8TH NATIONAL CONFERENCE ON ENVIRONMENT AND HEALTH

(Organized by the LivingScience Foundation, Ile-Ife CAC/IT/91834)

Venue: Precious Cornerstone University, Ibadan, Oyo State, Nigeria

Date: Tuesday, October 17 - Wednesday, October 18, 2023

Theme: Responding to Emerging Environment-Health Hazards in Nigeria



COMMUNIQUE

I. Preamble

The eighth National Conference on Environment and Health held on Tuesday 17th and Wednesday 18th October, 2023 at the Precious Cornerstone University, Ibadan, Oyo State. The Conference was convened by the LivingScience Foundation Ile-Ife, in conjunction with a number of strategic partners, including the Precious Cornerstone University, Ibadan, the Osun Health Insurance Agency, Osogbo, the National Environmental Standards and Regulations Enforcement Agency (NESREA), South West Zone, the Environmental Health Officers Association of Nigeria (EHOAN), Osun State Chapter, SEEMS (Ltd) Ikeja, Kapporeth Initiatives Abuja, Vine Care Schools, Abuja, and the EnvironLab, Obafemi Awolowo University, Ile-Ife.

The Conference featured two Keynote Speakers, seven invited Lead Speakers, and several other Speaker-Delegates who contributed to the Conference theme: **Responding to Emerging Environment-Health Hazards in Nigeria**. There were 110 registered participants representing 41 Institutions/Departments both from within Nigeria and abroad. The event was covered by local and national media houses.

The keynote speakers were: Prof Amos Fatokun, Professor of Pharmacology and Neuroscience at the School of Pharmacy and Biomolecular Sciences, Liverpool John Moores University, Liverpool, UK (virtual presentation via Zoom); and Dr. Sunday Adeleke Ojewale the immediate-past Secretary General for The West African Postgraduate College of Environmental Health (WAPCEH), Ibadan. The Opening Ceremony was co-chaired by Rev Bode Oluwusi, Chairman Board of Advisers of the LivingScience Foundation, Ile-Ife, and Prof (Mrs) Margaret K. Akinloye, retired Professor of Radiation and Health Physics, from Ladoke Akintola University of Technology, Ogbomoso. Other dignitaries at the Opening Ceremony included Dr Adeniyi Oginni, Executive Secretary/CEO of Osun State Agency for Control of HIV/AIDS, Osogbo, The Very Revd Remi Adegoke, retired Research Scientist at FIIRO, Lagos, Prof Oyedele Oketayo of the Department of Physics, Federal University, Oye-Ekiti, and key Officers of the Precious Cornerstone University, Ibadan, *viz* Dr Olajide Afolabi (Librarian), Mr Festus Oladokun (Bursar), Mr Abiodun Aderombi (Ag. Registrar), Mrs Tolulope Olatoyan (Internal Auditor) and Dr Sola Ajibulu (Chaplain).

The technical business was conducted in four sessions over the two days. In line with the theme, presentations were made identifying peculiar Environment-Health hazards (biological, chemical, ionizing and non-ionizing radiation) present

in the Nigerian Environment as well as possible responses to mitigate their impacts on human health. The Lead Speakers were: Prof Aliyu Jauro, DG and CEO, National Environmental Standards and Regulations Agency, Abuja (represented by Pastor Elijah Udofia, South West Zonal Director for NESREA); Prof Olugboyega Oyeranti, Dean, Faculty of Social and Management Sciences, Precious Cornerstone University, Ibadan; Alhaji Babagana Mustapha, Registrar/CEO, Health Records Officers' Registration Board of Nigeria, Abuja (represented by Dr Nasiru Sanni from the Nasarawa State University, Keffi); Prof Rachel Obed, Professor of Radiation and Health Physics, Department of Physics, University of Ibadan, Ibadan; and Prof Joshua Ojo, Professor of Health Physics and Environment, Obafemi Awolowo University, Ile-Ife. A special field Report on Environmental-Health activities at the Redemption City, Ogun State, was presented by Dr (San) Stephen Simidu, Head of the Environmental Health Department of the Redeemed Christian Church of God; and a similar Report on Environmental-Health activities at the Apapa Seaport was presented by Mrs Amarachi Udechukwu, Head of Ports Operations and Border Control at the National Environmental Standards and Regulations Enforcement Agency, Lagos Liaison office. Chairing the various technical sessions were Dr Maza Danjuma, from the Department of Physics and Engineering Physics, Obafemi Awolowo University, Ile-Ife; Dr Felix Okunlola, Head, Department of Biological Sciences, Precious Cornerstone University, Ibadan, and Mr Adeleke Ajani retired Director, NESREA.

