

ICETC2019

*6th International Conference
Educational Technology and
Curriculum Studies*

BOOK OF PROCEEDINGS

Volume 1

Edited by

Professor Jacinta A. Opara, PhD

September 22-24, 2019

Abuja, Nigeria

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After a rigorous review processes, all selected papers are to be published in any of the collaborating journals. All journals are international peer-reviewed, open access and widely indexed/abstracted. Authors of successful papers would be communicated after the conference.

Bulgarian Journal of Science and Education Policy (BJSEP); Science Education Review (SER); Indian Journal of Science and Technology; Academic Research International (ARINT); International Greener Journals (IGJ); International Journal of Academic Research in Business and Social Sciences (IJ-ARBS); International Online Journal of Educational Sciences (IOJES); International Journal of Instruction (IJI); Eurasian Journal of Physics and Chemistry Education (EJPCE); Turkish Journal of Qualitative Inquiry; International Review of Social Sciences and Humanities (IRSSH); Journal of Educational and Social Research (JESR); International Journal of Environmental and Science Education (IJESE); Ethiopian Journal of Education & Science (EJES); International Journal of Environmental Science and Technology (IJEST);; TechnoLEARN; Eurasian Journal of Physics and Chemistry Education; EuroAfrican Journal of Environmental Science and Technology; Journal of Ecology and the Natural Environment; Journal of Bioinformatics and Sequence Analysis; International Journal of Biodiversity and Conservation; International Journal of Sports Sciences and Physical Education; African Journal of Mathematics and Computer Science Research; International Journal of the Physical Sciences; Indian Journal of Science and Innovations; Journal of Internet and Information Systems; Journal of Engineering and Technology Research; International Journal of Computer Engineering Research; Journal of Electrical and Electronics Engineering Research; Journal of Engineering and Computer Innovations; European Scientific Journal; European Journal of Biology and Health Education; International Journal of Sports Sciences and Physical Education; Mediterranean Journal of Social Sciences; Journal of Health and Environmental Studies (JHES)

ARRIVAL OF DELEGATES
Saturday 21 September 2019:6.45am-7.30pm

REGISTRATION OF DELEGATES
Sunday 22, September 2019:8.00am-7.00pm

PROGRAMME FOR THE OPENING CEREMONY
MONDAY SEPTEMBER 23, 2019:9AM-10 AM

- Arrival and Registration of Delegates
- Introduction of Guests
- National Anthem
- Opening Prayers
- Remark by *President*, African Association for Teaching and Learning; and *Chairman of Governing Council*, Institute of Policy Management Development, **Professor Jacinta A. Opara**
- *Co-Chair* of International Scientific Committee, **Professor M.O.N. Obagah**, Ignatius Ajuru University of Education, Port Harcourt

Group Photo

TECHNICAL SESSION

Monday 23 September, 2019: 10.00am-5.30pm
Plenary Session(Panel A)

**IMPACT OF HOUSEHOLD FUEL EXPENDITURE ON THE ENVIRONMENT:
THE QUEST FOR A SUSTAINABLE ENERGY IN NIGERIA**

Maina, Y. B.; Kyari, B.G & Jimme, M.A.

**ASSESSMENT OF COMMERCIAL PRODUCTION OF
CATFISH (*CLARIAS GARIEPINUS*) IN SANIZ FISH FARM TUDUN
YOLA, GWALE KANO STATE NIGERIA**

Azubuike Adams and Abubakar Ibrahim

**A COMPARATIVE ANALYSIS: CLASSIFICATION METHODS FOR
PREDICTION OF HORMONAL THROID DISEASE**

Akinbohun Folake and Akinbohun Ambrose

**SUCCESS OF HYDATID SPECIES HAS TO DO MORE WITH
HOSTS RATHER THAN ENVIRONMENT**

Ahmed, U.A

**ACCESS TO SAFE WATER AND SANITATION AMONG THE
IGALAS IN THE NORTH CENTRAL NIGERIA**

Dare, E. Alaba

**IMPACT OF BIOCHEMICAL TERRORISM ON ECOLOGY AND
HUMAN HEALTH(A GEOGRAPHICAL STUDY)**

Prakash Vir Singh

**SPATIAL DIMENSIONS OF HOUSEHOLD WATER
INSECURITY IN MINNA METROPOLIS**

Sallau, R.O; Panti, U. F., Dangana K.; Yakubu Ishaku Bashir; Olubadewo O .O

**COMPARATIVE EFFECT OF LOCAL AND FOREIGN COMMERCIAL
FEEDS ON THE GROWTH AND SURVIVAL OF AFRICAN
CATFISH (*CLARIAS GARIEPINUS*) JUVENILS**

Azubuike Adams and Oloruntofa Folashade Christiana

**A TECHNIQUE FOR SIMULATING FUTURE CLIMATE CHANGE
VARIABLE USING IMPROVED K-NEAREST NEIGHBOUR ALGORITHM**

H Garba; S Ahmed and A Ibrahim

**IMPACT OF LAND POLLUTION ON THE WELLBEING OF
NEIGHBOURHOODS IN MINNA, NIGERIA.**

Abdul, Christopher I, Ayuba Philip; E, Macaulay A, and Adejoh, Andrew E,

**ADSORPTION OF LEAD IONS UNTO BEANS
POD (*VIGNA UNGUICULATA*) ACTIVATED CARBON**

*Danzarami A. Danlami, Hassan Samuel, Anweting I. Bassey,
Oladunni Nathaniel and Jerry Audu*

**ECOLOGICAL IMPACTS AND EFFECTS OF LAND
RECLAMATION IN LABA AND KEITA DISTRICTS**

Atiku M., O. A. Liman, Umar I., and D. P. Gwimmi

**DETERMINATION OF SOILS ERODIBILITY FACTOR (K) FOR
SELECTED SITES IN NUHU BAMALLI POLYTECHNIC ZARIA
SAMARU KATAF CAMPUS KADUNA STATE**

Alhassan Yahaya, Aboshio Nehemiah and Elkanah Samuel Yayock

**HEAVY METAL ASSESSMENTS (Pb AND Cu) OF MUNICIPAL SEWAGE
SLUDGE IN MAIDUGURI BEING A SUBSTITUTE OF INORGANIC FERTILIZER**

Abba Mani, F., Talha, I.Z., Kundili, M.Y.

**HAND WASHING BEHAVIOUR AMONG
CHILDREN IN NORTHERN NIGERIA**

A. Abdulsalam; J.A. Opara; S. Yakubu; M. A. Abdulkadir;

**EFFECT OF RURAL -URBAN MIGRATION ON RURAL AREAS:
A CASE OF NORTH-EAST ZONE- NIGERIA**

Mijinyawa Aaron and Akuandna Iliya Felix

**EFFECTIVE INPUTS FOR INVESTMENT BY BORROWERS
OF THE MICRO CREDIT OF THE BANK OF AGRICULTURE**

Uba Isaac A, Adefila, J. O and Yusuf, R. O.

