. (2006). *Globalization for Development : Trade, Finance, Aid, Migration, and Policy*. Washington, DC: World Bank and Palgrave Macmillan. <https://openknowledge.worldbank.org/handle/10986/6996>
- Iroegbu, P. (2018). Nigeria's tech sector is growing fast, but it's still facing a number of challenges. CNBC. Retrieved from <https://www.cnn.com/2018/08/16/nigeria-tech-sector-growth.html>
- Jegede, D. A., Salami, A. O., & Agunbiade, O. M. (2019). An appraisal of the Nigerian information technology industry: Challenges and prospects. *Cogent Social Sciences*, 5(1), 1-15. <https://doi.org/10.1080/23311886.2019.1582791>
- Karzanova V, and Adedokun I (2019). "Impact of migration on the economy of Nigeria: Recent Trends." *Vestnik NSUEM*, 2019: 3 - 9.
- Kirwin, M. and Anderson, J. (2018). Identifying the factors driving West African migration. *West African Papers*. OECD Publishing, 2018.
- Kleemeier, E. (2020, June 18). How Nigerian agtech startups are bridging the gap in agric. *This Day Live*. <https://www.thisdaylive.com/index.php/2020/06/18/how-nigerian-agtech-startups-are-bridging-the-gap-in-agric/>

- Mazzarol, T., & Soutar, G. N. (2002). "Push" and "pull" factors influencing international student destination choice. *International Journal of Educational Management*, 16(2), 82-90.
- McAuliffe B, and Khadria M.(2020). "Providing perspective on migration and mobility in increasingly uncertain times. In M. McAuliffe & B. Khadria (Eds.), *World Migration Report*." Geneva IOM, 1-498.
- Odeyemi, T. I. (2021). Brain drain and the Nigerian educational system: Analysis and way forward. *European Journal of Education Studies*, 8(4), 311-325.
- Odeyemi, T. O., & Adewoye, O. J. (2019). The impact of intellectual property laws on the development of the Nigerian software industry. *International Journal of Law and Management*, 61(6)
- Ogbonna, A. E., Uwadiogwu, O. A., & Ogbonna, E. F. (2020). Intellectual property and the Nigerian software industry. *Journal of Intellectual Capital*, 21(3), 334-349.
- Ogunyomi, O. P., & Agboola, O. P. (2018). An Assessment of the Causes and Consequences of Brain Drain in the Nigerian Information Technology Sector. *International Journal of Social Sciences and Humanities Reviews*, 9(2), 93-105.
- Ojo, S. O., & Oyelade, O. J. (2019). Information technology (IT) education in Nigeria: A review. *International Journal of Emerging Technologies in Learning (iJET)*, 14(06), 123-139. doi: 10.3991/ijet.v14i06.9443
- Okeke, C. O., & Azubike, A. O. (2019). Intelligent transportation systems in Nigeria: opportunities and challenges. *International Journal of Computer Science and Information Security*, 17(1), 145-150.
- Okonofua, O. (2019, May 21). Jidenna's Nigerian-American Sound. *The New Yorker*. <https://www.newyorker.com/culture/culture-desk/jidennas-nigerian-american-sound>
- Olawoye, O. A., Odeyemi, K. A., Adeniji, A. A., & Adagunodo, E. R. (2020). Cybersecurity threats in Nigeria: Reviewing the policy framework for the health
- Olubiyi, O. O., Mbarika, V., Ayo, C. K., & Adewumi, A. O. (2019). Factors influencing the migration of software professionals from Nigeria. *Information Development*, 35(2), 203-217.

- Oluwatobi, S. A., Onakoya, O. A., Okorie, U. E., & Oke, G. O. (2019). The role of information and communication technology (ICT) in the growth of Nigerian entertainment industry. *Library Philosophy and Practice*, 2019, 1-14.
- Oyekan, J. (2019, February 8). Funding Nigeria's Creative Industry: The Challenges and Opportunities. *Al Jazeera*.
<https://www.aljazeera.com/features/2019/2/8/funding>
- PwC. (2021). Nigeria's entertainment & media outlook 2020-2024. Retrieved from
<https://www.pwc.com/ng/en/publications/entertainment-and-media-outlook.html>
- Ranjana. D. (2015). "Human trafficking: A study exploring its causes, current efforts and challenges."
- Udejaja, C. C., & Bello, O. O. (2017). Brain Drain and Its Implications for the Development of Nigeria's Information Technology Industry. *International Journal of Applied Engineering Research*, 12(19), 8814-8824.
- Wachter, M. and Rohrmose, F. (2008). "Migration at the Southern borders of the European Union:"The EUs migration policy." 2008.
- Wada, M. A., & Abdulmumini, S. (2021). The impact of ICT on agricultural development in Nigeria. *International Journal of Innovative Research and Development*, 10(3), 301-311
- World Bank. (2021). Migration and Remittances: Recent Developments and Outlook. Retrieved from
<https://www.worldbank.org/en/topic/migrationremittances/brief/migration-and-remittances-recent-developments-and-outlook>
- Wu, J., & Li, N. (2018). The impact of technology on the future of work. *Journal of Business Research*, 88, 141-146.
- Yang, D. (2008). "International migration, remittances and investment:Evidence from Philippine migrants' exchange rate shocks." *The Economic Journal*, 591 - 630.

Comparative Study of the Problems of Solid Waste Management on Human and Environment in the Last Decade: Evidence from 2012 – 2022 Benin City, Edo State, Nigeria.

**AGBEBAKU, Henry U.¹; NYIKUN, Polycarp R²; OKOPI, Paul .³;
AYELESO, Olusoji, A⁴; ABDULLAHI, Ari H.⁵; AZIEGBE, Blessing I.⁶.**

^{1–6} Department of Environmental Science, Faculty of Sciences,
National Open University of Nigeria, Abuja.

Corresponding Author's E-mail: hagbebaku@noun.edu.ng 07062970899

Abstract

The problems of solid waste management in the last decade are alarming in Benin City. This is due to the increase in human population, urban growth and development. These problems range from inadequate human attitude, storage facilities, service providers, poor sanitary measures and environmental degradation. The problems of inadequate funding and infrastructure, inappropriate technology, ineffective implementation of government policies and behavioral patterns of the population and inadequate public awareness constitute the bulk of the challenge. The objective of the study examines the problems of waste generated in the study area in the last decade. The methods of content analysis and empirical analysis were used. Primary data were obtained from 25 selected wards and communities from 110 settlements that constitute the study area through a systematic sampling technique. In each of the selected streets, the 2nd, middle and 2nd to last households were administered with questionnaires. A total of 1,781 copies of questionnaires were administered in 768 pollen unit stations and 192,250 numbers of registered voters were used for this study. Results from the study revealed that the problems of waste management were more to poor human attitude, inadequate personnel and service provider, high billing system, inadequate finance, equipment, poor motivation and logistics. From the study, inadequate logistics represents 56.6%, inadequate finances represent 24.1%, inadequate equipment represents 12.1% and inadequate motivation represents 7.2% respectively. Given this, the study recommends that there should be a complete change in human attitudes and service operators. Waste collections are not satisfactory and evacuation should be done on a daily basis. The practice of selective collection by both accredited and non-accredited environmental waste managers should be monitored and sanctioned.

Keywords: Comparative Study, Problems, Solid Waste Management, Human Health, Environment, Last Decade, Benin City.

1. INTRODUCTION

The challenge of solid waste management appears to be the most prominent issue globally in recent years. Living with solid waste littered around appears to be an acceptable way of life among person(s) in most towns and cities in Nigeria. Waste management has been a major problem since the inception of the history of waste generation.¹ At the global level, the problems are enormous and its threat differs from place to place and from one settlement classification to another. The problems range from inadequate funding, inadequate infrastructure, human attitudes, inappropriate technology, and ineffective implementation of government policies, behavioural patterns of the population and lack of public awareness.^{2,3,4}

It has been observed that solid waste management in Nigeria is branded by inefficient collective methods, insufficient coverage and improper disposal system.⁵ Furthermore, waste collection density has been on the increase, owing to the human population, urban growth and development which ranged from 280 to 370 kg/m³ while waste generation rates ranged from 0.44 to 0.66 kg/capita/day. ^{6,7,8,9,10} observed that common constraints that

¹ Agbebaaku, 2018. An Analysis of Solid Waste Management and Environmental Quality in Benin Metropolis, Edo State, Nigeria: An Appraisal. Ambrose Alli University. *Journal of Annals of Environmental Studies* 2(1). Ekpoma

² Agunwamba, 1998. *Solid Waste Management; Problems and Issues*, *Environmental Management*, 22(6), 849-856. Retrieved 7th March 2017;
<http://www.springerlink.com/content>

³ Abhijit and Thakareb, 2015. "Solid Waste Analysis and Proposed Management Plan, India", *International Journal of Research on Solid Waste Management*, 2(7), 40
www.rsisinternational.org/IJRSI.html

⁴ Agbebaaku, Iduseri and Kama (2021). "Assessment of the Effects of Solid Waste Management on Environmental Quality in Benin City, Edo State, Nigeria". Federal University Wukari *Journal of Economics Management and Social Sciences*. 7(2), 148-161.

⁵ Agbebaaku, 2021. "Perception of Residents on the Menace of Solid Waste on Environmental Quality in Benin City, Edo State, Nigeria, *Nigeria*". *Journal of Environmental Science and Technology*. University of Benin. Benin City. 5(2), 290-306.
www.nijest.com

⁶ Okecha, 2000. "Pollution, Protection and Conservation of Nigeria Environment", Owerri, *Afrique International Association*

faced environmental agencies include lack of institutional arrangement, insufficient financial resources, absence of by-laws and standards, inflexible work schedules, insufficient information on quantity and composition of waste and inappropriate technology. In addition, the inability of regulatory institutions to (a)inspect the practices of solid waste management, (b)create incentives for the minimization of solid waste (c)establish a hazardous waste management system for each of the economic zones, and (d)promote sanitation strategy and action plan by countries that will provide a clear basis for planning, control, funding, and implementing projects and activities in a more integrated way are some of the problems of solid waste management.^{11,12,13} Given this, the combination of the problems of solid waste management in Nigeria, ranging from poor funding, inadequate facilities, inadequate human resources, unsanitary technology, low public enlightenment coverage and taxation observed that the problems of solid waste management are

-
- ⁷ Ezeah and Roberts, 2012. “*Emerging Trends in Informal Sector Recycling*”. The State of Solid Waste Management in Nigeria
 - ⁸ Egbenoma, 2016. “Solid Waste and Control in Some Residential Areas in Egor Local Government Area of Edo State”. *B.Sc. Project Thesis Submitted to the Department of Environmental Science and Resource Management*, National Open University of Nigeria
 - ⁹ Ogwueleka, 2009. “*Municipal Solid Waste Characteristics and Management in Nigeria*”. *Journal of Environmental Health Science and Engineering*, 6(3), 173-180
 - ¹⁰ Agbebaku and Kama, 2022. “Comparative Analysis of Service Providers by Private and Government Agencies on Solid Waste Management in Benin City, Edo State, Nigeria”. *Confluence Journal of Environmental Studies*. 15(1), 26-37
 - ¹¹ Mishra, 2008. “*Fundamental Concepts in Environmental Studies*”, New Delhi, s. Chand and Company Ltd.
 - ¹² Shweta, 2013. “Application of Remote Sensing and GIS In Solid Waste Management, A Case Study of Surroundings of River Yamuda, India”, *International Journal of Environmental Engineering and Management*, 4(6), 593-604
 - ¹³ Kadam and Sarawande, 2016. Study and Analysis of Solid Waste Management Challenges and Options for Treatment, India, *IOSR Journal of Mechanical & Civil Engineering*, 15-22. www.iosrjournals.org

enormous and range from human attitudes, techniques and tools of waste disposal, to private sector practitioners and government agencies.^{14,15,16}

Furthermore, in a study on solid waste management in Benin City; an appraisal observed that the problems are due to an increase in human population and urban growth, poor techniques of waste disposal, dwindling financial resources, weak council institutions, the inability of the government to implement and monitor laws and policies and inadequate solid waste services.¹⁷ In addition, a study also observed that in most cities of the world, solid waste materials are not only heaped in huge quantities in refuse dumps but thrown around to lie around in piles and heaps (a)on streets, (b)route junctions and (c)in a small illegal dump on a piece of unused land.¹⁸ The situation is bad in most third-world countries like Nigeria with worst cases, unlike the industrialized countries which have (a)money, (b)technical know-how and (c)public attitudes to manage waste materials to some degree of sanity. In Nigeria, the problem of solid waste management has become a nightmare for the government and waste managers. The challenges of solid waste management result from a combination of variables, such as mal-administrative processes, inadequate finance, none stringent legal action, inadequate planning as well as physical handling of waste materials by concerned individuals,

¹⁴ Agunwamba, 1998. "Analysis of Scavengers' Activities and Recycling in Some Cities of Nigeria". Environmental Management, 32(1), 116-127

¹⁵ Agbebaku, Afolayan, Ojeifo, Okhae and Abu, 2022. "An Assessment of the Variability 10of Household Income on Volume of Waste Materials Generated in Benin City, Edo State, Nigeria". *Nigeria Journal of Environmental Science and Technology*. University of Benin. Benin City. 6(2), 506-518, www.nijest.com. <https://doi.org/10.36263/nijest.2022.02.0356>

¹⁶ Osagie, 2011. *The Problems of Solid Waste Disposal; A Case Study of Ugbowo Municipal Council in Edo State*, A Project Submitted to the Department of Geography and Environmental Management, Ambrose Alli University, Ekpoma, Edo State, Nigeria

¹⁷ Monday and Daniel, 2011. "Solid Waste Management in Benin City; An Appraisal", *The Nigerian Journal of Research and Production*, 18(2)

¹⁸ Igbinomwanhia and Ohiwovorirole, 2011. A Study of the Solid Waste Chain in Benin Metropolis, Nigeria. *Journal of Applied Science and Environmental Management*, 15(4), 589-593. www.ajol.info and www.bioline.org.br/ja.

corporate bodies and government agencies.^{10,19} Towns and Cities in Nigeria have witnessed increasing indiscriminate solid waste disposal, especially in the last two decades in general and Benin City in particular. The factors leading to these threats are poor techniques of waste management, increased waste generation, increase urban growth and population, dwindling financial resources of urban council institutions, the inability of the government to implement laws and policies, inadequate solid waste services and human attitudes.^{2,20,21} The situation with waste disposal in Benin City is such that waste materials are dumped anywhere and anyhow mostly in open spaces, in public facilities like schools and churches, along major and minor roads and junctions, abandoned projects, into streams and markets places.

Waste materials of different types and components are seen as heaps in places where its dumped and this has been a major concern for residents, researchers, government agencies and environmental stakeholders in recent times.^{21,22,23} In Benin City, most urban areas and structures have been grappling with this problem of waste management over the years due to poor waste management. Waste management in Benin City is done by the tripartite bodies of environmental waste managers. The activities of these managers are coordinated by the apex body of the Edo State Waste Management Board the agencies of the (a)Local Government Councils (b)Private Sector Practitioners (PSP), and (c)Environmental Free-

¹⁹ Segynola and Ofuokwu, 2011. “Analysis of Patronage of Dump Sites in the Benin Metropolis, Edo State, Nigeria”. *GRP Journal of Environmental Planning and Management*, 4, 25-29.

²⁰ Babayemi and Dauda, 2009. “Evaluation of Solid Waste Generation, Categories and Disposal Options in Developing Countries. *A Case Study of Nigeria*”, *Journal of Applied Environmental Management* 13(3), 83-88.

²¹ Sridhar 2012. “*Waste Management Policy and Implementation in Nigeria*”, Federal Ministry of Environment, edited by Ivbijaro and Akintola in *Sustainable Environmental Management in Nigeria*. 2, 253-259

²² UNDP, 2004. *Municipal Solid Waste Management in Developing Countries: A Policy Framework*. Geneva. Technical Paper, 12, Geneva: UNDP

²³ LAWMA, 2022. Lagos Waste Management Authority, Lagos State.
<http://twitter.com/LAWMA>

Lancers.²⁴ However, the management of solid waste in Benin City is still a challenge and threat to human health as these sets of waste managers were faced with a lot of challenges. The threat of solid wastes in Benin City is huge and needs stiff management because waste evacuation is poor and weak.^{8,10,17,25} In order to achieve this, the objective of this paper is to examine the problems of solid waste management and its implication on human health and the environment in the last decade. The choice of Benin City was pre-determined by a combination of factors with the incessant increase in (a)human population (b)urban growth and development (c)social and economic activities (d)volume of waste generation, and (e)poor service provider. However, the problems of solid waste management were examined from the perspective of service operators and institutions of government in Benin City.

2. CONCEPTUAL CLARIFICATION

Solid Waste Management

Solid waste management is the systematic process of waste generation, collection, storage, transportation, treatment, utilization and disposal of unused or waste items. This involves all the administrative processes, financial and legal implications and planning functions as well as the physical aspect of waste handling. Furthermore, solid waste management involves the activities and actions required to manage waste from inception to its final disposal.

This includes among other things waste generation, collection, storage, transportation, treatment and disposal.^{5,26,27} In some studies, it was

²⁴ ESWMB, 2022. Edo State Waste Management Board (ESWMB, 2022). Benin City

²⁵ Umunna, 2009. "Solid Waste Generation and Disposal in a Nigerian City"; An Empirical Analysis in Onitsha metropolis. *Journal of Environmental Management and Safety*, 2(1),181-191

²⁶ Gilpin, 1976. *Environmental Management* in Indian; New Delhi, CBS Publishers and Distributors.

²⁷ Ibrahim, 2016. Knowledge and Practice of Solid Waste Management among the Residents of Four Selected Wards in Ibadan North Local Government, Ibadan Oyo

observed that over 1000 metric tons of solid waste materials are evacuated from indiscriminate dumps in public places every month in China, in England and the United States of America over 900 metric tons were evacuated in public places every month while in South Africa and Sweden over 600 metric tons are evacuated in public places every month.^{5,27,28,29}

In Nigeria, over 200 metric tons of solid waste are evacuated from indiscriminate dumps in public places every month in Ibadan. This assertion was also corroborated^{40, 41, 42, 43} in other varied studies in Lagos Island, Abuja and Benin Cities respectively where it was identified that the flow of 30, 25 and 20 metric tons of waste items was evacuated from residential places and in associate areas in every quarter of the metropolitan areas.¹⁵³⁰³¹³² To this end, the situation varies in degree and is typical in most towns and cities in developed and developing countries. Furthermore, studies have shown that majorities of the dumpsites in urban areas in Nigeria are temporal in transits to permanent dumpsites unlike in the developed nations where the theory of locational model was considered before establishment if comparative studies are to be carried out. However, in most of these towns and city centers, urban growth, spread and development have engulfed such dumpsites as observed in major towns and cities in Lagos, Ibadan, Port Harcourt, Kaduna, Benin, Kano and Abeokuta.

State. A B.Sc. Project Thesis Submitted to the Department of Environmental Science and Resource Management, Ibadan Study Center, National Open University of Nigeria

²⁸ Wright and Boorse, 2011. *Environmental Science; Toward a Sustainable Future*, New Jersey: Pearson Education Inc 11(10).

²⁹ Cunningham and Cunningham, 2015. *Environmental Science; A Global Concern*, Mc-Hill International Edition, 12(17), 123-134

³⁰ Ayo, 2015. Critical Issues in *Environmental Sustainability; Forward by Peter Okebukola, Unesco Consultant on the Environment*; Lagos, Ilverfoil Printing Press

³¹ Imafidon, 2016. *An Assessment of Solid Waste Management in the Federal Capital City, Abuja*, A Seminar Paper Submitted to the Department of Geography and Environmental Management, Ambrose Alli University, Ekpoma, Edo State, Nigeria.

³² Agbebaku, 2019. A Spatial Analysis of Solid Waste Management and Environmental Quality in Benin City, Edo State, Nigeria: A *Ph.D. Theses Submitted to the School of Postgraduate Studies*, Ambrose Alli University, Ekpoma.

For instance, in Benin City 3 out of the initial 5 permanent dumpsites at (a)Iguomo and (b) Otofure has been closed down due to a combination of factors such as (i)proximity, (ii)congestion, (iii)urban spread and development and (iv)menace of waste generation to man and environment.
2,5,8,18,27,33

Solid Waste Disposal

Disposal of waste items is done with allots of methods, equipment and storage facilities. Disposal of waste items is the ultimate desire for all types, compositions and classifications of waste items. The techniques of waste disposal at a global level are open burning, open dumping, sanitary landfills, incineration, composting, ploughing in fields, hog feeding, salvaging and grinding and discharging into sewers and these can be termed as (a) rudimentary, (b) semi-modern, and (c) modern methods. For instance, the methods of open dump and open burning technique under the rudimentary methods of waste management is where waste materials are dumped and burned anywhere and anyhow. This method is very much operational in Benin City and coupled with poor human altitude where waste materials are discarded anywhere and anyhow on streets, roadsides and junctions, open spaces and uncompleted buildings. However, this method happens to be the cheapest among other methods of waste management and these unapproved dumpsites have increased in the geometric form a crossed most towns and cities in Benin City.^{10,15,27,32,34}

Problems of Solid Waste Management

The problems of solid waste at the global level are enormous and that its threat differs from place to place.^{2,7,10,20,21} These problems range from inadequate funding, inadequate infrastructure, human attitudes,

³³ Igbinomwanhia, [2012](#). “Characterization of Commercial Solid Waste in Benin Metropolis”, *Nigeria Journal of Engineering and Applied Science* 3(5), 834 - 838.

³⁴ Enahoro, 2016. “*Evaluating Current Women Participation in Household Solid Waste Management in Oredo Local Government Area*”, A Project Submitted to the Department of Geography and Environmental Management, Ambrose Alli University, Ekpoma, Edo State, Nigeria

inappropriate technology, ineffective implementation of government policies, behavioural patterns of the population and lack of public awareness.⁸ It has been revealed in the same study that (a); the inability of regulatory institutions to inspect the practices of solid waste management (b); to create incentives for the minimization of solid waste, and (c); to establish hazardous waste management system for each of the economic zones are some of the problems of solid waste management.¹³ Furthermore, there is a need to promote sanitation strategies and action plans in countries that will provide a clear basis for planning, controlling, funding, and implementing projects and activities in a more integrated way. The threat of solid waste in the Benin metropolis is huge and needs stiff management and urgent attention. He added that the problem ranges from individual attitudes and corporate bodies and mainly from the inability of the government to provide the essentials and enforced laws and policies, and the failure of Local Government authorities to administer the needful procedures for effective waste management. It was further submitted that the lack of coherent policies and in-coherent implementation of existing policies of waste management results in poor handling, collection and disposal.⁸ He ascertained further that there is a constitutional lapse in ensuring clear duties and responsibilities between the State and Local Government agencies, lack of manpower planning and inadequate technical training, poor funding and lack of accountability prevail among authorities involved in waste management and these are major reasons for the appalling state of waste management in Benin City.

