NBRRI Newsletter

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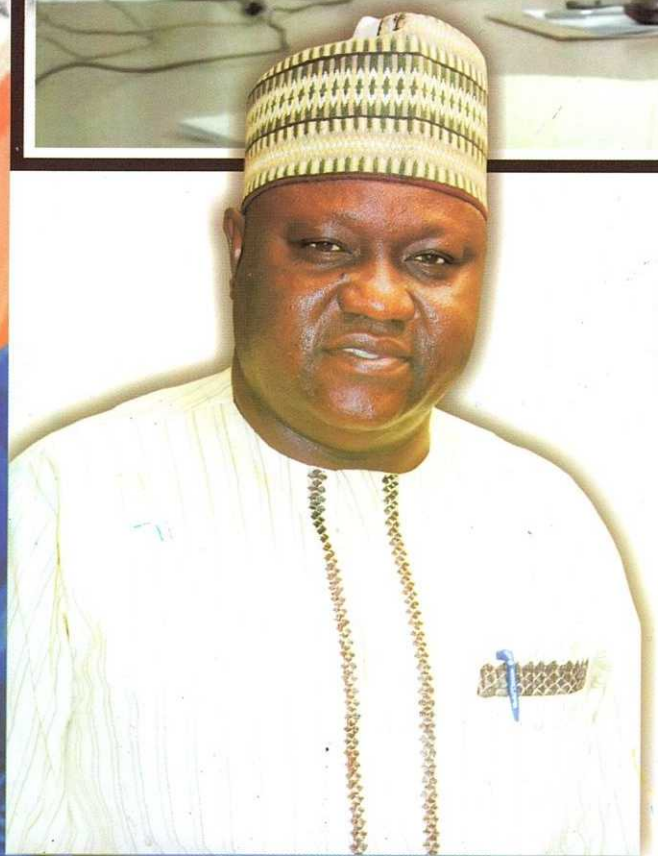
1ST QUARTER EDITION

The Quarterly Newsletter of the Nigerian Building and Road Research Institute

HON. MINISTER S&T INUAGURATES COMMITTEE ON BUILDING COLLAPSE .....

CHAIRED BY ACTING DG NBRRI



NBRRI GETS ACTING DG/CEO

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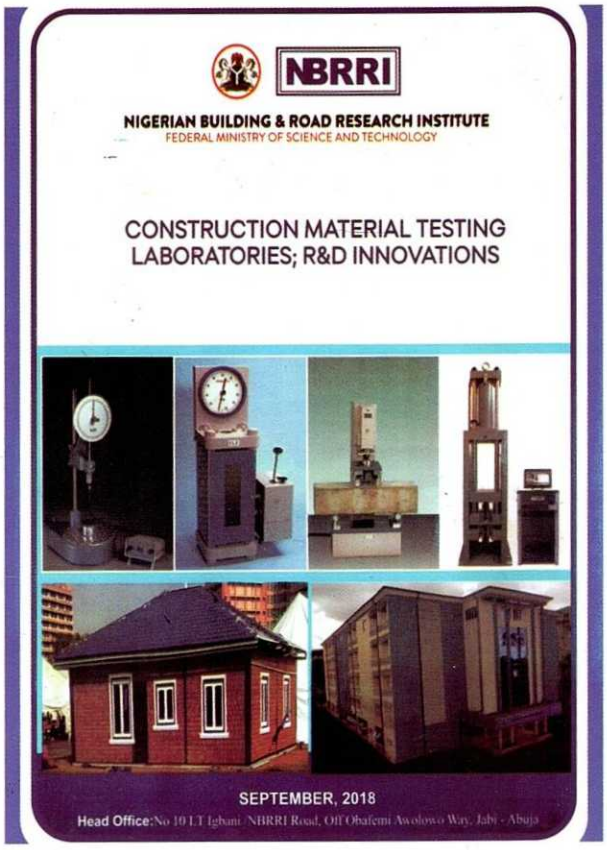
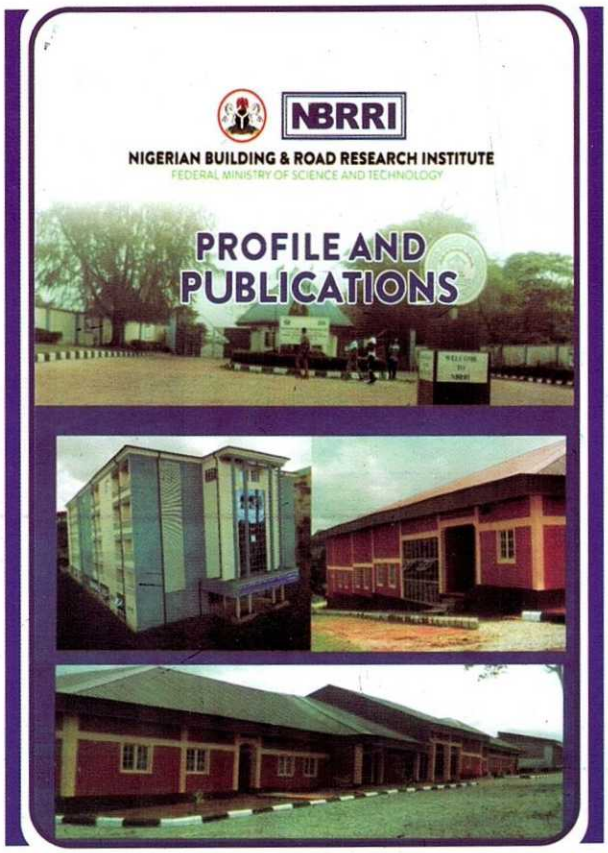
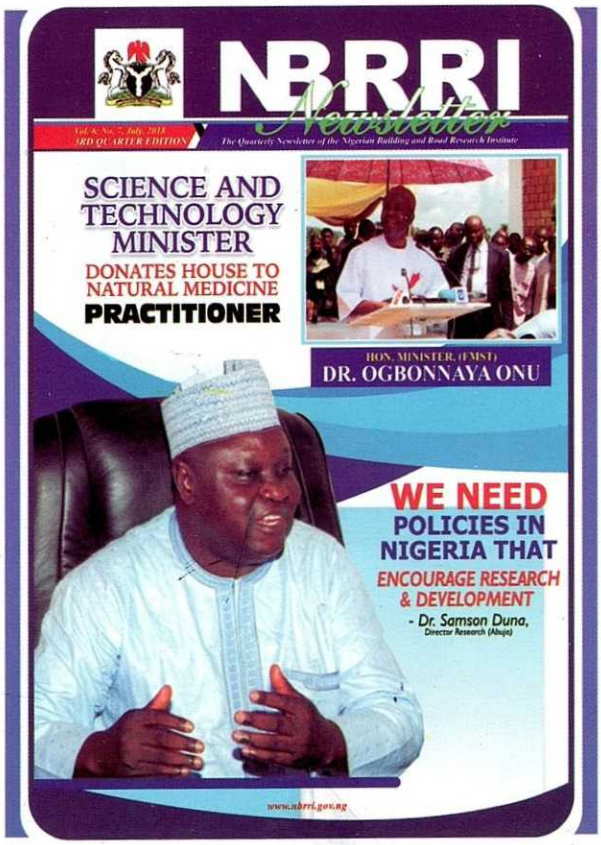
NBRRI HOLDS 1ST NATIONAL WORKSHOP ON SUPERPAVE MIX DESIGN FOR ROADS

LATEST NBBRI PUBLICATION







EDITORIAL

We give God all the glory for a successful end of 2018. Despite all the challenges faced, NBRRI is one among other organizations with great records of success in 2018. With a joyful heart, we welcome you our esteemed readers to 2019 and we hope this year will be better and rewarding in all ramifications.

In this year's 1st quarter newsletter, we have carefully packaged news worthy events and many more to enlighten and inform you our dear esteemed readers of the activities and accomplishments of NBRRI in the preceding months.

In this newsletter, we are glad to inform you that NBRRI once again proved its great might in research work has she excel gloriously in 2019 Science, Technology and Innovation Expo which was held in Enugu.

NBRRI also held its first national workshop on Super-pave Mix Design for the Nigerian road sector which lasted for five days.

To further curb the menace of building collapse and other related issues in Nigeria, NBRRI agreed to partner with the Nigerian National Building Code Advisory Committee.

The prime of it all is that NBRRI gets an Acting DG/CEO as Prof. Danladi S. Matawal bows out after recording a huge success of active service as the DG/CEO of NBRRI for Eight years.

The acting DG of NBRRI bags fellowship award from the prestigious Nigeria Institution of Civil Engineers based on hard work and diligence is also captured.

Interviews, feature articles, pictorial representation of NBRRI activities, social diary and much more are not left out.

All these are well packaged for your pleasure. Have a pleasant reading.

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NBRRI
(VISION, MISSION & CORE VALUES)
BUILDING CAPACITY & SETTING THE PACE IN INDIGENOUS CONSTRUCTION TECHNOLOGY DEVELOPMENT

VISION

To evolve and use a comprehensive and integrated approach in capacity building and investment promotion so as to foster the application of environment-friendly and energy-efficient innovation construction materials, manufacturing technologies and cost-effective building and road construction practices.
Which will enhance job-creation, wealth generation and poverty reduction as well as nurture the emergence of vibrant, knowledge-based and highly competitive indigenous construction companies capable of meeting global standards.

MISSION

Integrated R&B, Capacity building and robust extension services in which technology innovation and knowledge-based practices in the fields of building road and engineering materials will be used to provide adequate and affordable housing and road infrastructure as well as increased economic empowerment.

CORE VALUE

Professionalism Resourcefulness
Commitment and Integrity Innovativeness

2019 SCIENCE, TECHNOLOGY AND INNOVATION EXPO HOLDS IN ENUGU.....

NBRRI CLINCHES 3RD SPOT

The Federal Ministry of Science and Technology has organized the 3rd edition of the Science, Technology and Innovation expo. Unlike the previous two editions that were held in Abuja, the 2019 event took place at the Michael Okpara Square, Enugu, Enugu State. The expo which was held from the 14th to 18th January 2019, had as its theme: *"Innovation for Economic Recovery and Sustainable Growth"*.

The event started on Monday the 14th of January 2019, with a welcome address by the Permanent Secretary of FMST in person of Mr. Bitrus Bako Nabasu. This was followed by a brief on the achievements of the young Nigerian scientists, some of which were given Presidential awards, including the best three young scientists out of the 774 who participated. 1st position goes to F.C.T, 2nd Kwara and 3rd Akwa Ibom States respectively.

The Keynote address was read by the Minister, Dr. Ogbonnaya Onu, who stressed on the commitment of the present administration to make Science, Technology and Innovation as the bedrock of Nigeria's development.

Also speaking at the opening ceremony is the Executive Governor of Enugu State, Ifeanyi Ugwuanyi, who welcomed the participants to his state and listed some of the strides his governments are making in the science and technology sector.

