



NBRRI **NEWSLETTER**

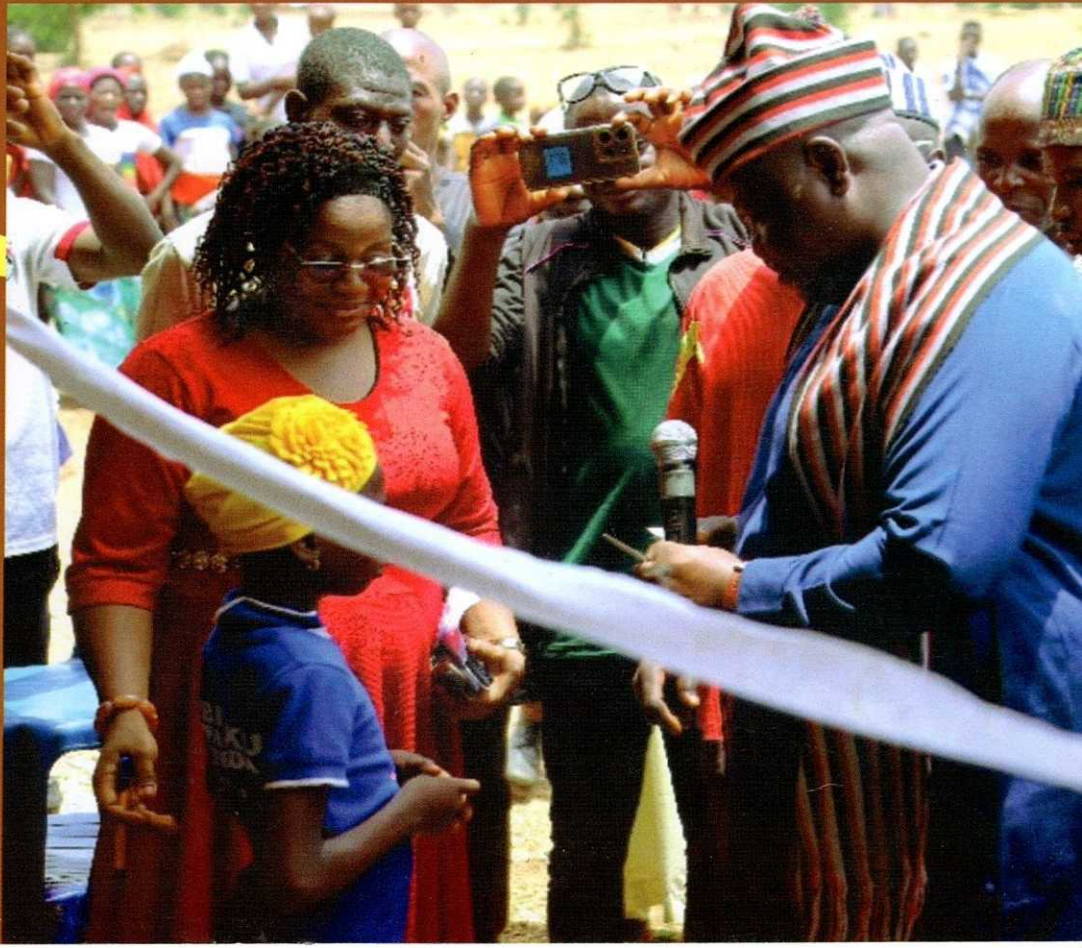
Vol: 17 No. 2, April-June, 2024 2nd Quarter Edition



FMIST MINISTER SPEAKS AT NBRRI'S INTERNATIONAL WORKSHOP ON GLOBAL TRENDS IN ROAD PAVEMENT DESIGN

CHIEF UCHE GEOFFREY NNAJI
HONOURABLE MINISTER
FEDERAL MINISTRY OF INNOVATION,
SCIENCE AND TECHNOLOGY

**NBRRI: ADVANCING COMMUNITIES
THROUGH IMPACTFUL INTERVENTIONS**



Director General/CEO

Prof. Samson Duna

Editor-In-Chief

Daniel O. Makava

Associate Editor

Peter Mashem

Staff Writers

Oneshi Umoche

Aminat Adekunle

Makava Richard

Uham Danshak

Izere Jonathan O

Blessed Ugbede

Ganyilo Goodness

Umar Ameena Aliu

Photographer

Olotu Mohammed

NBRI

(Vision, Mission & Core Values)
Building capacity and 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

Integrate R & D, 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 VALUES

- Professionalism
- Resourcefulness
- Commitment and Integrity
- Innovativeness

Editorial

The activities of the Nigerian Building and Road Research Institute (NBRI) and its engagement with stakeholders have continued to thrive as the institute diligently works towards fulfilling its mandate.

