9TH NATIONAL CONFERENCE ON ENVIRONMENT AND HEALTH

(Organized by the LivingScience Foundation, Ile-Ife)

Venue: Obafemi Awolowo University, Ile-Ife, Osun State

23 – 24 October, 2024

Theme: BIOENGINEERING, BIODIVERSITY, AND SUSTAINABLE DEVELOPMENT: The Food, Health, and Environment Nexus







COMMUNIQUE

I. PREAMBLE

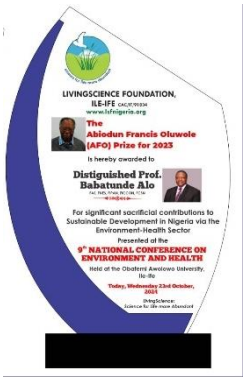
The ninth annual National Conference on Environment and Health held Wednesday 23rd and Thursday 24th October, 2024 at the Obafemi Awolowo University, Ile-Ife, Osun State. Day 1 event held at the Africa Centre of Excellence auditorium, while the event for Day 2 held at the Biological Sciences Lecture Theatres Complex. The Conference was convened by the LivingScience Foundation Ile-Ife, in conjunction with a number of strategic partners.

The Conference featured three Keynote Speakers, (one each from the academia, industry, and government), five invited Lead Speakers, and several other Speaker-Delegates who contributed to the Conference theme: BIOENGINEERING, BIODIVERSITY, AND SUSTAINABLE DEVELOPMENT: The Food, Health, and Environment Nexus. There were 96 registered participants in physical attendance while about a dozen others joined virtually through Zoom. Over fifty Institutions/Departments were represented at the Conference which had some 8 local and national media houses in attendance. Attendance at the Opening Ceremony (Delegates and Guests) was about 130.

The keynote speakers were: Prof **Bamidele Salau,** Professor of Biochemistry from the Redeemer's University, Ede, Dr **Agnes Yemisi Asagbra**, DG/CEO, National Biosafety Management Agency (NBMA), Abuja, and Dr **Lawrence Iwebor,** Chief/Leading Specialist at the Company "SOKO", Krasnodar city, Russian Federation. Dr Asagbra's presentation was delivered on her behalf via Zoom by Ms **Ngozi Miracle**, a Principal Scientific Officer at the NBMA. Dr Lawrence Iwebor's presentation via Zoom was hindered by poor network, and Prof **Joshua Ojo**, President of the LivingScience Foundation, filled up for him. Prof Bamidele Salau presented his erudite keynote in person. Delegates were welcome to the Opening Ceremony by the Vice Chancellor of the Obafemi Awolowo University, Prof **Simeon Bamire** (represented by the Deputy Vice Chancellor, Research, Prof **Akanni Akinyemi**) and also by the Dean, Faculty of Science of the University, Prof **Adeyinka Adesina**. The Opening Session was chaired by Prof **S.R.A. Adewusi**, former Vice Chancellor at the Westland University, Iwo, Osun State.

The technical business was conducted in three plenary sessions over the two days. The sessions were chaired by Mr **Ismail A. Ajani**, retired Zonal Director at the National Environmental Standards and Regulations Enforcement Agency (NESREA), Prof **Oyedele Oketayo**, Professor of Physics at the Federal University, Oye, Ekiti State, and Dr **Adeniyi Oginni**, retired pioneering Executive Secretary/CEO of the Osun Health Insurance Agency, and currently Lecturer at the Department of Public Health, Redeemer's University, Ede, Osun State.

The Conference also included a Workshop and Quiz Competition featuring seven High Schools from Ile-Ife and its environs (themed Prevention of Lead Poisoning). Also, the 6th edition of the **A.F Oluwole** Prize, recognizing significant sacrificial contributions to Sustainable Development in Nigeria via the Environment-Health sector was awarded to Distinguished Professor **Babajide Alo**, retired Professor of Chemistry from the University of Lagos, Lagos. While Prof Alo joined the Conference (from outside the country) via Zoom, he was physically represented by Dr **Soji Ilori**, Head of the Department of Electronics and Electrical Engineering, Obafemi Awolowo University.