TECHNICAL SESSION

Monday 23 September, 2019: 10.00am-5.30pm

Plenary Session(Panel B)

**CLEAN ENERGY: AN EMPIRICAL ANALYSIS OF HOUSEHOLD DEMAND
IN NIGERIA AND ITS IMPLICATION ON THE ENVIRONMENT**

Maina, Y. Bukar and Kyari, Bg

**EFFECT OF LEASING (LESSEE) ON PERFORMANCE
OF AN ORGANISATION**

Lugman Adedamola Sulaiman & Oluwaseun Grace Obisesan

**REVIEW OF LITERATURE ON THE DEVELOPMENT OF
BROADCAST MEDIA IN NORTHERN NIGERIA**

Bello Madaki Beli

**A REVIEW ON ASSESSING THE USABILITY
OF SOCIAL NETWORK**

Shamsu Shehu

**TECHNOLOGICAL INNOVATIONS AND ADULT LITERACY IN
RURAL AREAS OF OGUN STATE, NIGERIA**

Aderogba, Kofoworola A. and Adeniyi, Adekunle A.

**ASSESSMENT OF GENDER DIFFERENCES IN PRODUCTIVITY
AMONG RURAL HOUSEHOLDS IN SOUTH WEST, NIGERIA**

Sofoluwe N.A

**TESTING THE WEAK FORM OF EFFICIENT MARKET
HYPOTHESIS IN THE NIGERIAN CAPITAL MARKET**

L. B. Ajayi

**LITERATURE AND GENDER IN THE 21ST CENTURY: REPRESENTATION
OF WOMEN IN BUCHI EMECHETA'S *THE JOYS OF MOTHERHOOD* AND
MARIAMA BA'S *SO LONG A LETTER***

Aliyu Haruna Muhammad

EFFECT OF GLOBALIZATION ON NIGERIA'S DEVELOPMENT

Ahmadu Yakubu

**EFFECTIVENESS OF LIFE SKILL AWARENESS
PROGRAMME FOR TEACHER EDUCATORS**

Yashpal D. Netragaonkar

**EFFECT OF VIDEO PRESENTATION TECHNIQUES ON THE LEARNING
OF REPORTED SPEECH AMONG PRIMARY SCHOOL PUPILS OF
KONTAGORA LOCAL GOVERNMENT AREA, NIGER STATE, NIGERIA**

Abubakar, Sirajo Magaji

**EFFECTS OF ACTION AND MASTERY LEARNING STRATEGIES ON STUDENTS'
PERFORMANCE AND RETENTION IN HEAT ENERGY IN BASIC SCIENCE
IN JUNIOR SECONDARY SCHOOL IN PORT HARCOURT LOCAL
GOVERNMENT AREA, RIVERS STATE**

Echendu, Peter Ovu

**INFORMATION AND COMMUNICATION TECHNOLOGIES (ICT) AS A
CHANGE AGENT FOR BIOLOGY EDUCATION**

Attahiru Muhammad Shagamu

**AUTHORSHIP PATTERN ON PUBLICATION PRODUCTIVITY IN
COMPUTER SCIENCE RESEARCH IN FEDERAL UNIVERSITIES IN NIGERIA**

Amina Bola Badaru; Abifarin, F.P. and Alhassan, J.A.

**ATTITUDE OF BIOLOGY TEACHERS TOWARD EFFECTIVE TEACHING OF
PRACTICAL LESSONS IN SELECTED SECONDARY SCHOOLS IN GUSAU
EDUCATIONAL ZONE, ZAMFARA STATE**

Samaila Abdullahi and Aminu Ibrahim Kanoma

**AN ASSESSMENT OF CHALLENGES AND INAPPROPRIATE AREAS IN TEACHER
EDUCATION PROGRAMMES FOR SOCIAL REFORMS IN NIGERIA:A CASE STUDY OF
THE SOUTH EAST GEOPOLITICAL ZONE**

Nwachukwu Chinyere. M. and Okafor Roseline N.

**EFFECT OF USING SOCIAL NETWORKING SITES ON ACADEMIC
PERFORMANCE OF STUDENTS IN TERTIARY INSTITUTIONS**

Attahiru Muhammad Shagamu

**EFFECT OF PROBLEM SOLVING STRATEGY ON PERFORMANCE AND
RETENTION IN ALGEBRA AMONG JUNIOR SECONDARY
SCHOOL STUDENTS IN ZAMFARA STATE, NIGERIA**

Nasiru Haruna Anka

**ELECTRONIC CLASSROOMS: MODERN WAYS FOR IMPROVING TEACHING OF
BUSINESS EDUCATION IN TERTIARY INSTITUTIONS IN EBONYI STATE**

Thomas Ekpete Dame

**PERFORMANCE EVALUATION OF ANTLION OPTIMIZER AND PARTICLE SWARM
OPTIMIZATION FOR UNCAPACITATED FACILITY LOCATION PROBLEM (UFLP)**

Shehu Hussaina and Morufu Olalere

**EFFECT OF EDUCATIONAL TECHNOLOGY ON THE
IMPLEMENTATION OF THE CHEMISTRY CURRICULUM**

Ovie Adarighofua Faith

**STUDENTS' PERCEIVED DIFFICULT TOPICS IN THE UPPER BASIC SCHOOL
ISLAMIC STUDIES CURRICULUM IN ISEYIN LOCAL GOVERNMENT, OYO STATE**

Araashi, Abdullahi Damola & Abdulazeez, Teslimat

**IMPLICATIONS OF ONLINE LANGUAGE LEARNING ON LEARNERS' EFFECTIVENESS
IN ENGLISH LANGUAGE USAGE IN NIGERIA.**

Aisha Abdullahi Ibrahim and Olorunfemi Philip Abayomi

**EFFECT OF POWERPOINT LESSON DELIVERY ON STUDENTS'
ACHIEVEMENT IN GENERAL STUDIES EDUCATION (GSE) COURSES
IN COLLEGES OF EDUCATION IN ENUGU STATE**

Etesike, Celine Nwadi

**INFLUENCE OF COMMON SOCIAL MEDIA SENSITIZATION ON DRUG ABUSE AMONG
UNDERGRADUATE STUDENTS OF TARABA STATE UNIVERSITY JALINGO**

Joseph Joshua; Oyeniyi Solomon Olayinka and Michael Happy Linda

**MENTORSHIP: A STRATEGY FOR RESTRUCTURING TEACHER EDUCATION
TOWARDS ACHIEVING 2030 EDUCATION AGENDA FOR SUSTAINABLE
DEVELOPMENT IN NIGERIA**

Ajileye, Mosunmola Ajibola

**IMPERATIVES OF RE-EXAMINING PHYSICAL EDUCATION'S
CURRICULUM CONTENTS TOWARDS SPORTS DEVELOPMENT
IN NIGERIA SECONDARY SCHOOLS**