The Special Guest of Honour at the event, President Muhammadu Buhari represented by the Secretary to the Government of the Federation, Mr. Boss Mustapha, commended the Minister of the FMST and its staff for coming up with the Expo.

The Hon. Minister, Secretary to the Government of the Federation and the Executive Governor as well as other top dignitaries later toured round the exhibition stands.

After the tour, the DG/CEO of NBRRI, Prof. Danladi Matawal chaired the second section of the day which was a technical session.

Three topics were discussed:

- The presidential Executive Order No. 5
- National strategy for competitiveness in Raw Materials Product Development in Nigeria.
- National Leather and Leather Products Policy

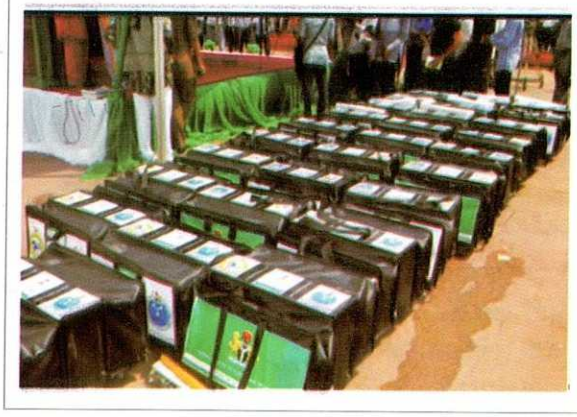
On the 2nd day the exhibition continued and NBRRI was assessed on the following innovations

- Production of Pozzolana as a partial replacement for Portland cement
- Design and fabrication of palm kernel shell grinding machine
- Utilization of granite dust (waste) for glaze production
- Improved NBRRI Mador Tile Roofing Technology
- Enhancement of refractory characteristics fire-clay for use in various industries as furnace linings.

On the 3rd day, the exhibition continued and assessment continued for some agencies of the FMST. There was also an investor/researchers forum which focused on the topic: *Research and Development/Industry Linkages.* Among the discussants were all the Director Generals of the Agencies under FMST, at the end of the day a communiqué was presented.

On the final day, the expo came to an end with a presentation of prices/awards and plaques to the outstanding exhibitors. The Nigerian Building and Road Research Institute clinched the 3rd position from the category of Agencies under FMST, with 75% score which gave the institute a cash price of ₦500,000. This award came from the research presented on: *Enhancement of Refractory Characteristics of Fire-clays for use in various Industries as Furnace Linings.*

2019 SCIENCE, TECHNOLOGY AND INNOVATION EXPO HOLDS IN ENUGU... NBRRI CLINCHES 3RD SPOT



NBRRI HOLDS 1ST NATIONAL WORKSHOP ON SUPERPAVE MIX DESIGN FOR ROADS

Participants at the national workshop

The Nigerian Building and Road Research Institute (NBRRI), a Parastatal of the Federal Ministry of Science and Technology (FMST), in collaboration with Nigerian Institution of Highway and Transportation Engineers (NITHE), a division of the Nigerian Society of Engineers (NSE) held its 1st National Workshop on **SuperPave Asphalt Mix Design for Nigerian Road Sector".** The opening ceremony took place at the CHIDA hotel, Jabi Abuja, while the workshop proper which lasted for four days took place at the NBRRI Headquarters complex, Jabi, Abuja from 4th to 8th February, 2019.

The Collaboration of NBRRI and NITHE tends to address the deficiencies in the current system based on the existing method of asphalt mix design which has been in use since 1940s till date. It has been discovered that Marshall Compaction does not necessarily simulate mixture densification as it occurs in the pavement during usage. Consequently, there has been growing demand among pavement engineers that Marshall mix design method has outlived its usefulness for modern asphalt design mix, however marshal mix design has performed well for many years but with more traffic, heavier load and weather variation, it has become imperative that an improved method of mix designs is needed which is the superior performing pavement (superpave) be introduced and adopted based on Nigerian conditions. This new method to be used to rationally design mixture for various traffic volumes, axle loads and entire range of temperature and also take into cognizance the tire interaction with the pavement.

This method is needed to predict rutting which typically occurs at high temperature, fatigue cracking at intermediate temperature and thermal cracking at low temperature and other bound pavement defects.

The workshop focuses on training engineers and stakeholders on road sector. It was confirmed that the superpave mix design which will bring an end or reduce road failures in Nigeria drastically if well adhered to.

The workshop was structured into sixteen (16) lectures which include:

Introduction to Advance Pavement Design, ABC of Superpave Mix Design, Fundamentals of Soils & Aggregate, Effect of Not Meeting the Design Mix Proportion, Imitation Engineering, Marshall Mix Design, Evaluation of

Aggregates, Achieving SDGs 2030 in Nigeria Built Environment, case for Nigeria Waste 2 Wealth Programme Using Appropriate Technologies, Super pave Mix Design, Introduction to Cold Asphalt by FERMA, Recycle and Cold Asphalt Mix, Cold Asphalt, Pavement Preservation and Rehabilitation of Road Maintenance Techniques, Crack-Sealing Pothole Patching, Warm Mix Design and Aggregates for road construction.

OPENING

The Conference was attended by over 100 participants (19 NBRRI Engineers and 81 Non-NBRRI Engineers) including top government functionaries, the academia, professional engineers in the built environment, captains of industries, practitioners in construction industry, and other stakeholders. The welcome address was delivered by the National Chairman of Nigerian Institution of highway and Transportation Engineers (NITHE), Engr. Oludayo Oluyemi, while the keynote address was delivered by the DG/CEO of the Nigerian Building and Road Research Institute, Prof. Danladi Matawal.

This was followed by an interactive session moderated by the Lead Tutor, Engr. Michael Essenwa, the Manager Technical Service at McAsphalt Industries Limited, Ontario Canada, who also gave the lead lecture titled **"INTRODUCTION TO ADVANCE PAVEMENT DESIGN"**

WORKSHOP SESSIONS

After exhaustive lectures taken by each tutor related to the course content, the following notes and recommendations were made:

DAY ONE

1a. Introduction to Advance Pavement Design by Engr. Michael Esenwa.

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- To provide a safe surface offering, an aggregate that has skid resistance should be selected in pavement structure.
- In Nigeria, we leave the pavement to deteriorate while maintenance is being neglected, leading to construction of new roads which are costly.
- The problem we have in Nigeria is the emergence of trucks stationed on the shoulder lanes and pouring oils on it and thereby damaging the surfacing. We should focus on designing our shoulders.
- Pavexpress is a free, online tool to help you create simplified pavement designs using key engineering input based on AASHTO 1993 and 1998. This is accessible via the website and mobile phones.

RECOMMENDATIONS

- The Federal Ministry of Works, power and Housing should create easy Excel Sheet to collect Traffic information/parameters.
- Pavement distress surface van which is being currently used in Canada should be employed in taking adequate information on road failures in Nigeria.
- The Ministry of Works in Collaboration with NBRRI and relevant stalkholders should specify which type of asphalt or superpave to be used for each pavement layers.
- The Contractors should keep data on test results while road construction is on-going. This will give information about causes of failure and these data should be kept for ten years as being practiced in advanced nations.
- There should be traffic restriction on vehicles from spilling toxic chemicals that will damage the road surfacing.
- We recommend for Road Board and Road Funds to be responsible for maintenance of roads or look for an alternative source of funding for our maintenance.
- The Federal/State Ministries of Works, Contractors and Stakeholders should provide and equip Laboratories for Nigeria Road Construction.

DAY TWO

2a. ABC of Superpave Mix Design by Engr (Dr.) Eyo T. B

- The Marshall Mix Design is an old method which has been practiced as far back as 1940s while the Superpave Mix design came in 1990s and it considered project locations, climates and traffic, also involves number of gyration unlike the marshall mix design with numbers of groves and empirical methods
- The Superpave mix design requires more expensive equipment while that of marsh mix design is inexpensive

2b. Fundamentals of Soils & Aggregate by Engr. Michael Esenwa.

- As an engineer, we need the particle size distribution knowledge of the soil on our mix design.
- Bridges are supposed to be investigated and inspected to prevent worn out steel bridges. This should be replaced immediately.
- We should come out of fund restrictions and do well for ourselves by employing inspectors on our bridges and roads.
- Even with the abundance of crude oil in Nigeria, Bitumen is expensive. Nigeria has more Bitumen Refineries; more Bitumen should be produced from our fractional distillations.
- In Asphalt mix design, engineers should look forward to design against fatigue, cracking and rutting.
- Aggregates and Bitumen should be properly compacted to prevent water ingress into the pavement structure.

RECOMMENDATIONS

- The superpave grade for Nigeria will now be adopted as PG 76 because of our temperature.
- Binders should be compacted to 4.5 for superpave mix design to prevent resistance to aging.
- Sasobits modified asphalt is recommended for Nigeria roads.
- Polymer modified asphalt is needed to reduce the thickness of the pavement on high traffic roads. This will resist high traffic loads on our roads in Nigeria.

2c. Effect of Not Meeting the Design Mix Proportion by Engr. Michael Esenwa.

- Test result documents the degree out of specification so that a corresponding financial penalty can be accessed.
- The best use of test result is taking the on-going quality of a project and making corrections as necessary to ensure a quality pavement.
- Typical failing DSR (Dynamic Shear Rheometer) test revealed increased rutting and cracking potential up to average of 6.25mm.
- Asphalt emulsion sample are particularly susceptible to compromise thereby not recommended in Nigeria.

RECOMMENDATIONS

- Contractors on Road Construction should be allowed to compact up to 92% and not 100%. Over Compaction can damage the road by removing totally the voids; therefore, our specification should be reviewed.
- In the Bill one, there should be money allocated to build and equip laboratories.
- In the BEME/Tender document, there is no provision to build laboratories even though there are specifications for it. The essence of this workshop is to sensitize the engineers on the importance of adequate laboratory equipment on our materials during road construction. We have out-dated specifications still in use in the Construction industries and Federal Ministry of Work. There should be specification of what to be in the Laboratories.

DAY THREE

3a. Imitation Engineering by Engr (Dr.) Eyo T. B

- There is a disadvantages of imitation engineering is that the original owner can sue you in the law court. Be careful.

RECOMMENDATION

- We have so many road construction and maintenance techniques to imitate from our senior colleague that is the advance nation of the world.

- 3b. Marshall Mix Design by Engr. Michael Esenwa.
- The final goal of mix design is to select a unique asphalt content that will achieve a balance among all desired properties such as stability, ductility, impermeability, workability, flexibility, fatigue, resistance and skid resistance.

RECOMMENDATION

- The PG Grade 76 for the superpave mix design for Nigerian roads should be adopted from this workshop.
- The specification for the local government and ministry of works should be reviewed.
- The specification criteria for super pave are minimum of 89% compaction.
- We should have association of produce where contractors meet and decide on what the ministry will do. The ministry will bring out the draft/format and print for stakeholders. In a nutshell, there should be an association or meeting regularly between contractors and the ministry agency.