II. OBSERVATIONS AND RECOMMENDATIONS

The Conference commiserated with the people of Majia, Jigawa State on the fuel tanker explosion that occurred in the night of 22nd October, claiming scores of lives. One of the Conference Lead Speakers, Dr Ado Garba, (from Jigawa), had to reschedule his presentation in order to provide support services to the victims of the explosion. [Conference is grateful to Dr Garba for finding the time to present his insightful Paper, via Zoom, on Thursday 24th]. The Conference urged an urgent comprehensive review of the nation's fuel distribution protocols in order to stem this kind of incidents which, unfortunately, has become rather rampant in the country.

The following Observations and consequent Recommendations were made at the Conference in line with the Theme.

1. ON GMO FOODS

i. Bioengineering involves unnatural re-arrangements of genetic materials in the living cell and is disruptive to biological diversity at the species and ecosystem levels. This has significant implications for Sustainable Development. Whereas the intervention of bioengineering may well be justified in certain limited spheres of applications, such as tightly supervised interventions in environment and health sectors, the benefits for applications in the area of Food is questionable. Even if these products were assumed to be absolutely safe and uncompromisingly nutritious, they still portend unacceptable grave danger to the hallowed concept of Food Sovereignty.

ii. It is not reasonable to expect commercial organizations to invest in production of transgenic seeds that will be able to faithfully reproduce themselves indefinitely – as true seeds are supposed to do. If the clients do not need to revert to the Producer from time to time (preferably every planting season), it is impossible for the effort

to succeed as a commercial venture. Food sovereignty and GMO foods therefore clearly cannot co-exist.

iii. The conference noted that, in actual fact, adverse health effects associated with GMOs have been abundantly demonstrated. For instance, the State of Mexico recently submitted a document referencing more than 150 peer-reviewed publications detailing adverse health issues associated with chronic ingestion of GMO foods. Conference concluded that even if GMO foods appear to be cheaper on the shelf, the ultimate cost (both to the individual consumer and to national health expenditure in general) makes it highly disruptive to the economy, and consequently, inimical to Sustainable Development.

iv. Conference noted that whereas the applications of GMOs in most of the few nations accepting the products involved exotic food products, fruits, and delicacies, the targets in Nigeria are our STAPLE FOODS. With GM beans and maize already given to commercial cultivation; and cassava and potatoes also slated for same in the near future, literally the entire staples in Nigeria are steadily being given over to this yet imprecise technology which is still in its infancy. **This situation is unprecedented anywhere in the world** and it clearly constitutes a grave threat to our long-term food security. Conference emphasized that the germlines being used for the production of these transgenic "seeds" are designed and developed as proprietary "black box" products by foreigners. We would need to revert to these foreigners as various issues develop over the years in the use of these GM products.

v. It is gratifying to note, from presentation made at the Conference, that the staff at the nation's watchdog agency on safety of bioengineered products, the Nigeria Biosafety Management Agency (NBMA), are not only qualified and competent, but are also quite aware of the risks involved in GMO foods.

vi. It is however extremely worrisome that the NBMA seems closed-minded to receiving informed positive criticisms that could help her in the discharge of her onerous task. For instance, at the Conference, a spokesperson for the Agency admitted ignorance of the existence of a critical review of the Agency's decisions in issuing the first Licence anywhere in the world for commercial cultivation of Bt Cowpea (Beans). Apparently, this very important peer-reviewed article is being discussed everywhere in the world, except at the NBMA! Titled: Deficiencies in the Risk Assessment of Genetically Engineered Bt Cowpea Approved for Cultivation in Nigeria: A Critical Review, it is available for free access at *https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8838765/*

vii. Even more worrisome is the clear realization that the enabling law and funding level of the NBMA make it extremely difficult for the Agency to successfully discharge her duties, no matter how hard the staff tried. For instance, according to current provisions of the law, it is the Producers of GM products that conduct their