Emoghene, Blessing Obodo and Igbi, Bright Jessah

CONFERENCE DINNER

Monday 23 September, 2019: 5.45pm-7.00pm

TECHNICAL SESSION

Tuesday 24 September, 2019: 8.30am-5.30pm

Plenary Session(Panel A)

HEALTH CARE-ASSOCIATED INFECTION (HCAI); A REVIEW

Abdu, M. Mohammed, S.S.D and Dogara, B.S

**BIODIVERSITY AND GROWTH PATTERN OF SOME SELECTED FISH
SPECIES IN RIVER GALMA AND KUBANNI RESERVOIR, KADAUNA STATE, NIGERIA**

Bamaiyi, C., Ogbe, E. O., Daniel, N., Mohammed, M. T., Adah, F., and Abubakar, M. Y

**RISK ASSESSMENT FROM CATCHMENT TO CONSUMERS AS FRAMED
IN WATER SAFETY PLANS:A STUDY FROM MAIDUGURI WATER
TREATMENT PLANT, NORTH EAST NIGERIA**

Mohammed Mustapha, M. K. C. Sridhar, A. O. Coker; Ayotunde Ajayi and Abubakar Suleiman

THE ARTS OF WASTE TO WEALTH:

TOWARDS ENVIRONMENTAL SUSTAINABILITY IN NIGERIA

Bassey, Archibong Bassey and Akpan, Roseline William

ENVIRONMENTAL POLLUTION AND HEALTH ISSUES:

**A PROACTIVE APPROACH TO ENVIRONMENTAL SUSTAINABILITY IN
CONTEMPORARY SOCIETY**

Akerele, Stephen Segun and Ikhiyoa, Grace Olohiomeru

**EQUILIBRIUM AND KINETIC STUDIES OF THE ADSORPTION OF CD^{2+}
AND CR^{6+} FROM AQUEOUS SOLUTION BY THE USE OF
ACTIVATED LOCUST BEAN HUSK (LBH)**

*Oladunni Nathaniel, Danzarami A. Danlami, Anweting I. Bassey and
Hassan Samuel, Jekada J. Zecharia*

MODELLING INLAND WATER QUALITY

USING GIS OF POWAI LAKE

A. Usman

SUSTAINABILITY OF WASTE MANAGEMENT

J.A. Opara; Okwodu, Nicholas. E and Usman Kibon

**EFFECTS OF PETROLEUM PRODUCTS ON AFRICAN
CATFISH (*Clarias gariepinus*) AND TILAPIA**

FISH (*Oreochromis niloticus*) IN WUDIL RIVER, KANO STATE

Azubuike Adams; Isah Bala and Omoyayi Zainab Atinuke

GEOSPATIAL TOOLS AND FOREST RESOURCES

MANAGEMENT IN BAUCHI OF NORTH EASTERN NIGERIA

A.K.Usman, A.H. Abdullahi and J.A. Opara

WATER QUALITY INDEX OF POWAI LAKE

A. Usman, B. M. Modu, F. M. Adam and Nakhawa Ajay D

**ESTIMATION OF AQUIFER HYDRAULIC CONDUCTIVITY USING STATISTICAL GRAIN
SIZE ANALYSIS ON THE FLOODPLAIN OF IMBURU/NGBALANG NUMAN, ADAMAWA
STATE, NIGERIA**

B.A. Ankidawa, I.A. Kwami and S. Ajimati

EFFECT OF RAW AND TOASTED SOYA BEANS

DIETS ON GROWTH OF *Clarias gariepinus*

Azubuike Adams and Nwoye Elias

**ISOLATION OF FUNGI POPULATION IN COMMERCIALY
SMOKED FISHES FROM MARKETS IN ADO METROPOLIS**

Akomolede Olumide Olawole and Onifade Olajumoke Evelyn

DESIGN AND SIZE ESTIMATION OF A STAND-ALONE SOLAR PHOTOVOLTAIC (SPV) SYSTEM FOR A 1000 WATTS SPV-POWERED ELECTRIC WATER BOILER UNDER YOLA CLIMATE, NORTH-EAST NIGERIA

Linah, Ndenah Markus, Meludu, Osita Chukwudi, Aidan, Joseph and Kundwal, Moses Elisha

GREEN MANUFACTURING FOR SUSTAINABLE CLIMATE CHANGE MITIGATION

Genesis N, Nyibal and Kalus Emmanuel.O.

CONSTRAINTS TO FOREST MANAGEMENT PRACTICES IN KEBBI STATE, NIGERIA

Christian Yakubu Oche and Ahmad Abu Bawa

IMPACT OF GLOBAL WARMING ON HYDROLOGICAL IMBALANCE AT SHIRORO DAM NIGER STATE, NIGERIA

Isah Abubakar

KNOWLEDGE OF PROBLEMS ASSOCIATED WITH BROKEN HOME AMONG PARENTS IN AROCHUKWU LOCALITY OF SOUTH-EAST NIGERIA

Veronica O. Charles-Unadike

EMPIRICAL ANALYSIS OF AIR TRANSPORT OPERATIONAL PERFORMANCE: A STRUCTURAL EQUATION MODEL APPROACH

Ibrahim A. Akorede, Obioma R. Nwaogbe, and Victor Omoke

ENVIRONMENTAL POLLUTANTS AND TOXICANTS: EFFECTS AND ELIMINATIONS FOR BETTER TOLERANCE BY PEOPLE IN A COMMUNITY

Osagiede Isoken Florence and Agbonlahor Nafisa Loveth

ASSESSMENT OF PORT PERFORMANCE IN NIGERIA

Dere I. Gbolahan, Omoke Victor and Nwaogbe Obioma R.

TECHNICAL SESSION

Tuesday 24 September, 2019: 8.30am-5.30pm

Plenary Session(Panel B)

CONTEMPORARY ISSUES IN THE DEMAND AND SUPPLY OF CAPACITY BUILDING STRATEGIES IN NIGERIAN WORK PLACES

Sola Fajana

COMMUNITY EDUCATION VARIABLES AND RURAL DEVELOPMENT ACTIVITIES OF COMMUNITY-BASED ORGANIZATIONS IN RURAL AREAS OF OGUN STATE

Adeniyi, Adekunle A and Aderogba, Kofo A.