Impact of Waste Disposal on Human Health

Human health to a great extent is a function of how clean and best we manage our wastes, water, air, land, food and hygienic environment. The fitness and healthy state of man is a function of the quality of food intake and the state of the environment we live.³² This is in terms of clean water, air, land and a hygienic environment. However, in the study area, the prevalence of outbreaks of epidemics and diseases such as cholera, malaria, fever, typhoid and Lassa fever are relatively moderate and low in the low and high brawl areas in each of the 3 Local Government areas. For

instance, the communities of Ologbo, Idogbo, Aduwawa and Obayantor in Ikpoba-Okha Local Government areas with high and compact density populations. Given this, residents in this Local Government area are having more health challenges owing to the poor hygienic environment of their areas if compared with some of the communities in Oredo and Egor Local Government Areas. In addition, the level of enlightenment for effective waste management to foster clean water, air, land, eat good food and a hygienic environment is low in Ikpoba-Okha than in Oredo and Egor Local Government Areas.^{4,10,32}

Impact of Waste Disposal on the Environment

The *environment* is mixed with the threats of (a) smoke (b) fumes (c) soot (d) carbon monoxide (e) sulphur dioxide (f) methane gas (g) lead (h) toxic chemicals, and (i) particle matters caused by the disposition and burning of waste materials. These actions may cause disease and other health problems. Studies have revealed that a filthy environment repels environmental quality and that any damage done to the environment, run-down capital and that this harm will sooner or later reduce the value of its re-curent services. In view of these, there is a need for the environment to be free from mixed pollutants and the threats of smoke, fumes, soot, carbon monoxide, sulphur dioxide, methane gas, lead, toxic chemicals and other particle matters. The impact of waste on the environment is the unbearable and unforeseen incidence of poor aesthetics, unpleasant scene, overflows of temporal dumpsites mainly in markets and hospitals; refuse litter on the streets, road junctions, open spaces and water channels. In addition, there were cases of unbearable and uncountable numbers of heap counts in all the wards, communities and Local Government areas at strategic, common and unusual places.³⁵

However, these ill indices led to severe environmental menace such as (a)offensive smells, (b)poor aesthetics and sanitary condition and, (c)environmental ill-quality of clean air, water and land throughout the

³⁵ Ministry of Environment and Sustainability of Edo State (MoES, 2022). Benin City, Nigeria

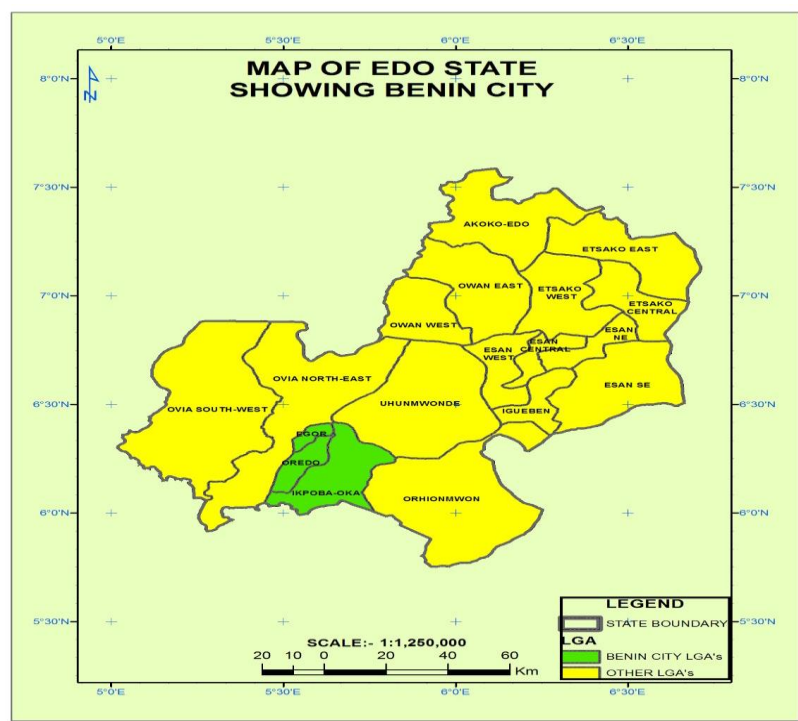
period of the ban of service operatives from the management of waste materials from August 2018 to March 2019 in the study area. Given this, the environment of Ikpoba-Okha Local Government area is more subjected to poor waste management than the duo of Oredo and Egor Local Government Areas. This is due to the factors of (a)proximity to Idokpa dumpsite (b)low brawl areas (c)more marketplace (d)huge volume of waste generation (e)population growth (f)urban spread, and (g)poor waste management if compared to most of the communities of Oredo and Egor Local Government Areas.^{4,10,32}

3. MATERIALS AND METHODS

Study Area

Benin City is administered mainly by 3 Local Government areas of Oredo, Egor and Ikpoba-Okha and parts of Ovia South-West, Uhunwonde and Orhionmwon Local Government areas. Benin City lies within Latitude 6°20' and 6°58' North of the Equator and Longitude 5°35' and 5°44' East of the Greenwich Meridian. These 3 Local Government Areas are made up of several settlements some of which were used for this study. The population of these Local Government areas was put at 1,085,676. Based on a percent of 5.5 growth rate for urban centres, with the 2006 population census figure projected to 2016, the population of Benin City is 1,344,962.³⁶ To get primary data, wards and settlements of the study area were used as the frame. The study area is constituted of the 3 Local Government Areas of Oredo, Egor and Ikpoba-Okha respectively and these Local Government areas constitute the Benin metropolis. Each of these Local Government areas is made up of political wards, the wards are made up of settlements.

³⁶ NPC, 2016. National Population Commission (NPC, 2016). Benin City, Edo State



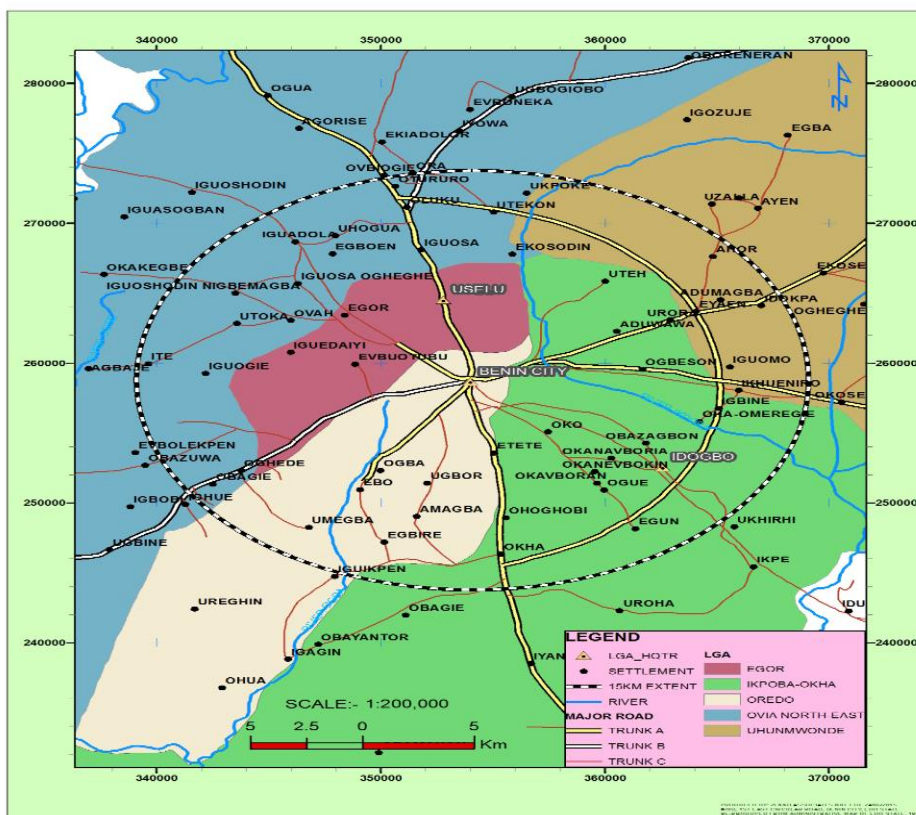


Figure. 2: Benin City: The Benin Metropolis.

Source: Ministry of Land and Survey, Benin City, Edo State (2022)

Research Methods

This paper is purely an empirical study and a combination of content analysis of articles from literature and empirical study. Benin City is administered mainly by 3 Local Government areas of Oredo, Egor and Ikpoba-Okha and parts of Ovia South-West, Umunwonde and Orhionmwon Local Government areas. Benin City lies within Latitude $6^{\circ} 20'$ and $6^{\circ} 58'$ North of the Equator and Longitude $5^{\circ} 35'$ and $5^{\circ} 44'$ East of the Greenwich Meridian. Figure 1 shows the 3 Local Government areas used for the study while Figure 2 shows the Benin City metropolitan area respectively. The study area is the 3 Local Government areas of Oredo, Egor and Ikpoba-Okha Local Government in Benin City. These 3 Local

Government Areas are made up of several settlements some of which were used for this study. Each of these Local Government areas is made up of political wards and the wards are made up of settlements. To get primary data, wards and settlements of the study area were used as the frame. For the purpose of this study, 60% of the wards of each Local Government area were randomly selected for the study. In doing this, 12 wards were selected in Oredo, 03 wards in Egor and also 10 wards in Ikpoba-Okha Local Government areas respectively. The selection of settlements was based on the number of Polling Units.

Therefore, settlements with Polling Units of 20 and above were selected for questionnaire administration. For the purpose of determining the population size for primary data collection, the number of registered voters in the Polling Units of each settlement was used. Voter registrations of 250 were used per polling unit. The use of the number of registered voters is predicated upon the unavailability of the 2006 Population Census figure for settlements. For Oredo Local Government area, the number of registered voters from the selected polling units was 89, 250 while in Egor and Ikpoba-Okha, they are 15, 750 and 87,250 respectively. In all 192,250 populations were registered. Distributions of the questionnaire were administered in each ward of the Local Government areas. To this end, wards with 20 and above polling unit stations (PUS) were selected in each of the three Local Government areas. That is, in Oredo Local Government area with 28 communities, which constitutes 12 wards; all the communities in the 12 wards were used for questionnaire administration going by the benchmark of 20 and above polling unit stations used for this study.

4. RESULTS AND DISCUSSION

Results from the study revealed that all the different sectors of waste managers in the study area were understaffed mainly the accredited waste managers. This is against the required global standard in line with the increasing human population in Benin City. From responses on staffing from environmental waste managers; the staff of Edo State Waste Management Board (ESWMB) have 20 personnel deficits from the required recommended number. This is followed by staff from the

Department of Environmental Health Officers; for instance, Oredo Local Government area had 13 staff deficits from the required number. Findings from the Private Sector Practitioners in Egor Local Government area; showed that 9 staffs were deficits from the required number while for Environmental Free-Lancer (waste vendors); 8 staffs were deficits from the required number to manage a given cell or bits according to global practice.

In addition, the study revealed also that the majority of staff from the Private Sector Practitioners were not trained on the job unlike those from ESWMB and Local Government councils. However, staff from Local Government areas admitted that ill-service training on-the-job was part of the major challenges they encountered on the job; as training and re-training programmes on waste management were not regular and adequate. The study revealed that the practice of ill-service training of Environmental Waste Managers had not changed from 2012 to 2022. Though, it was revealed that staff of ESWMB and Local Government authorities have better academic qualifications and are more qualified on-the-job than those from the private sector. More so, qualifications for staff intake from the public sector cut crossed all the 3 cadres of senior, intermediate and lower categories. At the Senior cadre, we have those with postgraduate qualifications; at the Intermediate cadre there are those with 1st, 2nd and NCE degrees and qualifications while at the Junior cadre, there are those with OND and SSCE qualifications.

The situation is not so with the private sector, as the Managing Directors are those with either B.Sc, NCE and OND qualifications only and with other supporting staff. Having Secondary and First School Leaving Certificates. The Environmental Free-Lancers (one-man business venture), does not have or need academic qualifications or undergo training programs to operate. However, responses from the 3 Local Government areas revealed that Oredo has the highest number of private sector practitioners and environmental health officers than the other 2 council areas with Egor and Ikpoba-Okha Local Government areas in that order.

The results revealed that there were deficiencies in infrastructural facilities and services virtually in all the 3 Local Government areas. These basic infrastructures, facilities, services and equipment, needs to be provided by the concerned persons(waste generators) and agencies such as; (a)residents (b)private sector practitioners, and (c)government agencies. This is to enhance quality services and effective and efficient service providers. Basic facilities for waste management include operational structure, office space, personnel and materials, permanent dumpsites, vehicles/trucks, car park, road network, operational cells or bits, personal protection equipment and code of conduct. From the study, these amenities and facilities were inadequate in all the 3 Local Government areas. Adequate services for effective waste management connote the provision of essential amenities to waste generators, waste managers and government agencies. Each of these persons and groups needs to do the needful and provides the minimum basic services and altitudes expected of them. For instance, waste generators need to ensure the provision of adequate storage facilities such as; sack bags, nylon and plastic containers in their respective domains on one hand and on the other, these facilities should be well utilized and managed.

The trio of waste collectors should provide the men and materials, ensure prompt logistics and qualitative service providers. In addition, they should avoid selective services and ensures adequate coverage of their areas of operations. Results from the study revealed that evacuation of waste materials in the study area was relatively poor and inadequate in all the 3 Local Government areas except some selected high brawl areas per LG. Virtually, all the communities were faced with these anomalies and inadequacies of storage facilities. For instance, government agencies are supposed to provide the operational structures for effective service management in each of the wards, community and Local Government areas. Government services through the Ministry of Environment, Waste Management Board, Departments and Local Government agencies should coordinate activities of waste management. These service agencies should take charge of; appointments, and regulations, and monitor, implement and sanction defaulters on waste matters in their given areas. These agencies should collaborate with service operators for effective waste

management in their respective Local Government areas. Furthermore, government agencies should exercise full control and responsibilities of managerial functions such as adequate planning, controlling, coordinating, monitoring, laws, policy, enforcement and sanctions for waste management to be effective.

The results revealed that the presence of database records is very significant for the management of waste materials. For instance, the response from those that indicate the presence of database records represents 60.2%, while those with the absence of data represent 39.8%. The study further revealed the need for records keeping for the daily, weekly, monthly and yearly volume of waste materials collected. The same can be kept for the volume of waste generated, movement and number of vehicles on daily, weekly, monthly and yearly bases of vehicles entering the varied dumpsites. in the study area. However, it was revealed that the public sector management had better records of their operations than those from the private sector because the practice of keeping database records is of utmost importance in the planning and designs of any environmental system. It was observed that the act of record keeping was not in line with the model of database management and standard of international practice in the study area. However, the comparative analysis revealed that responses from Oredo L.G (41%) have more database records than those from the other 2 council areas. This is followed by responses from Egor (36%) and Ikpoba-Okha (23%) Local Government areas respectively. Furthermore, the study revealed that clients pay monthly bills for waste materials directly to operatives of waste managers for waste collection. Payments were made on daily, monthly, quarterly and yearly bases and subject to the condition of service and terms of the agreement.

It was revealed that each service operator generates and distributes bills in their areas of coverage while the computed amount was based on the volume of waste materials collected, composition and the number of persons per household. The monthly charge ranges from a minimum of #2,000.00 to #8,000.00 per household in all the 3 Local Government areas, while those that generate more and heavy waste items from industrials,

medicals and hazardous wastes were highly levied; this was owned to composition, hazardous and infectious of such waste items. Results from the study revealed that the problem of high monthly charges formed part of the major challenges in the study area as 95.0% of the residents' complained of high billing charges. Which does not commensurate with the volume of waste materials generated. Furthermore, the study revealed that private service operators pay yearly taxes to the government on revenue collected from residents and corporate establishments. These taxes are paid to the government through the state waste management board. The study revealed that the amount (tax) paid by an individual operator per year ranges from #1,000,000.00 to #10,000,000.00 depending on the area and nature of service delivery. This compared the operators to increase their daily, monthly and yearly charges to clients. Furthermore, the study revealed that renewal of appointment and continuity of service delivery with the Board is a function of not defaulting on tax payment instead of service delivery and aesthetics of the environment.

In addition, the study revealed that the majority of responses indicate a fair perception of the effectiveness of waste evacuation. Response of fair perception represents 37.5%. This is followed by those with good perception and this represents 25.3%. The perception of very good represents 20.1% and poor perception represents 17.1% respectively. Furthermore, it was revealed that fair perception could be due to irregularities in the service provider. These anomalies could be part of the reasons for poor waste management as observed in Okhuoro and Aduwawa and other public places like the popular Oba and Urelu markets as well as in the New-Benin motor park. In addition, the study revealed that the mandatory functions of government to provide sanitary services as stated in the 1999 Constitution 'Fourth Scheduled' were maladministered and poorly implemented in the study area. The comparative analysis of responses of residents on the effectiveness of waste management was a bit good and fair services in Oredo and this is followed by responses from Egor and Ikpoba-Okha Local Government areas respectively. The reason for this was the effectiveness and efficiencies of the service operators in Oredo, in-between in Egor and poor in Ikpoba-Okha respectively. Furthermore, the study revealed that the greatest challenges faced by

environmental waste managers were the constraints of inadequate logistics to equate the demand for waste evacuation and this represents 56.6%. This is followed by the challenge of inadequate finances and this represents 24.1%. The challenge of inadequate equipment represents 12.1% while the challenge of inadequate motivation represents 7.2% respectively. Furthermore, the challenge of inadequate logistics needs to be improved by service operatives. However, these constraints were faced by both private and public sectors in the study area.

The comparative analysis of the response to the greatest challenges faced by environmental waste managers indicated that residents from Egor were faced with the greatest challenges of inadequate logistics. This is followed by responses from Oredo and Ikpoba-Okha Local Government areas respectively. Response to inadequate finance was higher in Ikpoba-Okha than in the other 2 council areas. This is followed by responses from Egor and Oredo. The challenge of inadequate equipment is much lower in Oredo and higher in Ikpoba-Okha Local Government area. The constraint of inadequate motivation is very low in Oredo and none in Egor and Ikpoba-Okha Local Governments respectively. Responses to awareness of laws and policies regulating the activities of Environmental Waste Managers were high in the 3 Local Government areas. The study revealed that 95.2% indicates the presence of sanitary laws and government policy on waste matters while 4.8% indicates absence or none awareness.

The study observed that those that indicate the absence or no awareness of environmental laws and policies were ignorant of the existence of such laws and policies as these set of persons need to be enlightened. Furthermore, these categories of persons have poor human attitudes and indulged in the practice of indiscriminate dumps of refuse materials anywhere and anyhow in the study area. The comparative analysis of responses from waste managers on residents on adherence to laws and policies revealed that only 4 out of the responses from Ikpoba-Okha indicate the absence of laws and policies and this could be the reason for poor waste management and practice of indiscriminate dumps of refuse anywhere and anyhow observed in most of the communities in the Local Government area than from the other 2 council areas.

The study revealed that the impact of waste on the environment in the study area is becoming unbearable and unforeseen incidents in recent times and have led to poor aesthetics, unpleasant scene, heap count, and overflows of temporal dumpsites mainly in market and hospital places. On daily bases, refuse materials are littered on the streets, road junctions, open spaces and water channels. Cases of unbearable and uncountable numbers of heap counts were recorded in all the wards, communities and Local Government areas, at strategic common and unusual places. These ill indices led to severe environmental menace, offensive smells and poor sanitary conditions throughout the period of the ban of service operatives during the period of August 2018 – March 2019. This was the first of its kind in the last decade in the history of the study area. Furthermore, the study revealed remedies to the problems of waste management in Benin City. Response from the remedy of the prompt service provider was the major problem and this represents 21.9%. This is followed by remedy of recycling measures and this represents 17.3%. 13.3% indicate remedy of the provision of waste disposal materials. 12.7% indicate the remedy of engagement of more service operators. 10.4% indicate the remedy of public education and sensitization. 7.6% indicate the need for adequate enforcement. 6.6% indicate the need for better sanitary measures. 5.3% indicate the use of degradable materials while 4.9% indicate the need for staff motivation respectively. Where all these measures are well annexed and implemented, there will be some possible changes in the threat from poor waste management in the study area and this will enhance the environmental quality of clean land, waste and air.

However, the comparative study from residents of the 3 Local Government areas revealed sizeable numbers of remedies to problems of waste management in the study area. For instance, responses from Oredo recommend the remedy of recycling measures more than the other 2 council area. This is followed by responses from Egor and Ikpoba-Okha respectively. Remedies of prompt service providers and provision of waste disposal materials were also high in Oredo, in-between in Egor and low in Ikpoba-Okha respectively. This may be due to the level of awareness and exposure of residents from Oredo and Egor more than residents from Ikpoba-Okha Local Government area. From the study, other remedies to

the problems of waste management in order of priorities were those for the better service provider, public education, adequate enforcement, better sanitary measure, use of degradable materials and staff motivation. However, all these variables were adequately high in Oredo, moderate in Egor and relatively low in Ikpoba-Okha Local Government area respectively.

5. CONCLUSION AND RECOMMENDATIONS

The problems of waste management were common in all the wards, communities and Local Government areas of the study. Residents should be cautious of waste disposition. Living with solid waste littered around appears to be an acceptable way of life among person(s) in most towns and cities in Nigeria. The problems of solid waste management in Benin City ranges from inadequate funding and infrastructure, human attitude, inappropriate technology, ineffective implementation of government policies, and behavioral pattern of the population and lack of public awareness. Furthermore, the problem includes inefficient collective methods, insufficient coverage of the collective system and improper disposal system. In addition, there is a lack of coherent policies and in-coherent implementation of existing policies of waste management resulting in poor handling, collection and disposal. The study recommends that there should be a drastic change in human altitudes. Secondly, waste generators should ensure the provision of adequate storage facilities. Thirdly, operators of environmental waste materials from the tripartite bodies should evacuate waste materials daily and weekly if need be. Fourthly, there should be strict legislation for offenders irrespective of the degree of the offense. Lastly, the practice of the concept of environmental quality of the environment should be highly embraced and adopted, this is one of the key measures to mitigate the menace of waste materials globally.