own toxicity tests and the results are only passed on to the NBMA for review. Furthermore, even though the NBMA 2015 Act (Part VIII Section 32) frowns at the involvement of people with conflict of interest in carrying out the Risk Assessment for GMO products, current practice at the Agency apparently places the bulk of this assignment on the Product developers. The NBMA subsequently attempts to verify the claims submitted by the Producers via nationwide surveillance activities on the product's performance after release. Not only is the Agency's poor funding unable to accommodate such a humongous task, the whole procedure is clearly counter-intuitive.

viii. It is also deeply concerning that the NBMA is making virtually no effort to ensure appropriate labelling for the transgenic foods she is licencing. This is a stark violation of the requirements of the 2015 NBMA Act which calls for appropriate labelling and packaging scheme for transgenic foods (Section 23(2) h). Details are further specified in the First Schedule: ADDITIONAL INFORMATION REQUIRED IN THE CASE OF NOTIFICATION FOR PLACING ON THE MARKET.

ix. The Conference noted that increasingly, many countries are reviewing (and reversing) the approvals that the GMO foods advocates cunningly obtained - especially where food staples are concerned. In the last six months:

1. The Philippines revoked the permit for commercial GM rice (so-called golden rice) on April 17, 2024;
2. Mexico is currently insisting on stopping imports of GM Maize from the US, as maize constitutes a staple in Mexico, whereas it is only a delicacy in the US. Cultivation of maize within Mexico itself had been proscribed for over two decades; and
3. quite heart-warming, as the 9th National Conference on Environment and Health was about to kick-off, on Tuesday 22nd October, South Africa's Supreme Court gave ruling on a 9-year long appeal against the License issued for GM maize in that country. The judgement has now quashed the Licence, ending the frequently-cited example to justify an uncritical embrace of GM maize in Nigeria.

RECOMMENDATIONS:

i. Consequent to the above, Conference recommends that the NBMA Act 2015 (and as amended in 2019) be urgently reviewed to MANDATE the Agency to send GMO products seeking licensing to multiple reputable Universities and Research Institutions in the country, who would carry out not only comprehensive risk assessments, but also thorough chronic toxicity tests using animals. The results of such exercises, which should be published in peer-review journals, should then be used to guide the Agency's decision on such applications.

ii. Conference also recommends that the NBMA must be compelled to implement the requirement in the 2015 Act (Section 23 (2) h), that GMO products licensed by her are duly labelled. This will ensure that the public is adequately advised and given opportunity to make informed choice on what they feed into their bodies.

iii. Conference calls on all well-meaning Nigerians to prevail on government to PUT ON HOLD further approvals of GMO foods until nationwide surveillance of the performance of the already approved Bt, cowpea and GM (TELA) maize have been properly conducted to inform further decisions.

2. ON OTHER ENVIRONMENTAL DISRUPTORS OF BIODIVERSITY

Other major environmental disruptors of Biodiversity, with consequent implications for Sustainable Development, discussed at the Conference included Water, Sanitation, and Hygiene (WASH) conditions, Air pollution, Microwave radiation pollution (electrosmog), and Agrochemicals (pesticides, herbicides, and inorganic fertilizers). Conference noted the appealing potentials of Social Health Insurance schemes in mitigating the impacts of these environmental disruptors.

On WASH: Conference noted that the greatest contributor to morbidity and mortality in Nigeria is poor hygiene, occasioned by lack of access to clean water. Conference held that provision of potable water should be seen as a critical health intervention, and not just a social service. In particular, WASH infrastructure and education should be accorded priority funding ahead of secondary preventative methods - such as mass vaccination.

On Air pollution: Conference noted that industrial emissions, vehicle emissions, domestic emissions, and open burning contribute significantly to respiratory diseases.
New modalities for ensuring a workable and sustainable air pollution management in Nigeria were proposed and discussed. Conference also gladly noted that a new Air Quality Monitoring Station, to be called the AF Oluwole Air Quality Monitoring Station is being planned by mentees of Emeritus Prof A.F. Oluwole. The Station will be cited within the premises of the National Orthopaedic Hospital, Igbobi, Lagos.

