

THE INSTITUTIONALIZATION OF R & D THROUGH PROBLEM-SOLVING RESEARCH AND PARTNERSHIP WITH THE INDUSTRY: THE INESCAPABLE CATALYST FOR NIGERIA'S VERITABLE QUEST FOR A MORE COMPETITIVE KNOWLEDGE ECONOMY

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KEY NOTE ADDRESS BY THE EXECUTIVE SECRETARY OF TETFUND, PROF. SULEIMAN ELIAS BOGORO, (FAS), AT THE INUAGURATION OF TETFUND'S RESESEARCH AND DEVELOPMENT (R & D) STANDING COMMITTEE (RDSC) ON 24TH SEPTEMBER, 2020 AT CONGRESS HALL, TRANSCORP HILTON, ABUJA BY THE HON MINISTER OF EDUCATION, MALAM ADAMU ADAMU

PROTOCOLS.

Today, we are standing on the threshold of history as we are all gathered to witness what I consider the first step in our journey and quest to join the comity of knowledge economies of the world. It is, therefore, with a heart full of joy and a sense of fulfilment that I welcome the Honourable Minister of Education and all the distinguished and illustrious sons and daughters of Nigeria that have honoured our invitation to grace this occasion. You are welcome.

The primary purpose of our gathering here today is to officially inaugurate the Research and Development Standing Committee (RDSC) approved by TETFUND Board of Trustees (BOT) to redefine our focus and drive a paradigm shift in our R&D enterprise. For far too long, there has been a palpable and worrisome disconnect between the academia and industry such that research in our tertiary institutions had become merely a tool to climb the academic ladder. For industry, it was more convenient to shop for innovations and the results of research findings in other climes outside the shores of Africa. This unpatriotic and unproductive

orientation, offends one of the United Nations Sustainable Development Goals (SDGs) which identifies traditional and indigenous people as the centre of development.

It must first be acknowledged that the administration of President Muhammadu Buhari has taken many significant initiatives in providing a framework for the development of Science and Technology (S&T) by mainstreaming it into our national development strategies. That is the way to go because the level of investment by governments in innovative research and development as well as education determines the global competitiveness of their economies (Bogoro, 2014)

Let me therefore, express my deep appreciation to The President of Federal Republic of Nigeria because of his leadership foresightedness as exemplified in the new development plan of his administration. On September 10, 2020 at the inauguration of the National Steering Committee to oversee the development of the ‘Nigeria Agenda 2050 and Medium-Term National Development Plan (MTNDP),’ which succeeds ‘Vision 20:2020 and the Economic Recovery and Growth Plan (ERGP) 2017 – 2020, Mr President stated that the main objective of the new development plans of the Federal government led by him are to lift 100 million Nigerians from poverty in the next 10 years following World Bank’s projection that Nigeria will become the third most populous country in the world in 2050 with over 400 million people. According to him, the Chinese development plans, which he said had brought no fewer than 700 million people out of poverty in the last 40 years is a good example to imitate. He added that China’s development agenda only suffered a setback in the first quarter of this year as a result of COVID-19 outbreak. He said COVID-19 pandemic, which has created economic crises for both Nigeria and the entire world, also has its own inherent opportunities which he said presented the country with the platform to think and chart the part of progress.

With 26 working groups and a National Steering Committee, the core driver of the new agenda going forward is **QUALITY EDUCATION** that will facilitate the achievement of the set deliverables within the time frame. At the core of global evolution of educational advancement especially content component of educational packages is the Research and Development. No nation in the world have attained greatness without sound and qualitative education with Research and Development playing the central developmental pivotal for sustainable development.

Impact of COVID-19 Pandemic on world economy manifested in Nigeria with devastating effects of slowing economic activities. Severity of COVID-19 impact on Nigerian economy recorded overall economic contraction in GDP growth rate of -6.10% by the 2nd Quarter 2020. During this period, only the Agriculture sector recorded positive growth rate at 1.58% in real terms while Industries and Services posted massive contraction of -12.05% and -6.78% growth rate respectively.

Similarly, I wish to use this opportunity to thank The Hon Minister of Education, Malam Adamu Adamu, for giving me a blanket cheque after he recommended my historic reinstatement by the President January last year as Executive Secretary of TETFUND, he told me to do anything that I am convinced is right and good for Nigeria, provided it does not breach our laws. With new impetus, I proceeded to work in harmonious closeness with the TETFUND BOT, and to the credit of the BOT, they have given me all the support I have needed and requested them to bring us to this event.