Bibliography

- Abhijit D.G and Thakareb, S.B. (2015). Solid Waste Analysis and Proposed Management Plan, India, *International Journal of Research on Solid Waste Management*, 2(7), 40
www.rsisinternational.org/IJRSI.html
- Agbebaku, H.U. (2018). An Analysis of Solid Waste Management and Environmental Quality in Benin Metropolis, Edo State, Nigeria: An Appraisal. Ambrose Alli University *Journal of Annals of Environmental Studies* 2(1). Ekpoma
- Agbebaku, H.U. (2019). A Spatial Analysis of Solid Waste Management and Environmental Quality in Benin City, Edo State, Nigeria: A *Ph.D. Theses Submitted to the School of Postgraduate Studies*, Ambrose Alli University, Ekpoma.
- Agbebaku, H.U., Iduseri, E.O and Kama, H.G. (2021). Assessment of the Effects of Solid Waste Management on Environmental Quality in Benin City, Edo State, Nigeria. *Federal University Wukari Journal of Economics Management and Social Sciences*. 7(2), 148-161.
- Agbebaku, H.U. (2021). Perception of Residents on the Menace of Solid Waste on Environmental Quality in Benin City, Edo State, Nigeria, *Nigeria Journal of Environmental Science and Technology*. University of Benin. Benin City. 5(2), 290-306. www.nijest.com.
- Agbebaku, H.U and Kama, H.G. (2022). Comparative Analysis of Service Providers by Private and Government Agencies on Solid Waste Management in Benin City, Edo State, Nigeria. *Confluence Journal of Environmental Studies*. 15(1), 26-37.
- Agbebaku, H.U., Afolayan, O.S., Ojeifo, M.O., Okhae, E.S., Abu, R.D. (2022). An Assessment of the Variability of Household Income on Volume of Waste Materials Generated in Benin City, Edo State, Nigeria. *Nigeria Journal of Environmental Science and Technology*. University of Benin. Benin City. 6(2), 506-518, www.nijest.com.
<https://doi.org/10.36263/nijest.2022.02.0356>

- Agunwamba, J.C. (1998). *Solid Waste Management; Problems and Issues, Environmental Management*, 22(6), 849-856. Retrieved 7th March 2017; <http://www.springerlink.com/conten>
- Agunwamba, J.C. (1998). *Analysis of Scavengers' Activities and Recycling in Some Cities of Nigeria*. *Environmental Management*, 32(1), 116-127.
- Ayo, T. (2015). *Critical Issues in Environmental Sustainability; Forward by Peter Okebukola, Unesco Consultant on the Environment*; Lagos, Ilverfoil Printing Press.
- Babayemi, J and Dauda, K. (2009). Evaluation of Solid Waste Generation, Categories and Disposal Options in Developing Countries. *A Case Study of Nigeria, Journal of Applied Environmental Management* 13(3), 83-88.
- Cunningham, W.P and Cunningham, M.A. (2015). *Environmental Science; A Global Concern*, Mc-Hill International Edition, 12(17), 123-134.
- Egbenoma, I.O. (2016). Solid Waste and Control in Some Residential Areas in Egor Local Government Area of Edo State. *B.Sc. Project Thesis Submitted to the Department of Environmental Science and Resource Management*, National Open University of Nigeria
- Edo State Waste Management Board (ESWMB, 2022). Benin City.
- Enahoro, E.E. (2016). *Evaluating Current Women Participation in Household Solid Waste Management in Oredo Local Government Area*, A Project Submitted to the Department of Geography and Environmental Management, Ambrose Alli University, Ekpoma, Edo State, Nigeria.
- Ezeah, C and Roberts, L. (2012). *Emerging Trends in Informal Sector Recycling*. The State of Solid Waste Management in Nigeria.
- Federal Ministry of Environment (FME, 2005). *Policy Guideline on Solid Waste Management*, Federal Republic of Nigeria.

- Gilpin, D. (1976). *Environmental Management in Indian*; New Delhi, CBS Publishers and Distributors.
- Ibrahim, B.L. (2016). Knowledge and Practice of Solid Waste Management among the Residents of Four Selected Wards in Ibadan North Local Government, Ibadan Oyo State. A *B.Sc. Project Thesis Submitted to the Department of Environmental Science and Resource Management*, Ibadan Study Center, National Open University of Nigeria.
- Igbinomwanhia, D.I and Ohwovoriole, E.N. (2011). A Study of the Solid Waste Chain in Benin Metropolis, Nigeria. *Journal of Applied Science and Environmental Management*, 15(4), 589-593. www.ajol.info and www.bioline.org.br/ja.
- Igbinomwanhia, D.I. (2012). Characterization of Commercial Solid Waste in Benin Metropolis, Nigeria *Journal of Engineering and Applied Science* 3(5), 834 - 838.
- Imafidon, S.E. (2016). *An Assessment of Solid Waste Management in the Federal Capital City, Abuja*, A Seminar Paper Submitted to the Department of Geography and Environmental Management, Ambrose Alli University, Ekpoma, Edo State, Nigeria.
- Kadam, M.S and Sarawade, S.S. (2016). Study and Analysis of Solid Waste Management Challenges and Options for Treatment, India, *IOSR Journal of Mechanical & Civil Engineering*, 15-22. www.iosrjournals.org
- Lagos Waste Management Authority (LAWMA, 2022). *Lagos State*. <http://twitter.com/LAWMA>.
- Mishra, D.D. (2008). *Fundamental Concepts in Environmental Studies*, New Delhi, s. Chand and Company Ltd.
- Ministry of Environment and Sustainability of Edo State (MoES, 2022). *Benin City, Nigeria*.
- Monday, O.A and Daniel, O. (2011). Solid Waste Management in Benin City; An Appraisal, *The Nigerian Journal of Research and Production*, 18(2).
- National Population Commission (NPC, 2016). *Benin City, Edo State*.

- Ogwueleka, T. (2009). *Municipal Solid Waste Characteristics and Management in Nigeria*. *Journal of Environmental Health Science and Engineering*, 6(3), 173-180.
- Osagie, O.T. (2011). *The Problems of Solid Waste Disposal; A Case Study of Ugbowo Municipal Council in Edo State*, A Project Submitted to the Department of Geography and Environmental Management, Ambrose Alli University, Ekpoma, Edo State, Nigeria.
- Okecha, S.A. (2000). *Pollution, Protection and Conservation of Nigeria Environment*, Owerri, Afrique International Association
- Segynola, A and Ofuokwu, C. (2011). Analysis of Patronage of Dump Sites in the Benin Metropolis, Edo State, Nigeria. *GRP Journal of Environmental Planning and Management*, 4, 25-29.
- Shweta, K. (2013). Application of Remote Sensing and GIS In Solid Waste Management, A Case Study of Surroundings of River Yamuda, India, *International Journal of Environmental Engineering and Management*, 4(6), 593-604.
- Sridhar, M.K.C. (2012). *Waste Management Policy and Implementation in Nigeria*, Federal Ministry of Environment, edited by Ivbijaro and Akintola in Sustainable Environmental Management in Nigeria. 2, 253-259.
- Umunna, N.M. (2009). Solid Waste Generation and Disposal in a Nigerian City; An Empirical Analysis in Onitsha metropolis. *Journal of Environmental Management and Safety*, 2(1), 181-191.
- United Nations Development Programme (UNDP, 2004). *Municipal Solid Waste Management in Developing Countries: A Policy Framework*. Geneva. Technical Paper, 12, Geneva: UNDP.
- Wright, R.T and Boorse, D.F. (2011). *Environmental Science; Toward a Sustainable Future*, New Jersey: Pearson Education Inc 11(10).

The Socio-Economic and Political Implications of Forced Migration for Internally Displaced Families in Nigeria

Jonathan A. Yabilyok^{1*}, Everest P. Baniyet-Njei²

^{1*}Department of Christian Religious Studies, Federal College of Education, Zaria jyabilyok@yahoo.com, +2347030507750

²School of Advanced and Preliminary Studies, Nuhu Bamalli Polytechnic, Zaria Email: fadaeverest@yahoo.com, +2348034512959

***Corresponding Author: Rev. Fr. (Dr) Jonathan A. Yabilyok,**
jyabilyok@yahoo.com

ABSTRACT

Forced migration is a global phenomenon that has a significant impact on families. In Nigeria, the ongoing conflict with Boko Haram and other terrorist activities has displaced millions, many of whom live in internally displaced persons (IDP) camps. This article examines the socio-economic and political implications of forced migration for IDP families in Nigeria. The article begins by reviewing the literature on forced migration, IDPs, and their socio-economic and political implications. It then presents the findings of a mixed-method study that was conducted with IDP families in Nigeria. The study used a combination of research interviews, focus groups, and case studies to collect data on the experiences, challenges, and coping mechanisms of IDP families. The findings of the study show that forced migration has a significant impact on the socio-economic and political status of IDP families. IDP families experience high levels of poverty, unemployment, and food insecurity. They also face challenges in accessing education and healthcare. In addition, IDP families are often marginalised and discriminated against. The article concludes by discussing the implications of the findings for policy and practice. It argues that the Nigerian government, international organisations, and civil society need to take steps to address the socio-economic and political challenges facing IDP families. It recommends providing basic services, promoting social and economic inclusion, and supporting political participation in IDP families to alleviate the hardship occasioned by the situation in which they find themselves.

Keywords: Family, Migration, Internally Displaced Persons (IDPs), Refugees

1. Introduction

The challenges of internally displaced persons, either directly or indirectly, have had tremendous implications for national development. Forced migration due to violence, banditry, kidnappings, and various forms of terrorism has had dire consequences on the fortunes of families across the country. According to Tajudeen and Adebayo (2013: 1), “the gravity of recent violent disruption and destruction of lives and properties being perpetrated by the Boko Haram (BH) attacks, and because development as a discourse in the sociological realm is multifaceted in dimensions, it can therefore be viewed from economic, social, political, religious, educational, health and in fact, all aspects of human endeavour.”¹ Therefore, the rise of BH is a grave threat to Nigeria's growth and development, considering that instability and violence are critical factors of underdevelopment in many Third-World countries.

Additionally, Nigeria has faced political instability and governance challenges, including corruption, inadequate provision of public services, and inequality. These issues can lead to social unrest, protest movements, and conflicts, which may result in forced migration as people seek better living conditions and opportunities elsewhere.

Exacerbating the factors above is the economy of the country. High levels of poverty, unemployment, and lack of economic opportunities drive many Nigerians to migrate for better prospects. Economic disparities between regions and rural-urban migration also contribute to internal displacement within the country. Developmental indices show that many states in northern Nigeria are below the poverty line. This may explain why the problem of forced migration is more prevalent in the region than in any other part.

This study will examine the negative consequences these have had on the healthy development of families in Nigeria. These will be examined from the social, economic, and political ramifications of the complex and varied implications for the family in Nigeria today.

¹ A Tajudeen and O. Adebayo, “Issues of Refugees and Displaced Persons in Nigeria,” *Journal of Sociological Research* 4:1(2013): 1

2. Methodology And Scope

This study centres on the implications of forced migration as it affects the socio-economic and political fortunes of displaced persons in Nigeria. The scope of the study is on Nigeria but with emphasis on the northern landscape of the country, which has witnessed a plethora of violence and crimes against humanity and a substantial number of persons forced to leave their ancestral homes. The number of IDPs has risen exponentially over the years. Available statistics show that the country has the third-largest number of IDPs in Africa. In the year 2020 alone, it counted over 2.7 million people.² The descriptive research relies heavily on secondary sources such as books, articles, magazines, newspapers (print and online), and commentaries written on the subject matter. The study used these invaluable resources to review relevant literature on migration, family, internally displaced persons, and the socio-economic and political implications forced migration exerts on families. This was intended to provide a description, summary, and critical evaluation and analysis of the findings and discussions on vulnerable families using social, economic, and political variables. Drawing from the above, the study concludes by recommending concrete and practical suggestions and reforms that are needed to ameliorate the plight of families caught in this web of violence.

3. Objectives of the Study

This study highlights the plight of displaced persons and families due to forced migration. The specific objective is to draw attention to these vulnerable groups' peculiar challenges and identify gaps that could be filled to better the situation that IDPs face daily.

4. Research Questions

The following research questions guided the study:

- i. How did the social conditions of IDPs affect their welfare and integral human development in Nigeria?

² Doris Sasu, "Number of internally displaced persons in Nigeria 2013-2020," In <https://www.statista.com/statistics/1237374/number-of-internally-displaced-persons-in-nigeria/> Accessed June 30, 2023.

- ii. How can IDPs be empowered to improve their economic condition for human flourishing?
- iii. What are the educational needs that militate against the human development of IDPs in Nigeria?
- iv. What problems impede the political integration of IDPs in Nigeria?

5. Definitions Of Terms

Migration

Migration involves the movement of people from one place to the other. Some of these migration flows may be transnational, transcontinental, or within the borders of a particular country. People migrate for many reasons. Some migrate for economic reasons, searching for better prospects since their home countries do not offer them such opportunities. Others migrate for business or reasons of investments to maximize business opportunities in the receiving countries. Still, others are forced to migrate due to conflict, violence, and the spate of banditry and kidnappings to secure their lives and property.

Refugee

A refugee is a person who has been forced to flee their home country due to war, violence, persecution, or armed conflict. Refugees often face death or severe harm if they return home. They may have lost everything they own, including their homes, possessions, and loved ones. Refugees are entitled to international protection and assistance. The 1951 Refugee Convention defines a refugee as a person who;³

“owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country; or who, not having a nationality and being outside the country of his former habitual residence as a result of such events, is unable or, owing to such fear, is unwilling to return to it.”

Internally Displaced Persons (IDPs)

³ The UN Refugee Agency, “The 1951 Refugee Convention,” <https://www.unhcr.org/about-unhcr/who-we-are/1951-refugee-convention>, 14.

Internally displaced persons (IDPs) have been forced to flee their homes but have not crossed the internationally recognised boundaries of their country. Sometimes, IDPs are referred to as refugees, even though they do not fall within the legal definition of a refugee. However, refugees' and IDPs' needs and vulnerability are the same.

The number of internally displaced persons (IDPs) worldwide is growing alarmingly from a small number of 1.2 million people in 1982 to 14 million in 1986 to over 20 million by 1997. In 1970, the number of countries with IDPs stood at five but has now risen exponentially to 34 in 1996. According to the 2011 estimates of the UNHCR, the total number of displaced persons stands at around 15.5 million, and more than half of this number is in Africa and Asia. Of the number of internally displaced, the gender perspective is evident: more than half of the population of IDPs are women and children.⁴

In the 1990s, when the issue of IDPs was placed on the front burner, the United Nations, in its working documents, *'Guiding Principles on Internal Displacement,'* defined IDPs in a broad perspective to cover a wide range of situations:

*"Persons or group of persons who have been forced or obliged to flee or to leave their homes or places of habitual residence, in particular, as a result of or to avoid the effects of armed conflict, situations of generalised violence, violation of human rights or natural or human-made disasters, and who have not crossed an internally recognised State border."*⁵

Thousands of families have been displaced at various times in Nigeria by factors such as soil erosion, flooding, and other natural disasters. But by

⁴ Stephen Castles, "Toward a Sociology of Forced Migration and Social Transformation," *Sociology* 37:13(2003): 11.

⁵ Erin Mooney, "The Concept of Internal Displacement and the Case for Internally Displaced Persons as Category of Concern," *Refugee Survey Quarterly*, 24:3(2005): 11.

far, the greatest cause of IDPs are violence and internal armed conflicts.⁶ While there have been violence and conflicts in parts of the North, forcing families to abandon the comforts of their homes and environment, the insurgency occasioned by the heinous activities of Boko Haram (BH), banditry, and kidnappings have been responsible for the internal displacement of millions of Nigerians across the country. These conflicts have displaced millions of people and forced them to flee their homes for safety and security.

The Family: Christian Perspective

Sacred Scripture underlines the importance and centrality of the family. After his creation, God saddled man and woman with the responsibility of the created order. The couple constituted the first form of communion between persons and was given the express permission to be fruitful and multiply and fill the earth (Gen. 1:28). It is in the family that one learns the love and faithfulness of the Lord and needs to respond to these (cf. Ex. 12: 25-27; 13:8, 14-15; Deut. 6:20-25; 13:7-11; I Sam. 3:13). It is through the family that children learn their first and most important lessons of practical wisdom, to which the virtues are connected (cf. Prov. 1:8-9; 4:1-4, 6:20-21; Sir. 3:1-16; 7:27-28). Children need a stable home to be raised to understand the meaning of life, health, relationships, career, family, and the consequences of actions taken so they are not misled.⁷ The book of Proverbs 22:6 has strong admonition on this: "Train up a child in the way he should go, and when he is old, he will not depart from it." It behooves, therefore, that such a noble institution as the family should be safeguarded and given all the necessary attention to attain the moral, spiritual, psychological, educational, and religious upbringing as a *sine quo non* for the integral development of a nation.

Social Implications of Forced Migration

Human beings are naturally social beings and are naturally inclined towards such to attain their spiritual and material well-being. This need is

⁶ A Tajudeen and O. Adebayo, "Issues of Refugees and Displaced Persons in Nigeria," 1.

⁷ Ruth Magaji, "Christian Education and Sustainable Development of Children in Nigeria," *Kaakaki Journal of Religious Studies* vol. 6, no. 1(2013): 35.

realised in society within the family, the smallest unit of every society. The Compendium of the Social Doctrine of the Church calls the family the vital cell of society and gives it pride of place in its application section before work, economic life, politics, the international community, the environment and peace.⁸ The family plays a vital role in forming and training individuals in responsibility, virtue, solidarity, and mutual self-giving. Disruption of these family roles through unplanned migration tends to compromise many families' ability to meet these responsibilities. This inability, in turn breeds dysfunctional children, miscreants, and criminals in the society since the atmosphere to nurture the seed of virtues, namely the family, no longer exists.⁹

Trafficking is another serious risk that increases when people are displaced, families are separated, and livelihoods are destroyed. Children who have lost their homes and even families are particularly at risk of being recruited into the cause of the insurgency, thereby suffering other physiological and psychological abuses. Their opportunities to escape these risks are diminished, in both the short and long term, by the disruption to formal education that displacement typically entails.

Forced migration occasioned by the spate of violence unleashed by a hapless civilian population has had grave consequences for human development and social life. According to Todd, "Surveys from various conflicts show that displaced persons are particularly vulnerable to indirect death due to social disruption and unsanitary conditions."¹⁰ Mooney, in analysing the fate of IDPs, sums up their social predicament in these words:

⁸ Andrew Yuengert, "What is 'Sustainable Prosperity for All' in the Catholic Social Tradition," In *The True Wealth of Nations: Catholic Social Thought and Economic Life*, edited by D. K Finn. (New York, NY: Oxford University Press, 2010), 52.

⁹ Jonathan Yabilyok, *Interreligious Education in Nigeria: Religious Education for Promoting Christian-Muslim Relations in Kaduna State*, (Abuja, Nigeria: Paulines Publications Africa), 117.

¹⁰ Whitmore Todd, *Peacebuilding and Its Challenging Partners: Justice, Human Rights, Development and Solidarity*, (Maryknoll, NY: Orbis Books), 166.

“Cut off from their land, traditional livelihood, and means of generating income and compelled to leave all but a few possessions behind, IDPs suddenly find themselves stripped of their means of survival. At the same time, it breaks up families and community support networks. As one recent study underscored, displacement leads to ‘massive loss not only of commodities such as the home, income, land or other forms of property, but also of less tangible symbolic goods, such as cultural heritage, friendship and a sense of belonging to a particular place.’ Its ‘pernicious effects on individuals, families and communities ‘are wide-ranging and include ‘impoverishment, social isolation, exclusion from health, welfare and education provision, the breakdown of social relationships and support structures, and the undermining of authority structures and social roles.’ Children are particularly affected as displacement not only disrupts their education and normal development but also frequently results in their being separated from their families in the chaos of flight, left to fend for themselves and at heightened risk of abuse. Compounding their plight, the displaced often are stigmatised and may also be viewed with suspicion and hostility in the areas to which they flee.”¹¹

Even when normalcy is restored to these war-weary communities, hardly do they attain the social and economic flourishing of the pre-conflict state. This is why conflicts and violence change the dynamics of not just the economy but also of social relations among people. According to Castles, . . . *Violence and forced migration are causes of social violence and forced migration also cause social transformation. They destroy economic resources, undermine traditional ways of life and break up communities. Forced migration is thus a factor which deepens underdevelopment, weakens social bonds and reduces the capacity of communities and societies to achieve positive change. Post-conflict reconstruction rarely leads to the restoration of the pre-conflict situation, but rather to new and often problematic social relationships.*¹²

¹¹ Mooney, “The Concept of Internal Displacement and the Case for Internally Displaced Persons as Category of Concern,” 15.

¹² Castles, “Toward a Sociology of Forced Migration and Social Transformation,” 18.

By far, conflicts and violence affect women and children far greater than any group of persons. The current share of the world's population of refugees and displaced people around the globe are women. Available evidence shows that forced migration flow and its impact are strongly gendered. Oloka-Onyango contends that "more than fifty per cent of the world's displaced population live in Africa' and women outnumber men in both internally displaced and refugee populations."¹³ Although there are no credible statistics on the gender ramification of the displaced within Nigeria's border, one can safely conclude that the number is a microcosm of what obtains on the global stage. Women, because of their vulnerability and sex, are easy targets of sexual and gender-based violence which are frequently perpetrated. Women are not safe due to conflicts, and on their way to fleeing conflict zones, they risk being raped or captured as sex slaves and made prostitutes by warlords. Meertens and Escobar- Segura's description of the plight of women on the violence in Colombia applies to the women in Nigeria in conflict situations:

*Those who become widows are victims thrice over: they bear the trauma caused by their husbands' death and possibly other violent acts such as rape against themselves or members of their family; they suffer the loss of means of subsistence and domestic reproduction; and they endure emotional and social dislocation from their primary world, dropped as they were in the midst of a new, unknown and often hostile urban environment.*¹⁴

It is appalling that even today in Nigeria, women still pay a heavy price in the insurgency war being fought. The age-old rule of engagement where women and children are spared in any conflict no longer exists.

The spate of killings by BH and other forms of armed conflicts has also caused a realignment of people within the country as a whole. A few

¹³ J. Oloko-Onyango, "The Plight of the Larger Half: Human Rights, Gender Violence and the Legal Status of Refugee and Internally Displaced Women in Africa," *Denver Journal of International Law and Policy*. 24:2, 3(1996): 349.

¹⁴ Donny Meertens and Nora Segura-Escobar, "Uprooted Lives: Gender, Violence, and Displacement in Colombia," *Singapore Journal of Tropical Geography*, 17: 2(1996): 172.

decades ago, there was no question about where one chose to live, work and pray. Today many Christians have moved out of the Muslim-dominated areas of the North to settle in the South, where Christians are in the majority. In the same vein, Muslims who had lived all their life in the southern part of the country no longer feel secure and now relocating to the North, where they have their kith and kin. This demographic movement has created a huge social gap between the members of the two religions and is further becoming detrimental to children's education and proper socialisation in the future.¹⁵ In a country that has had more than its fair share of Muslim-Christian tensions and conflicts, the scenario is capable of eroding the modest gains recorded in interreligious dialogue and mutual coexistence among the two major religions. These challenges have had a devastating impact on the Nigerian people, and they have also had a negative impact on the country's economy and security.

Economic Implications of Conflicts

Economic activity is what enables people to earn a living to fend for themselves, their families, and other dependents. Economic activity can only occur in an atmosphere devoid of chaos and conflict. Under such a violent climate, economic loss to human development is colossal. As Miedema states, "Investors flee unstable societies, taking key capital resources with them, while members of the population flee, taking their human capital with them. Governments overspend on security, leaving fewer resources for social services such as health care and education."¹⁶

Forced migration in Nigeria has had rippling economic woes. Many who had migrated from the South to the North of the country are now relocating to their places of origin as the economic opportunities that had attracted them are no longer feasible in such a violent climate. Many

¹⁵Hussaini Abdu, "Ethno-Religious Crisis in Kaduna: Impact on Women and Children." *In Ethno-Religious Conflicts and Democracy in Nigeria: Challenges*, edited by Etanibi E. O. Alemika and Festus Okoye, (Kaduna, Nigeria: Human Rights Monitor, 2002), 139.