The Conference keyed-in with the global Lead Poisoning Prevention Week (Oct 22 - 28) and featured key messages on lead poisoning from the WHO site (https://www.who.int/campaigns/international-lead-poisoning-prevention-week/2023), both in the conference Book of Abstracts and extensively during the special Seminar and Quiz for High School students. The annual event for High Schools attracted 30 participants (and ten teachers) from ten public and private high schools in Osun and Oyo States. The overall winner was Kingdom Mandate College, Ibadan. In the same vein, the 2023 AF Oluwole Prize, was awarded to Engr Olufunmbi Sode of FUNTEES Engineering & Environmental Services Limited. Lagos.
(see Profile at https://churcharise.blogspot.com/2023/10/2023-winner-af-oluwole-prize-engr.html)

II. Observations and Recommendations

In line with the Conference theme, the following Observations and consequent Recommendations were made.

1. THERE IS NEED FOR LOCALLY-DRIVEN RISK EVALUATION OF THE VARIOUS ENVIRONMENT-HEALTH HAZARDS IN THE COUNTRY.

Conference affirmed the nexus between Environment and Health, but further recognized that the relative importance of the various Environment-Health hazards is unique for each society. Hence risk evaluation and management have to be locally-driven, rather than directed by global organizations using one-size-fits-all paradigms, as is presently the case in our country.

RECOMMENDATIONS

i. The Conference congratulated the LivingScience Foundation for taking the initiative to promote local risk assessment of environment-health hazards through the annual National Conference on Environment and Health.
ii. The Conference commended the National Agency for Food and Drug Administration and Control (NAFDAC) on the successful tracking and courageous confiscation of mercury-laden soaps worth over a billion naira in Lagos as recently announced. It however urged the Agency to further take the bull by the horn and address the even more hazardous ongoing administration of mercury-laden vaccines (such as Hepatitis B, Influenza, and Tetanus-Diphteria vaccines in their multi-dose formats) to babies in the country. Conference insisted that NAFDAC should be bold to proscribe these products in Nigeria even as they remain proscribed in the developed nations, where they are produced and shipped to Nigeria. Conference counselled that NAFDAC should stop swallowing camels while dutifully straining out gnats.

2. DIOXINS REPRESENT A CLASS OF SERIOUS ENVIRONMENTAL HAZARD WITH AMBIENT LEVELS AND EXPOSURE PATHWAYS THAT MAY BE PECULIAR TO NIGERIA. YET THEY REMAIN LARGELY IGNORED, AND THE MANY OPPORTUNITIES FOR MITIGATING THEIR ADVERSE HEALTH EFFECTS THROUGH NATURAL PRODUCTS ABUNDANTLY AVAILABLE IN THE COUNTRY REMAIN UNTAPPED.

Conference noted that dioxins, are a major product of several industrial processes, as well as of open refuse-burning (especially of e-wastes) – a very widespread practice in Nigeria. These dioxins are known to persist in the environment for decades, accumulating in foods during that period. They have been implicated in various adverse health conditions including cancers, reproductive and developmental problems, and impairment of hormones and the immune system.

RECOMMENDATIONS

i. Through appropriate policy measures, processes that lead to the formation and release of dioxins should be identified, monitored, and strictly controlled.
ii. Research clarifying the roles of dioxins in initiation and promotion of cancers, as well as research into the possible use of the several natural products available in Nigeria for "targeted cancer therapies" should be ardently encouraged. These types of therapies are known to offer superior advantages over current standard chemotherapies.
iii. The collaboration offered by Prof Amos Fatokun of John Mores University, Liverpool, for such research, should be seriously embraced by local research groups in Nigeria, especially those who made various relevant presentations at the Conference.

3. MEDICAL PROCEDURES REMAIN THE LARGEST SINGLE CONTRIBUTOR TO EXPOSURE OF NIGERIANS TO IONIZING RADIATION. THERE IS ROOM FOR IMPROVEMENT IN SAFEGUARDING THEIR USE.

Conference noted that medical procedures constitute the single largest contributor to exposure to ionizing radiation in Nigeria. Despite the considerable efforts being made by the Nigerian Nuclear Regulatory Authority (NNRA) to ensure appropriate QA/QC practices at radiology facilities, it is common knowledge that standards at many facilities remain extremely appalling. Furthermore, poor public education on the hazards posed by ionizing radiation has resulted in such situations as pregnant subjects receiving medical exposures, contrary to the generally-accepted norm in Medical/Health Physics practice.