3c. Evaluation of Aggregates by Engr. Michael Esenwa.

- The Ministry of Transportation should do their own Quality Assurance Testing.
- With the use of Nuclear Density Machine, the source is to be protected by proper safety management. This should be inside a box.

3d. Achieving SDGs 2030 in Nigeria Built Environment, case for Nigeria Waste 2 Wealth Programme Using Appropriate Technologies by Peter C. EKWEOZOH

- The SDGs must starts from the engineering design which must be green that is using lesser materials that will contribute to Greenhouse effects. Also from the design to construction to the deliveries of the structure, they must all contribute to prevent or reduce the emission of C02 into the atmosphere. This is achieved by Integrated Solid Waste Management by Greening the construction sector.
- The waste in construction can be reduced/managed by recycling the waste. The non-recycled waste can be processed/waste treatment to sanitary landfill, incinerator and corpit plant.
- The knowledge of Management of waste from construction site must be considered by the Contractor before starting a project.
- Professional association has the right to carry out advocacy to the government and also give an engineering advice to the client to avoid waste.

RECOMMENDATION

- The waste management must be inculcated into curriculum of our education sector that is the primary, secondary and tertiary institution.

- The government should put restriction on indiscriminate design of structural waste in building construction.
- The cost of breaking up waste structure is much and contribute to waste,
- The federal ministry of Environment should encourage other parastatal and agencies to recycle.
- The entrepreneurs, youths and engineers should be encouraged to come out by bringing out new technologies to recycle our waste. The government should create enabling environment for waste management and recycling through adequate funding.

3e. Super pave Mix Design by Engr. Michael Esenwa.

- In order to eliminate the problem encountered in the marshall mix design, introduction of consensus property criteria are fixed into the superpave design regardless of geographical location.
- There is need for engineering design to take care of the temperature changes is inculcated into the superpave called PG,
- Performance test which replaces stability and flow in the marshal mix design is deficient in binder selection for the superpave.
- Mechanical analysis of aggregate results to gradation, absorption and densities which are required for the mix design and also classification is also incorporated.

RECOMMENDATION

- As a way of enhancing the participants knowledge, the mechanical analysis that are carried out on the aggregates used for Asphalt mix design, the correlation of the results of the analysis to the asphalt mix design should be treated.

DAY FOUR

4a. Introduction to Cold Asphalt by FERMA Engr. (Dr.) Eyo

- It is not yet commercialized; it has not limitation. It is the normal process for other mixed design except that a concentrated additive was put there.
- Let all authorities and stakeholders in the road construction industries be aware of the cold asphalt. It is easy to use for local road maintenance and it can withstand traffic anywhere.

RECOMMENDATIONS

- The problem of inventing cold asphalt in Nigerian is funding. Stakeholders should put heads together and produce a pilot cold asphalt plant for commercialization in Nigeria.

4b. Recycle and Cold Asphalt Mix by Engr. Michael Esenwa.

- Recycling of Asphalt conserve natural resources, reduce cost and environmental impact.
- Recycling/Reclamation maximize salvage of the existing in place materials by creating a thick new homogeneous bonded material layers.

RECOMMENDATIONS

- In Canada, the Shoulder is built up with the surface itself and is always surface-dressed. This is for emergency service lane and a restriction for parking is placed there. This should be replicated in Nigeria.

  Failed roads should be recycled to build the road again. It saves cost of destroying and throwing into garbage. To enhance this, the Federal and State governments and institutions should provide adequate recycling machines (WR-2500 Injection System) and recycling Train

4c. Cold Asphalt by Engr. Michael Esenwa.

- Cold Mix Asphalt can be applicable in maintenance and repairs, re-profiling and over-laying, road base and foundation layer and wearing cost on low traffic roads.
- The beauty about recycle mix is that it is difficult for cracks to come through it.
- Asphalts-emulsion dense graded mixing can be applied on rural roads that do not need much traffic.

RECOMMENDATION

- Lagos is a water-log area, to use superpave, there should be a way of channelizing the water out. Geotexitles can also be used to solve/prevent water ingress into the pavement.

4d. Pavement Preservation and Rehabilitation of Road Maintenance Techniques by Engr. Michael Esenwa.

- The roads equally need maintenance as other sectors in Nigeria. It is better to do preventive maintenance.
- Pavement preservation is the sum of all activities undertaken to provide and maintain serviceable roadways, including preserving the investment in the National Highway System, extending pavement life, enhancing pavement performance and ensuring cost effectiveness.
- The knowledge of traffic information on a particular road is very important design, construction and maintenance of roads.

RECOMMENDATIONS

- The Contractor should be given a license in the contract document to maintain the roads. This should be included in the bill of contract. KPI and Risk Allocations should be given to the Contractor while he submits a report of Road Assessment to the supervising agency (government).
- A Maintenance Department should be established and have a division of labour i.e. those that will buy equipment and those that will seal up crack potholes.
- It is recommended that a maintenance strategy of employing youths to do the work. This will bring about job opportunities even to those without education; they will be trained and equipped to do the job.
- The Federal Ministries of Works and Transport should have a Payment Management System (PMS) which will empower a Unit to go out to give a standard Pavement rating of Nigerian roads. A device can also be invented to drive along road for survey while the report is sent to database.

4e. Crack-Sealing Pothole Patching by Engr. Michael Esenwa.

- Engineers should encourage the technologies in the laboratory and especially the ones on the field and be supported financially to do the best test result.

RECOMMENDATIONS

- There should be creation of resource centres for all engineers for assessment and to be aware on how to design and maintain roads in Nigeria.

- The Federal Ministry of Works has not been able to control the right or ways effectively. They should also restrict road-side mechanics and commercial workers from using the right of ways.
- Polishing of the asphalt has a direct relationship with the aggregate we are using. It is recommended that polish stone can be cut from sedimentary rocks in Nigeria. This can only be used when it has satisfied all quality tests. Haulage of materials can be done from far places; this is also included in the BEME as "all, any distance".

4f. Warm Mix Design by Engr. Michael Esenwa.

- Sasobits as additives are more suitable in Nigerian because of its high temperature.
- The major difference that warm mix design has over others is that compaction can be done at lower temperature while additives are also added.
- Sasobit has characteristics of wax-warm mix. Sasobit is more friendly and easy to compact with while polymer is sticky and can stick to your rake. This can be improved with a little addition of additives to eliminate the issue of workability.

RECOMMENDATION

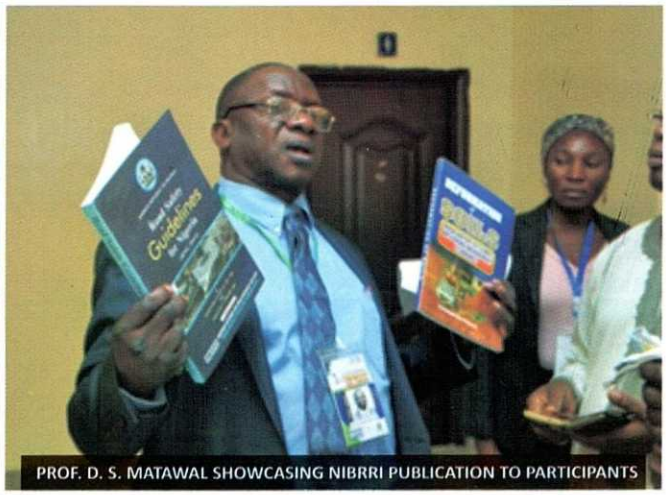
- The cold mix asphalt is recommended for road construction engineers to eliminate greenhouse effect

DAY FIVE

- Aggregates for Road Pavement by Prof. Danladi Matawal
- Aggregate is a collective term for the mineral materials such as sand, gravel, and crushed stone that are used with a binding medium such as water, bitumen, cement, lime etc to form compound materials such as bituminous concrete and Portland cement concrete.
- It is necessary to select aggregates that have passed the standard test of crushing, abrasion, soundness, shape, specific gravity, bitumen adhesion in order to design an effective asphalt mix.
- It is important we observe the presence of impurities in our material selection.
- After the technical sessions a site tour was arranged for the participants to ASCA NIG LTD bitumen Plant and SETRACO NIG LTD. The workshop was rounded up with a Dinner sponsored by Road Seal Nigeria where certificates were issued out to the attendees.

PROF. D. S. MATAWAL PRESENTING A PAPER AT THE WORKSHOP

PARTICIPANTS AT THE WORKSHOP



PROF. D. S. MATAWAL SHOWCASING NIBRRI PUBLICATION TO PARTICIPANTS

PARTICIPANTS TAKING THEIR BREAKFAST

GROUP PHOTOGRAPH OF PARTICIPANTS

NBRRI TO PARTNER WITH NIGERIA NATIONAL BUILDING CODE ADVISORY COMMITTEE

The Nigeria Building Code Advisory Committee on 5th February, 2019 paid a courtesy call on the Director-General/ CEO and Management of the Nigerian Building and Road Research Institute in Abuja.

Chairman of the Committee, Architect Mohammed Jimoh Faworaja, who led other members, seized the opportunity of the visit to congratulate the Institute on the acquisition and commissioning of the new NBRRI edifice. He informed the Institute's Management that the Building Code Advisory Committee was inaugurated in 2010.

According to Mohammed, the first building code of Nigeria was published in 2006 and was meant to be reviewed after every three years. However, this has not been done. He therefore noted that It is the desire of the newly inaugurated committee to update the building code and make sure that it is reviewed every three years as stipulated by law. He called on the assistance of NBRRI in the update and review of the building code; noting that NBRRI is a major stakeholder in the construction industry and as such, its role is vital.

The chairman also revealed that the committee is also tasked with developing a domestic gas code to be used in the country. This is as a result of over 250 metric tons of gas which the Federal Ministry of Power, Works &Housing says is ready to be deployed to homes. Before this can be done, there is need for a regulatory code. To this effect, there is a plan for a conference which will be made up of all stakeholders to be held immediately after the general election. He called for partnership with NBRRI in the development and the implementation of such code.