¹⁶Theresa Miedema E. 2010. "Violent Conflicts and Social Capital in Ethnically Polarized Development Countries," *Ph. D Diss. The University of Toronto. ProQuest Dissertations and Theses*, (2010): 14.

families whose means of livelihood depended on the northern terrain's peaceful nature have had to relocate to other parts of the country. The 2011 World Investment Report of the United Nations Conference on Trade and Development, UNCTAD, noted that the Nigerian economy had lost over six billion dollars (N1.3 trillion) as a result of attacks by Boko Haram and other insurgents.¹⁷

Social and cultural systems in many parts of the North exacerbate widows and children's harsh economic situation. These include gender disparity, customs of inheritance, traditions, and cultural beliefs hindering the right of inheritance to property left by the deceased husband. Again, those who have been forced to flee their abode have had to sell their places of business at 'give away' prices to relocate to other places where they had neither the guarantee for their livelihood nor places to ply their trade.

With the high rate of human casualties, many families have lost the head of their household; widows have now become breadwinners of their families and children have been orphaned. Such a situation makes even their survival much more difficult considering that widows and orphans are often denied their rights and have no inheritance.¹⁸ Coupled with the social and cultural system found among some societies in Nigeria, the burden borne by these families can only be imagined.

Besides the human loss of lives and property, there is the issue of the mass exodus of "non-indigenes" who have been contributing to the economy of the areas in which they have lived for decades. This exodus has crippled economic activities in the affected states of Yobe, Kaduna, Plateau, Kano, Borno, Adamawa, and a host of others, dealing a devastating blow to the economy as people are the engine rooms that drive the economy of any nation. "In analyzing the importance of factors of production, economists are unanimous on empirical evidence that where all the factors: land, labour, capital are provided in the right proportion, the absence, or inadequacy of the latest factor of production known as entrepreneur

¹⁷Eme, Okechukwu Eme I. and Jide Ibietan. "The Cost of Boko Haram." *Arabian Journal of Business and Management Review* 2.2, September, 102(2013): 20.

¹⁸Hassan Kukah, *The Church and the Politics of Social Responsibility*, (Lagos, Nigeria: Sovereign Prints, 2007), 125.

(human capital) will render the other factors useless.”¹⁹ As they migrate to safer grounds, they take their human capital, skills, training, etc., which would have benefitted their former abode.

The healthcare industry is an area that has been severely hit by forced migration. Many patients cannot access health care due to the mass exodus of doctors to other climes. Many die before being taken to hospitals far away from their places of domicile. Statistics show that Nigeria accounts for 10 per cent of global maternal deaths. Causes of this include the high patient-doctor ratio, which stands at 1: 33,000 against the global standard of 1: 10,000, and the high poverty level. It is estimated that there are over 4000 Nigerian doctors in the United Kingdom alone, not to mention other countries. Many middle-class Nigerians travel to India every year to access medical care. It is estimated that Nigerians spend over 120 billion naira annually on medical tourism. And an estimated 5,000 Nigerians travel to India monthly to treat varied ailments. In the year 2012 alone, the sum of 260 million dollars was used by these Nigerians for medical purposes.²⁰

There is no doubt as to the manpower capability within the country. Nigeria produces a sizeable number of doctors to attend to the sick. However, because the healthcare sector in Nigeria is seriously underfunded and incentives unattractive to ensure health workers stay within the country, many have chosen to migrate overseas where they remain for their entire working life. Notable destinations for these doctors and nurses include Saudi Arabia, Egypt, UAE, the United Kingdom, and the United States. This colossal brain drain will continue until such a time the Nigerian government does enough to discourage migration.

Apart from this international migration of health workers, internal migration also causes problems for the health status of children in Nigeria. Socioeconomic factors such as better earnings, employment, and access to

¹⁹Nicholas Ibekwe, “Boko Haram Forces 15000 Pupils out of School in Borno, Kills over 170 Teachers/Students,” Premium Times, 2013. <http://premiumtimesng.com/news/html>.

²⁰Gboyega Alaka, “Burden of a Nation: How Nigerians Spend Billion on Medical Tourism,” *The Nation Online*, 2014. <https://thenationonlineng.net/>.

modern facilities often attract rural dwellers to urban centers. Over one million children in Nigeria die annually from one of the six childhood killer diseases. Some children die because of rural-urban migration. A study on the relationship between migration and immunisation in Nigeria showed that the likelihood of full immunisation was higher for children of rural nonimmigrant mothers than children of rural-urban mothers. This is because those who migrate often risk not being immunised or settling in places already covered by health officials.²¹

Political Consequences of Forced Migration

The primary duty of government at all levels is the protection of lives and property. When armed groups operate with impunity, they often undermine the authority of the state and make it difficult for governments to provide basic services and maintain law and order. This can lead to a breakdown in public trust and a rise in political instability. In states such as Niger and Kaduna, there are credible reports of vast swaths of land in the hands of non-state actors. This has become impossible for communities within the affected domains to live productive life as they cannot guarantee the protection of their lives or property.

Lack of documentation is a common characteristic among the internally displaced as documentation frequently is lost or confiscated during flight. During the 2023 General Elections, many displaced persons could not participate in the democratic processes, especially in Northern Nigeria, where banditry, farmers-headers clashes, and kidnappings remain the order of the day. Moreover, since voting rights almost invariably are tied by laws of general application to the elector's place of residence, a lack of documentation commonly results in the disenfranchisement of the internally displaced, depriving them of a say in the political, economic, and social decisions that affect their lives.²²

²¹Antai Diddy, "Migration and Child Immunization in Nigeria: Individual and Community-Level Contexts". *Antai BMC Public Health*,10. 116(2010): 5.

²²Mooney, "The Concept of Internal Displacement and the Case for Internally Displaced Persons as Category of Concern," 17.

Additionally, Nigeria is planning to conduct a general census in the same year. Census is usually conducted to give the government adequate demographic data in allocating resources, economic planning, and redistribution of the political map. Although the 2023 census has been postponed severally because of logistics and poor funding, it would likely not be feasible for many IDPs to return to their ancestral home before the commencement of the enumeration exercise. This is a huge loss of political and economic capital to the IDPs since the exercise would have been over by the time they eventually return to their ancestral homes.

6. Results and Discussions

The study investigated the socioeconomic and political implications on internally displaced persons (IDPs) in Nigeria. The analysis aimed to shed light on the challenges faced by IDPs and the potential effects on their overall well-being. The study utilised qualitative and quantitative methods to gather data and analyze the findings.

The findings revealed significant socioeconomic implications for internally displaced persons in Nigeria. IDPs faced severe challenges accessing necessities such as food, shelter, healthcare, and education. Many IDP camps were often overcrowded and lacked adequate infrastructure. This situation resulted in heightened vulnerability to diseases, malnutrition, and limited educational opportunities, particularly for children. Many individuals were forced to abandon their jobs, land, and assets, eroding their economic stability. The loss of livelihoods due to forced displacement profoundly impacted the social and economic outcomes for IDPs. The lack of income-generating opportunities within IDP camps further exacerbated their financial hardships. As a result, IDPs faced increased poverty rates and a heightened reliance on external aid.

Secondly, forced migration also had significant political implications in Nigeria. The influx of IDPs strained the existing social fabric of host communities. The sudden increase in population and competition for scarce resources often led to tensions and conflicts between IDPs and host communities. These tensions could exacerbate existing ethno-religious fault lines and potentially escalate into broader social and political instability. Additionally, there is the possibility that IDPs can overstretch the resources of their communities when they eventually return to their homestead.

Furthermore, there are also challenges to governance and the delivery of public services. Local and national governments struggled to provide adequate support and resources to meet the needs of IDPs. This inadequate response could erode public trust in the government's ability to address the needs of its citizens, potentially undermining social cohesion and political stability.

Lastly, the displacement crisis affected Nigeria's overall peace and security. In some instances, IDP camps became breeding grounds for criminal activities and radicalization. The lack of adequate security measures within camps made them vulnerable to infiltration by armed groups, exacerbating security challenges in the affected regions.

Overall, the findings of this study underscored the profound socioeconomic and political implications of forced migration for internally displaced persons in Nigeria. The study highlighted the urgent need for comprehensive and coordinated responses from the government, civil society organisations, and the international community to address the multifaceted challenges that IDPs face.

7. Conclusion

This paper has attempted to highlight some implications of forced migration and its consequences on the family in Nigeria due to conflicts occasioned by the rise of Boko Haram, banditry, kidnappings, and other forms of violence. In such a violent climate, no country can attend to its developmental goals and objectives, including the family's good. The violence unleashed on a significant number of its population can destabilize the country. Mobility in a country like Nigeria, with a vast population of over 200 million people, occurs daily. The various forms of violence being unleashed on hapless citizens is capable of making this situation assume a frightening new dimension where it may lead to acrimony and deep-seated hatred based on religion or ethnicity.

The case must be made for IDPs displaced by violence by the Federal and State government to cater to their basic needs. It is quite appalling that the government gives people of such a category less attention. Few, if any, refugee camps or resettlement centers exist to cater to those who have lost houses or means of livelihood or who have been widowed or orphaned. Most of them have been provided for by Non-Governmental and Faith

Based Organisations. In places where the state governments have set up IDP camps, adequate security is often not provided to protect these vulnerable groups. More frequently than not, armed groups make daring incursions into open IDP camps where they rape, kill, and main with reckless abandon. A case in point is the recent killings in Benue state, where scores of people were killed, and others further displaced.²³

The fate of most IDPs is not different from refugees. They have similar needs, including shelter, clothing, food, medicine, water, and other necessities of life. Despite the common need, as Mooney notes, IDPs rarely receive the same type of reintegration packages provided to refugees.²⁴ Left to cater for their needs, they are not even accounted for, let alone anyone noticing their plight. The need to protect such a category of civilians cannot be overemphasized. The United Nations Security Council Resolution 1325 on women, peace, and security calls on all members of the International Community to protect women, children, and other vulnerable groups.²⁵

The gendered ramification of migration helps us to appreciate the economic, political, and social dimensions of migration, which affects hundreds of thousands of families. Gender discussion is important if we must appreciate how men and women circulate in the different facets of the migration prospects. Not much has been done to address the peculiar needs of women and children regarding forced migration. The state and the international community must offer them all the protection they need to survive in such a climate of uncertainty that has been forced upon them by circumstances, not of their choice.

8. Recommendations

²³Peter Duru, “Benue Killings: Declare a State of Emergency on Security now- Tribal Leaders to FG,” *Vanguard Newspaper*, April 10, 2023
<https://www.vanguardngr.com/2023/04/>.

²⁴Mooney, “The Concept of Internal Displacement and the Case for Internally Displaced Persons as Category of Concern,” 18.

²⁵United Nations, “[UN Security Council resolution 1325 on women and peace and security](https://www.unwomen.org/en/docs/2000/10/),” 2000. <https://www.unwomen.org/en/docs/2000/10/>.

- i.** Governments at all levels must take proactive measures in ensuring the protection of lives and property of its citizens, and irrespective of their place of abode, are accorded adequate protection to forestall incessant cases of violence, banditry, and kidnappings of hapless civilians. Key to stemming the tide of forced migration is for governments to be more responsible and to rise to the challenge of governance where the rule of law is upheld.
- ii.** The Nigerian government is also responsible for addressing the issue of forced migration. This includes providing security for displaced populations, improving access to education and healthcare, and promoting economic development in areas affected by conflict. The National Assembly, as a matter of urgency, must enact enabling laws to accommodate the plight of the IDPs so as not to be disenfranchised in times of conflict and forced displacement. This will ensure that they participate in the democratic process that will affect their lives.
- iii.** Forced migration of vulnerable populations such as women and children is a development issue that should be accorded a pride place in governmental programmes to cater to their social and economic welfare. Adequate safety social nets need to be provided in the annual national budget to accommodate such emergencies in the future. Governments must promote sustainable livelihoods, education, and healthcare opportunities for displaced families.
- iv.** Considering the increasing vulnerability of IDPs in any conflict situation, it is of utmost importance that the international community come together to provide for their protection by giving them the same status as refugees despite not having crossed internationally recognised boundaries.
- v.** Those found guilty of perpetrating violence against women and children must be dealt with in accordance with the provision of the law without religious or ethnic sentiments to serve as a deterrent to others.
- vi.** By working together, the international community and the Nigerian government can help to mitigate the negative social, economic, and political impacts of forced migration on families.

Bibliography

- Abdu, Hussaini. "Ethno-Religious Crisis in Kaduna: Impact on Women and Children." In *Ethno-Religious Conflicts and Democracy in Nigeria: Challenges*, edited by Etanibi E. O. Alemika and Festus Okoye. Kaduna, Nigeria: Human Rights Monitor, 2002.
- Alaka, Gboyega. "Burden of a Nation: How Nigerians Spend Billion on Medical Tourism," The Nation Online, June 15, 2014, <https://thenationonlineng.net/burden-nation-nigerians-spend-billions-medical-tourism/>. Accessed May 03, 2023.
- Castles, Stephen. "Toward a Sociology of Forced Migration and Social Transformation." *Sociology* 37:13(2003): 12-34. <https://doi.org/10.1177/0038038503037001384>
- Diddy, Antai. "Migration and Child Immunization in Nigeria: Individual and Community-Level Contexts". *Antai BMC Public Health* 2010, 10. 116: 1-12. Also in [http:// www.biomedcentral.com/1471-2458/10/116](http://www.biomedcentral.com/1471-2458/10/116). Accessed 30th April 2023.
- Duru, Peter. "Benue Killings: Declare a State of Emergency on Security now- Tribal Leaders to FG," *Vanguard Newspaper*, April 10, 2023 <https://www.vanguardngr.com/2023/04/benue-killings-declare-state-of-emergency-on-security-now-tribal-leaders-to-fg/>. Accessed on May 02, 2023.
- Eme, Okechukwu I. & Ibietan, Jide. "The Cost of Boko Haram." *Arabian Journal of Business and Management Review* 2.2, September, 102(2013): 10-32. [http://www.arabianjbmr.com/pdfs/OM_VOL_2_\(2\)/2.pdf](http://www.arabianjbmr.com/pdfs/OM_VOL_2_(2)/2.pdf)
- Ibekwe, Nicholas. 2013. "Boko Haram Forces 15000 Pupils out of School in Borno, Kills over 170 Teachers/Students," Premium Times, 4th October 2013, <http://premiumtimesng.com/news/html>.
- Kukah, Hassan. *The Church and the Politics of Social Responsibility*. Lagos: Sovereign Prints, 2007.
- Magaji, Ruth. "Christian Education and Sustainable Development of Children in Nigeria." *Kaakaki Journal of Religious Studies* vol. 6, no. 1(2013): 32-37.
- Marteens, Donny and Segura-Escobar, Nora. "Uprooted Lives: Gender, Violence, and Displacement in Colombia." *Singapore Journal of*

- Tropical Geography*, 17: 2(1996): 165-178.
<https://doi.org/10.1111/j.1467-9493.1996.tb00091.x>
- Miedema, Theresa E. 2010. "Violent Conflicts and Social Capital in Ethnically Polarized Development Countries," *Ph. D Diss. The University of Toronto. ProQuest Dissertations and Theses*, (2010).
https://central.bac-lac.gc.ca/.item?id=TC-OTU-26301&op=pdf&app=Library&oclc_number=1032888314
Accessed May 20, 2023.
- Mooney, Erin. "The Concept of Internal Displacement and the Case for Internally Displaced Persons as Category of Concern." *Refugee Survey Quarterly*, 24:3(2005): 9-26.
<https://www.brookings.edu/articles/>
- Oloka-Onyango, J. "The Plight of the Larger Half: Human Rights, Gender Violence and the Legal Status of Refugee and Internally Displaced Women in Africa." *Denver Journal of International Law and Policy*. 24:2, 3(1996): 349-394.
- Sasu, D. D. (2022). "Number of internally displaced persons in Nigeria 2013-2020,"
<https://www.statista.com/statistics/1237374/number-of-internally-displaced-persons-in-nigeria/> Accessed June 30, 2023.
- Tajudeen, A. and Adebayo, O. A. "Issues of Refugees and Displaced Persons in Nigeria." *Journal of Sociological Research* 4:1: 1-18. 27th January 2013. <https://doi.org/10.5296/JSR.V4I1.3156>
- Whitmore, Todd D. *Peacebuilding and Its Challenging Partners: Justice, Human Rights, Development and Solidarity*. Maryknoll, NY: Orbis Books, 2010.
- Yabilyok, Jonathan. *Interreligious Education in Nigeria: Religious Education for Promoting Christian-Muslim Relations in Kaduna State*, Abuja, Nigeria: Paulines Publications Africa, 2021.
- Yuengert, Andrew M. "What is 'Sustainable Prosperity for All' in the Catholic Social Tradition." In *The True Wealth of Nations: Catholic Social Thought and Economic Life*, edited by D. K Finn. New York, NY: Oxford University Press, 2010.

The Impacts of Migration on the Socio-Economic Development of Nigeria: Empirical Insight from Nigerian Immigration Service (NIS)

Chukwuemeka G. Eme

Department of Business Administration, Faculty of Management Sciences
National Open University of Nigeria (NOUN), Jabi – Abuja, Nigeria
Tel: +234, 1, 90-3323-5764; Email: kaluchukwuemeka26@yahoo.co.uk;
ceme@noun.edu.ng

Abstract

This paper examines the impact of internal and international migration on the socio-economic development of Nigeria. It equally examines the duties of the Nigerian Immigration Service (NIS) revealing that the above-mentioned agency has the capacity to initiate development and security in the nation-state; describing the Nigerian state as a source and destination for migrants. The study revealed the consequences faced by the Nigerian state in relation to International Migration (as a sending state and a receiving state). The study also shows that the agency, Nigerian Immigration Services (NIS) has various challenges, which are the reasons for the level of performance of the agency. This study employed the ex-post facto research design. It adopted both quantitative and qualitative data collection approaches. The population of the study was 100 officials of the Nigerian Immigration Service (NIS) secured using the simple random sampling techniques. The study data was analysed using the Chi-square statistical calculations. Also, in checking the validity of the collected data, Cronbach Alpha statistics was adopted. The major findings of this study reveal that the Nigerian Immigration Service (NIS) has some challenges and these challenges hinders the success of this agency in bringing socio-economic development into the Nigerian State. However, for Nigeria to benefit profitably from International Migration, the Nigerian Immigration Service (NIS) has to be efficient in her duties and also needs the cooperation of the Nigerian federal government (FGN), as it relates to socio-economic development and security functions.

Key Words: *Socio-economic development, Emigration, Immigration, International Migration, Nigerian Immigration Service (NIS).*

1. Introduction

Since the beginning of creation, humans have always involved themselves in movement activities.¹ This has been a major feature in the history of Africa and the entire globe generally.² Migration cannot be divulged from the history of man, families, villages and nation-state. Therefore, migration can be traced as far back as the existence of man, most especially when man desired to go in search of food during various famine seasons; also, another reason for migrating in those days was the desire of separating from the crowd as well as for seeking for interdependence. Migration can be internal or international. Internal migration explains the movement of individuals within same geographical territory which in this case can be from rural to urban for example, from Lagos to Abuja. While international migration has to do with the crossing of borders or international boundaries such as Cameroon to Nigeria described as South-South Migration, Nigeria to United States of America described also as South-North Migration.

Internal and international migration all over the world may be very important for national economies. The patterns of internal and cross-border migration change, the size, structure and efficiency of labour markets, affect the social and economic situations and the culture of receiving countries. What is the impact of internal and international migration on the sending and receiving countries and on the migrants themselves? What is the impact of brain drain and massive migration of unskilled workers from poor countries to advanced countries? In this paper, the analysis of internal and international migration and its impact on the socio-economic development of Nigeria is provided.

Although there has been increased attention given by the Nigerian government since the country's return to democracy in 1999; there has been very little concern for internal migration and international migration.

¹ Armstrong, Michael (2006). *Handbook of Human Resources Management Practice*, 13th ed., London, CogaPage, available from https://otgo.tehran/0/pdf/armstrong's_handbook_humanresourcesmanagementpractice-1pdf

² Akanji, Olajide Oke (2012) "Migration, Conflicts and Statehood Problem in Nigeria: The Self-determination Issue." *Journal of Nigerian Studies*, 61-75.

Concerns for migration, both in governmental and academic institutions, have weighed heavily on international migration with a focus on issues such as brain drain/gain, remittances and diaspora organizations. The majority of information and concerns for internal migration is anecdotal, and research findings, where they exist, are few and outdated. In Nigeria, internal migration is discussed in the literature in relation to links between internal migration and environmental problems, in particular urban pollution and slum and ghetto development. Another trend in the literature on internal migration is the rural-urban nexus. However, to justify these and other concerns, much empirical evidence is still required. Although a few studies have analysed internal migration dynamics and challenged some of the reasons offered in the literature, one issue that is still missing today is the impact of internal migration on human development.

This research aims to fill the gap through an investigative analysis of the impact of the activities of the Nigerian Immigration Service (NIS) in its bid to reduce the high rate of South-South migration and the influx of illegal migrants into Nigeria from other neighbouring West African sub-region especially from Cameroon, Niger Republic and Benin Republic, international migration by Nigerians to developed countries such as United States of America, United Kingdom, Canada etc., and recently the exodus of Nigerian migrants into South Africa, Egypt and United Arab Emirates countries to mention a few.

2. Statement of the Problem

Literatures have shown that there is a connection between International Migration and socio-economic development and for a nation-state to experience growth the presence of security is inevitable. In Nigeria, the major agency responsible for International Migration activities is the Nigerian Immigration Service (NIS). However, the agency has various challenges that may hinder these achievements (socio-economic development and Security) among them include porous nature of the Nigerian borders, lack of the agency in various areas coupled with various challenges affecting the Nigerian state such as the influx of little or no skill and undocumented migrants from neighbouring countries in the region and also the emigration of sophisticated experts and skills out of the Nigerian state to their favourite destinations due to the felt "Push" factors.

Obviously, a reasonable number of immigrants entering into the Nigerian state have low skill or no skill at all, these can decline the labour force and productivity of a nation-state. It has also been revealed that majority of the Fulani herdsmen and the Boko Haram terrorist groups are not Nigerians.³ This raises the question on how they got into the nation-state so easily and unnoticed by the Nigerian Immigration Service.

This uncontrolled influx of migrants has resulted to serious challenges to the political, security, planning, crime control, environmental management and socio-cultural and economic development of the nation-state to mention a few.⁴ All these and more makes up the statement of the problem that initiated the study of the above subject matter.

3. Objectives of the Study

The specific objectives of this study are:

- i. To examine the role and relevance of Nigerian Immigration Service (NIS) in the Nigerian state.
- ii. To determine the importance of Nigerian Immigration Service (NIS) to the security of the nation-state.
- iii. To determine the duties of Nigerian Immigration Service (NIS) in the socio-economic development of Nigerian state.
- iv. To identify the challenges facing the Nigerian Immigration Service (NIS).

4. Research Questions

In line with the above stated objectives, the following research questions were derived:

- i. What are the duties and roles of the Nigerian Immigration Service (NIS)?

³ Musa, Abraham (2015) ‘International Migration and the Disasters of Internalization: An Assessment of Nigeria’s Foreign Policy in Global Age.’ *Global Journal of Human Resources Management*, Vol 3, No 3, pp. 58-73.

⁴ Ashira, Menashe-Oren (2016) ‘Urbanization Is No Longer Driven by Migration in Low- and Medium- Income Countries (1985-2015).’ *Open Access Journal*, Vol 1, No 4. Available at <https://doi.org/10.1111/padr.12407> .