RECOMMENDATIONS

i. Beyond QA/QC monitoring of radiology facilities for licensing purposes, the NNRA is encouraged to facilitate the setting up of National Diagnostic Reference Levels (NDRL) for the various radiological procedures in the country. This will help individual radiology facilities

to routinely self-assess their practice; and promptly rectify issues before they become aggravated.

ii. Conference further urged that in promoting NDRLs, the NNRA should ensure that the general public is carried along. Heightened awareness by the public (including physicians who are the primary initiators for medical radiological procedures) would promote a more rationale use of ionizing radiation as well as compel government to play roles required of her.

4. INCREASING UNREGULATED DENSIFICATION OF SOURCES OF NON-IONIZING RADIATION IS LEADING TO EXPONENTIAL INCREASE IN THE HAZARDS THEY POSE TO THE NIGERIAN PUBLIC.

Conference noted that the most profound change in environmental conditions on the planet, a humongous 10^{18} – fold increase in the past few decades, is observed in the electrosmog level. Electrosmog refers to the pollution ("smog") arising from invisible microwave (non-ionizing) radiation associated largely with modern telecommunication. Sources of electrosmog in our environment include Base Tranceiver Stations (BTS) (aka GSM Masts/Towers), cell phones, airpods, navigational radar, smart meters, laptops, and several wifi-employing hands-free devices.

Conference further observed the increasing densification of BTS in our society, whereupon, for space and aesthetic considerations, more transmitters are simply loaded on existing BTS – without any new Environmental-Impact Assessment carried out. Well-established adverse health effects of electrosmog range from general non-specific symptoms known as electromagnetic hypersensitivity and increased susceptibility to infections; to specific adverse effects on the reproductive system, on growth and development, and ultimately various cancers.

RECOMMENDATIONS

i. The NESREA should take stock and re-invent ways to ensure that the extant regulations are strictly followed before siting of BTS. These would include proper Environmental Impact Assessment with appropriate townhall meetings.

ii. The current radiation safety standards specified by the non-governmental agency, the International Commission on Non-Ionizing Radiation Protection (ICNIRP), and which is based only on the thermal effects of non-ionising radiation should be revised in the

light of now well-established non-thermal effects of microwave radiation and associated adverse health impacts. Several countries have already adopted this measure to further protect their citizens.

iii. Government agencies responsible for telecommunication should collaborate to promote the delineation of Exclusion Zones for BTS, thus facilitating safer and more efficient use of this important technology in Nigeria.

iv. More public education on the proper and safer use of microwave radiation-emitting devices should be provided. Government and citizens must be cautious in embracing 5G technology, basing their actions on well-conducted risk evaluation.

5. EXTANT LAWS SHOULD BE APPLIED TO CURB ONGOING ENVIRONMENT-HEALTH CATASTROPHE ASSOCIATED WITH THE GOLD MINING INDUSTRY IN THE IFE-IJESA AXIS, IN OSUN STATE

While mining activities contribute significantly to the positive socio-economic development of many countries, it can also cause considerable adverse impact on the biophysical environment as well as on the social and health conditions of the people. The ongoing situation in the Ife-Ijesa axis of Osun State is especially appalling and has attracted several commentaries in the media. Yet little action is seen forthcoming.

Conference is concerned that the tragic situations that occurred at the gold mines in Zamfara and Niger states, about a decade ago, might repeat itself in Osun State if government continues to dilly dally on this critical matter.

RECOMMENDATIONS

i. It is appreciated that appropriate laws are in place to regulate organized mining operations in the country. If only these laws could be conscientiously enforced, the current display of impunity in the gold mining sector in Osun State could be drastically stemmed. Currently being breached with impunity are requirements such as conduct of comprehensive Environmental Impact Assessments (EIA) including townhall review and minimum 21 working days public display; and the deposit of bonds refundable only after proper closure of the mines at the end of the operations.

ii. Government of Osun State should urgently convene a general stakeholder meeting to squarely face the subject and redress the ugly situation.

6. PRIMORDIAL AND PRIMARY PREVENTION OF INFECTIOUS DISEASES SHOULD BE PRIORITIZED AHEAD OF SECONDARY PREVENTION TOOLS SUCH AS VACCINES AND PROPHYLACTICS.