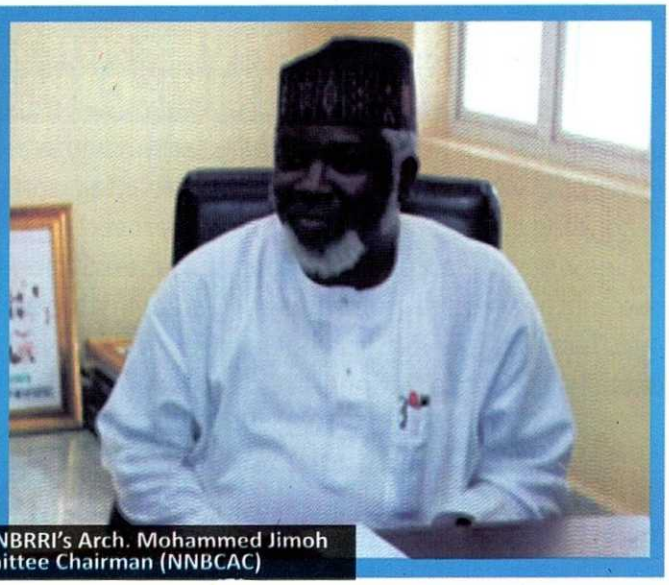
In his response, the Director-General/ Chief Executive Officer, Prof. D. S. Matawal welcomed the delegates to the Institute. He acknowledged the need for the country to have reviewed building code. He tasked the committee to see the job as a national assignment and a duty to their fatherland; adding that Nigeria needs rules, regulations, standards and codes for the construction industry.

Prof. Matawal says after studying the existing Building Code of Nigeria he was impressed with the intensions and details as it relates to the built environment. He however calls for more work to be done on it by the committee. He also spoke on the need for the country to work on codes and standards for the road sector and challenged the committee to ensure that the codes and standards for the domestic gas are very emphatic because there are standard practices for gas usage all over the world.

The DG/CEO assured the committee of NBRRI's support and collaboration in the discharge of the assignment; adding that the committee is free to use the Institute's Laboratories in the discharge of their work.

Matawal recounted the long lasting working relationship the Institute has with the Federal Ministry of Power, Works and Housing and also took out time to speak on the institute's activities and products like the Pozzolana Cement/ Pilot Plants, Laboratories, Library, Artisan Training and Developed Learning Guides etc.

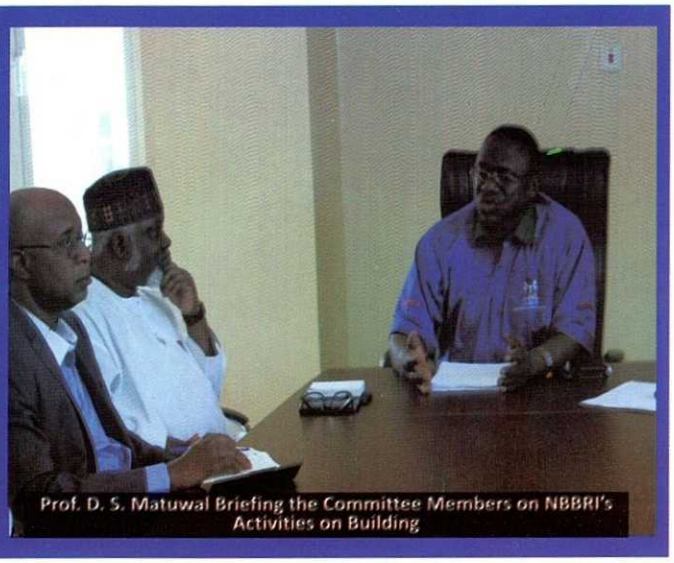
He further explained the causes and remedial measures that the country has taken so far on the seismic occurrences that Nigeria has experience especially in the country and called for more seismic station to be established. He further said that NBRRI should be funded to get experts together so as to find the lasting solution to such disturbing occurrences. According to him, there are traces of tremor in the country which might have being caused are caused by boreholes and quarries activities in the country.



Prof. D. S. Mutawal Presenting NBRRI's Arch. Mohammed Jimoh Publications to the Committee Chairman (NNBCAC)

Group Photograph of the Committee Members and NBBRI Management Staff

Discussion Session



Prof. D. S. Matuwal Briefing the Committee Members on NBBRI's Activities on Building

FEDERAL GOVERNMENT SET IN TO DEVELOP THE FRAMEWORK FOR THE ESTABLISHMENT OF A NATIONAL WELDING CAPABILITY DEVELOPMENT PLAN

In recognition of the role of welding technology in achieving the objective of Executive Order 5 (EO5) and in keeping with global trend of National integrated industrial plan, the National Council on Science and Technology at its 16th meeting, approved the establishment of a "National Welding Capability Development Plan and its implementation Strategies". In pursuant of this approval, a seven (7) man committee was drawn from the Nigerian Institute of Welding (NIW) and the Federal Ministry of Science and Technology (FMST) to plan and stage a workshop aimed at developing the framework for the establishment of a National Welding Capability Development Plan:

The committee members are:

S/N	Name	Affiliation	Status
1.	Solomon Edobiri Ph.D., JP, MON	NIW	Chairman
2.	Engr. Jibrin Sule Ph.D.	FMST (NBRRI)	Secretary
3.	Emmanuel Urhouarhovie	NIW	Member
4.	Engr. Gidado Muhammad Tukur	FMST (NBRRI)	Member
5.	Abraham Onwughara	NIW	Member
6.	Ayo Adeniyi	NIW	Member
7.	IKechukwu Njemanze	NIW	Member

SPEECH DELIVERED BY THE DIRECTOR GENERAL/CHIEF EXECUTIVE OFFICER, NBRRI, PROFESSOR DANLADI S. MATAWAL AT THE ONE DAY STAKEHOLDER'S WORKSHOP ON "NATIONAL WELDING CAPABILITY DEVELOPMENT PLAN" ORGANISED BY THE NIGERIAN INSTITUTE OF WELDING IN COLLABORATION WITH THE FEDERAL MINISTRY OF SCIENCE AND TECHNOLOGY, HELD AT NAF CONFERENCE CENTRE, ABUJA ON 29TH JANUARY 2019.

ENGR. DR. JIBRIN SULE DELIVERING THE SPEECH ON BEHALF OF DG/CEO, NBRRI

I am delighted and honoured to speak at this one day stakeholder workshop on "National Welding Capability Development Plan" organized by the Nigerian Institute of Welding in collaboration with the Federal Ministry of Science and Technology.

Welding goes well beyond the bounds of its simple description. Welding today is applied to a wide variety of materials and products, using such advanced technologies as lasers and plasma arcs. The future of welding holds even greater promise as methods are devised for joining dissimilar and non-metallic materials, and for creating products of innovative shapes and designs.

Virtually every manufacturing industry uses a welding process at some stage of manufacturing or in the repair and maintenance of process equipment. From the soldering of PC boards to the heavy-duty welding of steel plates for shipbuilding to the repair of industrial boilers. Welding when compared with other joining methods, such as riveting and bolting, welded structures tend to be stronger, lighter-weight, reliable, safer and cheaper to produce. Hence, Industries rely on welding for reliable joining of materials.

In recognition of the role of Welding Technology in achieving the objective of Executive Order 5 (EO5) and in keeping with global trend of National Integrated Industrial Plan, this workshop is a step in the right direction.

Although a present concern is that today's industry is not attracting as much talent as it needs to ensure its future viability, several steps can be taken by government to change this. Government should ensure a cleaner, more automated factory that will ensure a healthier and safer working environment to potential workers. More educational opportunities in the science of welding will also influence people to choose welding as a career. Formal apprenticeship programs will give workers more training and recognition. Government should enhance the use of welding in manufacturing and construction operations by integrating welding with other manufacturing and construction disciplines, at the engineering level and also at the operational level.

In addition, the Nigerian Government needs to lead technological developments that will in turn allow rapid and flexible fabrication of new products to satisfy customers' demands. This can be achieve through

1. Making current processes more reliable and more robust.
2. Government need to established policy that will strengthen welding activities in Nigeria.
3. Government should complete steel factories facilities in Nigeria.
4. Government should support Institutions that can build capacity in Nigeria.
5. Government needs to develop welding technology concurrently with development of new materials.
6. Government need to develop processes and methods that facilitate joining of metals, glass, ceramics, plastics, and other materials as required, optimizing performance of the product.
7. Government need to implement methods of integrating welding requirements and welding knowledge into total manufacturing planning and management information systems (MIS).
8. Government should develop welding technology along with new materials so that practical fabrication methods are available for all engineering applications.
9. Government should increase the knowledge base of all people employed in the welding industry, at every level, enabling them to make decisions that will result in utilization of the best welding technology for each application.

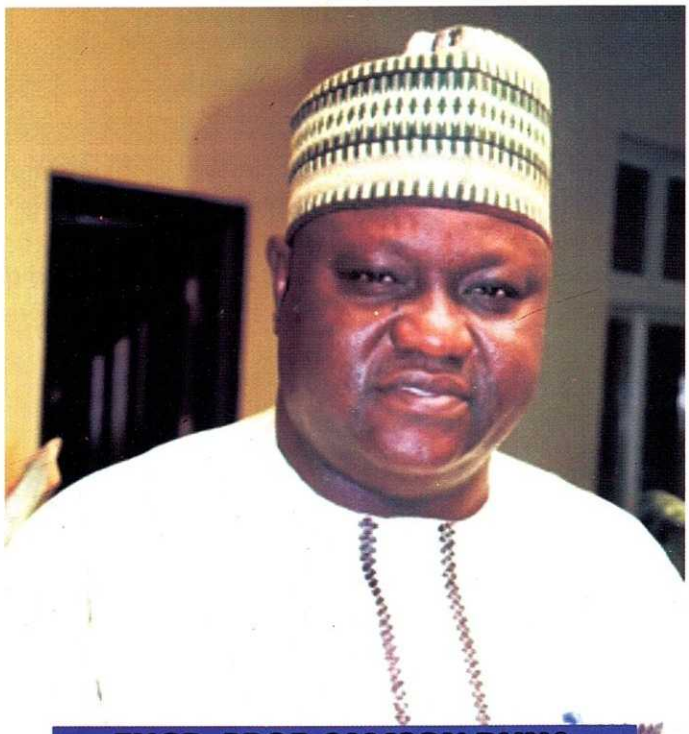
It could be recall that the Nigerian economy since the attainment of political independence in 1960 has undergone fundamental changes. As a nation, Nigeria has been working tirelessly since the collapse of oil boom to achieve youth independence and improved economic status through several reforms and programme initiatives such as: The Structural Adjustment Programme (SAP), The National Directorate of Employment (NDE), Small and Medium Enterprises Development Agencies (SMEDAN), National Agency for Poverty Eradication Programme (NAPEP) Subsidy Reinvestment and Empowerment Programme (SURE-P), etc.

Despite these policies and programmes, youth unemployment remains a major challenge to the developmental process of the Nigerian economy. Youth unemployment appears to be shooting up the sky as many Nigerian youths lack appropriate skills that will empower them after graduation from school. With the implementation of National Welding Capability Development Plan, the country can build a rich and comfortable economy.

At this note, I wish to congratulate the President, Nigerian Institute of Welding for the determination with which they have displayed in repositioning welding engineering in Nigerian.

