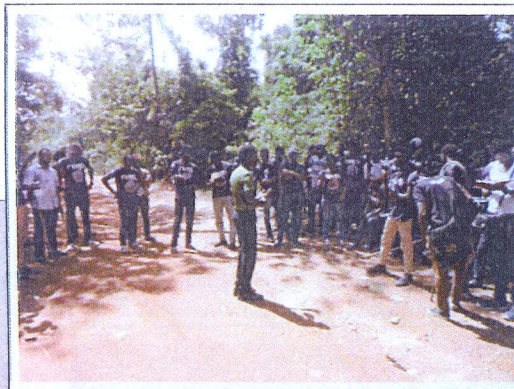




**ASSOCIATION OF NIGERIAN GEOGRAPHERS
57TH ANNUAL CONFERENCE**

**THE GEOGRAPHICAL PERSPECTIVES ON
NATIONAL DEVELOPMENT**

UNIVERSITY OF LAGOS MAIN CAMPUS
AKOKA YABA, LAGOS, NIGERIA
APRIL 11-14, 2016



A first attempt to describe the Geography of Nigeria's Development was by K.M. Buchanan and J.C. Pugh (in Land and People in Nigeria. It sub-divided Nigeria into three zones based on the geographical analysis of human impact on the natural environment. Some 23 years later, the work was followed by the Oguntinyinbo, A and Filani (1978) edited work on: A Geography of Nigerian Development. The book was the output of a regional conference of the International Geographical Union (IGU) hosted for Nigeria by the University of Ibadan. The themes covered the basic bio-physical and socio-economic issues of geographic dimension that are imperative to the sustainable development in the country. It attempted to exemplify the nexus between Nigeria's natural resources and the human factor. The above books have clearly demonstrated the unique place that Geography occupies as an academic discipline in providing the lead towards achieving national development. Being the most populous black nation and with one of the largest human populations in the world, Nigeria's experience towards addressing challenges of national development will no doubt serve as lessons to other nations of the world. At the same time lessons from other countries can immensely benefit Nigeria towards the same effort. Thus, if Geographers from Nigeria and other countries gather together and address issues affecting national development in their countries from the perspectives of the discipline, it is expected that inter-country lessons can be drawn. Overall human development effort would be better off. It is against the backdrop of rekindling interests in the Geography of Nigeria Development that the LOC considers The Geographical Perspectives on National Development as the appropriate theme and its selected sub-themes for the 2016 ANG Conference. The target audience is Geographers and all those interested in the discipline in Nigeria and beyond.



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**Theme: THE GEOGRAPHICAL PERSPECTIVES ON NATIONAL
DEVELOPMENT**

Venue: UNIVERSITY OF LAGOS MAIN CAMPUS, AKOKA YABA, LAGOS, NIGERIA

Date: APRIL 10 - 15, 2016

Conference Website: www.ang.edu.ng

LIST OF ABSTRACTS ACCEPTED FOR PRESENTATION

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| UNILAG ANG-002 | Community's Assessment of Environmental Change in the Savannah Sugar Project Area in Adamawa State, Nigeria | A.S. Yahaya, A.A. Adebayo & D. Bawa | Energy, Environment and Disasters (EED) | Department of Geography; MAUTECH, Yola, Nigeria; |
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| UNILAG ANG-004 | Impact of Elevation and Nearness to Water Body on the Warming /Cooling Rates in Jimeta Town, Adamawa State, Nigeria | A.I Abdulhamed, A.I.Magaji , SU Usman, and A.K.Usman | Weather and Climate Changes (WCC) | Department of Environmental Science; Federal University, Dutse |
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| UNILAG ANG-006 | Effect of Breaks and Dry Spell Occurrence on Moisture Effectiveness in Minna, Niger State | Abdulkadir, A., Osho P. A., Abdullahi J., Musa- J., Hassan, A.B. & A. Alhassan | Weather and - - Climate Changes (WCC) | Department of Geography ; Federal University of Technology; Minna |
| UNILAG ANG-007 | Farmers' Perceptions and Adaptation Strategies to Climate Change in Safana Local Government Area of Katsina State, Nigeria | Abdullahi, A., Abaje, I.B. and Jeje, O.G. | Weather and Climate Changes (WCC) | Department of Geography and Regional Planning; Federal University Dutsin-Ma; |
| UNILAG ANG-008 | Evaluation of the Effects of Safana-Tsaskiya Road to the Surrounding Environment, Safana Local Government Katsina State | Ibrahim Abdulrashid | Land Use, Planning and Conflicts (LPC) | Department of Geography and Regional Planning; Federal University; Dutsinma |