On Electrosmog pollution: Conference noted that microwave radiation from Transceiver Base Stations and cell phones, constituting electrosmog pollution, has produced the greatest change in the ambient environment in modern times – an incredible 10^{18}-fold increase, since the 1950s! The impact of this radiation on navigation, migration, and breeding of animals and birds, has been well-established. This has consequent cascading impacts on pollination of crops, food for humans, and eventually Sustainable Development. The possible contribution of

NCEH 2024

radiation from cell phones in promoting antibiotic resistance in microorganisms was also noted.

On Use of Agrochemicals: Conference noted that modern monocropping technique depends heavily on agrochemicals such as pesticides and herbicides. Genetic Engineering attempts to meet this need in a number of ways including by making crops produce their own pesticides internally (e.g. with the insertion of genes from *Bacillus thuringiensis*), or making crops able to withstand massive dosing of herbicides (e.g. glyphosate-ready crops). There are however a number of serious concerns associated with these applications. Conference further noted the increase use of organophosphate pesticides (OPPs) and the reported significant ecological and health risks associated with these products, especially in the consumption of OPP-contaminated bananas.

RECOMMENDATIONS:

i. Provision of potable water should be seen more as health intervention rather than a mere social service. It should consequently be included in the health budget and accorded priority funding, as a means of primary prevention of infectious diseases, ahead of such secondary methods as vaccines. On this note, Conference cautiously welcomed the new R21/Matrix-M malaria vaccine, but CONDEMNED the plan to incorporate it into the routine childhood immunization schedule in the country. Apart from the published adverse health impacts associated with the vaccine, its mass deployment will considerably sap the health budget, and will adversely affect funding available for more proven effective traditional methods of malaria control.

ii. Conference appealed to the Federal Government of Nigeria to reform the governance of environmental pollution control system in terms of review of standard procedures, policy and regulations, deployment of emission control technologies, proper waste disposal and recycling systems, research and development, collaboration, public awareness and education. The reform will enable the Government to set environmental targets for all sectors in support of climate change programme, creation of jobs, and promotion of clean air shed in our Country. On agrochemicals, extensive education on use and abuse of the products, together with strict monitoring and regulation of their usage, is advocated.

iii. Overall, Conference noted the appealing potentials of Social Health Insurance schemes in mitigating the impacts of these environmental disruptors. However, at the present time, a number of disparities stick out, and they need to be creatively addressed in the Schemes. These include the exclusion of mental and cancer care

from the Schemes, disparities in the Socioeconomic sector, and also in the rural-urban dichotomy.

2. ON HEALTH INFORMATION RECORDS

Conference noted the vital importance of health records in providing evidence-based assessment of the effectiveness of Environmental-Health policies and interventions. According to the World Health Organization (2008) 'the health information system provides the underpinnings for decision-making and has four key functions, viz: Data generation, Compilation, Analysis and synthesis, and Communication and use.

Conference considered disconcerting, the revelation that the preponderance of research on health data are funded by foreign NGOs. Even more worrying are the reported stark discrepancies that are commonly observed when such data on Nigeria released by these foreign bodies are compared with similar data gathered under the auspices of local authorities. The possibility of the data being manipulated against the interest of Nigeria is therefore clearly indicated.

RECOMMENDATIONS:

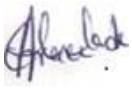
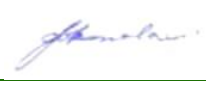
Conference strongly recommends that Government should pay serious attention to Health Information Management in the country, and strengthen it to serve as backbone for enacting policies in the Environment-Health Sector. Government should invest required funding to develop capacity to appropriately curate the vast environment-health data being continuously generated in the country and use these to enhance public health. Conference urges that every data-generating unit within the health sector should be staffed by well-trained and well-motivated Health Information Management professionals.