Group Photograph of NBBRI's Delegates at the Workshop

NBRRI GETS ACTING DG/CEO



ENGR. PROF. SAMSON DUNA
Acting DG/CEO of NBRRI

"A home without a head, they say is a home without a direction". This can never be the situation of a reputable organization like the Nigerian Building and Road Research Institute, NBRRI. The DG/CEO of NBRRI, Engr. Prof. Danladi S. Matawal gave all his best to make the institute an outstanding force in the Ministry and the research environment during his eight years tenure as the DG/CEO of NBRRI. After successfully completed his tenure, he bowed out of the system on February 28, 2019 as a fulfilled man. In other not to leave his flock unattended to, Prof. Matawal handed the mantle of leadership in the interim to a renowned academician and the Director of Research, Abuja, Engr. Prof. Samson Duna.

Engr. Prof. Samson Duna was born on the 13th of March, 1968 in Katsina-Ala Benue state and hails in Jos Plateau State from Gombe State. An erudite scholar who had his first school leaving certificate in 1980; General Certificate of Education, in G.S.S. Toro, Bauchi State. June 1985; Bachelor of Engineering at ATBU Bauchi Civil Engineering in 1991; Masters of Science in Structural Engineering, ABU zaria. Doctor of Philosophy at ATBU Bauchi.

Samson Duna is a member, Nigerian Institute of Engineering Management, corporate member of the Nigerian Society of Engineers, a COREN Registered Engineer and a Fellow, Nigeria Institute of Civil Engineers. Prof. Samson Started his career as a Graduate Assistant in Civil Engineering Department ATBU Bauchi. He grew up rom Graduate Assistant to the rank of a Professor of Structural Engineering in 2017.

He has worked in both the private and public sector as an engineer and lecturer. As a Structural Engineer, he consulted for Partner for both Private & Public Engineering Firms. He has supervised & designed numerous Engineering Structures at different locations in the Country.

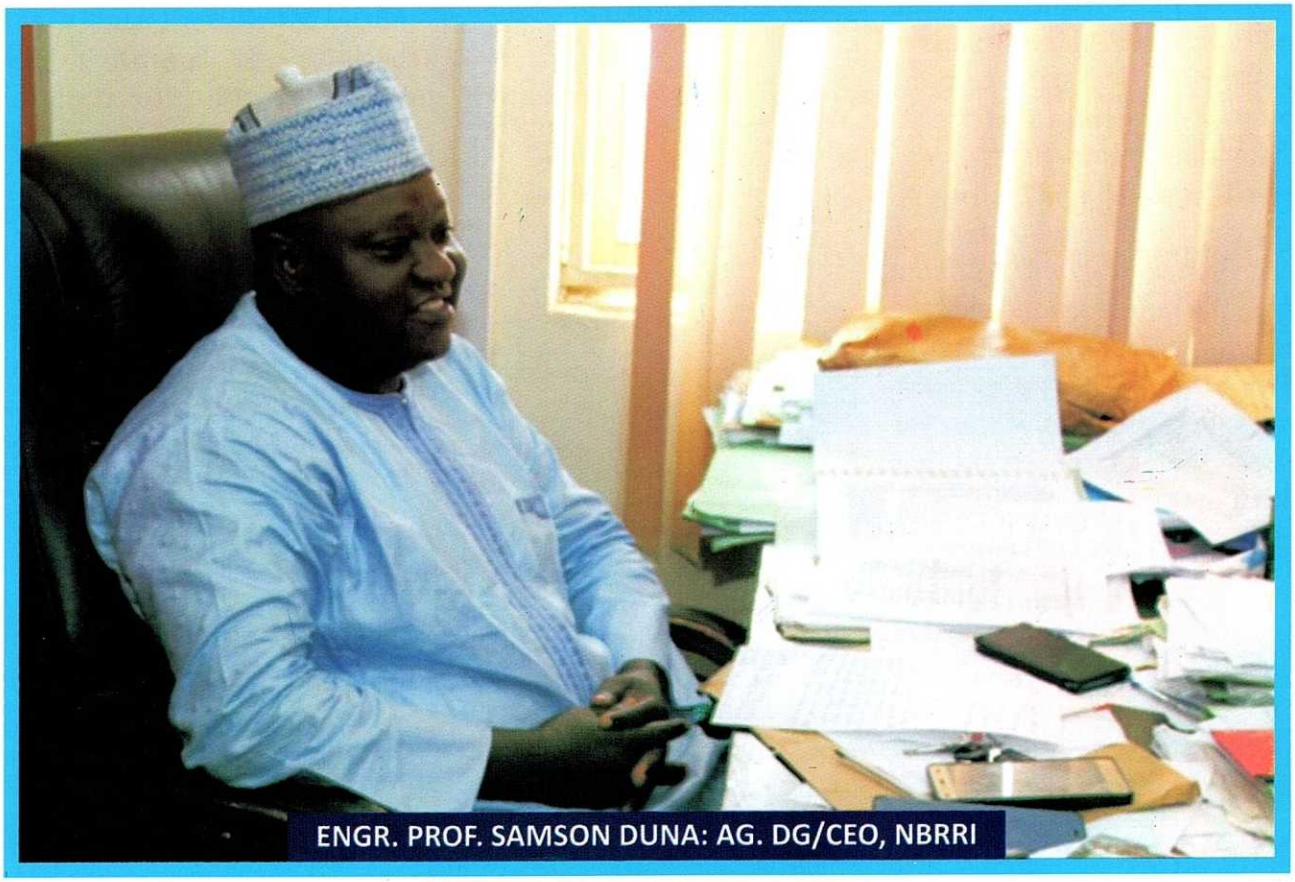
In April, 2016, he became a visiting reader and an Associate Professor of Civil Engineering in Abubakar Tafawa Balewa University, Bauchi .He was promoted to the rank of Professor of Civil Engineering.

Prof. Samson Duna has many local and International publications, seminar and conference papers, productive works as well as articles on professional issues. He has graduated many undergraduate and postgraduate students and has attended series of seminars and workshops locally and International .

He has a lot of awards to his credit amongst them are Merit Award by the Student Union Government (S U G) Abubakar Tafawa Balewa University Bauchi Chapter, 2013; Award of Excellence by Gombe State Students Association (GOSSA) ATBU Bauchi branch in the year 2013; Award of Excellence as "Icon of transformation" by National Youth Discovery and Creativity Initiative in the year 2017; Award of Academic Excellence by Abubakar Tafawa Balewa University Alumni Association, Plateau State Chapter in the year 2017.

Prof. Duna loves Investigative Engineering

WE SHOULD BEGIN TO TEST BUILDINGS –NBRRI ACTING DG



ENGR. PROF. SAMSON DUNA: AG. DG/CEO, NBRRI

Professor Samson Duna, Acting Director General of Nigerian Building and Road Research Institute (NBRRI) is of the opinion that collapsed buildings are products of a bad job. He spoke with Viewpoint Housing News on the numerous building collapse incidents in the country saying some emergency actions need to be taken in order to arrest this ugly situation. He suggested that Integrity Test be conducted on buildings every five years to ascertain their safety. He said apportioning blames should not be the focus when it happens but proper designs, supervision and legislation should be used to tackle building collapse.

VIEWPOINT: There have been cases of building collapse across Nigeria. In the recent past, a three-storey building went down in Jabi – Abuja; a seven-storey building in Port Harcourt and now the Lagos three-storey building that killed more than ten persons. How would you react to all this ugly?

Prof. Duna: It is very sympathetic. I will start by consoling the families that lost their loved ones. It is an unfortunate thing. Imagine, sending your kids to school just to hear that the dead body of your child is by the corner waiting for you. It is so painful and the most important thing is that this ugly situation is avoidable and can be eradicated completely. Building collapse has become an issue. Authorities only come in to depict what we can call medicine after death. When something happens like this, you see people running up and down — It is just like doing the right thing at the wrong time. What we should be concerned about is putting the right people to do the right job.

Building collapse is as a result of someone not doing his job correctly. Construction is a procedure and this process is manned by human beings and they are expected to be professionals in the construction industry. Construction has different stages. The first stage is the design. One needs to design a structure to know that it is safe enough to carry the load. The load can be a dead load, a permanent load, human load, furniture load and these are refer to as an imposed loads... before we can say the structure is safe to take them.

And when you design this structure, it will clearly shows if

the structure is having a problem or not before construction. But if the design is okay, the next stage is to construct it. In the process of construction, you need to bring up quality materials that are up to standard, materials that can meet up the standard specifications, bring professionals that will go about doing the construction itself. If a professional is not technically sound in terms of the technical knowledge, obviously you will expect that all cannot be well with that construction.

You will also need a supervisory team that will always supervise the project. But before all this, you should know the condition of the soil, if it's capable to withstand the heavy load that will be subjected to it or not.

So from my narration, you will know that it's a process and each stage is under taken by professionals. Now let's take an instance of the building that failed in Lagos. I have not been privileged to be there but our team of professionals is there to get samples to carry out a total investigation and at the end we are expecting them to come out with what caused the structure to fail and so on.

But basically, what we are made to understand is that the building had been there for over 40 years. That the structure was situated in a reclaimed swampy environment which was filled up with sand. Normally, it is expected that with the type of soil the load would be sinking gradually depending on the stress on the building, or base on the level of Compounds.

Unreliable source says that the structure was a three-storey building before a pent house was constructed on top adding more load to the building. Some structures collapse at the point of construction while some take longer time before they finally collapse.

VIEWPOINT: What would you say are responsible for such incidents in quick succession?

PROF. DUNA: Every catastrophe has its own peculiar situation. Most times, a contract is owned by a client. If a client wants something cheaper, he tries to cut corners and goes for unprofessional and patronizes quacks. And when the quacks can't deliver, who do you then blame? So failure in construction is not an issue of blame giving, it's usually a team work but the idea is that if someone within the chain of construction fails to do his job well, it means that a problem will come up. Pointing fingers at who is at fault can only be done after carrying out a comprehensive investigation. Each failure has its own peculiarity. Causes of failure differ. For instance, we are meant to understand that the Lagos building was marked for demolition and somehow the building wasn't demolished. In this situation, who do we blame? Is it the government that had failed to demolish it or the person that constructed the building? So you can see, blame giving is not healthy in the construction industry. Rather, we emphasis that everybody should do the right thing at the right time, so blame given is based on the problem identified.

VIEWPOINT: What emergency action do you think should be taken to arrest this ugly situation?

PROF. DUNA: As I said, it goes back to the approving body. When you are to design a building, there is a government body that approves or controls or where if you have an approved design you take it to. They look at it and if everything is okay they will give you approval. So the approval gives you the go ahead to start the construction process. Along the line, it is expected that the approval body will come to the site to be sure that you are doing what your design carries. If these checks are put in place, most building collapse wouldn't happen.

The aspect I want to encourage is what we call Integrity Test of a structure. Construction is a process that does not erupt in a day. If we can look at the chain in construction of buildings...The first is to design a structure that is safe. When you have a structure that has been in existence for more than 10 years without maintenance, there is bound to be issues. Also, when a structure has been abandoned for a long time, for you to continue with the construction work, you need to conduct an Integrity Test. Therefore, I will recommend that there should be a periodic integrity test conducted on buildings every five years to ascertain the safety of the buildings, especially if it is situated in a prone hazardous environment.