In the second quarter of 2024, the Institute hosted a five-day International workshop on "Global Trends in Design and Construction for Durable Road Pavements." This period also saw a significant contribution to educational development as the Director-General/CEO commissioned and handed over several blocks of classrooms to communities in the North-Central Zone of Nigeria, specifically in Nasarawa and Plateau States.

Also in this edition, the NBRI DG officially commissioned and handed over a model three-bedroom residential lodge, constructed with NBRI technology, to Government Secondary School Apo in the Federal Capital Territory. The DG also returned to his former Primary School in Vom, Plateau State to commission some classroom block for use by the present teachers and pupils.

NBRI as a major stakeholder took part in a retreat by the Federal Road Safety Commission which focused on promoting safe transportation. More on the retreat in this edition. There is also a story on the Induction of the DG and NBRI Head of Procurement into the Northern Youth Council of Nigeria Hall of Fame. Also featured in this edition is the commissioning of a fitness center for its staff.

As if this is not enough, this edition also includes an exclusive interview with the DG/CEO of NBRI. In summary, this edition of the NBRI Newsletter a must-read!

Makava Daniel
Editor-in-Chief

Published by Nigerian Building and Road Research Institute (NBRI)
NBRI INTERNATIONAL HEADQUARTERS

No. 10 I. T. Igbani/NBRI Road, Off Obafemi Awolowo Way, Jabi-Abuja
P.M.B. 5065 Wuse GPO, Abuja-Nigeria
Website: www.nbri.gov.ng

All Correspondence to the Director General/CEO

Vol: 17 No 2, April - June, 2024

NBRRI HOSTS WORKSHOP ON GLOBAL TRENDS IN DESIGN AND CONSTRUCTION FOR DURABLE ROAD PAVEMENTS



The Honourable Minister of Innovation, Science and Technology, Chief Uche Geoffrey Nnaji has stated that Road infrastructure is the backbone of a nation's economic development, facilitating trade, connectivity and access to essential services.. Chief Nnaji said this when he declared open a five-day international workshop organized by the Nigerian Building and Road Research Institute (NBRRI) from Monday 24th to Friday 28th June, 2024 with the theme, “Global Trends in Design and Construction for Durable Road Pavements”. In his Address,

The Minister stressed the importance of the workshop as it will provide numerous benefits such as enhancing

knowledge from the latest research in road pavement design, improvement of technical skills through practical sessions, promoting economic growth by reducing maintenance cost, boost infrastructure investments, support environmental sustainability through eco-friendly practices, inform better policy, and valuable networking opportunities. Chief Nnaji who also noted that the design and construction of durable road pavements are paramount, also appreciated NBRRI for such great initiative and resounding research ideas and works. He then encouraged NBRRI not to relent in positioning the country in a global space as one of the best research institutes in the continent.

Speaking earlier, the Director-General/Chief Executive Officer of NBRRI Engr. Prof. Samson Duna thanked the President Bola Ahmed Tinubu led administration for the great support given to NBRRI so far. He thanked the FMIST Minister Chief Uche Nnaji, the Chairman Senate Committee on Science and Technology Senator Aminu Iya Abbas and other invited guests who found time to witness this great occasion.

He went further to explain that the main objective of the workshop is to provide the platform for Nigerian professionals and relevant stakeholders in the built



environment to be abreast with global trends in the design, construction of road pavements and maintenance techniques. He explained that the workshop, therefore, is intended to find a holistic solution that would ensure the durability of road pavements in the country.

Other dignitaries who also gave their goodwill messages at the workshop includes, the immediate past DG/CEO of NBRRI, Prof. Damladi Matawal, , Chairman Senate Committee on Science and Technology, Senator Aminu Iya Abbas, , Permanent Secretary of FMIST Mrs. Esuabana Nko-Asanye (represented by Mr. Ronald Ukpong), DG Energy



Commission of Nigeria, Dr. Mustapha Abdullahi, Engr. Dr. Felix Atume of the Nigerian Institute of Transport and Highway Engineers. In their various messages, they stressed on the significance of the workshop and agreed for increased funding of NBRRI by Government so as to boost the research works of the Institute which can contribute to the economic development of the Country. NBRRI Newsletter reports that the Workshop had the Renowned Road Pavement experts Germany, The Netherlands, India and Nigeria. Participants at the Workshop were drawn from both Federal and State Government Responsible Ministries and Agencies as well as the private sector.

