

**COMMUNIQUÉ OF THE 20TH INTERNATIONAL CONFERENCE AND
40TH ANNUAL GENERAL MEETING OF THE NIGERIAN
INSTITUTION OF AGRICULTURAL ENGINEERS (NIAE) HELD AT
LANDMARK UNIVERSITY, Omu-ARAN, KWARA STATE FROM
16TH TO 20TH SEPTEMBER, 2019**

PREAMBLE

The 20th International Conference and 40th Annual General Meeting (AGM) of the Nigerian Institution of Agricultural Engineers (NIAE) tagged ‘Omu-Aran 2019’ was held at the Landmark University, Omu-Aran, Kwara State from 16th to 20th September, 2019. The theme of the conference was Innovations and Technologies for Sustainable Agricultural Mechanization and Livestock Transformation for Economic Growth. It was attended by over three hundred Agricultural Engineers and other related professionals from various higher institutions of learning within and outside Nigeria, Federal and State Ministries, Departments and Agencies as well as private organizations. A total of 54 students also registered for the conference. The opening ceremony was well attended. Papers presented at the conference included a keynote address, four lead papers and 165 technical papers addressing the various conference sub-themes.

INTRODUCTION

The opening ceremony was chaired by the President of the Nigerian Society of Engineers (NSE), Engr. Adekunle Mokuolu *FNSE* represented by the Vice President, Engr. Felix Ibitoye *FNSE*. In attendance were the Omu-Aran Traditional Council led by the Olomu of Omu-Aran, HRH Oba Abdulraheem O. Adeoti, HRH Engr. M. A. Adewuyi *FNSE, FNIAE* the Eleju of Iludun Eju and Engr. Ademola Olorunfemi *FNSE, FNIAE*, Past President, NSE. Prof. Michael Ngadi *PEng., FCSBE, FNAIE* of the Department of Bioresources Engineering,

McGill University, Montreal, Canada delivered the keynote address. Engr. Dr. A. S. Aremu *FNSE* (MD, Lower Niger River Basin, Ilorin, Kwara State), Dr. Darrin Drollinger (Executive Director of ASABE), Engr. Dr. M.Y. Kasali *FNIAE* (Executive Director, NCAM), Engr. Prof. A. O. Raji (REC, Ogun State) and Engr. Dr. Dcns. O. E. Akpoebidimiyen (Delta State Deputy Governor's wife) among others gave goodwill messages.

The opening ceremony was preceded by a plenary session chaired by Engr. Prof. Mike Faborode *FAEng, FNSE, FNIAE*. Four lead papers were presented at the plenary session; Engr. Professor J. O. Ohu *FNSE, FNIAE*, Professor Indra Mani (President, Indian Society of Agricultural Engineers), Engr. Professor Adeniyi Olayanju *FNIAE* and Engr. Professor M. K. Othman *MNSE, MNIAE* who was ably represented by Dr. Y. M. Abdullahi. The papers addressed issues of adaptability of conservative agriculture, appropriate technology for small farm mechanization and job opportunities for Agricultural Engineers. The papers also addressed the issues of climate change and water challenges. Various conclusions were drawn and also some recommendations were made at the end of the presentations.

Technical papers were presented in eight sessions which ran concurrently addressing the following sub-themes: Bioresources and Agricultural Engineering for Eradication of Poverty and Zero Hunger; Processing, Storage and Packaging Technologies for Food Security; Agricultural Policy as Relates to Agricultural Produce and Gender Issues; Soil and Water Engineering for Environmental Sustainability, Agricultural Production and Livestock Transformation; Farm Structures and Electricity for Good Health and Well Being; Emerging Technologies and Innovations for Production, Processing, Storage, Packaging of Agricultural Produce and Livestock Transformation; Climate Change and Adaptation of Renewable Energy Resources for Affordable and Clean Energy and

Agricultural Mechanization, Power Farming, Automation and Global Partnership for sustainable Development.

At the end of the conference, critical issues were observed and recommendations made to enhance successful implementation and sustainability of Agricultural Engineering infrastructure for food and agro-industrial raw materials production towards economic recovery of Nigeria.

OBSERVATIONS

The following observations were made during the conference:

1. The importance and role of Agricultural Engineers to nation building cannot be over-emphasised because they are problem solvers for humanity.
2. The population of Sub-Saharan Africa is expected to reach 1.8 to 2.0 billion by 2050. There is increasing demand for food for the teeming population. Nigeria is the problem without clear focus on how this demand could be met genuinely. Food security can be met through development and deployment of technology to agricultural production and value addition.
3. Soil degradation is rapidly causing a decrease in soil productivity due to land misuse. This is a major threat to agricultural sustainability and environmental quality.
4. Mechanization is multi-sector activity which include Farmers, Research and Development (R&D) Institutes, Manufacturers and Corporate Sectors.
5. Farm mechanization has become key to agricultural production system in similar developing nations like India where large scale manufacture of tractors and equipment has promoted rapid agricultural mechanisation in several ways.
6. Level of students enrolment into Agricultural Engineering programmes in Nigerian Tertiary Institutions is relatively low in comparison to other

engineering courses. Agricultural Engineering is multi-disciplinary, therefore, a multi-disciplinary approach is required in its training.

7. The impact of Climate Change in Nigeria varies within the regions and the impacts are visible occurrences of increase in flooding and drought leading to decrease in the production of major crops like maize, rice and wheat in some regions.

RECOMMENDATIONS

The following recommendations emanated from the conference:

1. Government should encourage the training of more Agricultural Engineers.
2. Government should as a matter of urgency develop critical infrastructure to boost food production.
3. Conservation Agriculture is the needed practice of tillage to sustain ecology and yield increases from agricultural systems through improved and sustained productivity, increased profits and food security while preserving and enhancing the resource base and the environment.
4. Strong capacity for networking and partnership should be developed among stakeholders in Agricultural sector.
5. All agricultural machinery in the country either imported or manufactured should be made to go through proper evaluation and standardisation by the appropriate agencies such as National Centre for Agricultural Mechanization. Local production of equipment and machinery is the best for our mechanization. Adaptation of new innovations, sense of value for our own products and systems and government willingness are still lacking and should therefore be promoted.

6. The curriculum of Agricultural Engineering be revised to reflect the change of name to Agricultural and Biosystems or Bioresources or Environmental Engineering, which will encourage students' enrolment.
7. Government should encourage research in the development of crops resilient to climate change and emphasise the application of climate-smart agriculture through information technology.

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