VIEWPOINT: Does the integrity test have to do with the plan by the government to subject all public buildings to five-year mandatory renovation?

PROF. DUNA: Yes. I learnt that government is trying to come up with a five-year mandatory renovation plan but there is no law backing it so implementation will be difficult. Although it takes time to have a law in place and that is why whenever a building collapses, there are a lot of concerns from every quarters but when there are appropriate laws, the challenges would be reduced to the barest minimum. Therefore, I would suggest that there should be a law that would enforce the policy.

VIEWPOINT: What is your advice to the 9th Assembly in promulgating laws that would address the menace of buildings collapse in Nigeria?

PROF. DUNA: I will encourage the National Assembly to come up with a law that will cover the use of materials and personnel in construction. The law should also cover a periodic assessment of structures whether the building is standing or still under construction to avoid the increasing cases of building collapse in the country. That is to say, the law must ensure that only standard materials are used for buildings in Nigeria, and for one to be involved in construction, he or she must have obtained a prescribed certificate and also attended a training in a construction institution to gain both the theoretical and practical knowledge required before he or she can be considered a qualified builder or Engineer or Architect.

So materials to be used for constructions must be subjected to lab tests to ascertain its qualify for example some studies has revealed. So what we have that some of Nigerians produce steel has not met the standard specification in terms of dimeter, length & sometimes tensile strength. At times the foreign steel might be written on paper as 350 and when you measure, it would be up to 340 while that of Nigeria would be quoted on paper as 350 but when you measure it, it would be about 280 or so. That is why people are more comfortable using the foreign steel.

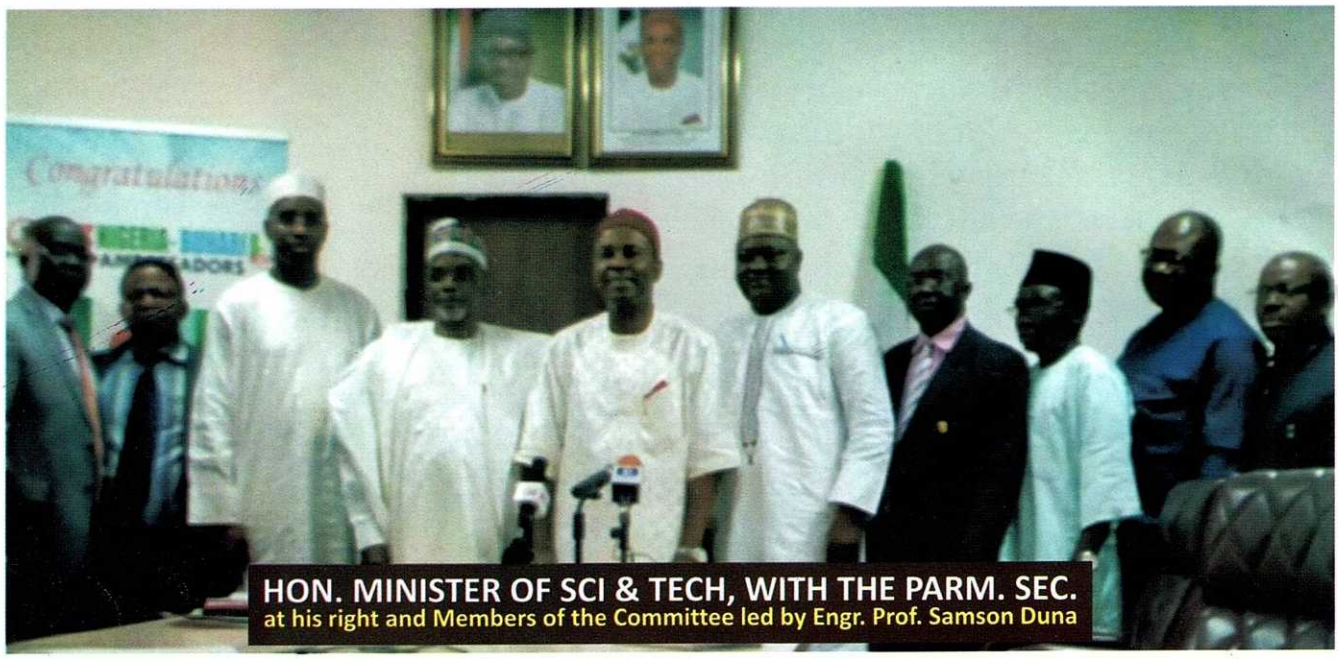
VIEWPOINT: What is your advice to the government on the implementation of local content?

PROF. DUNA: I think the government is already working on implementing the Presidential Order 5 on local content which is a welcome development. All we need to do is to put in measures that will ensure its enforcement by ensuring the 9th Assembly comes up with laws that will ensure that a contract of a certain amount of money is handled by Nigerian Professionals engineers. It will go a long way in improving skills and building confidence among Nigerians to patronize local engineers. The law must encourage the use of local content and Professionals...

VIEWPOINT: What is your take on insurance cover for buildings?

PROF. DUNA: My advice is that insurance companies need to do more in terms of creating awareness on the importance of insuring properties because at present not much has been done.

HON. MINISTER S&T INUAGURATES COMMITTEE ON BUILDING COLLAPSE .....CHAIRED BY ACTING DG NBRRI



HON. MINISTER OF SCI & TECH, WITH THE PARM. SEC. at his right and Members of the Committee led by Engr. Prof. Samson Duna

The recent building collapse that happened in Lagos State and Ibadan, Oyo State calls for worry and needs urgent attention so as to cub further incidence of building collapse in the country. To this effect, the Hon. Minister of Science and Technology, Dr. Ogbonnaya Onu swung in to action as he immediately set up and inaugurated an inter-ministerial committee with the Acting Director General /CEO of the Nigerian Building and Road Research Institute, Engr. Prof. Samson Duna as the chairman.

The committee was inaugurated by the Hon. Minister on Tuesday 26th of March 2019. In his speech, the Hon. Minister urged the members of the committee to be professional in their investigations so as to find a lasting solution to building collapse incidence in Nigeria. He also let the committee members to bear in mind that their function is not just to find the root causes of the collapsed buildings in Lagos and Ibadan, but to proffer a comprehensive technical report on how to eradicate the incidence of building collapse in the country.

Responding on behalf of the Committee, Prof. Duna appreciated the efforts of the Honourable Minister of Science and Technology, Dr. Ogbonnaya Onu, for impacting positively in the areas of Research and Development, particularly as it concerns Science, Innovation and Technology. Sir, your contributions are so numerous to the extent that we have an adage associated to you and I quote ***"No Nation can develop without R&D".***

Prof. Duna noted that the incidences of building collapse is an issue of worry to Nigerians, most importantly, the professionals in the construction industry. He added that the impact of building collapse has affected entire human fabrics, causing psychological trauma, lost of lives and properties, lost of Government revenue, citizens had been rendered homeless and victims suffered permanent disabilities. For us professionals in the construction industry, it is shameful and humiliating. Most of the building collapses have been linked to man-made mistakes which can be avoided and eradicated completely.

He further noted that the inauguration therefore, brings to the fore once again, the urgent need to stop this ugly trend by investigating the root causes of the problems and make appropriate recommendations.

The Committee chairman assured the Hon. Minister that with the caliber of professionals in the Committee, it will do a thorough job by ensuring that it will get to the root causes of the problems and proffer practical and implementable solutions that will go a long way to forestall future occurrence.

DEAF FURNITURE CABINET SOCIETY OF NIGERIA VISITS NBRRI

Deaf Furniture Delegations with NBRRI Management Staffs

Members of Deaf Furniture Cabinet Society of Nigeria (DFCSN) on 20th March, 2019 paid a courtesy visit to Nigerian Building and Road Research Institute (NBRRI) administrative office in Abuja.

Their Spokesperson explained that the Society is an affiliate member of Nigeria National Association of the Deaf (NNAD), and also a member of the World Federation of the Deaf (WFD). It was formally founded in 2008 to showcase the craft skills, empowerment with self-reliance and be contributing to the society as good citizens.

In view of this, it was set up mainly to eradicate young boys and girls mostly who are illiterate or school dropout so as to empower them with their God-given talents in craft works or vocational trading having the sole aim of working with Nigeria National Association of the Deaf and other organizations both governmental and non-governmental so as to improve various aspects on vocational training and craft trades as it affects their daily life in terms of education, economics, religious and social life and also make themselves responsible and contributory members of the society.

The spokesperson further stated that the slogans they share from various groups of Deaf people around the world led by the World Federation of the Deaf (WFD) mainly to emphasized that deaf persons has their respect to be fully involved in plans of government concerning their welfare and well-being from the start to the finish; From policy formulation, policy implementation, supervision and evaluation. Some of these slogans include: *'Nothing about the deaf without the deaf fully involved'', 'Deafness is not the problem but the dominating hearing world that refused to listen', Deaf rights are human*

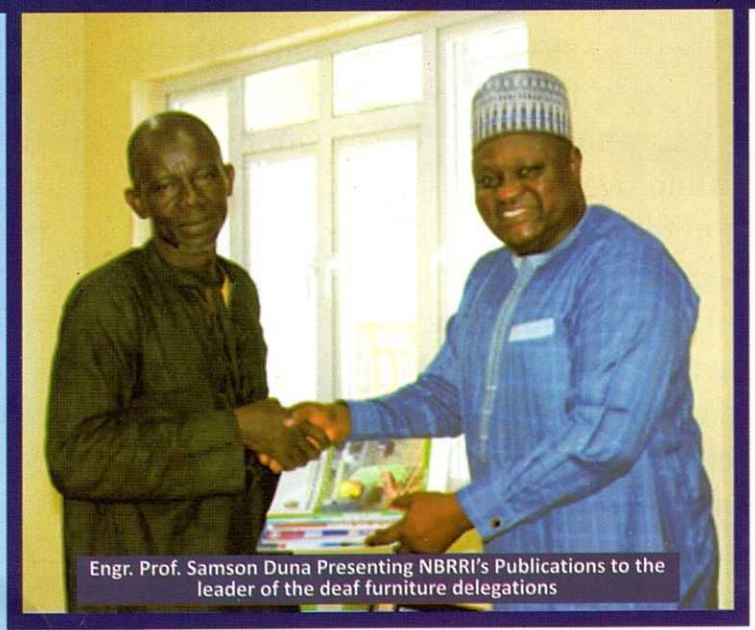
right, respect them'.

The aim of their visit to NBRRI is to seek help from the institute with any work opportunities in their areas of skills and also support them in completing their vocational workshop center located at phase 4, road 2, Angwan Guduwa-Nyanya, Abuja. They stated how gracious they will be if their request is favourably considered in the interest of over 8 million deaf people in Nigeria.