INFLUENCE OF TETFUND INTERVENTION ON INFORMATION RESOURCE DEVELOPMENT AND SERVICES IN GOVERNMENT-OWNED UNIVERSITIES IN NORTH CENTRAL NIGERIA

Adullahi, Ibrahim Kuta; Saka, Katamba Abubakar, and Udoudoh, Samuel Jimmy

NIGERIA AND CHINA BILATERAL CURRENCY SWAP:

ECONOMIC IMPLICATIONS AND PROSPECTS

Clementina Kanu; Anthony Chukwuma Nwali; Paul Obidike and Joy Ugwu

TRADITIONAL FRACTURE CARE IN THE 21ST CENTURY:

EMERGING FACTORS FOR CONTINUED PREFERENCE

Silas Epron

MUSIC AS TOOL FOR POLITICAL PROPAGANDA IN 2019

NIGERIAS GENERAL ELECTION

Uwaoma Uche; Johnson Izundu Anene and Ojiaku, Evelyn Ngozi

GLOBALIZATION OF EDUCATION IN NATIONAL DEVELOPMENT

Mercy Omosefe Omozusi & Emmanuel Ogechuckwu Okondu

DESCRIPTIVE ANALYSIS OF THE IMPLICATIONS OF NIGER DELTA

MILITANTS ON OIL AND GAS EXPLORATION: 2016 - 2018:

A FOCUS ON 2016 FEDERAL BUDGET

Anthony Chukwuma Nwali; Clementina Kalu; Johnson Nwokeiwu and Nicholas Ihentuge Achilike

CYBERCRIME IN EDUCATION, A THREAT TO MORAL SOCIETY

D.D. Wisdom, M .R Bawa., E.A Ajayi and O. A Sunday

**RIGHT TO FREEDOM OF EXPRESSION UNDER NIGERIAN CONSTITUTION:
ISSUES AND CHALLENGES**

Ikonne, Ugwueze Oluchukwu

**IMPERATIVES OF SPORTS POLICY FOR SUSTAINABLE NATIONAL
DEVELOPMENT IN CONTEMPORARY SOCIETY**

Okonigene, Dorcas; Okoedion, Sarah Ojehisegbe and John Okosun

**INFLUENCE OF TETFUND INTERVENTION ON INFORMATION
RESOURCE DEVELOPMENT AND SERVICES IN GOVERNMENT-OWNED
UNIVERSITIES IN NORTH CENTRAL NIGERIA**

Adullahi, Ibrahim Kuta; Saka, Katamba Abubakar and Udoudoh, Samuel Jimmy

**INFLUENCE OF INFORMATION RESOURCES AND SERVICES ON USERS
SATISFACTION IN PUBLIC LIBRARIES IN NORTH CENTRAL NIGERIA**

Yusuf, Abdullahi, G.A Babalola and A.O Ahmed

**INTERPERSONAL VOICE AND ITS EFFECTS ON ACADEMIC WRITING:
AN APPRAISAL OF THE USE OF HEDGES IN STUDENTS' ESSAYS**

Hamisu Hamisu Haruna and Muhammad Sulaiman Isa

**ROLE OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT)
EDUCATION IN HARNESSING HUMAN CAPITAL DEVELOPMENT IN AFRICA**

M .R Bawa, D.D Wisdom, C. Bamaiyi and E. Y. Kwedo

**ROLE OF ICT IN THE DEVELOPMENT OF EDUCATION IN
THE 21ST CENTURY NIGERIA: CURRICULUM PERSPECTIVES**

Akomaye, Maria U. and Okaba, Lydia

**ROLE OF THE MASS MEDIA IN SUSTAINABLE
DEVELOPMENT OF EDUCATION IN NIGERIA**

Uwaoma Uche; Ugwueze Ikonne and Nkechinyere Udochu

**PARENTAL INFLUENCES ON ACCESSIBLE QUALITY EDUCATION:
A SEARCHLIGHT ON GENDER AND POVERTY**

Mairo Danjuma

**TEACHING AND LEARNING FOR CITIZENSHIP IN THE 21ST
CENTURY: A PARADIGM SHIFT**

Egesi Jonathan Chidomere & Ihebom Sharon El-Benita

**KNOWLEDGE BASED ECONOMY & IMPLICATIONS OF IMPLEMENTING
MULTIMEDIA DIGITAL LIBRARIES INTERNET OF THINGS POWER
HOUSE IN THE SOUTH EASTERN NIGERIA.**

Ugochukwu Matthew O. and Okafor Nwamaka U.

**FACTORS MILITATING AGAINST INTEGRATION OF ICT EQUIPMENT
IN TEACHING AND LEARNING OF SECONDARY SCHOOL IN ALIERO LOCAL
GOVERNMENT, KEBBI STATE, NIGERIA**