Ile-Ife, October 30, 2024

NCEH 2024

III. Signatures

Signed by key sectoral stakeholders at the Conference

Steve Adeniyi ADEWUSI (Ph.D) Professor of Nutritional Chemistry, Former Vice Chancellor, Westland University, Iwo, Osun State	
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, Osun State	
Temitope AKINWUNMI, *fwapceh* (Ph.D) President, Environmental Health Officers Association of Nigeria (EHOAN), South West Nigeria.	
Ado GARBA (Ph.D) Associate Professor, Department of Agricultural Economics and Extension, Federal University, Dutse, Jigawa State	
Olutoyin O. IKUTEYIJO (Ph.D) Lecturer, Department of Public Health, Redeemer's University, Ede	
Olusesan H. JOSHUA (Ph.D) Chief Operating Officer, SEEMS Limited, 23B, Ixora Drive, M.K.O Abiola Gardens, Lagos.	
Adeniyi OGINNI (MB.BCh, MPH, Ph.D) Retired Pioneering Executive Secretary/CEO, Osun Health Insurance Agency, Osogbo; Lecturer, Department of Public Health, Redeemer's University, Ede, Osun State	
Joshua O. OJO (Ph.D) Professor of Health Physics and Environment, Obafemi Awolowo University, Ile-Ife; President, LivingScience Foundation, Ile-Ife	
Oyedele O. OKETAYO (Ph.D) Professor, Department of Physics, Federal University, Oye, Ekiti State	
Bamidele SALAU (Ph.D) Professor of Biochemistry, Redeemer's University, Ede, Osun State.	
Nasiru SANI (Ph.D) Associate Professor, Department of Health Information Management, Nasarawa State University, Keffi, Nasarawa State	

IV. APPENDIX - SOME INSTITUTIONS REPRESENTED AT THE 9TH NCEH

- Achievers' University, Owo, Ondo State
- Adeleke University, Ede, Osun State
- Centre for Energy Research and Development, OAU, Ile-Ife
- College of Health Technology, Akure, Ondo State
- Department of Agricultural Extension and Rural Development, Federal University, Dutse, Jigawa State, Nigeria.
- Department of Agricultural and Environmental Engineering, Faculty of Technology, University of Ibadan, Ibadan, Nigeria
- Department of Civil Engineering, Morgan State University, Baltimore, USA
- Department of Geology, Obafemi Awolowo University, Ile-Ife
- Department of Physical Sciences, Olusegun Agagu University of Science and Technology, Okitipupa, Nigeria
- Department of Physics, the Federal Polytechnic, Ede, Nigeria.
- Department of Physics, University of Medical Sciences, Ondo, Nigeria
- Department of Urban and Regional Planning, University of Ibadan, Ibadan
- Environmental Laboratory Services, Ketu, Lagos
- National Malaria Elimination Programme (NMEP). Abuja, Nigeria.
- Health Financing Hub, Africa Economic Forum, Apo, Abuja
- Bamidele Olumilua University of Education, Science and Technology
- Covenant University, Ota
- Department of Anatomy, College of Health Sciences, University of Ilorin, P.M.B. 1515 Ilorin, Nigeria
- Department of Animal and Environmental Biology, Faculty of Science, University of Port Harcourt, Rivers State, Nigeria.
- Department of Chemistry and Industrial Chemistry, Kogi State University, P.M.B. 222, Kabba, Nigeria
- Department of Chemistry, Faculty of Science, Obafemi Awolowo University, Ile-Ife, Nigeria
- Department of Chemistry, Faculty of Science, University of Ibadan, Ibadan, Nigeria
- Department of Computer Sciences, Precious Cornerstone University, Ibadan
- Department of Environmental Health Science, School of Health Technology, Federal University of Technology Owerri, Imo State, Nigeria.
- Department of Environmental Health Sciences, University of Ibadan
- Department of Environmental Management and Toxicology, Faculty of Sciences, University of Ilesa, Ilesa, Nigeria
- Department of Environmental Management and Toxicology, Federal University of Agriculture Abeokuta
- Department of Geographical Information Science, African Regional Institute for Geospatial Information Science and Technology (ARIGIST), Obafemi Awolowo University Campus, Ile-Ife, Nigeria
- Department of Health Information Management, Nasarawa State University Keffi