Responding, the Ag. DG/CEO of NBRRI, Engr. Prof. Samson Duna appreciated them for their visit and told them that the purpose of their visit will always be a welcome idea. However regarding their request, he said they are doing a good thing but cannot be presently employed because of the economical state of the institute but assured them however that if there is any project in which the institute is handling, the institute will employ them so they can render their services in respect to their skills. And for the building project, the institute will decide what to do and definitely promised to reach out to them.

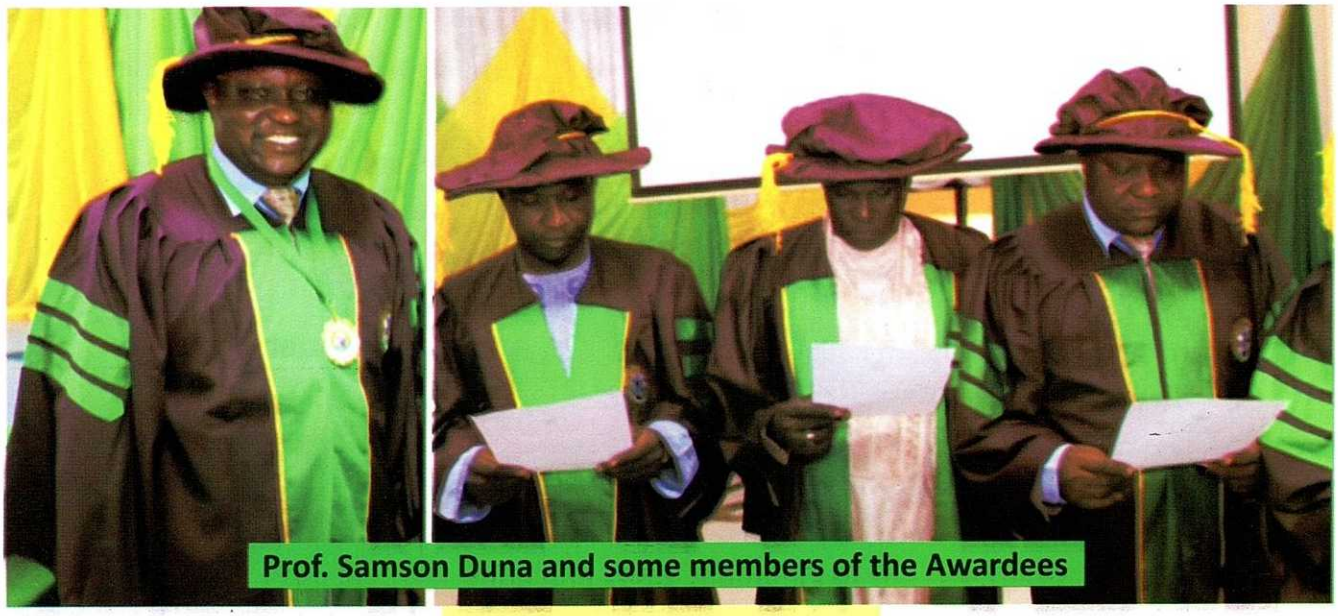
He concluded by wishing them well and encouraging them never to relent but keep doing the good work they are doing.

Deliberation Session with the delegations



Engr. Prof. Samson Duna Presenting NBRRI's Publications to the leader of the deaf furniture delegations

ACTING DG NBRRI IS FELLOW OF NIGERIA INSTITUTION OF CIVIL ENGINEERS.



Prof. Samson Duna and some members of the Awardees

Dedication, diligence and hard work they say is a sure path to success. Over the years, Engr. Prof. Samson Duna has been dedicated to his profession and service to humanity in general and this is now paying off. Starting his work experience as a Departmental Registration Officer at the Abubakar Tafawa Balewa University, Bauchi, Duna's resilient nature, has seen him rise to the position of the Acting DG/CEO of NBRRI.

All his efforts did not go unnoticed as the Nigeria Institution of Civil Engineers (NICE) deemed it fit to honour him with the conferment of the prestigious award of a 'FELLOW'. The award was presented on 31st January, 2019 at the investiture ceremony of the 16th National Convention of the Nigerian Institution of Civil Engineers held at the National Space Research and Development Agency, Airport Road, Abuja.

The event which has the theme: **"New Trends in Civil Engineering Practice: A Podium for Employment Generation"** was graced by dignitaries and people of high mandate and were all warmly welcomed by the National Chairman of the Nigerian Institution of Civil Engineers, Engr. Mrs. Aishatu Aliyu Umar (FNSE, FNICE, FCIA, M. ASCE).

She expressed how happy she was to be formally inaugurating the executive committee as well as showcasing to the world the distinguished civil engineers that were bestowed with the mantle of leadership in the institution.

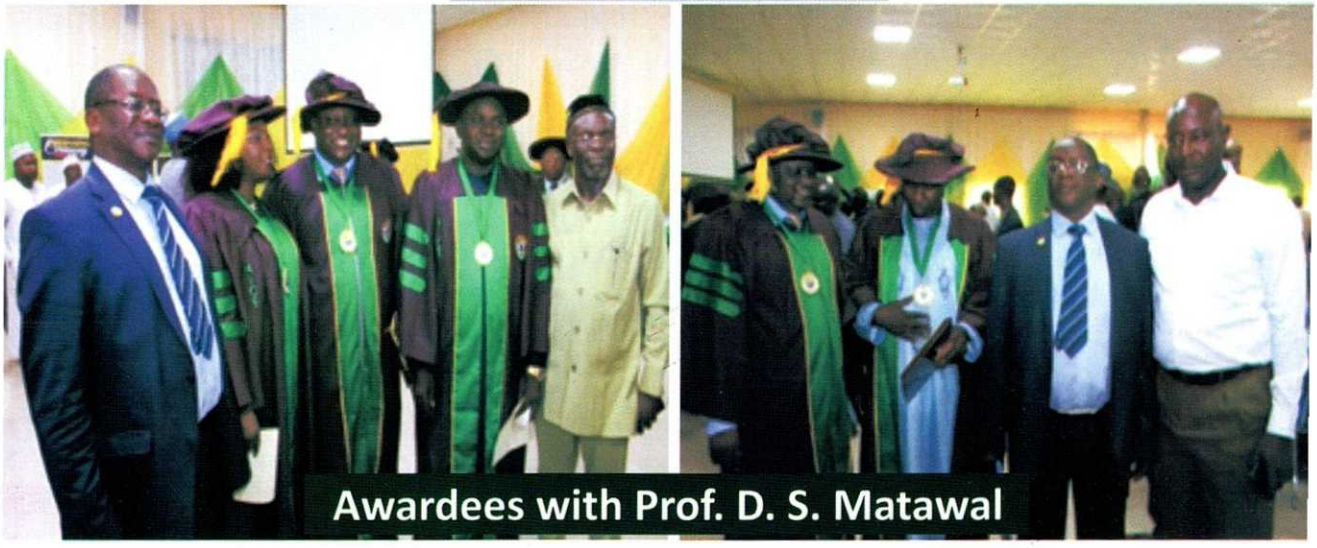
The NICE National chairman stated clearly her primary focus of ensuring unity, peace and progress for the institute and members of the institute and to achieve these, she stressed the need of having a secretariat for the Institution, a revenue drive to enhance the financial status of the

institution, NICE ventures limited, NICE properties, professional development, codes and standard, relationship with the Nigerian Society of Engineers, international affairs, state chapters, publicity and standing committees. All these will pave way for her and members of the institute to make great impacts on the institution.

She charged the executive committees to use their new positions to achieve the best minimal output and also assist the institution in the best possible way they can and the need for them to be more committed and creative in their act of service to the institution.

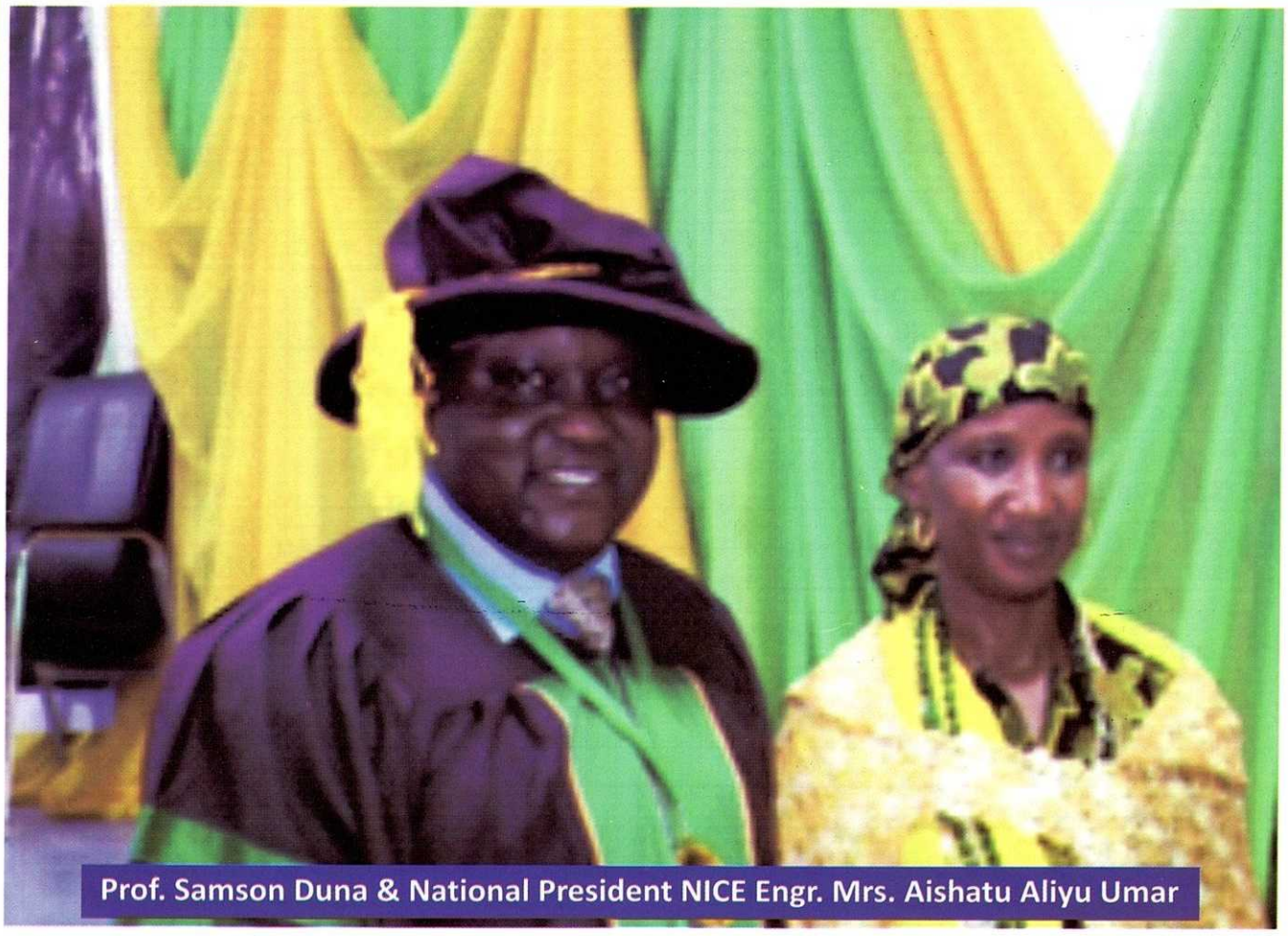
To the Awardees, she also advised them never to relent in their pursuit of knowledge, but rather they should put more efforts and strife harder till they ar recognized globally. Sh reminded them of th tedious journey ahead an boosts their moral with th saying that with dedicatio and hard work, success i sure.