SPEECH DELIVERED BY THE HONOURABLE MINISTER, FEDERAL MINISTRY OF INNOVATION, SCIENCE AND TECHNOLOGY (FMIST), CHIEF UCHE NNAJI AT THE INTERNATIONAL WORKSHOP ON "GLOBAL TRENDS IN DESIGN AND CONSTRUCTION FOR DURABLE ROAD PAVEMENTS"



It is with great pleasure and a deep sense of responsibility that I stand before you today as the chief

host to officially declare open the International Workshop on "Global Trends in Design and Construction for Durable Road Pavements." This event, organized by the Nigerian Building and Road Research Institute (NBRRI), marks a significant milestone in our collective efforts to enhance the quality and durability of road infrastructure in Nigeria.

Road infrastructure is the backbone of our nation's economic development, facilitating trade, connectivity, and access to essential services. The design and construction of durable road pavements are therefore of paramount importance. This workshop brings together leading experts, policy makers, and industry stakeholders from around the world to share insights and best practices. This exchange of knowledge is crucial for the advancement of our road construction and maintenance techniques.

The training and workshop provide numerous benefits such as: enhanced knowledge from the latest research in road pavement design, improved

technical skills through practical sessions, and valuable networking opportunities. These advantages promote economic growth by reducing maintenance costs, boost infrastructure investments, support environmental sustainability through eco-friendly practices, and inform better policy decisions. Participants will be equipped to implement innovative, durable, and sustainable road construction solutions, ensuring maximum returns on infrastructure investments and significant contributions to national economic growth.

I therefore commend NBRRI for its dedication in organizing this workshop. Their commitment to advancing the field of road construction is evident in the caliber of this workshop and the diversity of expertise gathered here today.

In conclusion, I urge all participants to take full advantage of this unique opportunity to learn, share, and collaborate. The knowledge and skills you acquire here will not only benefit your professional growth but also contribute to the betterment of our nation's infrastructure in line with the Renewed Hope Agenda of Mr. President, Bola Ahmed Tinubu, GCFR.

With great optimism and anticipation for the positive outcomes of this workshop, I hereby declare the International Workshop on Global Trends in Design and Construction for Durable Road Pavements officially open.

Thank you, and may have a productive and enriching experience.

OPENING REMARKS BY THE PERMANENT SECRETARY, INNOVATION, SCIENCE AND TECHNOLOGY, MRS. ESUABANA NKO-ASANYE, AT THE INTERNATIONAL WORKSHOP ON "GLOBAL TRENDS IN DESIGNS AND CONSTRUCTION FOR DURABLE ROAD PAVEMENTS



Honourable delegates, attendees, coordinators, and dignitaries, Greetings to all of you at this important international workshop. It gives me great pleasure to be present at this amazing event today, where we have assembled such a spectacular group of professionals who are all committed to expanding our collective knowledge and expertise in the vital field of road construction and maintenance. It is an immense privilege for me to give a message of goodwill at this occasion. Your attendance at this important event today demonstrates your dedication to improving the infrastructure of our country, and I'm honoured to be a part of it.

May I use this opportunity to congratulate the Director-General and

Chief Executive Officer for putting together this workshop so far. It is quite admirable of you to take the initiative to bring together professionals and experts from various places so they can exchange knowledge and experiences. By working together, we may achieve great progress in the planning and construction durable and cheaper roads.

I hope this workshop will be fruitful and interesting for all of you as it goes along and additionally, the lectures, practical demonstrations and exhibitions spark creative thinking and expand our knowledge of the world trends influencing road design and construction in the future.

Finally, in line with the president's renewed hope agenda to improve our country's infrastructural growth and development, I would like to exhort everyone present to make the most of this exceptional chance to communicate, learn, and work together. Your professional growth will be aided by the information and abilities you gain here. Again, I want to express my gratitude for allowing me to speak to this distinguished group. I'm excited about this workshop's potential benefits and how it will contribute to our infrastructural development going forward. It is my sincere hope that this event ends successfully for all of you.