- ii. How important is the Nigerian Immigration Service (NIS) responsibility in the security aspect of the Nigerian nation-state?
- iii. How can the Nigerian Immigration Service (NIS) help in the socio-economic development of the Nigerian state?
- iv. What are the challenges facing the Nigerian Immigration Service (NIS)?

5. Hypotheses

This study tests the following hypotheses stated in its null form at 0.05 level of significance:

- i. Ho: There is no significant relationship between the roles and relevance perception of Nigerian Immigration Service (NIS).
- ii. Ho: The Nigerian Immigration Service (NIS) responsibilities play no important role in security of the nation state.
- iii. Ho: There are no significant challenges facing the Nigerian Immigration Service (NIS) in Nigeria.

6. Literature Review

Conceptual Review

The Concept of International Migration

According to Iheanacho and Ughaerumba⁵, migration can be traced to the existence of the first set of humans on earth. Migration has taken various patterns such as slave trade, colonization, urbanization, industrialization and globalization. Movement of persons (migrants) from one place to another has been a trend adopted by various individuals. International Migration in Nigeria can be traced from the pre-colonial era (precisely slave trade era) to colonial era. During these eras migration was both forced and voluntary. In Nigeria, during the 1960s International Migration became the new trend and was at its increase as Nigerians and other Africans migrated to various parts of West African neighbouring states mostly for trade purposes (regional integration). According to Fayomi et al⁶, International Migration is mostly influenced by economic reasons

⁵ Iheanacho Ngozi N and Ughaerumba Chidiebere A (2015) "Post-Migration Structures and Pentecostal Churches' Social Services in Nigeria", *American Research Institute for Policy Development*, Vol 4, No. 2, pp.63-71.

⁶ Fayomi et al. (2015)., "The impacts of remittances on Nigeria's economic growth: A case study on Nigerian diasporas in Ghana", *Journal of South African Business Research*, Vol. 2, No. 5.

which can be for employment, trade purposes, high favourable standard of living and fair-weather conditions for agriculture among other reasons.

Tacoli and Okali⁷ also explained International Migration to be the feature of globalization as the world is interconnected and interdependent on each other. This reveals that International Migration is the movement across international borders or nation-states. Migration can positively contribute to sustainable development of nation-states. International Migration is the movement of individuals from one international boundary to another. International Migration involves two set of individuals these are the irregular migrants and regular migrants. WHO⁸ also reveals that movement of individuals (migrants) from one boundary to another has been on its increase. The International Migration activity can be engaged nationally and regionally. International Migration can be permanent or temporary. Clemens⁹ validates the statement that International Migration can trigger creativity, innovation, trade, entrepreneurship among other development. This subject matter (international migration) recently has become a topic for debates and discussions by nation states.

International Federal Red Cross and Red Crescent¹⁰ reveal International Migration to be a process of moving across borders. International Migration in Nigeria can be traced as far back as the pre-colonial era, precisely the slave trade era in which humans were seen as commodities to be traded and transported to Europe as slaves. The colonial era also experimented International Migration as various ethnic groups and other Africans transported themselves from one place to another spreading the information and educating their fellow individuals on the ideology known

⁷ Tacoli Cecilia and Okali David (2001) ‘‘The Links Between Migration, Globalization and Sustainable Development’’ *international Institute for Environment and Development*, World Summit on Sustainable Development.

⁸ WHO, ‘‘International Migration, Health and Human Rights’’ (2003), *Health & Human Rights Publication Series*, Issue No. 4, December.

⁹ Clemens Michael A (2022) ‘‘Migration on the Rise, a Paradigm in Decline: The Last Half-Century of Global Mobility’’ *Centre for Global Development, Working Paper 606*, January.

¹⁰ The International Red Cross and Red Crescent Societies (2009) ‘‘Policy on Migration’’, *The Magazine of the Inter-national Red Cross and Red Crescent Movement*, Vol. 1, Issue 3,

as nationalism at that time and also moved from one place to another for trade purposes.

During this colonial and post-colonial period, a policy to sponsor Nigerians abroad was also introduced so as to build up leaders who will lead and develop the nation-state since the British (Europeans) opened the eyes of Africans to western education^{11, 12} reveals that Africa in which Nigeria belongs has the largest source of migrants. However, the economic and political activities in Nigeria in the 1960s made Nigeria officially a destination nation state and a source nation state.

International Migration Pathways

International Migration has various pathways which are described as origin and destination which is also known as sending and receiving states. These pathways are the South-South routes (such as regional integration and nation-states with same developing status), the South-North routes (from the developing nation-states to the developed countries), the North-South routes (from the developed countries to the developing nation-states) and the North-North routes (which involves the movement of individuals from a developed country to also a developed country of the same ranking status). But for this paper and relating to Nigeria precisely South-South region and South-North regions are highly concentrated on.

South-South pathways has to do with regional migration, which in this paper is referred to the West-African states in which most literatures referred to as International Migration among the West African neighbouring ECOWAS communities. Literatures show that Nigeria's International Migration activities is more of the South-South migration which means that Nigerians' engagement in International Migration is higher in percentage within the African region rather than the alarming South-North International Migration which is assumed to be more

¹¹ Akinrinade Sola and Olukoya Ogen, (2011). "Historicising the Nigerian Diaspora: Nigerian Migrants and Homeland Relations", *Turkish Journal of Politics*, Vol. 2, No. 2, pp. 45-72, Winter

¹² West and Central Africa (2011) "Guide to Enhancing Migration Data", *International Organization for Migration (IOM)*.

pronounced although they are also popularly engaged in (South-North migration) by various individuals from different walks of lives.¹³

The Nigerian State Borders and International Migration

Nigeria is popularly known as a nation state that has engaged in transit and destination, that is, international migration (emigration and immigration) over the years due to the influx of migrants (legal and illegal immigrants) most especially from the neighbouring West African countries (destination) likewise also Nigerian migrants (emigrants to the neighbouring West African nation-states and other nation-states in the region and in the international system (Northern developed world) in search for better opportunities among other reasons (transit). The main responsibility of the Nigerian Immigration Service (NIS) is to monitor the movement of individuals taking the exit door and those coming into the nation state. For example, it is generally known that emigration of skilled workers (brain drain) makes the labour force scarce and due to scarcity makes the skill price high and the productivity of the nation state low, more so affecting its aggregate income.¹⁴

There is a connection between International Migration and development.¹⁵ There are millions of highly skilled Nigerians in the Diaspora such as the United States of America, United Kingdom, Italy, Canada, Spain, France, Germany to mention a few that are well established in skills and ideas for a nation state's development. As stated previously, there is an alarming increase of Nigerians migrating to Europe, North America, Middle East and South Africa to mention a few. Anofi¹⁶ also affirms that efficient and able Nigerian professionals in various fields engage in immigration due to the dissatisfaction in the home nation state (Nigeria) which is majorly due to lack of opportunities. This has led to shortage of highly skilled professionals, leading to brain and skill drain in the nation-state and in another way to the tarnishing of the nation-state's image due to the

¹³ International Organization for Migration (IOM), 'Migration and Families', *International Dialogue on Migration Publication*, Vol. 1, No. 24, (2015).

¹⁴ Rosenzweig Mark, 'Consequences of Migration for Developing Countries', *United Nations Expert Group Meeting on International Migration and Development*, United Nations Secretariat, New York, 6-8 July, (2005).

¹⁵ Fayomi et al. (2011) Ibid.

¹⁶ Anofi Daniel (2009) 'Nigerians Awaits Deportation 52 on death row - Federal Government. *The Nation Newspaper*, Nigerian institute of International Affairs, 3,719.

dependence of Nigerian migrants engaging in illegal activities to get out of Nigeria at all cost.¹⁷

According to Lawal¹⁸, it is revealed that in the Northern part of Nigeria illegal aliens are often recruited to vote by unethical political parties taking advantage of the weak Nigerian border from Niger Republic and Chad. Often undocumented immigrants are used by unethical politicians as machineries to carry out crimes, posing threats of insecurity in the nation state. According to the literature, 40 Beninese were found with the nation-state's Permanent Voter's Card (PVC). This places a question on how these Beninese entered the nation-state unnoticed.

Reasonable number of migrants from Niger Republic, Mali and Chad have taken to begging in virtually all parts of the nation state as they have little or no skill to be employed also due to their inability to secure a good residential accommodation, these large numbers of illegal/undocumented migrants reside in slums and shanty residential areas.

More so, the impact on the influx of undocumented immigrants in Nigeria can be an additional pressure on the social amenities provided by the nation state to her citizens. The nation state, who is still suffering from lack of proper economic planning herself may find it as a burden and can also render the government's efforts ineffective.

One of the contemporary issues in the globe including Nigeria at present is the challenge that comes with international migration. The Nigerian Immigration Service (NIS), which has been given the legal responsibility on International Migration matters in the nation state in various ways have had more failures than its achievements in delivering of her duties.

The Nigerian Immigration Service (NIS) failures can be traced from the following factors which are: lack of fund, lack of infrastructures and technology, ineffective leadership, corruption, lack of sincerity of the officers, to mention a few.¹⁹

¹⁷ Anofi (2009) (Ibid.)

¹⁸ Lawal Sunday (2010) "Beninese arrested with PVCs in Lagos", *Today Newspapers*. Retrieved from <https://www.today.com>

¹⁹ Kings (as cited in Debby Evans) 2014, "The Nigerian Immigration Service", *The Gatekeeper*, 1(1), pp. 11,.

Though, the Nigerian Immigration Service (NIS) has revealed some improvement over the years however, there is still much work to be done. They still lack some modern technologies to monitor the movements of individuals across the borders, there is also poor record keeping and collection of information on migrants.

The Nigerian Immigration Service (NIS) has not also really built up a plan or strategy that will enable Nigerians benefit from international migration most especially through immigration of quality skills and investors. However, the security status of the nation state has to be dealt with. These two terms: socio-economic development and security as relating to the functions and responsibility of the Nigerian Immigration Service (NIS) can be achieved if only the agency (Nigerian Immigration Service) can be dedicated and diligent in her duties.

Concept of Socio-Economic Development

The socio-economic status of Nigeria is faulty with many issues which can be related to the push factors. The deficiencies of various institutions in the Nigerian state are responsible for the unworthy socio-economic status. Literature reveals that about 150,000 skilled Nigerians in various important fields which can bring proper innovations such as Nurses, Midwives, Doctors, Engineers etc., left the country. Obviously their decisions were traced to the ‘Pull’ factors from their various destinations and ‘Push’ factors in Nigeria. How has the Nigerian Immigration Service (NIS) raised alarm to the present administration on the importance of skilled individuals and the reasonable number of skilled individuals leaving the Nigerian state?

Socio-economic development in any state refers to meaningful improvement in the state’s economy and most especially the comfortable standard of living of the citizens. Every administration in a nation state holds a duty of bringing socio-economic development in a nation state; citizens expect to see progress as an administration transfer to another.

Every developed country’s government speaks 95% of the mind of her citizens, this is evidenced through the socio-economic development strategies of the country. For a nation state to be respected in the

international system there must be high level of socio-economic development in the state. This development involves the effectiveness of all sectors that makes up the government.²⁰

Uju and Joy²¹ reveal that socio-economic development is necessary for the health and safety of a nation state. Sen²² also contributes to the validity of the study revealing socio-economic development to be a positive process and progress that initiates sustainable development in the lives of her beneficiaries which are obviously the lives of her citizens.

Fayomi²³ opined that development refers to reasonable increase which is gradually physical and obviously seen. This leads us to say that development is a process. Development is not static as whatever it is either goes forward or decline. Development also is synonymous to progress in a nation-state's economy. It has to do with positive change as it is maintained continuous progress.²⁴

7. Theoretical Review

This study is anchored on the "Pull" and "Push" Migration theory and the Organizational Learning theory. According to Haas and Donald²⁵, the forceful desire for opportunities and improvement of one's life most times influences and motivates international migration. Generally, when the "Pull" factors at the destination nation-state overweighs the "Push" factors at the individual's nation state of origin, International Migration often takes place. The "push" and "pull" factors according to Haas and

²⁰ Patrick Stephen (2014). "Improving Public Organization through Self-Assessment", *Journal of Business Management*, Available from <https://ec.iposa/Retrieved:June/20/2022>.

²¹ Joy Okorie and Uju Nwokoye (2021) "African Migration: Trends, Patterns and Drivers", *International Journal of Business*, Vol. 1, No. 3.

²² Sen Dixon, "Sen's Capability Approach in the context of International Migration" (2017), edited by Marta Eichsteler *Journal of Management*, Vol.1, Vol. 3.

²³ Fayomi et al., (2015). (Ibid.)

²⁴ Brobbey Patrick (2010). "Theories of Social Development", *Academia.edu*. Retrieved from <https://www.academia.edu/466731/THE-CONCEPT-OF-DEVELOPMENT->

²⁵ Haas David and Donald Rees (2008). Migration and Development: A theoretical perspective", *International Migration Institute Journal (IMI)*. Retrieved from <https://www.imi.ox.ac.uk/publications/wp-09-08>.

Donald²⁶ is referred to as Negative (Push factors) and Positive (Pull factors). These “Push” and “Pull” factors (determinants of migration) by most scholars are demographic, economic, environmental, and social in nature. The Organizational Learning theory was formulated by Senge in 1990.²⁷ The theory reveals that organizational learning takes place where new and expansive patterns of thinking are nurtured, where people continually expand their capacity to create the results they truly desire and where people are continually learning how to manage and innovate ideas in an organization. Organizational learning theory basically is all about continual improvement in an organization. For this study, organizational learning theory as a model can help in enhancing the performance of the Nigerian Immigration Service (NIS). This means Organizational Learning theory brings about improvement and development by correcting the mistakes previously made. The primary interest of the theory (Organizational learning theory) is the organization which in this case is the Nigerian Immigration Service (NIS). This theory also focuses on how to increase efficiency, effectiveness and performance. Organizational learning theory broadens knowledge in an organization and the world generally for creative ideas as well as possibilities for improvement and transformation.

Empirical Review

Sanderson and Kentor²⁸ examined the relationship between globalization, development and international migration from 1970 to 2000 in less developed countries, using cross national empirical analysis. The finding shows a significant non-linear relationship between net emigration and economic development. Furthermore, Ramirez and Gonzalez²⁹ investigate the contribution of migration to economic growth in Spain from 2009 to

²⁶ Haas and Donald (2008). (Ibid.)

²⁷ Senge Peter M (1990). *The Fifth Discipline: The Art and Practice of the Learning Organization*, New NY: Doubleday Currency Publication, ISBN NO 13:978-0385260954.

²⁸ Sanderson Mathew and Kentor Jeffrey (2009) “Foreign Direct Investment and International Migration: A Cross-National Analysis of Less-Developed Countries, 1985-2000”, *International Journal of Sociology*, Vol. 3, No. 5,

²⁹ Ramirez Castillo and Sanchez Gonzalez (2017). “Contribution of Economic Migration to Spain: A time-series study between 2009-2016”, *Institute of Geography, Department of Geography*, Mexico City University, Vol 7, No. 2.

2015 using input-output analysis. The result indicated a positive relationship between migration and economic growth during the reviewed period.

Akanji³⁰ examined the impact of migration on economic growth and human development in sub-Saharan African countries from 1999 to 2013. This study used two-stage least square estimation technique for the analysis. The result shows significant negative relationship between migration and economic growth. Furthermore, Obomeghie, Abubakar and Abdulrahman³¹ investigated the impact of net migration on total fertility rate in sub-Saharan African countries, with empirical evidence from Nigeria for the period of 2000 to 2016, using descriptive statistics method. It was found that net migration impact positively in Nigeria.

8. Methodology

This paper made use of the ex-post facto research design. The population of this study is the Nigerian Immigration Service (NIS) as a body and the migrants. However, since it will be cumbersome to study the entire population within the limited time for this study the target population comprises the Nigerian Immigration Service officials at Alagbon Secretariat, Passport Office Alagbon and Passport Office at FESTAC town, Lagos totalling 1,000 officers.

The simple random sampling technique which adopted 10% of the total population was used given 100 officers as actual population for the study. The researcher employed both qualitative and quantitative data while the data was analysed using Chi-Square statistical calculations.

9. Data Presentation and Analysis

Answers to Research Questions

Research Question 1: Is the Nigerian Immigration Service (NIS) very special and relevant to Nigeria?

Table 1

	Frequency	Percentage (%)
Yes	96	96.0

³⁰ Akanji (2012) (Ibid.)

³¹ Obomeghie et al. (2018) "The determinants of International Migration", *International Migration Institute*, University of Oxford, Paper 47, Vol 1, No.16.

No	4	4.0
Total	100	100

The result of table 1 indicates that 96 (96.0%) of the participants agree to the notion that the Nigerian Immigration Service (NIS) is very special and relevant to the Nigerian state while 4 (4.0%) do not subscribe to this idea. This however shows that many of the respondents understand the relevancy and specialty of the roles played by Nigerian Immigration Service (NIS) in the nation-state.

Research Question Two (2): Do the Nigerian Immigration Service (NIS) responsibilities play an important role in the security of the nation state?

Table 2

	Frequency	Percentage (%)
Yes	99	99.0
No	1	1.0
Total	100	100

Table 2 shows that 99 (99.0%) of the survey agree to the statement that the Nigerian Immigration Service (NIS) responsibilities play an important role in the security of the nation state though not supported by 1 (1.0%) person.

Research Question Three (3): Is Nigeria Immigration Service (NIS) negligent of **their major duties in the socio-economic development of the Nigerian state?**

Table 3

	Frequency	Percentage (%)
Yes	96	96.0
No	4	4.0
Total	100	100

Evidence from table 3 shows that majority of the respondents which are 96 (96.0%) are of the opinion that the Nigeria borders are porous in nature due to the negligence of Nigeria Immigration Service (NIS) in executing their duties while 4 (4.0%) disagreed to the opinion.

Research Question Four (4): Are there some challenges facing the Nigerian Immigration Service (NIS) in the discharge of their duties?

Table 4

	Frequency	Percentage (%)
--	------------------	-----------------------

Yes	94	94.0
No	6	6.0
Total	100	100

The result in table 4 shows evidence that majority of the participants which are 94 (94.0%) agreed that there are challenges facing Nigeria Immigration Service (NIS) but rejected by the remaining 6 (6.0%).

Test of Hypotheses

Hypothesis 1

Ho: There is no significant relationship between the main roles and relevance perception of Nigerian Immigration Service (NIS).

H1: There is a significant relationship between the main roles and relevance perception of Nigerian Immigration Service (NIS)

Table 5: Correlations

Issuance of travel documents	Correlation Coefficients	1.00	.862	.862	.862	.219
	Sig. (2-tailed)	0	.000	.000	.000	.029
	N	100	100	100	100	100
Implementation of immigration policies most especially Visa policies	Correlation Coefficient	.862	1.00	1.00	1.00	-.036
	Sig. (2-tailed)	.000	0	0	0	.723
	N	100	100	100	100	100
Gatekeepers of the nation state	Correlation Coefficient	.862	1.00	1.00	1.00	-.036
	Sig. (2-tailed)	.000	0	0	0	.723
	N	100	100	100	100	100
All activities relating to movement of persons (Emigrants and Immigrants)	Correlation Coefficient	.862	1.00	1.00	1.00	-.036
	Sig. (2-tailed)	.000	0	0	0	.723

	N	100	100	100	100	100
Is the Nigerian Immigration Service (NIS) very special and relevant to Nigeria”	Correlation Coefficient	.219	-.036	-.036	-.036	1.000
	Sig. (2-tailed)	.029	.723	.723	.723	
	N	100	100	100	100	100

xxx. Correlation is significant at the 0.01 level (2-tailed); x. Correlation is significant at the 0.05 level (2-tailed)

The result of the above table shows that the Nigerian Immigration Service (NIS) roles are closely linked with significant positive influence on each other at 5 percent level. However, it is observed from this study that the participant's perception on issuance of travel documents ($r=0.219$, $n=100$, $p<0.05$) reveals significant positive relationship with the respondent's perception of how special/relevant the Nigerian Immigration Service (NIS) is to the Nigerian state.

Hypothesis II

Ho: The Nigerian Immigration Service (NIS) responsibilities play no important role in security of the nation state.

H1: The Nigerian Immigration Service (NIS) responsibilities play an important role in security of the nation state.

Table 6: Do Nigerian Immigration Service (NIS) play important role in the security of the nation-state

	Observed N	Expected N	Residual	X2	DF	P- value
Yes	99	50.0	49.0	96.040	1	0.000
No	1	50.0	-49.0			
Total	100					

A close observation of the completed value of chi-square (table 6) for degrees of freedom (1) using two tail test ($X^2_{cal}=96.040$) shows that chi-square completed was statistically significant at 1 percent level of significance. From the decision rule this result is further confirmed with the chi-squared calculated (96.040) greater than chi-square tabulated (2.706) at 1 percent level of significance.

The above result therefore accepts the alternative hypothesis that Nigerian Immigration Service (NIS) play an important role in the security of the nation state while rejecting the null hypothesis that the Nigerian Immigration Service (NIS) responsibilities play no important role in security of the nation state.

Hypothesis III

Ho: There are no significant challenges facing the Nigerian Immigration Service (NIS).

H1: There are significant challenges facing the Nigerian Immigration Service (NIS).

Table 7: There are challenges facing Nigeria Immigration Service (NIS)

	Observed N	Expected N	Residual	X2	DF	P- value
Yes	94	50.0	44.0	77.440	1	0.000
No	6	50.0	-44.0			
Total	100					

Analysis of the result of the table 4.2.3 shows the chi-square tests statistic (77.440), Asymp. Sig. =0.000; > chi-square calculated (2.706). Hence the present study proceeds to reject the null hypothesis that there is no significant challenge facing the Nigerian Immigration Service (NIS) in Nigeria and accepts the hypothesis that there exist significant challenges facing the Nigerian Immigration Service (NIS) in Nigeria.

10. Conclusions and Recommendations

Every Nigerian citizen has a part to play in the effective performance of the Nigerian Immigration Service (NIS) as regards the socio-economic development of the Nigerian state. Nigerians should be security conscious and aware of foreign individuals living around them who might have some questionable characters. If there is any one witnessed, they should be reported to the right authorities. Nigerian citizens should also frown at hosting regular migrants as it is against the nation state's immigration laws. Every Nigerian citizen should also take the responsibility of educating families and friends (most especially emigrants) on the importance of investing in Nigeria most importantly highly skilled individuals.

The Nigerian government has a big role to play in the success of Nigerian Immigration Service (NIS). These roles are as follows: providing infrastructures and releasing funds to enable the agency (Nigerian Immigration Service) carry out their legally assigned duties efficiently without being truncated by loss of resources as this study reveals that the Nigerian Immigration Service (NIS) have various challenges affecting their performance.