Conference noted that, on the subject of environmental management and public health, our national interest as a developing country is best served by "primary prevention" of diseases. This entails managing the environment in a way that minimizes exposures that lead to diseases; rather than struggling to later deal with the aftermaths of such exposures via sophisticated technologies that in any case have to be sourced from abroad at considerable costs.

Conference is concerned about the humongous budgetary allocations and efforts that are often deployed to secondary prevention means, particularly vaccines. Indeed, primacy ought to be given to primary prevention while secondary prevention tools should be relegated to a secondary status.

RECOMMENDATIONS

i. Appropriate Water, Sanitation and Hygiene (WASH) measures should be provided in local communities. Provision of clean water should be seen as not just a social service, but a vital health service justifying whatever budget is required to provision it.
ii. A modern and efficient Health Information Records system is required to facilitate informed and effective primary prevention schemes. Emerging techniques including artificial intelligence and geospatial analysis should be deployed to address environment-health problems.
iii. Proven helpful traditional practices, such as exclusive and prolonged breastfeeding of babies must continue to receive government promotion and supports.

7. WASTE-TO-WEALTH INITIATIVES SHOULD CONTINUE TO BE RESEARCHED AND PRIORITIZED.

Conference considered that waste recycling represents a win-win scenario desperately needed in a developing nation like Nigeria in order to attain sustainable development. As demonstrated by presentations made at the Conference, poultry wastes could be incorporated into livestock feeds, while the tons of oil sludge produced in the oil and gas industry could be used to provide clinkers in the cement industry or asphalt for road construction. Several other examples abound.

RECOMMENDATONS

i. Close collaborations should be encouraged between the academia and industry, so that waste-to-wealth opportunities could be sought, discussed, and implemented as appropriate, using customized protocols.
ii. Involvement of Environmental Accountants will help neatly bridge the divide between the socio-economic and environmental-health dimensions and pave the way for overall sustainable development of our country.

III. Conclusion

The 8th National Conference on Environment and Health appreciates the invaluable contributions from various Speakers, in particular the eminent Speakers specifically invited and tasked to address certain sub-themes. It commends the LivingScience Foundation for the vision of forging inter-sectoral collaborations to tackle the most relevant environment-health challenges in the country using home-grown initiatives. The Conference acknowledges the considerable sacrifices this entails, especially in a period of prevailing socio-economic turmoil and thanks the Organization and her various Partners for their efforts. The Osun Health Insurance Agency is particularly commended for her unwavering support for the National Conference on Environment and Health over the years. Other similar Agencies in other States are enjoined to also subscribe to this laudable effort to promote informed primordial and primary prevention of diseases in Nigeria; and consequently set the country firmly on the path towards Sustainable Development.

Ile-Ife, October 27, 2023

IV. Signatures

Signed by key sectoral stakeholders at the Conference

Ismail Adeleke AJANI (M.Sc) Retired Director NESREA Southwest Zone Ibadan Oyo state	
Grace O. AKINLADE (Ph.D) Coordinator, EnvironLab, Department of Physics and Engineering Physics, Obafemi Awolowo University, Ile-Ife	
Margaret K. AKINLOYE (Ph.D) Retired Professor of Radiation and Health Physics, LAUTECH Ogbomoso	
Temitope AKINWUNMI, *fwapceh* (Ph.D) President, Environmental Health Officers Association of Nigeria (EHOAN), South West Nigeria.	
Rachel OBED (Ph.D) Professor of Radiation and Health Physics, University of Ibadan. Ibadan.	
Adeniyi OGINNI (MBChB, MPH, Ph.D, Cert MM4H) Executive Secretary, Osun Agency for Control of HIV/AIDS, Osogbo	
Sunday Adeleke OJEWALE *fwapceh* (Ph.D) Consultant Public Health, Ibadan, Oyo State and immediate past Secretary General, The West African Postgraduate College of Environmental Health (WAPCEH)	
Joshua O. OJO (Ph.D) Professor of Health Physics and Environment, Obafemi Awolowo University, Ile-Ife; and President, LivingScience Foundation, Ile-Ife	
Oyedele O. OKETAYO (Ph.D) Professor, Department of Physics, Federal University, Oye-Ekiti.	
Bode OLUWUSI (Rev) Chairman, Board of Advisers, LivingScience Foundation, Ile-Ife	
Gboyega OYERANTI (Ph.D) Dean, Faculty of Social and Management Sciences, Precious Cornerstone University Ibadan.	
Nasiru SANNI (Ph.D) Head, Department of Health Records and Information Management, Nasarawa State University, Keffi	

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Please download the Book of Abstracts and other resources from the Conference Website: http://conferences.lsfnigeria.org