GOODWILL MESSAGE BY THE CHAIRMAN SENATE COMMITTEE ON, SCIENCE AND TECHNOLOGY, SENATOR AMINU IYA ABBAS AT THE INTERNATIONAL WORKSHOP ON GLOBAL TRENDS IN DESIGN AND CONSTRUCTION FOR DURABLE ROAD PAVEMENTS ON THE 24TH – 28TH JUNE 2024 AT THE NIGERIAN BUILDING AND ROAD RESEARCH INSTITUTE, ABUJA



Good morning and a warm welcome to this international training workshop. It is a great honour to stand before you today and extend my greetings to all the invited guests, participants, facilitators, and dignitaries who have gathered here. Your presence underscores the importance of our collective efforts to advance our knowledge and expertise in the field of road construction and infrastructure development. I would like to extend my heartfelt appreciation to the Nigerian Building and Road Research Institute (NBRI) for taking the initiative to organize this significant event. Your dedication and commitment to fostering innovation and excellence in the construction industry are truly commendable. By bringing together experts, practitioners, and stakeholders from around the globe, NBRI is providing an invaluable platform for the exchange of ideas, best practices, and sustainable technologies. As we embark on this workshop,

I wish everyone a fruitful and engaging experience. May the sessions inspire new insights, foster collaborations, and lead to practical solutions that can be implemented in our respective regions. The knowledge and skills gained here will undoubtedly contribute to the development of more durable and sustainable road infrastructures, enhancing the quality of life for our communities. As the chairman of the senate committee on science and technology, let me assure you of the national assembly's full backing to any resolution from this workshop as long as it will ultimately be beneficial to the Nigerian road user and the nation's economy in general. In closing, I urge all participants to take full advantage of this opportunity to learn, share, and network. Let us work together to ensure that the outcomes of this workshop are not only impactful but also actionable, driving progress and innovation in the road construction industry. I am confident that with the collective expertise and enthusiasm present here, we will achieve remarkable results.

Thank you once again to NBRI for organizing this event, and to all participants for your commitment to making this workshop a success. I look forward to the positive outcomes and lasting impacts that will emerge from our discussions and collaborations. Wishing you all a successful and impactful workshop. Thank you.

SPEECH DELIVERED BY THE DIRECTOR-GENERAL/CEO OF NIGERIAN BUILDING AND ROAD RESEARCH INSTITUTE (NBRI) AT THE INTERNATIONAL WORKSHOP ON GLOBAL TRENDS IN DESIGN AND CONSTRUCTION FOR DURABLE ROAD PAVEMENTS



Let me begin by thanking specially the Honourable Minister, Federal Ministry of Innovation, Science and Technology, **Chief Uche Geoffrey Nnaji**, for shelving other engagements in order to honour our invitation at short notice. The Honourable Minister has demonstrated tremendous faith and confidence in the activities initiated by the Institute. It is on record that within the last one (1) year, the Honourable Minister attended several events held in Abuja and other locations of the Institute. Honourable Minister, Sir, we do not take this for granted. Thank you, kindly Sir.

Today's Workshop with the theme '**Global Trends in Design and Construction for Durable Road Pavements**', is NBRI's quest to continually build capacity both in infrastructures and personnel in line with global best practices with bespoke technologies and equipment. This forum also has an international dimension based on the caliber of Resource Persons drawn from within and all over the world.

The main objective, therefore, is to provide the platform for Nigerian professionals and relevant stakeholders in the built environment to be abreast with global trends in the design, construction of road pavements and maintenance techniques.

This workshop, therefore, is intended to find a holistic solution that would ensure the durability of road pavements in the country. Since the workshop was announced in January, there has been a lot of excitement and enthusiasm by stakeholders in the road construction sector. This is evident in the number of participants that registered for the workshop.

Let me assured the Honourable Minister and our distinguished guests that NBRI will continue to focus on issues and studies that will bring succor to Nigerians in the areas of roads and buildings.

At this juncture, let me also thank the Permanent Secretary, Federal Ministry of Innovation, Science and Technology, Mrs. Esuabana Nko-Asanye, for her guidance and policy direction at the Institute.