Bibliography

- Akanji, Olajide Oke (2012) ‘‘Migration, Conflicts and Statehood Problem in Nigeria: The Self-determination Issue.’’ *Journal of Nigerian Studies*, 61-75.
- Armstrong, Michael (2006). *Handbook of Human Resources Management Practice*, 13th ed., London, CogaPage, available from <https://otgo.tehran/0/pdf/armstrong'shandbookhumanresourcesmanagementpractice-1pdf>
- Ashira, Menashe-Oren (2016) ‘‘Urbanization Is No Longer Driven by Migration in Low- and Medium- Income Countries (1985-2015).’’ *Open Access Journal*, Vol 1, No 4. Available at <https://doi.org/10.1111/padr.12407> .
- Benson Adah and Abasilin U. David (2015). *Development and its Challenges in Nigeria: A Theoretical Discourse*, (Lagos: Macmillan Publishers, 27.
- Cecilia Tacoli and David Okali (2001) ‘‘The links between Migration, Globalization and Sustainable Development.’’ *International Institute*

for Environment and Development, World Summit on Sustainable Development.

- Fayomi et al. (2015). "The impacts of remittances on Nigeria's economic growth: A case study on Nigerian diasporas in Ghana", *Journal of South African Business Research*, Vol. 2, No. 5.
- John Lawal and Ademola Oluwatoyin (2015) "National development in Nigeria: Issues, Challenges and Prospects." *Journal of Public Administration and Policy Research*, 3(9).
- Iheanacho Ngozi N and Ughaerumba Chidiebere A (2015) "Post-Migration Structures and Pentecostal Churches' Social Services in Nigeria", *American Research Institute for Policy Development*, Vol 4, No. 2, pp.63-71.
- International Organization for Migration (IOM) 2015. "Migration and Families." *International Dialogue on Migration Publication*, Vol. 1, No. 24.
- Mark, Rosenbwerg (2005) "Consequences of Migration in Developing Countries." *United Nations Expert Group Meeting on International Migration and Development*, United Nations Secretariat, New York, 5-8.
- Musa, Abraham (2015) "International Migration and the Disasters of Internalization: An Assessment of Nigeria's Foreign Policy in Global Age." *Global Journal of Human Resources Management*, Vol 3, No 3, pp. 58-73.
- Ngozi Iheanacho and Chidiebere Ughaerumba (2015) "Post-Migration Structures and Pentecostal Churches: Social Services in Nigeria." *American Research Institute for Policy Development*, Vol. 4, No. 2, pp. 63-71;
- Uzoma Nwaogwugwu and Ohazurike Eudora (2015) "Political leadership and security management in Nigeria: A study of Boko Haram insurgency in Nigeria." *Journal of Humanities and Social Sciences*, Vol. 1, No. 4; pp. 114-132.
- Okechukwu Eme and Tony Onyishi (2014) "Boko-haram and Security Challenge in Nigeria." *Kuwait Chapter of Arabian Journal of Business and Management Review*, Vol. 3, No. 11; pp. 177-193.
- Okeoghene, Ebri (2017) "International Migration and the study of Socio-economic Development in Nigeria: The Role of Nigerian Immigration

- Service.” Unpublished Master degree in International Relations awarded by Covenant University, Ota, Ogun State, Nigeria.
- Oluyemi Fayomi, Dominic Azuh and Ladi Ajayi (2015) “The impacts of remittances on Nigeria’s economic growth: A case study on Nigerian diasporas in Ghana.” *Journal of South African Business Research*, 2015. Available from <https://www.bimopublishers.com/journals/SABR/jsabr.html;doi:10.5171>.
- Sola Akinrinade and Olukoya Ogen (2009) “Historicising the Nigerian Diaspora: Nigerian Migrants and Homeland Relations.” *Turkish Journal of Politics*, Vol. 2, No. 2, Winter 2011.
- Tacoli Cecilia and Okali David (2001) “The Links Between Migration, Globalization and Sustainable Development”, *International Institute for Environment and Development*, World Summit on Sustainable Development.
- The International Red Cross and Red Crescent Societies. “Policy on Migration.” *The Magazine of International Red Cross and Red Crescent Movement*, Vol. 1, Issues 3, November.
- World Health Organization (WHO) 2003. “International Migration, Health and Human Rights.” *Health & Human Rights Publication Series*, Issue No. 4.

Developing Entrepreneurship Mindset to Maximise the Opportunities of the 21st Century

Ali J. Onoja^{1*}, Sanni O. Felix², FAVOR E. Onoja¹, Kelvin S. Obaka³
Ayorinde S. Lemah¹ and Sheila I. Onoja¹

¹Research and Coordination Department, Ubelle Nigeria Limited, Abuja, Nigeria

²Department of West African Breast Cancer Study, LASUTH, Ikeja, Lagos State, Nigeria

³University of Abuja Centre for Distance Learning and Continuing Education, Abuja
onojaali@yahoo.com, 08037879939

***Corresponding Author: Dr. Ali Johnson Onoja, onojaali@yahoo.com**

Abstract

Entrepreneurial attributes of attitude, mindset, and behaviour cannot be separated from the process's intricacy and repetition, nor the inseparability of creation and innovation. This study aimed to discuss how fostering an entrepreneurial mindset might help people take advantage of the opportunities of the twenty-first Century. The method used for this study was a descriptive approach based on library research and literature analysis. The findings demonstrated that successful business owners must possess a growth mindset, a bias towards action, resilience, flexibility, creativity, and a willingness to take calculated risks. The findings also revealed that individuals, educational institutions, and governments must prioritise cultivating an entrepreneurial attitude among their citizens to foster innovation, spur economic growth, and generate new employment opportunities. The findings also revealed that entrepreneurship education programs must be encouraged as they equip students with the necessary skills to think like entrepreneurs and provide practical experience to apply their learnings in real-world scenarios. In conclusion, by embracing an entrepreneurial mindset, individuals can navigate the ever-changing business landscape with agility and maximise the opportunities presented by the twenty-first Century. The study recommends that entrepreneurs stay abreast of emerging trends and technologies and be open to collaboration and partnerships with other businesses and organisations.

Keywords: Entrepreneurship mindset, Resilience, Adaptability, Creativity, Risk-taking

1. Introduction

Mindset is the customary or usual mental attitude that governs comprehending and responding to situations¹. An entrepreneurial mindset, according to Täks, Tynjälä, and Kukemelk², is associated with abilities such as opportunity recognition, creative problem-solving, strategic thinking, networking, continuous learning, the ability to bounce back from setbacks, and the confidence to make decisions in the face of ambiguity.¹ The capacity to think like an entrepreneur is a universal talent that may motivate people, particularly young people, to take risks and reach their full potential in many areas of life. More than simply management and commercial knowledge are required for a successful entrepreneur.³ Entrepreneurial attributes of attitude, mindset, and behaviour cannot be separated from the process's intricacy and repetition, nor the inseparability of creation and innovation. These characteristics determine an entrepreneur's capacity to adapt to and succeed in a dynamic environment. Applying entrepreneurial resources and techniques assists in developing human potential. Entrepreneurship enhances marketing abilities, company outcomes, and fresh ideas. However, cultivating a mentality favourable to entrepreneurship-based culture and creative business will make the learning experience much more productive.³ It is in everyone's best interests, from the government to the financial sector to the general public, for entrepreneurs to flourish and for the number of businesses that employ entrepreneurs to increase⁴. Five variables contribute to developing an entrepreneurial mindset: Metacognition knowledge; Metacognition experience; Metacognition selection; and monitoring are all aspects of goal orientation⁵.

¹ Konovalenko Slettli, (2019) "Developing Entrepreneurial Mindset for Transformational Entrepreneurship: The Case of Nordic Transformative Learning Circles."

² Täks, Marge, Päivi Tynjälä, and Hasso Kukemelk. (2016) "Engineering Students' Conceptions of Entrepreneurial Learning as Part of Their Education." *European Journal of Engineering Education* 41, no. 1: 53–69.
<https://doi.org/10.1080/03043797.2015.1012708>.

³ Putriana Dewi, Nurfajar, and Dardiri, (2018) "Creating Entrepreneurship Mindset Based on Culture and Creative Industry in Challenges of The 21st Century Vocational Education."

⁴ Njeru, P.W. (2012). "Effect of Entrepreneurial Mindset on the Performance of Manufacturing Business in Nairobi." Unpublished PhD thesis, JKUAT

⁵ Asenge, Diaka, and Soom (2018) "Entrepreneurial Mindset and Performance of Small and Medium Scale Enterprises in Makurdi Metropolis, Benue State-Nigeria."

An entrepreneur's attitude may be shown in characteristics such as uniqueness, inventiveness, business alertness, and readiness to take calculated risks. Entrepreneurial innovativeness is preparedness and propensity to execute essential innovation in organisational behaviour, strategy, activity, and process. A track record of successful innovation typically results in significant competitive advantages and increased enterprise value for a corporation.⁵ Entrepreneurs may present their items in three distinct ways due to their creativity. The first is knowledge, which refers to an individual's shop of information that they bring to bear on an imaginative endeavour; the second is creative thinking, which reveals an individual's approach to problems and is influenced by their personality and way of thinking; and the third is motivation, which is based on an innate desire to excel. A successful company plan requires reacting swiftly to changing conditions.

There are several related theories as regards developing an entrepreneurial mindset. These may include intelligence theory, self-determination theory, self-efficacy theory, and goal-setting theory. The intelligence theory⁶ is more than simply fundamental cognitive abilities; it also includes things like creativity, adaptability, and emotional intelligence⁷. This theory is particularly relevant to this study as it emphasises the diverse nature of entrepreneurial mindsets and the need to build different intelligences to tackle the challenges of the twenty-first Century. Another relevant theory is self-determination theory⁸. This theory emphasises the significance of inner desire, autonomy, and confidence in one's talents as drivers of entrepreneurial efforts⁹. By explaining the conditions under which intrinsic motivation and self-determination thrive, we may design

6 Sternberg, R. J., & Grigorenko, E. L. (1997). The cognitive costs of physical and mental ill health: Applying the psychology of the developed world to the problems of the developing world. *Eye on Psi Chi*, 2(1), 20–27.

7 Gardner, H. (2012). "The Theory of Multiple Intelligences." *Early Professional Development for Teachers*, 133

8 Deci E.L., & Ryan R.M. (1985). *Intrinsic motivation and self-determination in human behaviour*. New York: Plenum.

9 Ntoumanis, Nikos, Jemma Edmunds, and Joan L. Duda (2009). "Understanding the Coping Process from a Self-Determination Theory Perspective." *British Journal of Health Psychology* 14, no. 2 (2009): 249–60. <https://doi.org/10.1348/135910708X349352>

strategies to boost these attributes in individuals, hence an entrepreneurial spirit.

Furthermore, according to self-efficacy theory¹⁰, people's belief in their abilities significantly influences their behaviours and decisions. A person's feeling of self-efficacy strongly influences their belief in their talents to succeed in entrepreneurial efforts. Interventions to develop entrepreneurial attitudes must start with a solid grasp of self-efficacy mechanisms¹¹. At the same time, the goal-setting theory advocated by Locke and Latham¹² contends that setting realistic and demanding goals can promote motivation and performance. Individuals may take advantage of the opportunities presented by the twenty-first Century if they develop an entrepreneurial mindset and participate in goal-directed conduct.

Staying ahead of the competition in a constantly changing industry is critical. The extent to which an individual exhibits these three traits characterise an entrepreneur's entrepreneurial mentality and, by extension, how an individual contributes to a firm's success or failure¹³. Strategic entrepreneurs are willing to take chances. This is because how business owners analyse and respond to risks is critical to their organisation's long-term health and success.⁵ Hence, this study aimed to look at how fostering an entrepreneurial mindset might help people take advantage of the opportunities of the twenty-first Century; By discussing theoretical underpinnings and empirical research that underpin entrepreneurial mindsets, as well as techniques for cultivating these mindsets to achieve the prospects of the twenty-first Century fully. Also, by investigating concepts that support the idea of an entrepreneurial mentality, this study uncovers helpful insights that will guide efforts to stimulate entrepreneurship in individuals and communities.

2. Methodology

10 Bandura, A., Adams, N.E. (1977). Analysis of self-efficacy theory of behavioral change. *Cogn Ther Res* 1, 287–310. <https://doi.org/10.1007/BF01663995>

¹¹ Kardong-Edgren, “Bandura’s Self-Efficacy Theory... Something Is Missing.”

¹² Locke, Edwin A., and Gary P. Latham. (2006). “New Directions in Goal-Setting Theory.” *Current Directions in Psychological Science* 15, no. 5 : 265–68. <https://doi.org/10.1111/j.1467-8721.2006.00449.x>.

¹³Lackéus, Martin. (2016). "A 'Value' and 'Economics' Grounded Analysis of Six Value Creation Based Entrepreneurial Education Initiatives." ECSB Entrepreneurship Education Conference, no. May: 11–13. www.entrepreneur.chalmers.se.

The method used for this study was a descriptive approach based on library research and literature analysis. The data retrieval method consisted of three steps: first, concept generation; second, idea organisation; and third, idea reinforcement. Without doing any field study, all of the supporting data in this magazine were collected from secondary sources such as scientific journals and books. remarks.

3. Findings

Entrepreneur and Entrepreneurship

In the face of market instability, scarcity, and necessity, an entrepreneur produces something new or improves on something currently on the market to profit. Entrepreneurs have a leg up on the competition because they have superior knowledge or a fresh perspective on an issue that allows them to make more educated decisions ¹⁴. Entrepreneurship involves pursuing a specific goal within a set timeframe, assuming one possesses the requisite knowledge, skills, and motivation. Translating one's ideas into action requires the capacity to plan and execute efforts towards achieving defined objectives and a healthy dose of creativity, innovation, and risk-taking ¹⁵.

Entrepreneurs use their knowledge of the resources at their disposal to develop those resources in the future to achieve personal and communal success, i.e., social. Becoming an entrepreneur takes more than merely following these steps ¹⁶. Entrepreneurs use their initiative, creativity, and talent in the art of invention and product development, as well as their financial resources and business expertise, to bring their ideas to life¹².

Entrepreneurship is a person's ability and readiness to originate a new investment concept, build a firm, and effectively manage it for social

¹⁴ Kritikos, Alexander (2014). "Entrepreneurs and Their Impact on Jobs and Economic Growth." IZA World of Labor, no. May: 1–10. <https://doi.org/10.15185/izawol.8>.

¹⁵ Cooney, Thomas M. (2012) "Entrepreneurship Skills for Growth-Orientated Businesses." Danish Business Authority, no. November: 23. http://www.oecd.org/cfe/leed/Cooney_entrepreneurship_skills_HGF.pdf.

¹⁶ Rahman, M. M, Babatunji A., and Mohammad J. U (2017) "Entrepreneurship Mindset for Students' Entrepreneurship Build- Advanced Scientific Research and Innovation Entrepreneurship Mindset for Students' Entrepreneurship Build-Up: A Review Paper." International Journal of Multidisciplinary Advanced Scientific Research and Innovation (Ijmasri) 1, no. 1: 26–34.

benefit or profit.¹⁷ Entrepreneurship is launching a new business line amid uncertainty in a fast-changing and internationally linked sociotechnical environment. On the other hand, it claims that because entrepreneurship covers several phases of a person's life, it is the ideal way to learn and integrate real-world experience with classroom education¹⁸. In addition to being regarded as the fourth component of production, increasing time and resources are devoted to entrepreneurship research. In light of this new data, experts have labelled it the world's most convincing economic dynamism. As a result, becoming an entrepreneur entails spotting business opportunities in light of one's current circumstances and creatively connecting one's diverse resources to meet a specific need in exchange for financial benefit. As a concept, entrepreneurship comprises seeking and grabbing opportunities, gathering sufficient resources, and developing and operating a profitable firm¹⁹. Entrepreneurs' success is influenced by their ability to operate a firm, grow as an individual, and grasp new technology¹³.

Characteristics of an Entrepreneur

Entrepreneurs are often considered cheerful, but they also identify circumstances impairing their enjoyment²⁰. Entrepreneurs frequently take a fresh approach to company practices by offering inventive new goods or improving current ones. Entrepreneurs ignore their lack of cash and make do with what they have. They can do so by displaying resource acquisition and usage ingenuity, tenacity in adversity, risk management abilities, and

¹⁷ Emmanuel, C.L. (2010) "Entrepreneurship: A Conceptual Approach, Lagos:" Concept Publications.

¹⁸ Wei, Xingjian, Xiaolang Liu, and Jian Sha (2019). "How Does the Entrepreneurship Education Influence the Students' Innovation? Testing on the Multiple Mediation Model." *Frontiers in Psychology* 10, no. JULY. <https://doi.org/10.3389/fpsyg.2019.01557>.

¹⁹ Manolova, Tatiana S. et al (2017). "Entrepreneurial Ecosystems and Growth of Women's Entrepreneurship: A Comparative Analysis." *Entrepreneurial Ecosystems and Growth of Women's Entrepreneurship: A Comparative Analysis*, 2017, 1–302. <https://doi.org/10.4337/9781785364624>.

²⁰ Lanivich et al. (2021). "RICH with Well-Being: An Entrepreneurial Mindset for Thriving in Early-Stage Entrepreneurship." *Journal of Business Research* 124, no. October (2021): 571–80. <https://doi.org/10.1016/j.jbusres.2020.10.036>

a commitment to creating unique ideas that may result in a substantial change²¹.

Many characteristics that distinguish entrepreneurs have been identified, including openness to new ideas, increased creativity, goal-setting, business development, and success. Also, company entrepreneurs are less neurotic and more amiable²². According to Fisher, Stevenson and Burnell (2020), entrepreneurs are at ease with ambiguity and use it to their advantage by seizing opportunities as they emerge. Jean Baptiste's efforts supported this attribute even further by characterising an entrepreneur as "a person who can accomplish more with fewer resources, as well as someone who can do new things and achieve things in various ways"²³.

According to recent research, successful company owners have specific qualities and talents that set them apart from the rest of the population.²⁴ When these talents and attributes are combined with a feeling of self-efficacy, the consequence is a motivation to achieve.¹⁹

Entrepreneurial mindset

A person's frame of mind may significantly impact whether or not they succeed as an entrepreneur. Planning entails taking stock of the world and its opportunities, calculating how one's activities could promote the expansion and improvement of the economy and society, and, lastly, setting goals and putting plans into action. The ability to rapidly recognize, act, and mobilize even under uncertain conditions is what is known as an entrepreneurial mentality. An entrepreneurial mindset values growth and encourages flexibility, creativity, and a constant willingness to

²¹ Kuratko, Donald F., Jeffrey S. Hornsby, and Jeffrey G. Covin (2014). "Diagnosing a Firm's Internal Environment for Corporate Entrepreneurship." *Business Horizons* 57, no. 1: 37–47. <https://doi.org/10.1016/j.bushor.2013.08.009>.

²² Davis et al. (2017). "Funders' Positive Affective Reactions to Entrepreneurs' Crowdfunding Pitches: The Influence of Perceived Product Creativity and Entrepreneurial Passion." *Journal of Business Venturing* 32, no. 1 (2017): 90–106. <https://doi.org/10.1016/j.jbusvent.2016.10.006>.

²³ Kouakou, Konan Kan Elvis, Cai Li, Isaac Gumah Akolgo, and Alida Magakam Tchamekwen (2019). "Evolution View of Entrepreneurial Mindset Theory." *International Journal of Business and Social Science* 10, no. 6: 116–29. <https://doi.org/10.30845/ijbss.v10n6p13>.

²⁴ Hayes, David, Zahed Subhan, and Liza Herzog (2020). *Assessing and Understanding Entrepreneurial Profiles of Undergraduate Students: Implications of Heterogeneity for Entrepreneurship Education*. Entrepreneurship Education. Vol. 3. Springer Singapore. <https://doi.org/10.1007/s41959-020-00025-5>.

innovate and pursue new opportunities. The emergence of human cognitive tendencies is replacing the emphasis on unique individual nature founded in learning processes. Haynie et al. expanded the cognitive skills model to include "the process through which entrepreneurs acquire and inform" higher-order cognitive techniques, or metacognition, in contrast to individuals' cognitive skills to find entrepreneurial possibilities. The "model of the entrepreneurial mentality" can help us understand the entrepreneurial mindset by identifying metacognitive processes unique to the entrepreneurial mindset.²⁵

Self-efficacy is a crucial component of the cognitive and metacognitive skills approach to bolstering and successfully using an entrepreneurial mentality²⁶. This complicated psychological and social process has proven benefits for dealing with risk and uncertainty. Self-efficacy is not an innate characteristic of successful business owners but rather a skill that can be learned. In entrepreneurship courses for business and arts, it is widely acknowledged that the focus has shifted from examining qualities and behaviours to understanding cognitive skills and metacognitive processes as crucial factors for achieving success²⁷.

The entrepreneur's empathy, creativity, ingenuity, resourcefulness, and imagination allow him to meet society's fundamental needs in novel ways. Hence, recognising and maximizing opportunities are cornerstones of entrepreneurial behaviour. So, the concept of entrepreneurship may be described using terms like "entrepreneurial spirit" or "entrepreneurial initiative," with the latter referring to an individual's or group's readiness to take calculated risks to develop a successful firm. If this proposal is accepted, several resources must be used and integrated; some are

²⁵ Haynie, J. Michael, Dean Shepherd, Elaine Mosakowski, and P. Christopher Earley. (2010). "A Situated Metacognitive Model of the Entrepreneurial Mindset." *Journal of Business Venturing* 25, no. 2: 217–29. <https://doi.org/10.1016/j.jbusvent.2008.10.001>.

²⁶ Archer, Geoffrey R., Ted Baker, and René Mauer (2009). "Towards an Alternative Theory of Entrepreneurial Success: Integrating Bricolage, Effectuation and Improvisation (Summary)." *Frontiers of Entrepreneurship Research* 29, no. 6: 4. <http://digitalknowledge.babson.edu/fer/vol29/iss6/4/>.

²⁷ Pollard, Vikki, and Emily Wilson (2014). "The 'Entrepreneurial Mindset' in Creative and Performing Arts Higher Education in Australia." *Artivate* 3, no. 1 (2014): 3–22. <https://doi.org/10.1353/artv.2014.0009>.

innovative and creative, adding value to the project. Thus, the "entrepreneurial spirit," also known as the "entrepreneurial mentality," is a resourceful approach to spotting and molding possibilities, followed by adopting activities that drive such chances' growth.

Individuals' capacity to conceive and act entrepreneurially to create value and new employment is crucial to corporate success and improving people's living standards. Proponents of novel ideas may use it to establish inspiring and motivating workplace cultures, highlighting the importance of this factor. It permits acts to create opportunities and denotes a creative and enthusiastic pursuit of such opportunities.

Those who are entrepreneurially minded or who are entrepreneurs themselves see gaps in the market and come up with creative solutions. Individuals need to adopt an entrepreneurial attitude to influence an entrepreneurial process successfully. Despite this, the need for an entrepreneurial attitude is a critical factor in developing small and medium-sized enterprises. Also, to lower the high failure rates of individuals/SMEs, the contemporary business climate requires an entrepreneurial attitude beyond standard management practices. Individuals and entrepreneurs, if they want to be successful in the market and make meaningful contributions to society, must develop "creative mindsets" for innovation.¹³

Theory of Entrepreneurial Mindset

To those not well-versed in entrepreneurship, successful entrepreneurs may seem like a different breed altogether – exceptional individuals possessing extraordinary, almost mystical abilities. They seem to possess innate confidence and a natural inclination for taking creative risks, capable of seeing opportunities and utilising resources in innovative ways. However, digging deeper will reveal the cognitive, motivational, and environmental factors that underlie their behaviour, providing a framework for teaching and developing such thinking abilities²⁸.