For too long, there has been a palpable and worrisome disconnect between the academia and industry such that research in our tertiary institutions were merely a means to climbing the academic ladder, and mostly for promotions, rather problem solving for the good of our nation.. For industry, it was more convenient to shop for innovations and the results of research findings in clime outside the shores of Nigeria since the academia have developed thick walls and create artificial valleys that prevent the industry to leverage Research outputs in our Tertiary institutions.coupled with the mutual distrust between academia and industry, these factors have negated the principles of United Nations Sustainable Development Goals (SDGs) which identifies traditional and indigenou people at the center of development. It must be acknowledged however that Administration of President Muhammadu Buhari has taken many significant initiatives in providing a framework for the development of Science and Technology (S&T) by mainstreaming it into our national development strategies. This can be viewed with the lens of 50% increament in the National Research fund of TETFund in 2020 approved Budget. Specifically, the Board of TrusteeS of Tetfund having realized the position of content development especially the place of R & D in global ranking of Tertiary institutions recommended the increment of NRF from N5 Billion in 2019 to N7.5Billion in 2020. Mr. President through the Honorable Minister of Education Mal. Adamu Adamu graciously approved the recommendation and am happy to inform all of us that with this feat, NRF is the foremost and largest funding window for research in Nigeria today. Thanks to Mr President for his vision, and so and the least we can do is to reciprocate this gesture by engaging in the

R&D expedition that will result in goods and services that responds to our national aspiration and mitigate our national challenges, including the unfortunate insecurity situation in the country.

Appropriately, therefore, the main aim of gathering some of Nigerians best brains at home and in the diaspora to drive our science, technology and Innovation cannot be faulted. We at TETFund believe that nothing should be spared in pursuing a deliberate investment in R & D as it remains the most potent strategy to pilot the affairs of this country towards sustainable development and global competitiveness

Our shared vision in delivering on this national assignment is the mainstreaming of R&D as the catalyst of inclusive growth and sustainable development of Nigeria's knowledge economy. Together at RDSC, we are on the mission of Institutionalization of R&D as the driver of Nigeria 21st Century development agenda within the context of triple helix model and more importantly quadruple helix model where the society becomes the fourth pillar of development agenda.

The main goal of RDSC is therefore “Fast tracking Nigeria's global competitiveness in product development and service delivery by leveraging innovation systems led by R&D”

The key strategic focus is:

- Institutionalization of R&D in Nigeria
- Content development in our tertiary institutions for improved global rankings
- Stimulate the development of R&D units and departments in private and public enterprises/organizations in Nigeria
- Establishment of National R&D foundation for sustainable funding and management
- Mainstreaming R&D solutions for economic diversification
- Frontloading R&D for policy, program and project development by governments at all levels

We can improve on the ranking of our universities in Nigeria through deepening research, building our manpower capacity and enhancing our research infrastructural base. It looked like an utopian target from the beginning, but I am happy to take note that TETFund has through its deliberate interventions in our Tertiary Institutions over the years achieved some significant milestones in this journey. We may not be there yet, but we are not where we used to be. Nigeria has 6 universities in the overall [Times Higher Education World University Rankings](#).

The highest-ranking university in Nigeria is [University of Ibadan](#), which is ranked at number 401–500. [Times Higher Education World University Rankings](#) take the top institutions in the world, and look at their performance across all of their core objectives:

- Teaching
- Research
- Knowledge transfer
- International outloo

TOP UNIVERSITIES IN NIGERIA IN 2020

University	Rank*
University of Ibadan	401–500th
Lagos State University	501–600th
University of Lagos	601–800th
Covenant University	801–1000th
University of Nigeria Nsukka	1001+

The new global ranking by webometrics based on Digital visibility reported as follows:

Ranking	World Rank	University
1	1233	University of Ibadan
2	1677	University of Nigeria
3	1704	Covenant University Ota
4	2077	Obafemi Awolowo University
5	2094	University of Lagos
6	2216	Ahmadu Bello University
7	2726	University of Ilorin
8	2935	Federal University of Technology Akure
9	3057	Adekunle Ajasin University
10	3182	University of Port Harcourt

RANKING OF UNIVERSITIES IN AFRICA BASED ON RESEARCH- SCIMAGO INSTITUTION RANKS 2020

Africa Ranking	Global ranking	Institutions
1	227	University of Cape Town, South Africa
2	243	University of Pretoria, South Africa
3	275	University of the Witwatersrand, Johannesburg, South Africa