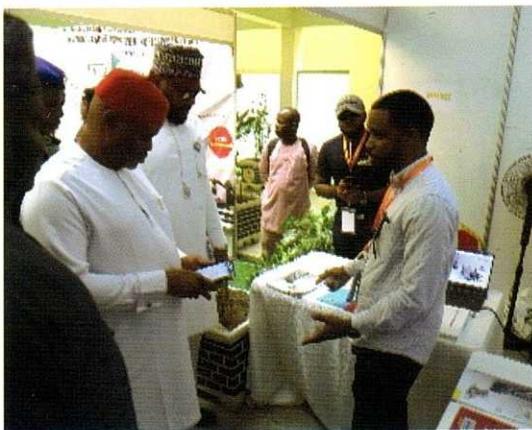
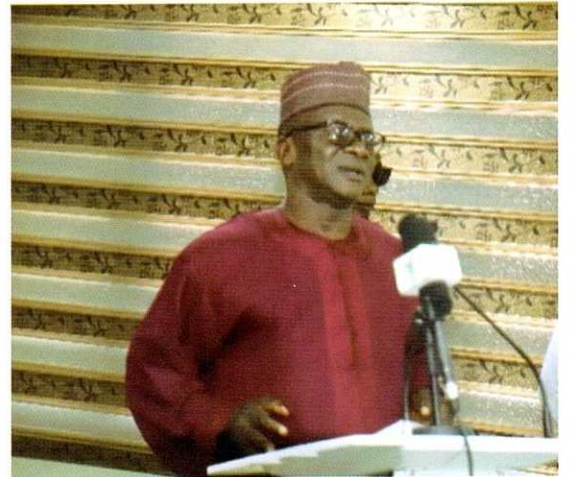
Finally, I want to thank all the Resource Persons at this Workshop for the quality of papers presented and wish all the participants a cherished experience.

Thank you.

PHOTO SPLASH OF THE INTERNATIONAL WORKSHOP



PHOTO SPLASH OF THE INTERNATIONAL WORKSHOP



MAXIMIZING EFFICIENCY AND EXCELLENCE: THE IMPACT OF TRAINING FOR NBRRI'S FINANCE AND ACCOUNTS STAFF



The Nigerian Building and Road Research Institute (NBRRI) recognizes the importance of staying ahead of the game in the field of accounting. In line with this, the institute conducted a highly beneficial one-day intensive training for the staff of the Finance and Accounts Department. On Tuesday, 23rd April, 2024, the NBRRI Administrative Headquarters in Abuja was buzzing with excitement as Mr. Ignatius Onwusiri, the Director of Finance and Accounts, encouraged the participants to strive towards excellence and compete on a global level.

The training, organized by T.O Thomas & CO Ltd, focused on modern financial accounting practices and was attended not only by the Finance and Account

Department personnel, but also by members of the Audit Unit and selected staff from other departments, including research departments.

The Director-General of NBRRI, Engr. Prof. Samson Duna, emphasized the importance of continuous training and development in an organization. He stressed his goal of creating a team of exceptional staff, equipped to handle all challenges in the rapidly evolving global landscape.

The training, divided into three phases, centered on the theme of "Financial Regulations". The sub-themes covered were the "Importance of AI in Financial Regulations" presented by Dr. Ali Abubakar, "Budget as a Financial Control Tool in Public Financial Management" by Mr. Wahab Shina Omoniyi, and "Financial Regulations and Internal Control in Public Sector Entities" by Mr. Adim E. Uzochie. This dynamic and informative training proved to be an eye-opener for all attendees.

NBRRI STILL TOUCHING LIVES VIA ITS INTERVENTION



On Tuesday, April 30, 2024, the good people of Sa'ada community in Nasarawa Local Government Area, Nasarawa State, were thrown into a mood of celebration as the Director-General/CEO of NBRRI, Engr. Prof. Samson Duna performed in a ceremonial event; to improve basic

Also expressing gratitude to the Institute, the Sa'ada community leader, Alhaji Adamu Suleiman, also

education in the area, commissioned a block of three classrooms which was formally turned over to the community. The project is part of the Institute's Corporate Social Responsibility of ensuring a pleasant learning environment for pupils in communities across Nigeria.

In his welcome speech, the school's head teacher, Mr. Hussaini Agaba, thanked NBRRI saying this is the first time the community is experiencing the gesture of the Federal Government. He said the Staff of the School will redouble their efforts and pledged his commitment to giving the structure the greatest care possible.