Sagir Muhammad; Wakkala Garba Tumburku and Zainab Lawal Gwandu

Wednesday 25 September, 2019:11.30am-1.30pm

Presentation of Certificates

CLOSING CEREMONY: 2.30pm-3.30pm

- Award of Prizes
- Closing Remarks

Wednesday 25 September, 2019: 4.00pm

DEPARTURE

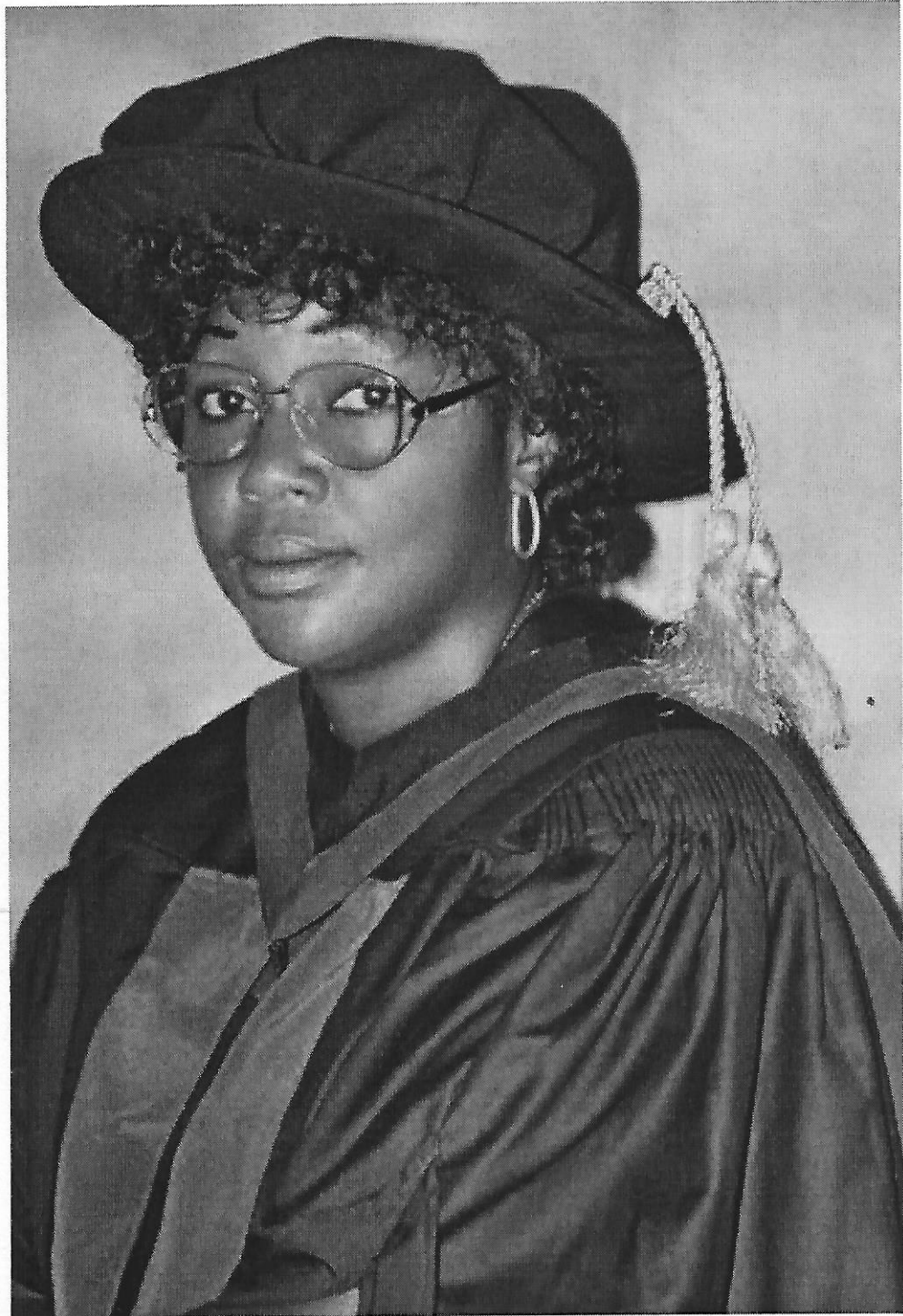
Have a Safe journey



Professor Dr Gerhard Berchtold
Chairman, International Scientific Commission and
Vice-Rector, Universidad Central de Nicaragua



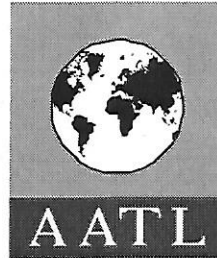
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**ICWER2019;
ACHSS2019 &
ICETC2019**

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PRESIDENT'S REMARK

It is my pleasure to furnish you herewith the Book of Abstracts which herein contains a collection of the abstract of papers presented at the ICWER2019; AICHSS2019 and ICETC2019 joint *International Conference* in Abuja-Nigeria from September 22-24, 2019. The joint international conference is an event organized by African Society for Scientific Research and African Association for Teaching and Learning in cooperation with several partners and collaborating journals in the international community.

Since 2008, we have organized over 40 international conferences across the globe. Our conferences are academic activities for interested scholars, scientists, technologists, policy makers, corporate bodies and graduate students. The aim of the conferences are to diffuse research findings and create a conducive environment for scholars to debate and exchange ideas that lead to development in social, political, cultural and economic spheres of the global community.

Following the call for papers by the International Scientific Commission, we received more than 300 proposals from 15 different countries from all continents. As a commitment to the vision and mission of academic excellence and integrity, each paper was anonymously reviewed by two members of the editorial*sub-committee of the Commission. This book of Abstracts contains a selection of the papers submitted for the conference(s).

We wish to express our sincere thanks to the International Scientific Commission for being committed towards ensuring the success of the conference(s) by setting up a high powered Adhoc Local Organising Committee led by Professor M.O.N Obagah. We are grateful to Professor S.L. Kela, Professor Aliyu Yakub, Professor Christine Dranzoa, Professor A.O. Akii Ibadode, Professor Ibrahim A. Njodi, Professor E.D. Mbennah, Professor I. A. Adeyemi, Professor Bashir Raji and a host of others who have in several ways provided continued support and goodwill.

We thank various Vice Chancellors and seasoned Professors of different institutions for their cooperation and support for the project. We express our profound gratitude to all and sundry especially our Keynote Speakers, Special Guests, delegates, reviewers, the media, the Nigerian foreign missions and all the cooperating partners for their contributions in promoting our international scholarly event(s).

Please accept the assurances of our highest regards.

Professor J.A. Opara, PhD, DSc
President, African Association for Teaching and Learning

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2019/0025

**IMPACT OF LAND POLLUTION ON THE WELLBEING OF
NEIGHBOURHOODS IN MINNA, NIGERIA**

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Abstract

Land represents the sojourn of man, it is the place where we live and carry out our lives activities. The world today is facing a serious challenge of pollution in diverse forms and land pollution is not an exemption. Land pollution deals with the introduction of harmful substances onto the land to such an extent that it affects the built environment and those that inhabit it. Land pollution results from the improper disposal of waste, mining, urbanization, agricultural chemicals, atmospheric decomposition, and soil erosion. This research seeks to look at the impact of Land pollution on the well-being of residents in Minna Metropolis with a view of proffering solutions to reduce the effects. The research adopted descriptive survey method and questionnaires were used as a tool to collect data. A total number of Eighty (80) residents in Minna metropolis participated in the survey. The findings reviewed that the major cause of land pollution in Minna metropolis is the indiscriminate disposal of Solid and Sewage waste. The research concluded that the heaps of waste on land serves as breeding grounds for disease carrying bacteria, pest, and vermin leading to diseases such as Malaria fever, Yellow fever, Lassa fever among others. The research recommended the creation of dump sites far away from residential buildings and the enactment of sanctions for offenders of indiscriminate waste dumping within Minna metropolis.

Keywords: Atmospheric decomposition, Land pollution, Soil erosion, Urbanization, Waste.

THE IMPACT OF LAND POLLUTION ON THE WELLBEING OF NEIGHBOURHOODS IN MINNA, NIGERIA.

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ABSTRACT

Land represents the sojourn of man, it is the place where we live and carry out our lives activities. The world today is facing a serious challenge of pollution in diverse forms and land pollution is not an exemption. Land pollution deals with the introduction of harmful substances onto the land to such an extent that it affects the built environment and those that inhabit it. Land pollution results from the improper disposal of waste, mining, urbanization, agricultural chemicals, atmospheric decomposition, and soil erosion. This research seeks to look at the impact of Land pollution on the well-being of residents in Minna Metropolis with a view of proffering solutions to reduce the effects. The research adopted descriptive survey method and questionnaires were used as a tool to collect data. A total number of Eighty (80) residents in Minna metropolis participated in the survey. The findings reviewed that the major cause of land pollution in Minna metropolis is the indiscriminate disposal of Solid and Sewage waste. The research concluded that the heaps of waste on land serves as breeding grounds for disease carrying bacteria, pest, and vermin leading to diseases such as Malaria fever, Yellow fever, Lassa fever among others. The research recommended the creation of dump sites far away from residential buildings and the enactment of sanctions for offenders of indiscriminate waste dumping within Minna metropolis.

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INTRODUCTION

The impact of land pollution on the already deteriorating climate calls for serious worries. Every action and inaction on land affects both air and water. For instance, most developing countries depend largely on surface waters in their countries. When the rain falls, the heaps of decomposing wastes on land will be flushed into the rivers thereby polluting the water. More so, the action of wind moves some lightly weighted wastes and bacteria from pollution sites into air thereby contaminating the air (Deng, 2011). It is paramount that attention

should be given to land pollution as it is with water and air. Pollution is the release of any substance onto the land in such that the quality of land is degraded or the land is defaced. Whatever has negative effect on the environment, health of human and organisms that live on land is land pollution. Cunningham and Cunningham (2012) in their definition stated that pollution is anything that makes the environment unsafe either through physical or social activities of humans thereby making the environment undesirable for living.