V. APPENDIX: SOME INSTITUTIONS REPRESENTED AT THE 8TH NCEH

1. Centre for Biomolecular Sciences, School of Pharmacy, University of Nottingham, Nottingham
2. Department of Accounting, College of Management and Social Sciences, Bowen University, Iwo, Osun State.
3. Department of Accounting, Faculty of Social and Management Sciences, Precious Cornerstone University, Ibadan
4. Department of Agricultural Extension and Rural Development, University of Ibadan, Nigeria
5. Department of Anatomy, Faculty of Basic Medical Sciences, University of Ilorin, Ilorin, Kwara State
6. Department of Animal and Environmental Biology, Federal University, Oye, Oye-Ekiti
7. Department of Animal Sciences, Faculty of Agriculture, Obafemi Awolowo University, Ile-Ife
8. Department of Biological Sciences, Faculty of Pure and Applied Sciences, Precious Cornerstone University, Ibadan,
9. Department of Chemistry, Obafemi Awolowo University, Ile Ife, Osun State, Nigeria
10. Department of Educational Psychology, Federal College of Education (Technical), Akoka
11. Department of Environmental Health Science, School of Health Technology,
12. Department of Health Information Management, Nasarawa State University Keffi
13. Department of Microbiology, School of Biological Science, Federal University of Owerri, Imo state. Nigeria.
14. Department of Pharmacology and Therapeutics, Faculty of Veterinary Medicine, Domanhour University, Damanhour, AlBeheira, Egypt.
15. Department of Physics and Engineering Physics, Obafemi Awolowo University, Ile-Ife, Osun State, Nigeria
16. Department of Physics, Adeyemi College of Education, Ondo
17. Department of Physiotherapy, Redeemer's University, Ede, Osun State
18. Department of Science Laboratory Technology, Osun State College of Technology, Esa-Oke, Nigeria.
19. Department of Urban and Regional Planning, Obafemi Awolowo University, Ile Ife, Nigeria.
20. Environ Lab, Department of Physics and Engineering Physics, O.A.U. Ile-Ife
21. Faculty of Social and Management Sciences, Precious Cornerstone University, Ibadan
22. Federal University of Owerri, Imo state. Nigeria
23. Federal University Oye-Ekiti, Ekiti State
24. Health and Environmental Physics Research Laboratory, Department of Physics, Federal University, Oye-Ekiti, Ekiti State.
25. Health Information Management Department, National Hospital Abuja- Nigeria
26. Institute of Ecology and Environmental Studies, Obafemi Awolowo University, Ile Ife, Osun State, Nigeria.
27. Institute of Education, Obafemi Awolowo University, Ile-Ife
28. J.D Ameen Library, Federal University Dutse Jigawa State-Nigeria.

29. Laboratories for Biomembrane Research and Biotechnology Department of Biochemistry, College of Medicine, University of Ibadan, Nigeria.
30. Molecular Bio-computation and Drug Design Laboratory, School of Health Sciences, University of KwaZulu-Natal, Durban 4001, South Africa.
31. National Environmental Standards and Regulations Enforcement Agency, Osun State Office Osogbo.
32. Nutrition and Health-Related Environmental Research Laboratory Department of Physics
33. Obafemi Awolowo University Teaching Hospitals Complex, Ile Ife, Osun State.
34. Olorunda Local Government, Osogbo Osun State. Osun Health Insurance Agency, Osogbo
35. Oyo State College of Agriculture and Technology, Igbo-ora, Oyo State, Nigeria
36. School of Pharmacy and Biomolecular Sciences, Liverpool John Moores University, Liverpool, UK
37. School of Postgraduate Studies, Precious Cornerstone University, Ibadan, Oyo State,
38. SEEMS (Nigeria) Ltd, Ixora Drive, MKO Gardens, Ikeja, Lagos State, Nigeria
39. University of Ilesa, Ilesa, Osun State.
40. University of Ilorin, Ilorin, Kwara State
41. Window to the Womb, Ellesmere Port, England, United Kingdom,

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HIGH SCHOOL SEMINAR AND QUIZ: PARTICIPANTS

Ibadan Axis:
1. Christ Life College
2. J.G. Academy
3. Kingdom Mandate College
4. Olufunmi Miracle of God
5. Oritamefa Baptist School

Ile-Ife Axis:
6. Adepetu Schools
7. Dominion Covenant Academy
8. Moremi High School
9. Obafemi Awolowo University International School
10. Unique Schools