Community and the state at large, Dr. Sule had inscribed his name in their hearts. Like the well-known Oliver



appreciated a son of the soil / NBRRI staff, Engr Dr. Jibril Sule, who is a driving force behind the project's success. He said that throughout the

Twist, the Community Chief begged for additional projects, particularly in the form of lavatory and borehole amenities.

Similarly, the chairman of the Nasarawa Local Government Area of Nasarawa State through Malam Jibril Danladi Nayawo, the secretary of the Local Government Education Council thanked NBRRI for the project; adding



that the state holds NBRRI in a high esteem. In order to maintain the high standard of education intended for the kids, he then asked the community for help in protecting the infrastructure and made a commitment that the local government would do its share by assigning capable and dependable instructors (teachers) to the school.

After giving the beneficiaries the keys to the project, the Dg of NBRRI Prof. Samson Duna urged the Community to adopt a culture of maintenance since

that is the only way the community can readily see further development. Additionally, he pledged to pay attention to the community's pleas for water and lavatory facilities and directed the contractor to look into it so that NBRRI can help as quickly as possible.

Highlight of the event was the cutting of the tape by the DG to commission the Classroom. The District Boys Brigade were on hand to give a magnificent performance during the occasion in honour Engr. Prof. Samson Duna, who is the Boys Brigade's National President. The climax of the occasion took place when Prof. Samson Duna was formally proclaimed the "*Jagaban Sa'ada*" a traditional title given to him by the Sa'ada community. This was done as a token of gratitude for all the good deeds and advancements that the people had benefited from Prof. Samson Duna's led NBRRI generosity.

EMPOWERING THE NEXT GENERATION: NBRRI PROJECTS LEADS THE WAY



On Friday 4th May, 2024 a newly built block of three classrooms in Karu Local Government of Nasarawa State (North Central Zone) by NBRRI was officially commissioned and handed over to the community. In a ceremony attended by management staff from the



institute, Karu Local Government Council officials, The traditional ruler (Emir) of Tudun Wada, Alhaji Abubakar Bako, Teachers and Students

of the immediate benefiting school.

Speaking at the occasion, the DG/CEO of NBRRI Engr. Prof. Samson Duna, expressed the Institute's commitment towards supporting the community and fostering a culture of learning and development. Duna emphasized on the importance of investing in the future of the community's youth; stating "We are proud to provide this world-class facility for the benefit of local students and the community at large".

He went further to express NBRRI's goals for better education saying: "Our goal is to inspire and equip the next generation with the skills and knowledge they need to succeed in an increasingly complex and competitive world."

Speaking on the recent structure of classrooms built by NBRRI across the six geopolitical zones, the DG elaborated that the State-of-the-Art classrooms and offices being constructed by NBRRI across the



country are designed to foster innovation, creativity, and collaboration. He went further to explain that this particular design of structure built in Karu, the North Central zone is the first of the six demonstration projects across Nigeria. Each facility will be tailored to meet the unique needs of its respective region, with the goal of empowering local youth and fostering community development.

The institute has a long-standing reputation for excellence in research and innovation, and this project further cements its position. As the institute continues to excel in its research and innovation endeavours, it is clear that

its commitment to the community will remain a vital part of its mission and values.

In appreciation of the kind gesture to the locality, the community leader, Alhaji Abubakar Bako expressed

satisfaction on NBRRI's commitments towards boosting the educational system of communities across Nigeria. Highpoint of the event was the announcement of the traditional title of "Sardauna" bestowed on the Director-General/CEO by the Tudun Wada Community. This honour according to the Emir was in recognition of the Institute's commitment towards the community's development and the Director-General's visionary leadership.

ENSURING SECURITY NATIONWIDE: NBRRI NOT LEFT BEHIND



The lingering issue of insecurity in the country has no doubt caused the entire nation sleepless nights over the years. According to most security experts and analysts, curbing this menace that is ravaging the country and threatening the economy, peace and stability of the nation cannot be handled by the security personnel alone, but should be a joint effort of every citizen in the country. As such, the Nigerian Building and Road Research Institute (NBRRI) is not left behind as the drive for peace via collaboration with the government of Gombe State in providing conducive infrastructure and better service environment for the men of the Nigerian Security and Civil Defense Corps (NSCDC) in the state is in progress.