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| UNILAG ANG-373 | Understanding Climate Change over the Lagos Coastal Environment: What Meteorological Data Are Available and How Accessible are they? | Alabi Soneye, Mayowa Fasona, Olayinka Otusanya and M.K. Muiyolu | Weather and Climate Changes (WCC) | Department of Geography , University of Lagos, Akoka - Yaba, |
| UNILAG ANG-376 | Application of Chemometric Analysis on Agricultural Soil in Maitumbi, Minna for Heavy Metals Source Identification | Otache, M. Y., Animashaun, I. M., Adeoye, P. A., Kariim, I., Olorunsogo, S. T. and Salam, M. T , | Geomorphology, Soils and Mineral Resources (GSMR), | Department of Agricultural & Bioresources Engineering, Federal University of Technology, Minna |
| UNILAG ANG-377 | Unveiling the Nexus between Climate Change and Conflicts: A Review of Grey Literatures | Andrew Onwuemele (Ph.D.), | Weather and Climate Changes (WCC), | Social and Governance Policy Research Department, Nigerian Institute of Social and Economic Research (NISER), Ibadan |
| UNILAG ANG-378 | Assessment of Soil Erosion Vulnerability in Peri-Urban Kano for National Development | Ibrahim, M., M.H. Muhammad and A. A. Ibrahim, | Geomorphology, Soils and Mineral Resources (GSMR), | Department of Environmental Science, Federal University, Dutse, Jigawa State |
| UNILAG ANG-379 | Assessment of Groundwater Quality in Saminaka Town, Lere Local Government Area, Kaduna State, Nigeria | Ali Williams Butu, Ph.D., Samaila Alhassan Sati & Atsakiya Musa Raphael | Biodiversity, Water Resources and Hydrology (BWRH) | Department of Geography , Nigerian Defence Academy, Kaduna |
| UNILAG ANG-380 | Census Mapping and Development in Nigeria | : Onyekwelu C. A., N.O.Ukwocha and A.S.O. Soneye | Mapping and Enabling Governance with Geo-Information (MEGI) | Department of Geography , University of Nigeria, Nsukka |
| UNILAG ANG-381 | Analysis of Shoreline Changes and Management of the Effects in Lagos Coastal Area of Nigeria | Zachariah Haruna Mshelia | Energy, Environment & Disasters (EED) | Department of Geography , University of Ibadan, Ibadan, |
| UNILAG ANG-382 | Geomorphology, Soils and Mineral Resources (GSMR) | S. Yakubu (Ph.D.) | Geomorphology, Soils and Mineral Resources (GSMR) | Department of Geography , Osun State University Osogbo, |
| UNILAG ANG-383 | Residential Mobility in Sabon Gari Area of Kano Metropolis | Adetunji Adetope Oloruntade, | Urban/Rural Settlements, Population and Gender Issues (SPGI) | Department of Geography , Bayero University, Kano |
| UNILAG | A Review of the accessible Remote | Mayowa Fasona, | Mapping and | Department of |

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| UNILAG ANG-408 | Predicting Mobility of Cadmium (Cd) and Lead (Pb) in Contaminated Soil through a Mathematical Model | Animashaun, I. M., Olorunsogo, S. T., Otache, M. Y. I., Kuti, I. A., Abdullahi, M. B. and Ibrahim, J., | Geomorphology, Soils and Mineral Resources (GSMR) | Department of Agricultural and Bio-resources Engineering, Federal University of Technology, Minna |
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| UNILAG ANG-412 | Analysis of Location Pattern of Supermarkets in Uyo Urban, Akwa Ibom State | Ekaete Sunday Edet | Land Use, Planning and Conflicts (LPC) | Department of Geography, University of Lagos, Akoka -Yaba, |
| UNILAG ANG-413 | Impact of Agroforestry Practices on Rural Livelihood in Gwarzo Local Government Area, Kano Nigeria | Aisha Tukur Bello | Agriculture and Food Security (AFS) | Department of Geography, Federal College of Education, Kano |
| UNILAG ANG-414 | Palynological and GIS modelling of Climate and Landcover changes in the Lagos Coastal Environment | Oluwatoyin Ogundipe, Alabi Soneye, Mayowa Fasona, Shola Adekanmbi, Peter Adeonipekun, Temitope Onuminya and Kolawole Muiyolu | Energy, Environment and Disaster (EED) | Department of Geography, University of Lagos, Akoka Yaba |
| UNILAG ANG-415 | Assessment of Farmers Perception and Adaptation to Climate Change: For Sustainable Agriculture in Wukari Town, Wukari Local Government Area, Taraba State, Nigeria | Kehinde T. Oyatayo, Godwin A. Songu, Abuh O. Paul, Bagula A. Johns, Jidauna G. Godswill and Christopher Ndabula | Weather and Climate Change (WCC) | Department of Geography, Kwararafa University, Wukari, Taraba State |
| UNILAG ANG-416 | Assessing the Effective Implementation of Fieldwork in the Teaching of Geography in Senior Secondary Students in Kano, Nigeria | Nuratu Mohammed (Ph.D.) | Geography Education and Manpower (GEM) | Department of Geography, Bayero University, Kano, |

ID: ANG 2016 – 408_Abstract

Sub-Theme: Geomorphology, Soils and Mineral Resources (GSMR)

Predicting Mobility of Cadmium (Cd) and Lead (Pb) in Contaminated Soil through a Mathematical Model

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Abstract

Indiscriminate discharge of industrial effluent particularly pharmaceutical effluent on agricultural soils poses serious health risk to plant, animal and ultimately man. This study was carried out to predict the mobility of two of the most lethal soil pollutants (Cadmium and Lead). As such, the concentrations of Cadmium and Lead in soil at the initial point of effluent disposal and at subsequent points 4m, 8m, 12m, 16m and 20m away from the point source were determined. A simplified version of transport equation was used to simulate the mobility of the two metals in the soil using polymath professional version 6.1. The result showed that soils around the study area contained appreciable amounts of Cadmium and Lead which are above the FAO established limits for soil and thus could pose great health risk as they could be consumed through food chain. The metals concentration decrease with distance away from the point source of the effluent discharge. The simulated result showed a good level of agreement with the experimental data with a correlation coefficient of 0.92 and 0.94 for Cadmium and Lead mobility respectively. Thus the model can be considered as a good representation of the phenomenon of mobility of heavy metals in the soil.

Keywords: Industrial effluent, Agricultural soils, Mobility, Simulation, Point source pollution