²⁸ Yadav, Anshita, and Sanchita Bansal (2021). "Viewing Marketing through Entrepreneurial Mindset: A Systematic Review." *International Journal of Emerging Markets* 16, no. 2 : 133–53. <https://doi.org/10.1108/IJOEM-03-2019-0163>.

After more than a decade of interviewing entrepreneurs and researching cognitive, behavioural, and social psychology studies, a new idea has developed. This theory explains the subtle, underlying factors that drive entrepreneurial behaviour –both inside the individual and in the context – and provides the tools and procedures that allow entrepreneurs to recognise, analyse, and capitalise on opportunities. This behaviour is described by the Entrepreneurial Mindset Hypothesis (EMT) ²⁹. Entrepreneurial Mindset Theory advocates a humanistic vision of entrepreneurship that emphasises ordinary people's ability to overcome hardship, discover solutions to problems, and make a difference in the world. According to the Entrepreneurial Mindset Theory, while not everyone is interested in starting a business, we all have a natural inclination towards innovation and entrepreneurship in the sense that we all want to solve problems, do meaningful work, have control over our daily lives, and reap the benefits of our efforts ³⁰.

Hence, according to EMT, the entrepreneurial spirit is fundamental to the human condition and can be found in everyone on the earth. In contrast to natural features, social, contextual, and situational factors significantly influence an individual's entrepreneurial propensity and capacity to act on that predisposition. According to the Entrepreneurial Mindset Theory, cultivating these innate inclinations is critical for economic success and enhanced mental health and adapting to and living in a turbulent and uncertain environment.²⁵

Theories and Characteristics of the entrepreneurial mindset

There are two self-theories of intelligence based on psychological processes to validate the concept of entrepreneurial mentality.¹³ One kind is the entity theory of intelligence (or "fixed mentality"), while another is the incremental theory of intelligence (growth mindset). Individuals with a "fixed mentality" believe their talents, qualities, and character traits are

²⁹ Jung, Eunju, and Yongjin Lee (2020) "College Students' Entrepreneurial Mindset: Educational Experiences Override Gender and Major." *Sustainability* (Switzerland) 12, no. 19 (2020): 1–28. <https://doi.org/10.3390/su12198272>.

³⁰ Solesvik, Marina Z., Paul Westhead, Harry Matlay, and Vladimir N. Parsyak (2013) "Entrepreneurial Assets and Mindsets: Benefit from University Entrepreneurship Education Investment." *Education + Training* 55: 748–62. <https://doi.org/10.1108/ET-06-2013-0075>.

permanent and unchangeable. However,³¹ people with a fixed mindset prefer low-performance goals because of their low confidence level, which eventually leads to them displaying the low esteemed peculiar pattern of behaviours, thoughts, and feelings in difficult times in support of their argument that one's ability stems from talents rather than their relaxed development of skills through learning, which tends to decline due to drawbacks³².

The growth mentality maintains that one's degree of intelligence can be cultivated and altered by using alternative options or soliciting the assistance of others when faced with barriers and that one's talents and triumphs are tied to learning. As a result, regardless of their degree of confidence, people who learn new concepts have constant patterns of thoughts, behaviours, and feelings.²⁹ This approach is significant because it explains how the finest CEOs and managers have delivered consistent outcomes despite constantly fluctuating conditions. There is a collaborative and distinct interconnectedness in and out of the corporate environment, which pulls everyone's power to sustain theirs in and out. Moreover, these principles have stood out and boosted efforts regarding where attention should be directed to support the development of entrepreneurial knowledge, competence, and thought in the workplace.

The cognitive skills model by concentrating on "the process by which entrepreneurs create and educate "higher-order cognitive strategies or metacognition" rather than on the precise cognitive skills that individuals utilise while evaluating possible business prospects.²² Entrepreneurial thought "rests on a paradigm that places metacognitive processes in the context of the entrepreneur's job".¹⁷ The cognitive and metacognitive skills approach recognises self-efficacy as a crucial basis for maintaining and effectively executing the entrepreneurial attitude.²³

³¹Johnson, Wendy (2009) "So What or so Everything? Bringing Behavior Genetics to Entrepreneurship Research." *Journal of Business Venturing* 24, no. 1: 23–26.
<https://doi.org/10.1016/j.jbusvent.2007.11.002>.

³²Dweck, Carol. "What Having a 'Growth Mindset' Actually Means." *Harvard Business Review* 39, no. 4 (2016): 219–21.

Self-determination theory

Intrinsic motivation gives insight into the motives of persons who choose an entrepreneurial lifestyle. According to self-determination theory, everyone is driven by the same things: the desire for autonomy, the need for relatedness, and the need to feel competent. These are the base requirements of existence, and we all work hard to ensure they are available. According to the authors, variables such as employment stability, availability to finance, a willingness to take risks, and a readiness to try new things all contribute to entrepreneurs' independence, which has a good impact on the natural environment.¹⁷

According to several studies, company owners seek independence and see entrepreneurship as a way to pursue and promote issues that are personally relevant to them while simultaneously meeting their financial and creative requirements³³. They also discovered that business owners desire independence from management. According to self-determination theory, the three most essential psychological demands are autonomy, self-esteem, and well-being, with expertise and social connection, ranked first and second. A desire for independence often drives entrepreneurial ventures; they aspire to control the type of work they undertake and when and how it is executed. The entrepreneurial mindset is also vital in discovering the Resource Induced Coping Heuristic, a technique successful entrepreneurs use to cope with challenges. To be effective, entrepreneurs must clearly understand their current and potential resources.¹⁷

Self-efficacy Theory

Self-efficacy theory is critical to understanding cognitive skills important to the entrepreneurial mindset and entrepreneurship education. Although personality qualities and cognitive capabilities are linked to the formation of an entrepreneurial mindset, self-efficacy theory considers a person's thoughts and behaviour as well as social circumstances that may or may not impact the individual.²⁰ Self-efficacy was recognised as a significant

³³ Ahmad, Nadim, and Richard G Seymour (2006). "Nadim Ahmad, Statistics Directorate, OECD; Richard Seymour the University of Sydney, Australia. The Word Entrepreneur Itself Derives from the French Verb Entreprendre, meaning "to Undertake". 1." Statistics 16, no. January: 1–22. <https://doi.org/10.2139/ssrn.1090372>.

trait in understanding entrepreneurial decision-making.³⁴ According to the self-efficacy theory, an entrepreneurial attitude is important to small firms' success or failure. Adopting an entrepreneurial mindset is, therefore, critical to the success of these operations as it ensures that outdated management methods do not hinder the advancement of entrepreneurial activities that have been blamed for many businesses.²⁰ Entrepreneurs are self-assured, have faith in themselves, and are dependable³⁵; further, entrepreneurs believe in themselves rather than external influences; they believe that their successes and failures are controlled and not impacted by external causes. However, self-assurance should not be confused with arrogance; a distinction should be made between self-assurance and overconfidence.³¹ This emphasises the necessity of having an entrepreneurial mindset to increase the odds of success in a business venture by creating value and facilitating innovation. Entrepreneurs are self-assured, confident in their abilities and trustworthy; they are also viewed as individuals who believe in themselves rather than external influences; they believe that their triumphs and failures are entirely under their control and are unaffected by other factors.²⁰

Goal-setting theory

The research on the Goal-setting theory of motivation discovered three cognitive skill measures: creativity, social intelligence, and practical imaginativeness. Understanding effectuation and goal-setting theory, two cognitive ability theories is critical for understanding how such talents influence an entrepreneur's mind³⁶. According to Lunenburg, the goal-setting theory emphasises the relationship between defined goals and actual outcomes. Goal-setting is effective when it is comprehensive and demanding, related to performance feedback, and fosters a sense of responsibility. Goals' motivational power can be influenced by self-efficacy and capability. Goals are more likely to be met if they have a

³⁴Borchers, A., and S Park. "Understanding Entrepreneurial Mindset: A Study of Entrepreneurial Self-Efficacy, Locus of Control and Intent to Start a Business." *The Journal of Engineering Entrepreneurship* 1, no. 1 (2010): 51–62.

³⁵ Estay, Christophe, François Durrieu, and Manzoom Akhter. "Entrepreneurship: From Motivation to Start-Up." *Journal of International Entrepreneurship* 11, no. 3 (2013): 243–67. <https://doi.org/10.1007/s10843-013-0109-x>.

³⁶ Lunenburg, Fred C. "Goal-Setting Theory of Motivation" 15, no. 1 (2011): 1–6.

deadline by which they must be fulfilled. Establishing personal goals is equally important as defining collective goals, and focusing on learning may frequently boost productivity, while focusing on performance might be detrimental.

Lunenburg recognized values and intentions, linked to an individual's agency in defining objectives, as two cognitive determinants of behaviour. This idea determines one's view on life and the pursuit of one's objectives, which are informed by one's values.⁹ In other words, when someone behaves according to their values, they get the desired consequences. The situation in which an individual finds themselves or does their work, may impact their goals and actions. Setting objectives is essential for focusing energy and attention. Setting high goals can be a powerful motivator, encouraging individuals to expend effort and remain determined over time. Driven by a desire to succeed, people work hard to acquire and improve the skills necessary to achieve their objectives, which can enhance their sense of accomplishment, self-esteem, and confidence. However, if individuals do not achieve their goals, they may become disheartened and lose the motivation to try again.³³

4. Discussion

Growth mindset to adapt to the changing world of business

For entrepreneurs, having a growth mindset is vital.²⁰ Because of the market's volatility and unpredictability, entrepreneurs must continually adapt their plans to maintain a competitive edge and preserve their enterprises' long-term viability. That is why fostering a growth mindset rather than a fixed mindset that rejects innovation and cringes at the possibility of ambiguity is critical. Dweck agrees and adds that an entrepreneur's mindset switches between study and practice as new information is obtained.²⁹ No rules exist for achieving a lasting competitive edge in today's complex and fast-paced corporate world. There is never a dull moment in the world of entrepreneurs, and there is always a compelling need to put hypotheses to the test, make modifications, and come up with something fresh.

One can only have a fixed or growth mindset, which is mutually incompatible. The phrase "fixed mindset" refers to a mode of thinking in which one is convinced that one's basic features are unchangeable. On the other hand, proponents of the "growth mindset" think that, with

concentrated effort, anybody can acquire a mentality that promotes continuous progress and improvement. A growth mindset is a concept that everyone can evolve and improve themselves through their efforts.²⁰

A growth mindset is essential to navigating the challenges and opportunities of an entrepreneurial environment. Developing an entrepreneurial mindset involves influencing one's beliefs and attitudes about oneself, connections with others, ability to perform tasks, and comfort with uncertainty. One must have a growth rather than a fixed mindset to adapt to change. A growth mindset entails attitudes and thinking methods such as being open to new experiences, optimism about the future, believing in one's abilities and seeking new challenges. Consequently, we have created and fostered a learning environment in which employees are encouraged to pursue lifelong learning and growth to address the challenges of an ever-changing business environment, including unforeseen events like the recent COVID-19 outbreak. An individual's response to the external world is shaped by their mindset, which is influenced by their perception and attitude towards the world around them.²⁰ In this context, whether individuals respond consciously or subconsciously is determined by how much the challenges impact them and the efforts, obstacles, and successes of others.

A person with poor self-esteem and a strict thinking style can only set and attain subpar objectives. As a result, the individual will struggle with the emergence of their habitual behaviours, sentiments, and beliefs due to desperation. On the other hand, a growth mentality feels that they can attain their goals regardless of obstacles. Researchers interested in studying mindsets should draw on earlier research that has greatly improved our understanding of fixed and growth mindsets.²⁸

Developing an Entrepreneurial Mindset

Entrepreneurship is a way of thinking that involves identifying opportunities, taking calculated risks, and creating value through innovation and creativity. It is a mindset that allows individuals to see beyond the obvious and develop novel solutions to problems. Developing an entrepreneurial mindset is crucial in today's rapidly changing business

environment, where new opportunities and challenges constantly arise³⁷. Below are some practical steps individuals can take to develop an entrepreneurial mindset.

Embrace a Growth Mindset

Adopting a growth mindset is the first step to developing an entrepreneurial mindset. A growth mindset believes that skills and abilities can be developed through dedication and hard work. This means that individuals with a growth mindset believe they can learn and improve, even if they do not have natural talent in a particular area. Embracing a growth mindset is essential for entrepreneurs because it allows them to approach challenges as opportunities for growth and learning³⁸.

Be Curious and Open-Minded

Entrepreneurs are always on the lookout for new opportunities and solutions to problems. They are curious and open-minded, constantly seeking new information and ideas. Being curious and open-minded means asking questions, challenging assumptions, and exploring new ideas. This mindset allows entrepreneurs to identify new opportunities, develop innovative solutions, and adapt to changing circumstances³⁹.

Develop resilience

Resilience is the ability to bounce back from setbacks and overcome obstacles. Developing resilience is essential for entrepreneurs because they face many challenges and setbacks on their entrepreneurial journey. Resilience involves developing a positive attitude, maintaining a growth mindset, and learning from failures and mistakes⁴⁰.

³⁷ Zupan, Blaž, Franc Cankar, and Stanka Setnikar Cankar (2018). "The Development of an Entrepreneurial Mindset in Primary Education." *European Journal of Education* 53, no. 3: 427–39. <https://doi.org/10.1111/ejed.12293>.

³⁸ Johnston, Ian (2017). "Creating a Growth Mindset." *Strategic HR Review* 16, no. 4: 155–60. <https://doi.org/10.1108/shr-04-2017-0022>.

³⁹ Fins, Joseph J., Cynthia S. Kubu, Helen S. Mayberg, Reinhard Merkel, Bart Nuttin, and Thomas E. Schlaepfer (2017) "Being Open Minded about Neuromodulation Trials: Finding Success in Our 'Failures.'" *Brain Stimulation* 10, no. 2: 181–86. <https://doi.org/10.1016/j.brs.2016.12.012>.

⁴⁰ Gupta, Rama Krishna, Potnuru Chandan, and Kumar Sahoo (2016) "European Journal of Training and Development." *European Journal of Training and Development* *European Journal of Training and Development* Iss *European Journal of Training and Development*

Learn to Take Calculated Risks

Taking risks is an essential part of entrepreneurship. However, successful entrepreneurs do not take reckless risks. Instead, they take calculated risks, meaning they weigh a decision's potential benefits and drawbacks before taking action. Taking calculated risks involves researching, seeking advice, and weighing the pros and cons of a decision before taking action⁴¹.

Build a Network

Entrepreneurship is not a solitary pursuit. Building a network of supportive mentors, advisors, and peers can be crucial for entrepreneurs. A strong network can provide valuable advice, support, and connections to potential customers and partners. Building a network requires reaching out to others, building relationships, and being willing to ask for help⁴².

Building Business Models

Building a successful business model is a crucial aspect of entrepreneurship. A business model is a framework that outlines the fundamental structure and strategy of a business, including its value proposition, target market, revenue streams, cost structure, and key partnerships. Business models are essential because they guide entrepreneurs in creating and delivering value to customers while ensuring that the business is sustainable and profitable⁴³. Below are the different approaches to business model innovation and three business valuation

40, no. 5: 345–65. <http://dx.doi.org/10.1108/EJTD-02-2016-0008%0Ahttp://dx.doi.org/10.1108/EJTD-10-2015-0082%0Ahttp://dx.doi.org/10.1108/EJTD-12-2015-0096>.

⁴¹ Nyello, Riziki, Nuru Kalufya, Castissima Rengua, Masunga J. Nsolezi, and Charles Ngirwa (2015). “Effect of Entrepreneurship Education on the Entrepreneurial Behaviour: The Case of Graduates in the Higher Learning Institutions in Tanzania.” *Asian Journal of Business Management* 7, no. 2: 37–42. <https://doi.org/10.19026/ajbm.7.5167>.

⁴² James, Fabian Andrew (2018). "A Study on Networking and Relationship Building as a Driving Force for a Successful Entrepreneur -The Key Skill of an Entrepreneur" 5, no. 4: 625–30. James, “A Study on Networking and Relationship Building as a Driving Force for a Successful Entrepreneur -The Key Skill of an Entrepreneur.”

⁴³ Morris, Michael, Minet Schindehutte, and Jeffrey Allen (2005) “The Entrepreneur’s Business Model: Toward a Unified Perspective.” *Journal of Business Research* 58, no. 6: 726–35. <https://doi.org/10.1016/j.jbusres.2003.11.001>.

methods that entrepreneurs can use to assess the financial worth of their business.

Approaches to Business Model Innovation

Innovation is crucial for businesses to stay competitive and grow. Business model innovation refers to creating, modifying, or improving a company's existing business model to generate new revenue streams or improve profitability⁴⁴. Here are some approaches to business model innovation:

- ***Value Proposition Innovation***
Value proposition innovation focuses on creating new or improved products or services that solve customer problems or address unmet needs. This approach requires entrepreneurs to understand their customer's pain points, preferences, and behaviours and develop solutions that meet those needs. Examples of value proposition innovation include offering new features, functionalities, or benefits to existing products or services, introducing new products or services that complement existing offerings, or entering new markets with different value propositions⁴⁵.
- ***Revenue Model Innovation***
Revenue model innovation involves changing how a company generates revenue from its products or services. This approach can involve pricing innovations, such as introducing new pricing models, adjusting existing ones, or changing the payment methods used by customers. Revenue model innovation can also involve developing new revenue streams, such as licensing or subscription models or expanding into new markets⁴⁶.

⁴⁴ Christensen, T. Bartman, and D. Van Bever (2016) "The Hard Truth About Business Model Innovation @BULLET Reading Time: 30 Min Recommended Harnessing the Best of Globalization Designing and Developing Analytics-Based Data Products Unleashing Creativity with Digital Technology." MIT Sloan Management Review 58, no. 1: 31–40.

⁴⁵ Wormald, Paul (2013). "The Role of Value Proposition in New Product Innovation - a Development for Design Education," no. July: 2861–69. <http://design-cu.jp/iasdr2013/papers/1606-1b.pdf>.

⁴⁶ Linde, Lina, Johan Frishammar, and Vinit Parida (2023). "Revenue Models for Digital Servitization: A Value Capture Framework for Designing, Developing, and Scaling

- *Process Innovation*
Process innovation focuses on improving the efficiency and effectiveness of a company's operations. This approach can involve streamlining processes, adopting new technologies, or changing how the company delivers products or services. Process innovation can result in cost savings, improved quality, and increased customer satisfaction⁴⁷.
- *Business Model Expansion*
The business model expansion involves leveraging existing assets, resources, or capabilities to create new revenue streams or enter new markets. This approach can involve diversifying the company's product or service offerings, expanding geographically, or partnering with other companies to offer complementary products or services. Business model expansion can help companies stay competitive and grow their market share⁴⁸.

Three Business Valuation Methods

Business valuation is the process of determining the financial worth of a business. Valuation is important for entrepreneurs because it helps them understand the value of their business and make informed decisions about growth, investment, and financing.¹⁰ Here are three business valuation methods that entrepreneurs can use to assess the financial worth of their business (see Figure 1):

- *Market-Based Valuation*
Market-based valuation involves comparing the value of a business to similar businesses that have recently been sold or are publicly traded. This method relies on market data to determine the value of a business. To use this method, entrepreneurs must identify similar

Digital Services.” IEEE Transactions on Engineering Management 70, no. 1: 82–97. <https://doi.org/10.1109/TEM.2021.3053386>.

⁴⁷ Plotnikova, Maria, Isidoro Romero, and Juan A. Martínez-Román (2016). “Process Innovation in Small Businesses: The Self-Employed as Entrepreneurs.” Small Business Economics 47, no. 4 : 939–54. <https://doi.org/10.1007/s11187-016-9743-8>.

⁴⁸ Kraus, Sascha, Carolin Palmer, Norbert Kailer, Friedrich Lukas Kallinger, and Jonathan Spitzer (2019). "Digital Entrepreneurship: A Research Agenda on New Business Models for the Twenty-First Century." International Journal of Entrepreneurial Behaviour and Research 25, no. 2: 353–75. <https://doi.org/10.1108/IJEBr-06-2018-0425>

businesses, gather information about their recent sales or stock prices, and adjust the data to reflect their differences⁴⁹.

- *Income-Based Valuation*

Income-based valuation involves calculating the present value of a business's future cash flows. This method requires entrepreneurs to estimate future revenues, expenses, and cash flows and discount them to their present value using a discount rate. The discount rate reflects the risk associated with the business and the expected return on investment⁵⁰.

- *Asset-Based Valuation*

Asset-based valuation involves determining the value of a business's assets, including tangible assets such as buildings, equipment, and inventory, and intangible assets such as intellectual property and goodwill. This method does not consider the business's future cash flows and is typically used for companies with significant assets⁵¹.

⁴⁹ Wilson, Fiona, and James E. Post (2013). "Business Models for People, Planet (& Profits): Exploring the Phenomena of Social Business, a Market-Based Approach to Social Value Creation." *Small Business Economics* 40, no. 3: 715–37. <https://doi.org/10.1007/s11187-011-9401-0>.

⁵⁰ Miciuła, Ireneusz, Marta Kadłubek, and Paweł Stepien (2020). "Modern Methods of Business Valuation-Case Study and New Concepts." *Sustainability (Switzerland)* 12, no. 7. <https://doi.org/10.3390/su12072699>.

⁵¹ Wirtz, Jochen, and Michael Ehret (2019). "Asset-Based Strategies for Capturing Value in the Service Economy" II: 785–810. https://doi.org/10.1007/978-3-319-98512-1_35.



Figure 1: Business valuation methods

Top emerging business opportunities of the 21st Century

The 21st Century has brought about significant global economic changes and opened up new opportunities for businesses and entrepreneurs. Emerging business opportunities are likely to become increasingly important and profitable in the future. Below are some of the top emerging business opportunities of the 21st Century concerning developing an entrepreneurship mindset and maximizing opportunities.⁵²

Artificial Intelligence (AI)

This is one of the most important emerging technologies of the 21st Century, and it is already transforming various industries. AI has the potential to revolutionize how businesses operate, making them more efficient, cost-effective, and profitable. Entrepreneurs with an entrepreneurship mindset can capitalize on the opportunities presented by AI by developing AI-based products and services that solve specific

⁵² Volkmann, C., K. Wilson, S. Mariotti, D. Rabuzzi, and S. Vyakarnam. "Unlocking Entrepreneurial Capabilities to Meet the Global Challenges of the 21 St Century." World Economic Forum: A Report of the Global Education Initiative, no. April (2009): 184.

business problems. They can also develop AI-based platforms that enable other businesses to automate their operations and increase efficiency.¹⁸

Renewable Energy

Renewable energy is another significant emerging business opportunity of the 21st Century. Renewable energy is becoming more popular with increasing concerns about climate change and the need for a cleaner environment. Entrepreneurs can develop renewable energy products and services that help businesses and individuals reduce their carbon footprint. They can also develop new technologies that increase the efficiency of renewable energy production and distribution.⁴⁹

E-commerce

E-commerce is an emerging business opportunity that has grown steadily over the past decade. The pandemic has accelerated the growth of e-commerce as more people shop online due to social distancing measures. Entrepreneurs can capitalise on this trend by developing innovative e-commerce platforms that provide a better user experience, improve delivery times, and offer competitive pricing. They can also develop e-commerce platforms focusing on specific niches or providing unique products and services.³

Virtual Reality (VR) and Augmented Reality (AR)

These are emerging technologies that have the potential to transform various industries. Entrepreneurs can develop VR and AR-based products and services that provide a better user experience for customers. For example, they can develop VR-based training programs for businesses, reducing training costs and improving learning outcomes. They can also develop AR-based platforms that enable customers to try out products before purchasing them.⁵³

Health and Wellness

Health and wellness are becoming increasingly important to people, and this trend will likely continue. Entrepreneurs can capitalise on this trend

⁵³ Nayyar, Anand, Bandana Mahapatra, Dac Nhuong Le, and G. Suseendran (2018) "Virtual Reality (VR) & Augmented Reality (AR) Technologies for Tourism and Hospitality Industry." *International Journal of Engineering and Technology(UAE)* 7, no. 2: 156–60. <https://doi.org/10.14419/ijet.v7i2.21.11858>.

by developing innovative health and wellness products and services. They can also develop platforms that enable people to access health and wellness services more easily, such as telemedicine platforms that connect patients with doctors remotely.⁵⁴

Cybersecurity

As businesses increasingly rely on technology, Cybersecurity is becoming more critical. Entrepreneurs can capitalise on this trend by developing innovative cybersecurity products and services that help businesses protect their data and systems from cyber-attacks. They can also develop platforms that provide cybersecurity training and education to businesses and individuals.³

Digital Marketing

Digital marketing is an emerging business opportunity that has grown steadily over the past decade. Entrepreneurs can capitalise on this trend by developing innovative digital marketing platforms that provide a better user experience for customers. They can also develop platforms focusing on specific niches or providing unique products and services, such as influencer marketing platforms⁵⁵.