To further cement the ongoing relationship between the State NSCDC and NBRRI, on Wednesday 24th April, 2024 the North-East Zonal Coordinator of NBRRI, Abubakar Baba Yarima played host to the Commandant of NSCDC, M. B Muazu at the NBRRI's North-East Zonal Office, Gombe State. In his address, Muazu commended the

NBRRI for its commitments towards realizing the dreams of many for a peaceful Nigeria as he appreciated the concern the Institute is showing in areas of Security Architecture via its Innovations and Technology. The NSCDC leader said the Gombe State Government has engaged the NBRRI in constructing a Modern NSCDC station to tackle and improve Security in the State. The Commandant assured the Institute of his maximum support and commended the DG/CEO for having such vibrant team in the North-East Zonal office.

In his response, NBRRI Gombe head, Abubakar Baba Yarima commended the men of NSCDC on their roles in handling security issues thereby ensuring peace and stability in the country. He urged the men never to relent in their great efforts adding the quest for peace in a society is a continuous battle. He also gave the men the warm assurance of the DG/CEO of NBRRI, Engr. Prof. Samson Duna on the commitment of NBRRI to assist in any way it could to support the dream for a peaceful society in the country.

NBRRI INTERVENTION IN PROVIDING NEW CLASSROOMS REACHES KANAM



The Nigerian Building and Road Research Institute (NBRRI) has, in a formal ceremony, officially commissioned and handed over a block of classrooms at LEA Primary School Birwa, located in the Namaran District of Kanam Local Government Area (LGA), Dengi. This commendable effort by NBRRI is a testament to the Institute's commitment to improving the infrastructure and facilities in schools across the country.

The event was graced by prominent government officials, community leaders, and other stakeholders in education. NBRRI's Director-General and Chief Executive Officer, Prof. Sanson Duna expressed his delight in being a part of the project and spoke about the Institute's vision to support the educational development of the nation. He emphasized the importance of providing a conducive learning environment for children, stating

that it is crucial for their growth and development.

The newly commissioned block of classrooms consists of three spacious and well-ventilated classrooms, equipped with modern facilities, including whiteboards, chairs, and desks, to enhance the learning experience of the students.

The headmistress of LEA Primary School Birwa, Mrs. Rebecca Joshua, expressed her gratitude on behalf of the school and community. She mentioned that before the intervention of NBRRI, the school was facing a severe shortage of classrooms, and students had to cram into small, overcrowded spaces. The new block of classrooms has not only increased the school's capacity, but it has also improved the overall learning environment for the students.



In his remarks, Chairman of Universal Basic Education, Mr. Sunday Amuna commended Governor Caleb Mutfang for his commitment to reviving the education sector in Plateau State. He immensely appreciated Prof. Duna for his generous contribution towards improving the education sector in the country. He called on other public-spirited individuals and corporate organizations to follow suit and support education development in Nigeria.

The Transition Implementation Committee Chairman of Jos South Local Government Council represented by Mr. Silas Babuje thanked the benefactor for a job well done. "We are grateful for this project," he said. "May God replenish you a thousand-fold."

On behalf of VOM Traditional Council and the entire community, an elder from VOM Traditional Council expressed their gratitude to the Prof. Duna and entire NBRI who brought

the project to life. "We appreciate your benevolent gesture," he said. "This project will stand the test of time."

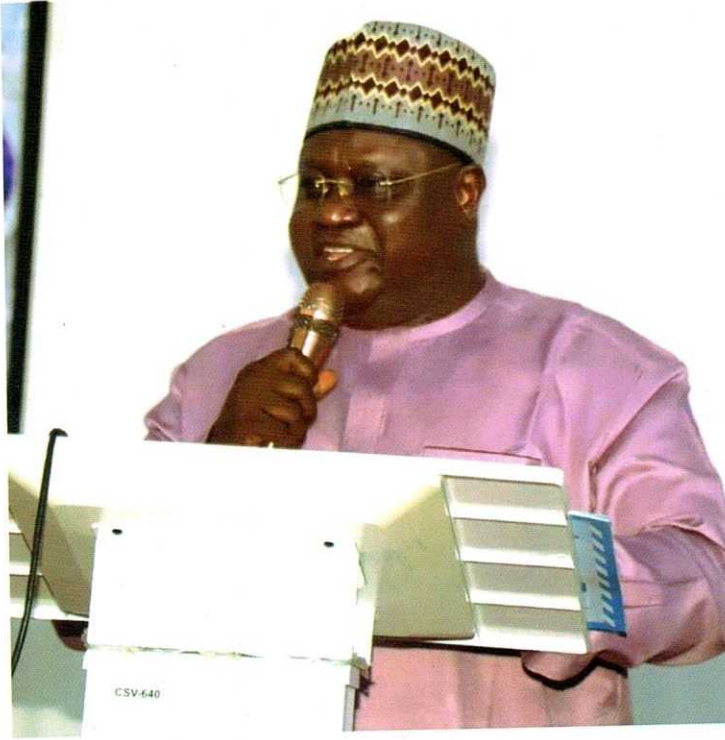
The Acting Education Secretary of the Local Government, Mrs. Sarah Dung and the Head Teacher of VOM Community Primary School also appreciated the benevolent gesture that will benefit future generations.