Fatima M Bello, Ahmed Doko Ibrahim and Baba Adama Kolo (2013) Whole life costing practice in procurement of public buildings in Nigeria: myth or reality? *In: Laryea, S. and Agyepong, S. (Eds) Procs 5th West Africa Built Environment Research (WABER) Conference, 12-14 August 2013, Accra, Ghana, 1191-1201.*

There is a connection between land, water and air. If any of these is affected, their effects are usually felt (Hill, 2004). Land population accounts for one of the world's highest increasing environmental challenges which need urgent attention to reduce the challenges (Jonathan, 2018).

Global warming effects is accelerating with great speed and until the early wide spread of its effect on land, required attention will not be taken to curb its menace (Hill, 2004).

Environment can be degraded through several means ranging from dumping of refuse, defecation which defaces the land to other activities that removes the soil. When towns and cities develop, the land definitely will be polluted because of several activities that take place during urbanization.

Man through knowledge has created so many materials over time for his comfort most of which depletes in value, get destroyed or faced out as a result of replacement. These materials are largely the human wastes generated in the environment. The land needs to be cleaned of these items to enable a healthy environment for human. The addition of the wastes generated by human unto land is pollution (Chitchara 2012). Obafemi (2004) in his definition refer pollution to the release of harmful substances unto the environment (land). When these substances are released into the land, the health of those living around there becomes a concern..

SOURCES OF LAND POLLUTION

According to Woodford (2012), the land can permanently be changed through many ways such as when the soil is contaminated through application of agricultural chemicals and direct dumping of wastes on the land. Some of the pollutions on land can be seen physically while others are less visible especially the ones that takes place as deposition from the atmosphere. Land becomes polluted when polluted air (from other landfills) falls unto the land. There are many factors through which the land can be polluted. Some of them are:

Household Wastes: When solid or liquid wastes are poorly managed, the environment is no safer for habitation. Wastes from humans in terms of feces and urine indiscriminately scattered on the land surface constitutes danger to the health of the environment. Pathogens are contained in human feces which makes it unsafe for the environment when poorly handled (Ogundele, 2008).

The quantity of solid and liquid wastes that are produced from different households in Nigeria can be ascertained but research reviewed that urban centres are the highest producers of wastes and it amounts to 75% of monthly waste of the environment (Nnamani, 2000).



Plate I: Indiscriminate disposal of waste in Bosso Area of Minna Metropolis

Source: Author's Fieldwork 2018.



Plate II: Indiscriminate disposal of waste in Tunga Area of Minna Metropolis

Source: Author's Fieldwork 2018.

Mining

Activities are usually carried out around the world in order to extract mineral resources from the ground through different means all of which constitutes land pollution (Woodford, 2019). Most notable among all the processes of mining is the strip mining which involves complete extrusion of the soil thereby destroying the land and anything found on it.

Open Defecation

According to Essuman, 2015, the process of removing waste (especially feaces) from the body directly on land in an environment because of unavailability of toilets and latrines is referred to as defecation. The United Nations Children's Fund report on Drinking Water and Sanitation 2012 reviewed that 2.5 million people globally do not have access to improved forms of sanitation and 1.1 million of global population practices open defecation. Whatever makes anyone to pass feaces unto the land in any form without using proper sanitation facilities is a form of land population.



Pate III: Polluting the Land through Open Defecation

Source: www.punchng.com

Urbanization

Urban development also constitutes land pollution either by expansion of existing villages into towns of towns into cities and mega cities. The activities that breed those expansion results in the land being polluted (Woodford, 2012). When people come to live together, the wastes generated are also together. Therefore, care needs to be taken to ensure proper channeling of urban wastes through creation of wastes disposal sites.

Agricultural chemical

The forests are widely destroyed through evergreen and technologically advanced agricultural practices which has turned most lands which were productive to regions now barren and laying bare (Hamid, *et al*; 2010). The quest for agricultural advancement through improved technology has contributed greatly to the pollution of the land. The unavailability of most of the technologies we have today provided the early men with no option other than to eat natural food from trees and surface waters from streams and rivers but when the population increased and the need to feed the increasing population arose, technologies were introduced and most of them pollutes the land (Hamid, *et al*; 2010). The ever increasing world's population saw the introduction of chemicals to enhance agricultural productivity. Yes, the productivity has increased but the land is left polluted by the application of chemicals. Most of these chemicals remain on the land as poisons even after harvest. One of such chemicals now banned from circulation is DDT (Heidi, 2008).

Atmospheric deposition

When the air is polluted, pollutants do not remain in the air but are usually dispersed and therefore not concentrated to the level of being pollution to the air as compared to the ground upon which all the pollutants fall onto. When it eventually falls into rivers and water bodies, it is referred to as water pollution but any of such that falls onto the land causes land pollution. The pollution that occurs as a result of already polluted atmosphere by falling on the land is atmospheric deposition. There are different ways through which the land can be polluted atmospherically. Fumes and fuel spills from moving vehicles pollutes the land close to the road. Most times when the weather is hot, dust from paved and tarred roads are pushed unto nearby land surfaces thereby polluting such land. Also, the deposits made on land from leads that drop from vehicle engines don't easily dissolve or washed away within a short time. Some of them stay long on the earth's surface thereby leaving the land polluted (Woodford, 2012).

Soil erosion

Most of the definitions of land pollution are pointed to the fact that all actions that lead to land pollution cannot be reversed. Soil is not a stagnant or constant as usually referred to but rather changes to fit the activities that are carried out on it. Therefore any activity either by man or natural disasters that changes the condition of soil is referred to as land pollution ((Woodford, 2012). The soil also needs to be nurtured and prevented from being polluted. Any human action that depletes or defaces the soil in any form is tagged as pollution. Land

pollution usually result into land degradation which is either caused by human activities or natural events like drought, volcanoes or floods.

EFFECTS OF LAND POLLUTION

The uniqueness of damages on land it's the unmovable nature of land when polluted. Unlike air that keeps moving or water that keeps flowing, when a portion of land is polluted, until cleaning takes place, that portion remain polluted (Woodford, 2012).

Effect on human health: heaps of garbage on land serve as breeding grounds for disease carrying bacteria, pest, vermin (mosquitoes, rats, snakes etc.) Outbreak of diseases such as malaria fever, yellow fever, Lassa fever, bubonic plague may originate from this source. There is need to carry out serious health checks of those living near polluted lands especially where solid and sewage wastes are dumped ("illness linked to contaminated land,"). When the land is polluted through contamination by some harmful chemicals, the air picks up some of the deposits that are in smaller particles which at times get stuck on human body resulting in some skin diseases and even obstruction of human breathing organs. So many diseases and infections are attributed to indiscriminate waste disposal through their closeness to crops planted on land for human consumption or by direct effect on human (Ogundele 2005).