- Department of Medical Physiology, School of Medicine and Pharmacy, College of Medicine and Health Sciences, University of Rwanda, Rwanda
- Department of Microbiology, Obafemi Awolowo University, Ile-Ife, Nigeria;
- Department of Physical Sciences, Redeemer's University Ede, Nigeria
- Department of Physics and Engineering Physics, Obafemi Awolowo University, Ile-Ife, Nigeria
- Department of Physics, Adeyeni College of Education, Ondo.
- Department of Physics, Federal University Oye-Ekiti
- Department of Physics, Joseph Ayo Babalola University Ikeji-Arakeji,
- Department of Physics, Kings University, Ode-omu, Osun State
- Department of Physics, Lancaster University, Lancaster, United Kingdom
- Department of Physics, Mountain Top University, Ogun, Nigeria
- Department of Physics with Electronics, Faculty of Sciences, University of Ilesa, Ilesa, Nigeria
- Department of Sociology and Social Works, Redeemer's University, Ede
- Department of Soil Science and Land Resources Management, Faculty of Agriculture, Obafemi Awolowo University, PMB 13, Ile-Ife, Nigeria
- Department of Zoology, University of Ibadan, Ibadan, Nigeria
- EnvironLab-UNIFECS, Obafemi Awolowo University, Ile-Ife
- Environmental Health Department, Obafemi Awolowo University Teaching Hospital Ile-Ife
- Environmental Management Program, Pan African University Institute of Life and Earth Sciences (Including Health and Agriculture), University of Ibadan, Ibadan, Nigeria
- Health Information Management Department, Obafemi Awolowo University Teaching Hospital Complex, Ile-Ife
- Independent National Electoral Commission Dutse Jigawa State of Nigeria
- Institute of Ecology and Environmental Studies, Obafemi Awolowo University, Ile Ife, Osun State, Nigeria.
- International Centre for Applied Mathematica Modelling & Data Analytics, Federal University Oye Ekiti, Ekiti State, Nigeria
- J.D Ameen Library, Federal University Dutse Jigawa State-Nigeria,
- LivingScience Foundation, Ile-Ife
- Local Government Service Commission, Osun State
- Management and Toxicology Unit, Department of Biological Sciences, Elizade University, Ilara-Mokin, Nigeria
- National Biosafety Management Agency, Abuja
- National Biotechnology Research and Development Agency, Abuja
- Osun State Field Office, National Environmental Standards and Regulations Enforcement Agency (NESREA), Osogbo
- Science Laboratory Technology, Federal College of Animal Health and Production Technology, Ibadan, Nigeria
- SEEMS Limited, 23B, Ixora Drive, M.K.O Abiola Gardens, Lagos.

V. PHOTO GALLERY



Welcome by DVC (Research), Prof Akanni Akinyemi



Welcome, by Dean of Science, Prof Adeyinka Adesina



Presentation of Plaque to Keynote Speaker



Rendering the National Anthem



Delegates Exchanges



Delegates Exchanges



Cross-section Audience



Cross-section Audience



Prof Akanni Akinyemi chatting with Mr Adeleke Ajani



Dr Soji Ilori standing in for Prof Babajide Alo



Dr O. Joshua delivering message from Emeritus Prof A.F. Oluwole





Delegates presenting







Delegates presenting

For further information, please contact:

Prof Joshua O. Ojo, Department of Physics and Engineering Physics,
Obafemi Awolowo University, Ile-Ife, Osun State, Nigeria
Telephone: 0805 710 6482, 0906 420 4203
Email: jojo@oauife.edu.ng, Joshua@lsfnigeria.org

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