4	295	Stellenbosch University, South Africa
5	297	Cairo University , University
6	308	University of KwaZulu-Natal, South Africa
7	330	University of Gondar, Ethiopia
8	343	Makerere University, Uganda
9	348	Muhimbili University of Health and Allied Sciences, Tanzania
10	351	Covenant University, Nigeria

<https://www.scimagoir.com/rankings.php?ranking=Research>

Score Indicators of Scimagoir on Research

FACTOR	INDICATOR	WEIGHT
Research (50%)	Normalized Impact (NI)	13%
	Excellence with Leadership (EwL)	8%
	Output (O)	8%
	Scientific Leadership (L)	5%
	Not Own Journals (NotOJ)	3%
	Own Journals (OJ)	3%
	Excellence (Exc)	2%
	High Quality Publications (Q1)	2%
	International Collaboration (IC)	2%
	Open Access (OA)	2%
	Scientific Talent Pool (STP)	2%
Innovation (30%)	Innovative Knowledge (IK)	10%

	Patents (PT)	10%
	Technological Impact (TI)	10%
Societal (20%)	Altmetrics (AM)	10%
	Inbound Links (BN)	5%
	Web Size (WS)	5%

Clearly, the above analysis justifies the need for today’s inauguration and the need to commence work in earnest. Nigeria is yet to be well position globally despite our potential in human and material resources. This is the challenge I have humbly invited all of us here today to confront headlong with renewed dedication, commitment and supports. The Thematic areas of groupings were carefully selected in line with the Federal Government of Nigeria interventions through Economic sustainability plan and the New development plan of MR President Post ERGP & Vision 20:2020 which expires December 2020. The ultimate goal is to crystalize this effort into the floating of a National R&D Foundation. It is our conviction that appreciable R&D funding will catalyze the competitiveness of Nigeria’s economy and race Nigeria Towards Knowledge economy.

Nations that recognize and apply the Triple/Quadruple Helix model that espouses the synergy among Government/Development partners, academia/ research institutions, industry/ business have re-written their national narratives from the back waters of under development to a knowledge driven economy.

Distinguished Ladies and Gentleman, the world has gone beyond just decorating academics with exalted titles in our tertiary institutions and research outfits. There has to be a veritable paradigm shift in our quest for a more competitive technology and economy through a decisive departure from the old order. Governments, Academia and industry must interface in a sustainable manner that produces goods and services for local consumption and export. Any research that does not hold out commercial possibilities is, in my view, an effort in futility against the emerging realities of these times and seasons.

The establishment of the National R&D Foundation (NRDF) has become an inescapable option as the largest basket for the sustainable funding of Research and Human capital Development. The NRDF is not a Novelty. We won't waste our time rediscovering the wheel when R&D models that have transformed nations exist for us to adopt and domesticate to suit our peculiar.

For example, in the UK, the Secretary of State for Business, Energy and industrial strategy, in line with what we are trying to do here, said “our commitment to increasing UK investment in R&D to 2.4% of GDP by 2027 and to increase public funding for R&D to £22 billion per year 2024/25 will allow us to make major strides towards this goal. We will use this investment to raise domestic and international business investment into UK's R&D, increase economic productivity and prosperity through new products, services and Jobs and helping to transform our public service.” (Sharma, A. 2020).

To galvanize our vision towards making R&D the ace and game changer in our national development agenda, the need for an appropriate law to support the establishment of a NATIONAL R & D FOUNDATION (NRDF) cannot be overstated. We need a robust institutional framework and arrangement for the NRDF. I am recommending a minimum annual budgetary threshold of One billion USD (\$1b) as the funding portfolio for this Foundation. When we consider the inevitable benefits of R&D and the socio-economic challenges in Nigeria, this amount begins to look like a drop of water in the ocean – population of 200 Million people in 2020 and projected to become double in 10 years from now! However, we are aware that a journey of a thousand miles begins with one step. The Holy book enjoins us not to despise the days of little beginnings.

This recommended minimum seed money of ₦1b should be considered as a necessary incentive by government to kick-start the activities of the NRDF. It is envisaged that the Private sector of the economy should pick up the gauntlet to steamroll the lofty initiative by taking ownership of it.

Honorable Minister, Sir, distinguished ladies and gentlemen, R&D is historically the most cited Metric of innovation in any economy. The Asian Tigers share development policy instruments in common which include, but not limited to disciplined and accountable government, heavy investment in human capital, particularly in science and technology, for R&D to drive their industrial development based on export promotion. A recent guideline published by The Department of Business, Innovation & Skills (BIS) stated that “ R & D begins when work on resolving scientific or technological uncertainty commences, and ends

when that uncertainty has been resolved or abandoned. This will probably include a range of activities, part of which directly or indirectly contribute to the advances sought". BIS established the Fact that the rate of returns from investment in R&D is Between 10 and 50 percent.