RESEARCH METHODOLOGY

Data for this study were collected from primary and secondary sources. The primary sources of data collected were from physical survey and the administration of Eighty four (84) questionnaires, through Area Random Sampling Technique. This was used in the selection of the residents within the study area.

A total number of Eighty four questionnaires were administered on respondents in this research, and eighty (80) questionnaires were returned which is 95% return rate of the questionnaires administered. The questionnaire was administered during the weekends in order to effectively reach the respondents. Descriptive method of data analysis using frequency table and percentages was adopted in this research. Results of the analysis were presented using tables and graphs such as pie chart among others.

RESULTS AND DISCUSSIONS

Perception of Land Pollution by Respondents

The perception of the respondents as relating to land pollution is crucial as this gives a clue to their awareness of the fact that the land is being polluted. The results revealed that 65% of the respondents perceive that the land is being polluted while 24% of the respondents do not perceive any problem of land pollution in their neighbourhoods and 11% do not know if the land is being polluted at all as shown in Figure 1 below.

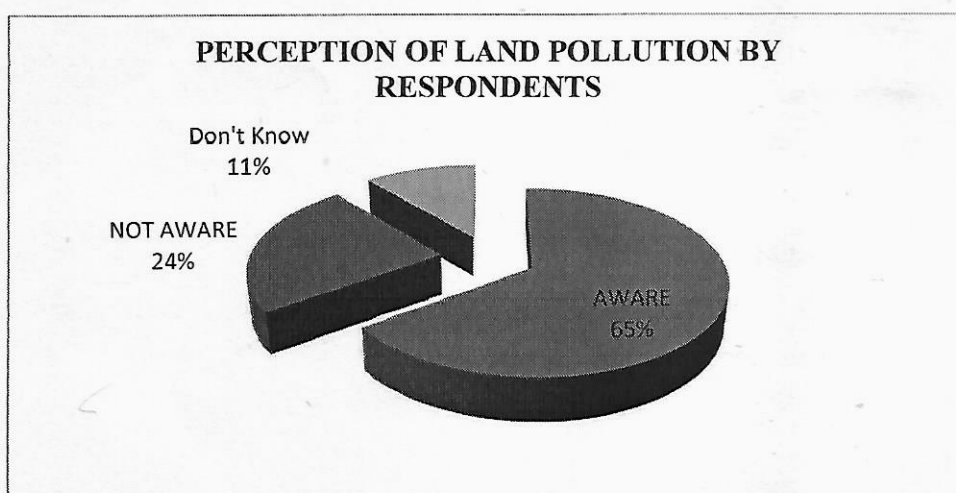


Figure 1: Perception of Land Pollution by Respondents

Author's Field work, 2018

Knowledge of the Effects of Land Pollution on Individuals

The resident's knowledge of the dangers of their actions and inactions will assist in providing solution to land pollution. The results as indicated in figure 2 below showed that 34% of the respondents are highly knowledgeable on the effects of land pollution while 58% of the respondents are knowledgeable on the effects of land pollution. 8% of the respondents in the study area are poorly knowledgeable on the effects of land pollution.

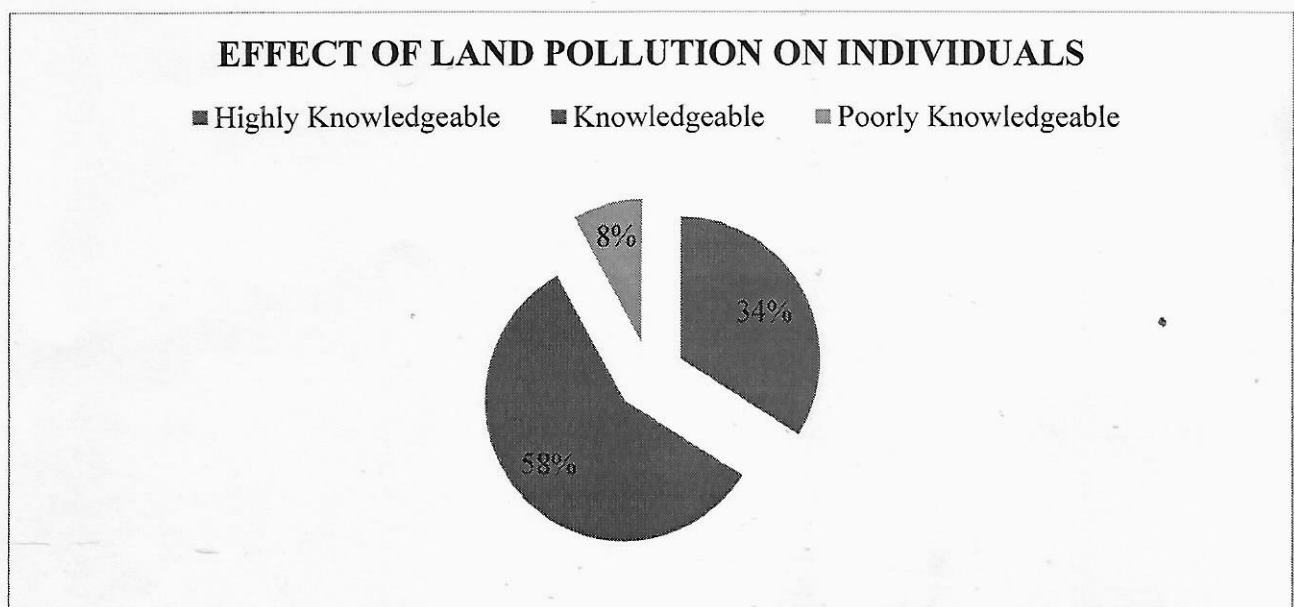


Figure 2: **Knowledge of the effects of land pollution**

Author's Field work, 2018

Sources of Land Pollution in Minna Metropolis

The sources of land pollution in the study area are traceable mainly to human activities in the area. The domestic activities in the area constitute the most prominent source of land pollution which results from the indiscriminate disposal of solid and sewage wastes generated from households and factories which are being dumped on streets and close to people's homes. The sources of land pollution from the study area are indicated in figure 3

below. The result shows that waste disposal counts for 50% of the source of pollution in the study area, soil erosion constitutes 22%, atmospheric decomposition constitutes 11%, agricultural chemicals and urbanization covers 7% each while mining activities counts for 3% of the land pollution.