⁵⁴ Jones, Paul, Vanessa Ratten, and Ted Hayduk (2020) "Sport, Fitness, and Lifestyle Entrepreneurship." *International Entrepreneurship and Management Journal* 16, no. 3: 783–93. <https://doi.org/10.1007/s11365-020-00666-x>.

⁵⁵ Omar, Faradillah Iqmar, Umami Munirah Syuhada Mohamad Zan, Nor Azlili Hassan, and Izzurazlia Ibrahim (2020) "Digital Marketing: An Influence towards Business Performance among Entrepreneurs of Small and Medium Enterprises." *International Journal of Academic Research in Business and Social Sciences* 10, no. 9: 126–41. <https://doi.org/10.6007/ijarbss/v10-i9/7709>.

5. Conclusion and Recommendations

In conclusion, the 21st Century presents a plethora of opportunities for individuals to develop an entrepreneurial mindset and capitalise on emerging business opportunities. The research has shown that developing an entrepreneurial mindset involves adopting a creative and innovative approach to problem-solving, being proactive and adaptable, and having a strong sense of self-efficacy and resilience. Additionally, building effective business models is crucial to the success of any entrepreneurial venture. The top emerging business opportunities of the 21st Century include artificial intelligence, renewable energy, e-commerce, and digital media. These emerging industries have the potential to disrupt traditional business models and create new markets, providing entrepreneurs with opportunities to innovate and grow.

Based on the findings of this research, it is recommended that individuals interested in pursuing entrepreneurship should focus on developing an entrepreneurial mindset and building effective business models. This can be achieved through education and training programs, mentorship, and networking opportunities. Governments and policymakers can also create an enabling environment for entrepreneurship by providing access to capital, reducing regulatory barriers, and promoting innovation. In addition, it is important for entrepreneurs to stay abreast of emerging trends and technologies and to be open to collaboration and partnerships with other businesses and organisations. This can help them to leverage resources and expertise and to expand their reach and impact. Overall, the opportunities for entrepreneurship in the 21st Century are vast and diverse. By developing an entrepreneurial mindset and building effective business models, entrepreneurs can maximise these opportunities and contribute to economic growth and development.

Bibliography

- Ahmad, Nadim, & Richard G Seymour (2006). "Nadim Ahmad, Statistics Directorate, OECD; Richard Seymour, The University of Sydney, Australia. The Word Entrepreneur Itself Derives from the French Verb Entreprendre, Meaning "to Undertake". 1." *Statistics* 16, no. January: 1–22. <https://doi.org/10.2139/ssrn.1090372>.
- Archer, Geoffrey R., Ted Baker, & René Mauer (2009). "Towards an Alternative Theory of Entrepreneurial Success: Integrating Bricolage, Effectuation, and Improvisation (Summary)." *Frontiers of Entrepreneurship Research* 29, no. 6 (2009): 4. <http://digitalknowledge.babson.edu/fer/vol29/iss6/4/>.
- Asenge, E., Diaka, H., & Soom, A. (2018). Entrepreneurial Mindset and Performance of Small and Medium Scale Enterprises in Makurdi Metropolis, Benue State-Nigeria. *International Journal of Innovation*, 6(2), 124-146. <http://dx.doi.org/10.5585/iji.v6i2.223>
- Borchers, A. & S. Park. (2010) "Understanding Entrepreneurial Mindset: A Study of Entrepreneurial Self-Efficacy, Locus of Control and Intent To Start a Business." *The Journal of Engineering Entrepreneurship* 1, no. 1 (2010): 51–62.
- Christensen, T. Bartman, & D. Van Bever (2016) "The Hard Truth About Business Model Innovation @BULLET Reading Time: 30 Min Recommended Harnessing the Best of Globalization Designing and Developing Analytics-Based Data Products Unleashing Creativity With Digital Technology." *MIT Sloan Management Review* 58, no. 1: 31–40.
- Cooney, Thomas M. (2012) "Entrepreneurship Skills for Growth-Orientated Businesses." *Denish Business Authority*, no. November : 23. http://www.oecd.org/cfe/leed/Cooney_entrepreneurship_skills_HGF.pdf.
- Davis, Blakley C., Keith M. Hmieleski, Justin W. Webb, & Joseph E. Coombs (2017) "Funders' Positive Affective Reactions to Entrepreneurs' Crowdfunding Pitches: The Influence of Perceived Product Creativity and Entrepreneurial Passion." *Journal of Business Venturing* 32, no. 1 (2017): 90–106. <https://doi.org/10.1016/j.jbusvent.2016.10.006>.

- Dweck, Carol (2016) "What Having a 'Growth Mindset' Actually Means." *Harvard Business Review* 39, no. 4 (2016): 219–21.
- Dewi D.P., Nurfajar A.A., & Dardiri A. (2019) "Creating Entrepreneurship Mindset Based on Culture and Creative Industry in Challenges of The 21st Century Vocational Education" 242, Conference on Vocational Education and Training (Icovev) 2018: 67–70. <https://doi.org/10.2991/icovev-18.2019.18>.
- Emmanuel, C.L. (2010) "Entrepreneurship: A Conceptual Approach, Lagos:" *Concept Publications*.
- Estay, C., François D., & Manzoom A. (2013) "Entrepreneurship: From Motivation to Start-Up." *Journal of International Entrepreneurship* 11, no. 3 (2013): 243–67. <https://doi.org/10.1007/s10843-013-0109-x>.
- Fins J.J, Kubu C.S, Mayberg H.S, Merkel R, Nuttin B, Schlaepfer T.E. (2017) "Being Open Minded about Neuromodulation Trials: Finding Success in Our 'Failures.'" *Brain Stimulation* 10, no. 2 (2017): 181–86. <https://doi.org/10.1016/j.brs.2016.12.012>.
- Gardner, H. (2012). "The Theory of Multiple Intelligences." *Early Professional Development for Teachers*, 2012, 133.
- Gupta, R.K., Potnuru C., & Kumar S. (2016). "European Journal of Training and Development." *European Journal of Training and Development European Journal of Training and Development Iss European Journal of Training and Development* 40, no. 5 (2016): 345–65. <http://dx.doi.org/10.1108/EJTD-02-2016-0008>0Ahttp://dx.doi.org/10.1108/EJTD-10-2015-0082%0Ahttp://dx.doi.org/10.1108/EJTD-12-2015-0096.
- Hayes D., Zahed S., & Herzog L. (2020) *Assessing and Understanding Entrepreneurial Profiles of Undergraduate Students: Implications of Heterogeneity for Entrepreneurship Education*. Vol. 3. Springer Singapore, 2020. <https://doi.org/10.1007/s41959-020-00025-5>.
- Haynie, J. Michael, Dean Shepherd, Elaine Mosakowski, & P. Christopher Earley (2010) "A Situated Metacognitive Model of the Entrepreneurial Mindset." *Journal of Business Venturing* 25, no. 2 (2010): 217–29. <https://doi.org/10.1016/j.jbusvent.2008.10.001>.

- Heru S.S. (2016) "Innovation Capability of SMEs through Entrepreneurship, Marketing Capability, Relational Capital and Empowerment." *Asia Pacific Management Review* 21, no. 4 (2016): 196–203. <https://doi.org/10.1016/j.apmrv.2016.02.002>.
- Iheanachor, Nkemdilim, Yinka David-West, & Immanuel Ovemeso Umukoro (2021) "Business Model Innovation at the Bottom of the Pyramid – A Case of Mobile Money Agents." *Journal of Business Research* 127, no. June 2019: 96–107. <https://doi.org/10.1016/j.jbusres.2021.01.029>.
- James, F.A. (2018). "A Study on Networking and Relationship Building as a Driving Force for a Successful Entrepreneur -The Key Skill of an Entrepreneur" 5, no. 4: 625–30.
- Johnson, W. (2009) "So What or so Everything? Bringing Behavior Genetics to Entrepreneurship Research." *Journal of Business Venturing* 24, no. 1: 23–26. <https://doi.org/10.1016/j.jbusvent.2007.11.002>.
- Johnston, Ian. (2017) "Creating a Growth Mindset." *Strategic HR Review* 16, no. 4: 155–60. <https://doi.org/10.1108/shr-04-2017-0022>.
- Jones P., Ratten V., & Hayduk T. (2020). "Sport, Fitness, and Lifestyle Entrepreneurship." *International Entrepreneurship and Management Journal* 16, no. 3: 783–93. <https://doi.org/10.1007/s11365-020-00666-x>.
- Jung, Eunju, & Yongjin Lee (2020) "College Students' Entrepreneurial Mindset: Educational Experiences Override Gender and Major." *Sustainability (Switzerland)* 12, no. 19 (2020): 1–28. <https://doi.org/10.3390/su12198272>.
- Kardong-Edgren, S. (2013). "Bandura's Self-Efficacy Theory... Something Is Missing." *Clinical Simulation in Nursing*, 9, no. 9: e327–e328.
- Konovalenko Slettli, Victoria (2019) "Developing Entrepreneurial Mindset for Transformational Entrepreneurship: The Case of Nordic Transformative Learning Circles." *Journal of Entrepreneurship, Management and Innovation* 15, no. 4 (2019): 77–105. <https://doi.org/10.7341/20191543>.
- Kouakou, Konan Kan Elvis, Cai Li, Isaac Gumah Akolgo, & Alida

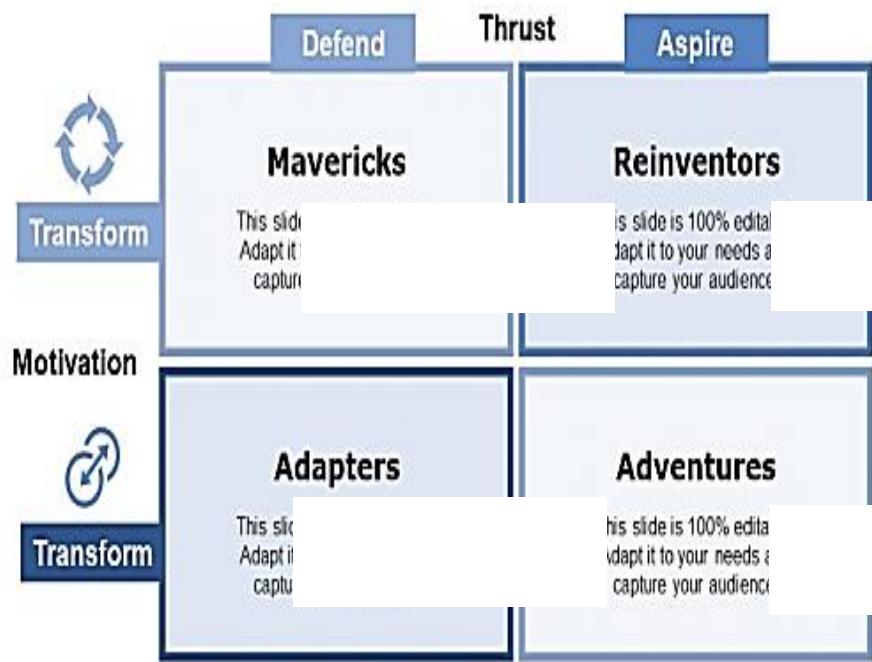
- Magakam Tchamekwen (2019) "Evolution View of Entrepreneurial Mindset Theory." *International Journal of Business and Social Science* 10, no. 6 (2019): 116–29. <https://doi.org/10.30845/ijbss.v10n6p13>.
- Kraus, Sascha, Carolin Palmer, Norbert Kailer, Friedrich Lukas Kallinger, & Jonathan Spitzer (2019). "Digital Entrepreneurship: A Research Agenda on New Business Models for the Twenty-First Century." *International Journal of Entrepreneurial Behaviour and Research* 25, no. 2 (2019): 353–75. <https://doi.org/10.1108/IJEBr-06-2018-0425>.
- Kritikos, Alexander (2014). "Entrepreneurs and Their Impact on Jobs and Economic Growth." *IZA World of Labor*, no. May (2014): 1–10. <https://doi.org/10.15185/izawol.8>.
- Kuratko, Donald F., Jeffrey S. Hornsby, & Jeffrey G. Covin (2014). "Diagnosing a Firm's Internal Environment for Corporate Entrepreneurship." *Business Horizons* 57, no. 1 (2014): 37–47. <https://doi.org/10.1016/j.bushor.2013.08.009>.
- Kalufya N., Nyello R. M., Rengua C., & Nsolezi, M.J., (2015). Effect of Entrepreneurship Education on the Entrepreneurial Behaviour: The Case of Graduates in the Higher Learning Institutions in Tanzania. *Asian Journal of Business Management*. 7. 37-42. <https://doi.org/10.19026/ajbm.7.5167>.
- Lackéus, Martin (2016). "A 'Value' and 'Economics' Grounded Analysis of Six Value Creation Based Entrepreneurial Education Initiatives." *ECSB Entrepreneurship Education Conference*, no. May (2016): 11–13. www.entrepreneur.chalmers.se.
- Lanivich, Stephen E., Andrew Bennett, Stacey R. Kessler, Nancy McIntyre, & Adam W. Smith (2021) "RICH with Well-Being: An Entrepreneurial Mindset for Thriving in Early-Stage Entrepreneurship." *Journal of Business Research* 124, no. October (2021): 571–80. <https://doi.org/10.1016/j.jbusres.2020.10.036>.
- Linde, Lina, Johan Frishammar, & Vinit Parida (2023). "Revenue Models for Digital Servitization: A Value Capture Framework for Designing, Developing, and Scaling Digital Services." *IEEE Transactions on Engineering Management* 70, no. 1 (2023): 82–97. <https://doi.org/10.1109/TEM.2021.3053386>.

- Locke, E. A., & Gary P. L. (2006) “New Directions in Goal-Setting Theory.” *Current Directions in Psychological Science* 15, no. 5: 265–68. <https://doi.org/10.1111/j.1467-8721.2006.00449.x>.
- Lunenburg F.C. (2011). “Goal-Setting Theory of Motivation” *International Journal of Management, Business, And Administration* Volume 15, Number 1, –6.
- Manolova, Tatiana S., Candida G. Brush, Linda F. Edelman, Alicia Robb, & Friederike Welter (2017) “Entrepreneurial Ecosystems and Growth of Women’s Entrepreneurship: A Comparative Analysis.” *Entrepreneurial Ecosystems and Growth of Women’s Entrepreneurship: A Comparative Analysis*, 1–302. <https://doi.org/10.4337/9781785364624>.
- Miciuła, Ireneusz, Marta Kadłubek, & Paweł Stepień (2020). “Modern Methods of Business Valuation-Case Study and New Concepts.” *Sustainability (Switzerland)* 12, no. 7 (2020). <https://doi.org/10.3390/su12072699>.
- Morris, Michael, Minet Schindehutte, & Jeffrey Allen (2005). “The Entrepreneur’s Business Model: Toward a Unified Perspective.” *Journal of Business Research* 58, no. 6 (2005): 726–35. <https://doi.org/10.1016/j.jbusres.2003.11.001>.
- Nayyar, Anand, Bandana Mahapatra, Dac Nhuong Le, & G. Suseendran (2018) “Virtual Reality (VR) & Augmented Reality (AR) Technologies for Tourism and Hospitality Industry.” *International Journal of Engineering and Technology(UAE)* 7, no. 2 (2018): 156–60. <https://doi.org/10.14419/ijet.v7i2.21.11858>.
- Njeru, P.W. (2012) “Effect of Entrepreneurial Mindset on the Performance of Manufacturing Business in Nairobi.” *Unpublished Ph.D Thesis, JKUAT.Pp.*, 2012, 155161.
- Ntoumanis, Nikos, Jemma Edmunds, & Joan L. Duda (2009). “Understanding the Coping Process from a Self-Determination Theory Perspective.” *British Journal of Health Psychology* 14, no. 2 (2009): 249–60. <https://doi.org/10.1348/135910708X349352>.
- Omar, Faradillah Iqmar, Umami Munirah Syuhada Mohamad Zan, Nor Azlili Hassan, & Izzurazlia Ibrahim (2020). “Digital Marketing:

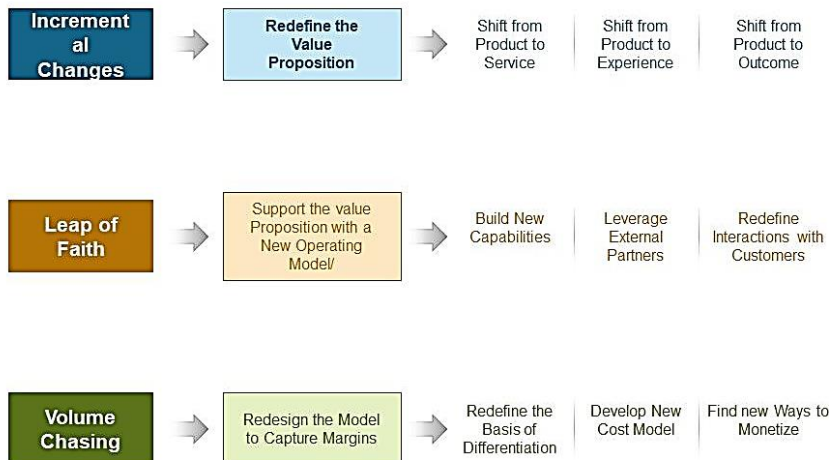
- An Influence towards Business Performance among Entrepreneurs of Small and Medium Enterprises.” *International Journal of Academic Research in Business and Social Sciences* 10, no. 9 (2020): 126–41. <https://doi.org/10.6007/ijarbss/v10-i9/7709>.
- Plotnikova, Maria, Isidoro Romero, & Juan A. Martínez-Román (2016). “Process Innovation in Small Businesses: The Self-Employed as Entrepreneurs.” *Small Business Economics* 47, no. 4 (2016): 939–54. <https://doi.org/10.1007/s11187-016-9743-8>.
- Pollard, Vikki, & Emily Wilson (2014) “The ‘Entrepreneurial Mindset’ in Creative and Performing Arts Higher Education in Australia.” *Artivate* 3, no. 1 (2014): 3–22. <https://doi.org/10.1353/artv.2014.0009>.
- Rahman, Mohammad Mizanur, Babatunji Adedeji, & Mohammad Jamal Uddin (2017). “Entrepreneurship Mindset for Students ’ Entrepreneurship Build- Advanced Scientific Research and Innovation Entrepreneurship Mindset for Students ’ Entrepreneurship Build-Up: A Review Paper.” *International Journal of Multidisciplinary Advanced Scientific Research and Innovation (Ijmasri)* 1, no. 1 (2017): 26–34.
- Solesvik, Marina Z., Paul Westhead, Harry Matlay, & Vladimir N. Parsyak (2013) “Entrepreneurial Assets and Mindsets: Benefit from University Entrepreneurship Education Investment.” *Education + Training* 55: 748–62. <https://doi.org/10.1108/ET-06-2013-0075>.
- Sternberg, Robert J. (2005) “The Theory of Successful Intelligence.” *Interamerican Journal of Psychology* 39, no. 2 (2005): 206–21. <https://www.redalyc.org/html/284/28439202/>.
- Täks, Marge, Päivi Tynjälä, & Hasso Kukemelk (2016) “Engineering Students’ Conceptions of Entrepreneurial Learning as Part of Their Education.” *European Journal of Engineering Education* 41, no. 1 (2016): 53–69. <https://doi.org/10.1080/03043797.2015.1012708>.
- Tosi, Henry L., Edwin A. Locke, & Gary P. Latham (1991) “A Theory of Goal Setting and Task Performance.” *The Academy of Management Review* 16, no. 2 (1991): 480. <https://doi.org/10.2307/258875>.
- Volkman, C., K. Wilson, S. Mariotti, D. Rabuzzi, & S. Vyakarnam

- (2009). “Unlocking Entrepreneurial Capabilities to Meet the Global Challenges of the 21 St Century.” *World Economic Forum: A Report of the Global Education Initiative*, no. April (2009): 184.
- Wei, Xingjian, Xiaolang Liu, & Jian Sha (2019). “How Does the Entrepreneurship Education Influence the Students’ Innovation? Testing on the Multiple Mediation Model.” *Frontiers in Psychology* 10, no. JULY (2019). <https://doi.org/10.3389/fpsyg.2019.01557>.
- Wilson, Fiona, & James E. Post (2013). “Business Models for People, Planet (& Profits): Exploring the Phenomena of Social Business, a Market-Based Approach to Social Value Creation.” *Small Business Economics* 40, no. 3: 715–37. <https://doi.org/10.1007/s11187-011-9401-0>.
- Wirtz, Jochen, & Michael Ehret (2019). “Asset-Based Strategies for Capturing Value in the Service Economy” II (2019): 785–810. https://doi.org/10.1007/978-3-319-98512-1_35.
- Wormald, P. (2013). “The Role of Value Proposition in New Product Innovation - a Development for Design Education,” no. July (2013): 2861–69. <http://design-cu.jp/iasdr2013/papers/1606-1b.pdf>.
- Yadav, Anshita, & Sanchita Bansal (2021). “Viewing Marketing through Entrepreneurial Mindset: A Systematic Review.” *International Journal of Emerging Markets* 16, no. 2 (2021): 133–53. <https://doi.org/10.1108/IJOEM-03-2019-0163>.
- Zupan, Blaž, Franc Cankar, & Stanka Setnikar Cankar (2018). “The Development of an Entrepreneurial Mindset in Primary Education.” *European Journal of Education* 53, no. 3 (2018): 427–39. <https://doi.org/10.1111/ejed.12293>.

Appendix
1: Traits of Business Model Innovation



2: Ways to Implement Business Model Innovation



3: Other Top Emerging Business Opportunities of the 21st Century