In Malaysia, taxes are imposed on rubber, palm oil and timber to fund their Research Institutes for Rubber Palm oil and forestry. Same scenario obtains in tea production in Sri-Lanka, Kenya also has special taxes on the tea, coffee and sugar industries to support her Research Foundations in those products. Reforming our Tax laws in Nigeria is Imperative for us to reap the full benefits of this national foundation. We can as well leverage the Corporate social responsibilities of the organized private sector to fund this evolving foundation.

The fact must not be lost that the ETF (now, TETFund) innovation has become the magic wand that has transformed both the land scape and skyline of our public tertiary educational institutions in Nigeria. Credit must be given to the Academic Staff Union of Universities for thinking out of the box by making a case for the establishment of Education Trust Fund (ETF) which has metamorphosized into TETFund . ASUU's creative thinking and patriotic visioning gave Nigeria the Oxygen of Public Tertiary Education (Universities, Polytechnic and Colleges of Education) known as TETFund. The Honorable Minister, sir, permit me to challenge Nigerians, especially the egg-heads we have assembled here today to don their thinking caps and illuminate our R&D pathway for National socio-economic rejuvenation.

We shall work together in the next one week to deliver on the following major items:

- Conceptual framework for establishment of R&D foundation in Nigeria
- Strategic planning for the institutionalization of R&D in Nigeria for economic diversification, global competitiveness & knowledge economy
- Development of road map & work plan on the establishment of R&D Foundation
- Propositions on the funding arrangement & implementation strategies - R&D for Nigeria's knowledge economic development and establishment of NRDF
- Institutional and Legal framework, Agenda setting & Policy review - Institutionalization of R&D in Nigeria
- High Profile Cross cutting discussion & Draft Reports presentation

Thirteen sector-based thematic areas have been identified by the RDSC for our research attention. They are:-

1. Agriculture (including Climate Change, Food Security, Food Science and Technology, etc)
2. Environment and Bioresources
3. Medicine - One Health (Human, Farm Animals. Wild Life, etc)
4. Pharmaceuticals
5. ICT/Digital economy
6. Petroleum/Fossil resources, Solid minerals and Mining
7. Industrialisation, Manufacturing Trade and investment & Economy
8. Engineering, Technology and Mineral science development
9. Infrastructure development
10. Education
11. Energy
12. Governance, Social development and Internal security
13. Defence and Military

The Technical Coordination Team has been working at the back end to develop the appropriate tools, soft infrastructures and instrument to guide the whole process and make the technical session successful. With 13 Thematic groups, i foresee an outstanding outcomes of this one week intensive engagement. With the enthusiasm I see here, the future of R&D and indeed Nigeria, looks encouraging with the human capital on ground, there is no reason why we should not be hobnobbing the high and mighty in the global knowledge community. In the words of President Muhammadu Buhari.

“My administration will take concrete actions to correct the neglect of research, Science and technology by past governments. My administration will dedicate more resources and energy to the sector because no country could make progress without serious commitment to the development of science and technology” (Buhari, 2015)”.

The potentials these vast resources in this country are unfathomable. Indeed, they are mindboggling.

Hon Minister of Education, Chairman of the Board of Trustees, Alh Kashim Ibrahim-Imam , Chairman and distinguished members of this great Committee, ladies and gentlemen, the Research and Development Standing Committee (RDSC) that we are about to inaugurate is an epoch event in the annals of R&D in this country. May I congratulate you, Honourable Minister, eminent members of the RDSC and the supporting Technical Coordination Committee, for writing your names in gold on the plaque of R&D in Nigeria. **History will not forget you and posterity will not forsake you!**

Honourable Minister of Education, members of the National Assembly here present, Permanent Secretary Federal Ministry of Education, Members of the RDSC and TCC and my dear Colleagues from NUC, NBTE and NCCE and other regulatory bodies in the Education Sector, may it be said soon that today's historic event is a veritable watershed in changing the narrative and especially the relationship and indeed, new marriage between the academia and industry, so that the research community would be seen to have tied a bond that will outlive all of us. Thank you for being part of this story. I welcome you and Thank you all for coming. Long live the Federal Republic of Nigeria. God bless our country and may God bless all of you.