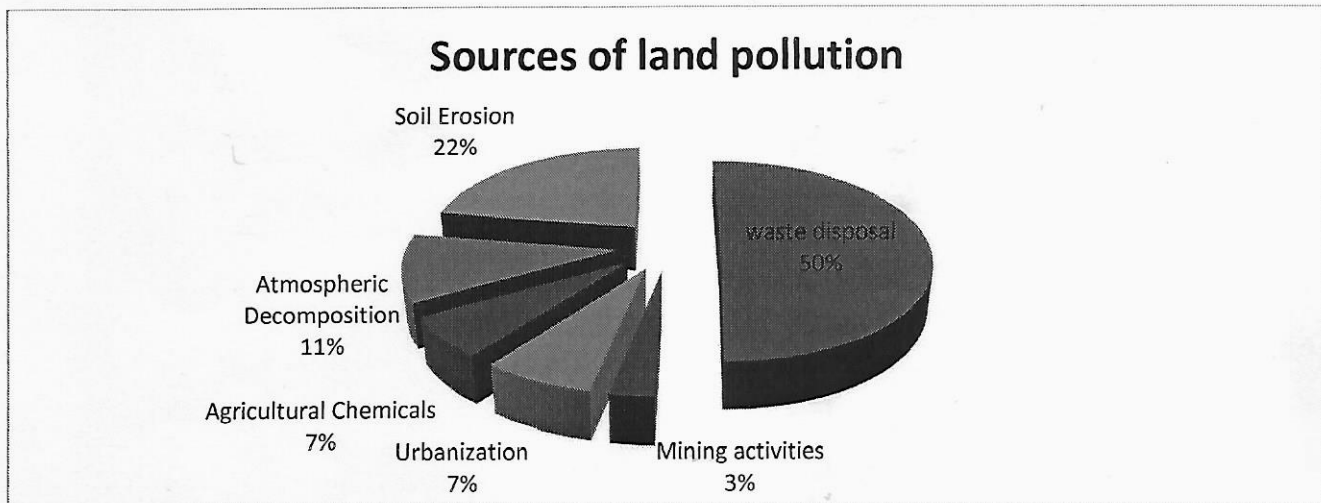


Figure 3: showing Sources of land pollution in Minna Metropolis *

Author's Field work, 2018

Effect of Land Pollution on the Residents of Minna Metropolis

The greatest threat of land pollution to the residents in Minna Metropolis is the outbreak of diseases which is as a result of the indiscriminate disposal of waste because the waste so disposed serve as breeding ground for disease carrying organism like Mosquitoes which is known for causing Malaria. Most of the respondents testify to the fact that they have suffered from Mosquito bites that has resulted to Malaria. From figure 4 below, 28% of outbreak of diseases is caused by land pollution, less attractive environment 19%, 17% of respondents are disturbed because of how it will affect children, 13% indicated that it contaminates water sources. Others are, 8% residents wants to move from their environment as a result the

effects, 8% reviewed that soil fertility is loss to land pollution. 4% landscape disturbance and 3% obstruction of free flow of traffic are all effects of land pollution in Minna metropolis.

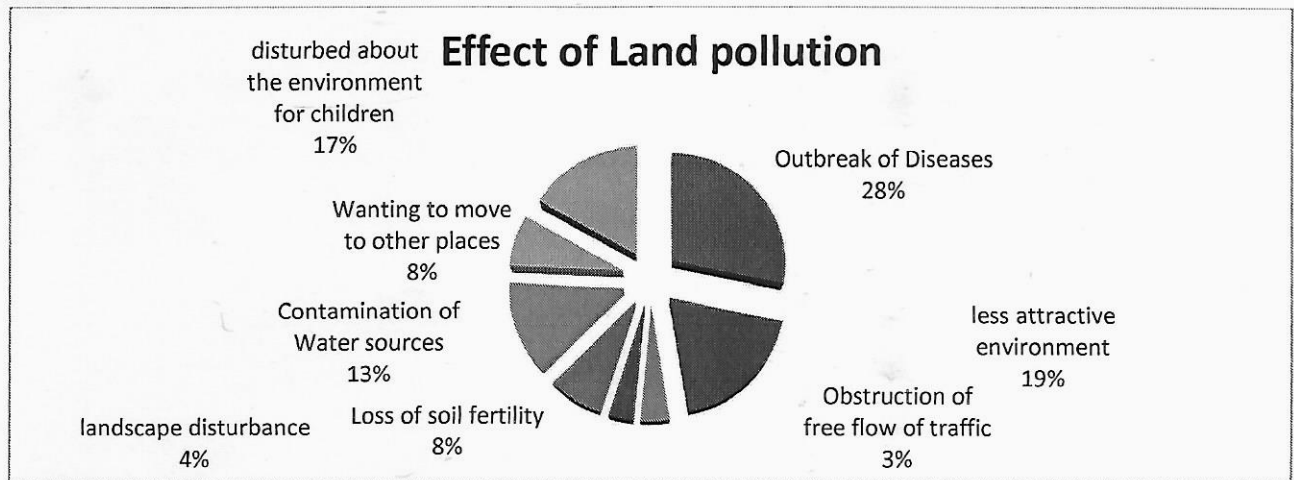


Figure 4: showing effects of land pollution in Minna Metropolis

Author's Field work, 2018

CONCLUSION

Most human activities here on earth take place on the land. The pollutants of air and water which have received commendable studies are all connected to the land. The research ascertained that the major source of land pollution in Minna Metropolis is the indiscriminate disposal of both solid and sewage wastes. It also indicated that only 34% of the residents of the study area are aware of the effects of land pollution. Furthermore, it was reviewed that outbreak of diseases like malaria fever are attributed to the effects of land pollution.

RECOMMENDATIONS

1. The creation of designated waste disposal sites should be encouraged and situated far from residential areas.
2. Laws should be enacted to sanction offenders of indiscriminate waste disposal. When the laws are enacted and sanctions meted on individuals, it will deter others from polluting the land.
3. Public Private Partnership should be encouraged in waste management through recycling of waste into useful products thereby reducing deposits on landfills.
4. Members of the public should be adequately educated and enlightened on the hazards of land pollution.

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**IMPACT OF LAND POLLUTION ON THE WELLBEING OF
NEIGHBOURHOODS IN MINNA, NIGERIA**

Ayuba Philip

School of Environmental Technology, Federal University of Technology, Minna, Niger State.

Abstract

Land represents the sojourn of man, it is the place where we live and carry out our lives activities. The world today is facing a serious challenge of pollution in diverse forms and land pollution is not an exemption. Land pollution deals with the introduction of harmful substances onto the land to such an extent that it affects the built environment and those that inhabit it. Land pollution results from the improper disposal of waste, mining, urbanization, agricultural chemicals, atmospheric decomposition, and soil erosion. This research seeks to look at the impact of Land pollution on the well-being of residents in Minna Metropolis with a view of proffering solutions to reduce the effects. The research adopted descriptive survey method and questionnaires were used as a tool to collect data. A total number of Eighty (80) residents in Minna metropolis participated in the survey. The findings reviewed that the major cause of land pollution in Minna metropolis is the indiscriminate disposal of Solid and Sewage waste. The research concluded that the heaps of waste on land serves as breeding grounds for disease carrying bacteria, pest, and vermin leading to diseases such as Malaria fever, Yellow fever, Lassa fever among others. The research recommended the creation of dump sites far away from residential buildings and the enactment of sanctions for offenders of indiscriminate waste dumping within Minna metropolis.

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