In a brief response, Eng Prof. Samson Dun appreciated the Nationa chairman and the Institutio at large for the honour give to him and promised t deliver his best to th institution and the entir engineering sector.



Awardees with Prof. D. S. Matawal

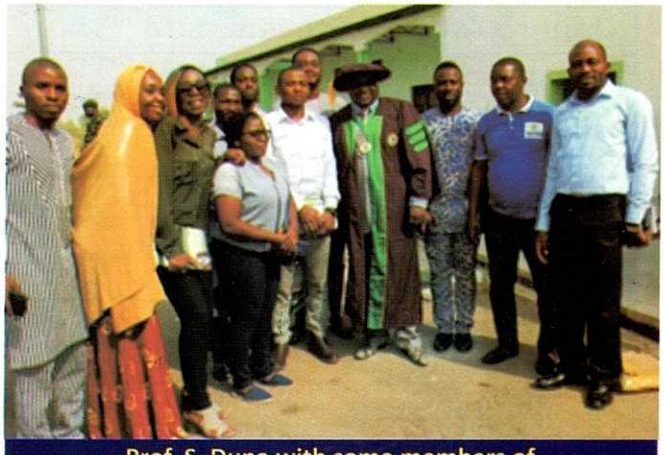
Prof. D. S. Matawal with Family Members



Prof. Samson Duna & National President NICE Engr. Mrs. Aishatu Aliyu Umar

Prof. S. Duna with friends at the Ocassion

Some Awardees with the National President of NICE



Prof. S. Duna with some members of NBRRI staffs at the occassion

SOCIAL DIARY

Birthday

NAMES	DATE OF BIRTH	DEPT.
Tejumade O.A	1st Jan	RRD
Surajo L. Abdullahi	1st Jan	BRD
Olutayo Ainde Oyedapo	1st Jan	A/P
Nwokedi Alexander .K.	1st Jan	
Nwasha M. J	2nd Jan	A/F
Amos Tabe	2nd Jan	A/P
Abdulmumin Miiraj .M.	2nd Jan	RRD
Tsamiya Sani	3rd Jan	P/M
Kadiri Zulukifilu O.	3rd Jan	BRD
Isah Saliu Dantala	4th Jan	P/M
Abu Aminu	4th Jan	A/P
Abah Godwin	5th Jan	A/P
Haruna D. Israel	6th Jan	PIT
Andaowel Patrick .F.	6th Jan	PIT
Okeke Samuel .U.	9th Jan	BRD
Soughul I. Blessing	9th Jan	RRD
Ugo Ukawbasi	10th Jan	RRD
Sanni Reuben	10th Jan	RRD
Oyadosu S. A	11th Jan	EMRD
Egbuna Ikechukwu	13thJan	EMRD
Stephen Okpah	15th Jan	A/F
Nyam Gabriel .D.	15th Jan	
Vongtem Nansoh .D.	15th Jan	
Adamu Yakubu	15th Jan	CES
Ojenike Lawrence A.	15th Jan	A/F
Okon Joseph .E.	16th Jan	RRD
Eneh Nonyelu .L.	16th Jan	
Joshua Yakubu	17th Jan	
Isheni Yakubu	17th Jan	EMRD
Igwe Rowland	18th Jan	BRD
Mbishida Mbida .A.	18th Jan	
Ogunro Ayodele Steven	21st Jan	EMRD
Babatunde Abiodun Oladapo	22nd Jan	RRD
Tebu Sokomba .S.	22nd Jan	
Adio Fatimah F.	23rd Jan	A/P
Nwanfor Christiana .O.	24th Jan	SLT
Akinlade S. James	25th Jan	CES
Oneshi Umoche	26th Jan	PIT
Ganiyu Lawal	27th Jan	CEO
Karfe Seth Gayus	30th Jan	EMRD
Chijioke Ngige	31st Jan	
Ukoabasi Ugochukwu	31st Jan	RRD
Alozie Darlington E.	1st Feb.	A/P

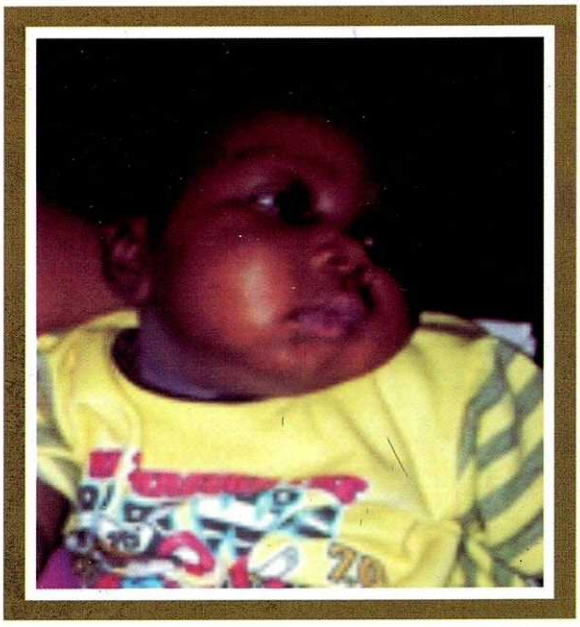
Jude-Iloma I. E.	1st Feb	A/P
Kehinde .S. Adekunle	1st Feb	
Edibo Jibrin	2nd Feb	A/F
Kadiri Abdullahi	2nd Feb	A/F
Okunoghae Reuben	2nd Feb.	EMRD
Adeyemi L. Josephine	2nd Feb.	PIT
Etuchere Prisca O.	2nd Feb	CES
Adeyemi James	3rd Feb	CES
Uren Hulda Micah	4th Feb	A/P
Emeson Sunny Ngwa	6th Feb	
Ibrahim Aminu .I.	6th Feb	
Ejembi Augustine	7th Feb	
Fawolu Henry A	8th Jan	BRD
Sosanya Oluwatoyin	9th Feb	A/P
Kamaludeen Musa .Y.	9th Feb	SLT
Sanda Dinah .J.	9th Feb	
Maton John Dafang	10th Feb	BRD
Hussaini Jido .S.	11th Feb	
Danjuma Hassan U	13th Feb	PM
Leshodo Kolade .E.	13th Feb	RRD
Okwunze C. Felix	13th Feb	BRD
Babalola O. Toluwaloju	14th Feb	EMRD
Musa Dimas Bala	14th Feb	RRD
Ademola Olukorede E.	16th Feb	A/F
Emore R. A.	17th Feb	A/P
Emole Charles	18th Feb.	A/F
Ima-Ima Ime Amos	18th Feb	CES
Olaife O. Adebayo	19th Feb.	EMRD
Makava o. Richard	21st Feb	PIT
Zarma .A. Wakili	23rd Feb	
Abdullahi Aliyu	24th Mar	CES
Omoniyi Moses .S.	26th Mar	SLT
Aminu Momoh	27th Mar	EMRD
Dauda, Yusuf Waziri	27th Mar	EMRD
Asade B. E.	27th Mar	A/F
Ahmed Yushau Ibrahim	27th Mar	CES
Prince Aminu Momoh	27th Mar	EMRD
Iruobi E. O	28th Mar	A/P
Dakop Matur .M.	28th Mar	A/F
Ajah Boniface Audu	29th Mar	DG/CEO
Atapku O. Dennis	29th Mar	EMRD
Amobi Uchenna N	30th Mar	PIT
Akabike Uchenna N	30th Mar	
Emmanuel Sarah D.	30th Mar	DG/CEO
Ogunlade Olajide S.	30th Mar	EMRD

Tyosa Terver Elijah	24th Feb	CES
Edeh Blessing O.	26th Feb	A/P
Yiva Paul .I.	26th Feb	
Yakubu Nda Umar	27th Feb	A/F
C.C. Osadebe (Dr.)	28th Feb.	RRD
Ogundola Temitope M.	28th Feb	BRD
Abdullahi .M. Muhammad	1st Mar	
Mohammed Ahmed Kudu	2nd Mar	RRD
Mujahid Abbas	3rd Mar	
Udenyi Anthony Wonah	4th Mar	A/P
Makwin Heiman Luke	4th Mar	RRD
Alhassan Iko David	5th Mar	BRD
Maude Ephraim .H.	6th Mar	
Auwal Lawal	7th Mar	
Abdullahi Bello .S.	7th Mar	
Afolabi Olakunle M.	9th Mar	A/P
Abba .L. Yila	9th Mar	
Arabi Kehinde Paul	10th Mar	PIT
Anthonia Robert	11th Mar	A/P
Bldr. Kareem Y.O	12th Mar	CES
Sule Jibrin	12th Mar	RRD
Iyaji J. Monday	12th Mar	EMRD
Abimiku Yohanna	14th Mar	SLT
Egbo Gerry Nnamdi	15th Mar	BRD
Gai Ayuba Iliya	15th Mar	
Igwe Stanley	15th Mar	CES
Abubakar Musa Yola	15th Mar	RRD
Idu E. Abraham	16th Mar	PPM
Faboro O. P	16th Mar	RRD
Onuche Samuel Ataguba	17th Mar	RRD
Mohammed Usman .A.	17th Mar	
Oludare Samuel Olu	17th Mar	DG/CEO
Idoko Ewenche Wilson	18th Mar	
Barr. Oyeleye Daniel O.	19th Mar	CEO
Abdulrasheed Bashir	19th Mar	RRD
Hashim .L. Hashim	21st Mar	
Mohammed Ahmed K.	23rd Mar	RRD
Akpan Smart John	24th Mar	CES

BIRTHS

FATIMA AND YAKTASU, BORN ON 29TH OF JANUARY 2019 TO THE FAMILY OF MRS. YAKTASU ABDULSALAM OF PIT, ABUJA

OLAMIDE DAISY, BORN ON 16TH OF FEBRUARY 2019 TO THE FAMILY OF MRS. GBEMISOLA FAMUYIDE OF A/F DEPT, ABUJA



SAMUEL JESUSEME, BORN ON 11TH OF FEBRUARY 2019 TO THE FAMILY OF MR. JOSEPH ASALA OF PIT, ABUJA

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