The occasion was marked by a minute silence for the repose of the soul of Mr. Baba Yashitu, who was described as a dedicated educator who played a significant role in shaping the lives of many students including the alumnus.

The commissioning of this state-of-the-art educational facility is a testament to the importance of giving back to society and a tribute to mentorship. It also showcases an alumnus' commitment to his alma mater and his desire to give back to society that nurtured him.

As we look to the future of Nigeria's infrastructure development, NBRI remains committed to driving innovation and excellence in building and road construction, creating a lasting legacy of sustainable, safe, and futuristic infrastructure that will shape the nation's prosperity for generations to come.

PROMOTING SAFE TRANSPORTATION: INSIGHTS FROM THE FRSC SPECIAL MARSHAL ONE DAY RETREAT



The Federal Road Safety Corps (FRSC) on June 28, 2024. Organized a One Day Special Marshal Retreat in Abuja. The event, themed: "Promoting Safe Transportation Through Public Awareness and Enforcement Strategies," brought together stakeholders in the transportation sector to discuss crucial road safety issues and explore innovative solutions.

Engr. Prof. Samson Duna, the Director-General/CEO of the Nigerian Building and Road Research Institute (NBRRI), delivered a keynote address at the forum.

Duna highlighted the dangers posed by potholes on Nigerian roads, emphasizing their detrimental impact

on road safety and vehicle maintenance. He stressed that potholes not only increase the risk of accidents but also lead to costly repairs for motorists, ultimately affecting the overall efficiency of transportation networks.

To tackle this pressing issue, The NBRRI DG proposed leveraging waste products as sustainable materials for road construction and maintenance. He introduced innovative techniques that utilize recycled materials such as plastic waste, rubber tires, and glass fragments to create durable and eco-friendly road surfaces. By incorporating waste products into road infrastructure, he emphasized the potential for cost-effective solutions that improve road quality while contributing to environmental sustainability.

Chairman of the occasion, Justice Monica Dongban-Mensen, President of the Court of Appeal, emphasized the importance of collaboration in promoting safe transportation. She stated, "Road safety is a shared responsibility that requires collective efforts from stakeholders, policymakers, and the public. We must work together to create a transportation system that prioritizes safety and sustainability."

The Emir of Nasarawa: His Royal Highness, Ibrahim Suleiman, who graced the occasion as the Royal Father of the day. Emphasized that It is our collective responsibility to ensure that our roads are designed and constructed with safety as a top priority, not just for ourselves, but for the well-being of our children and the generations that will follow us, by creating a transportation system that is both safe and sustainable for the future.”

infrastructure and enhancing road safety.

Other speakers, include the Corps Marshal of the Federal Road Safety Corps (FRSC), Mr. Shehu Mohammed, who stressed on the need for public awareness campaigns and enforcement strategies to complement infrastructure development.

The retreat marked a significant step towards transformative changes in



The FCT Minister, Nyesom Wike, who was represented by Dr. U. S Attah from the FCT Civil Service Commission, reiterated the government's commitment to improving road

promoting safe transportation in Nigeria and with collective efforts, a more secure and sustainable transportation landscape can be achieved for all Nigerians.

NBRRI ALWAYS READY TO SUPPORT IN PRODUCING THE BEST IN NIGERIAN STUDENTS FOR BETTER NIGERIA



Engr. Prof. Samson Duna pledged more support to Youth development. This was revealed on Thursday 20th June, 2024 when the delegates from the National Executives of the Nigerian Institution of Civil Engineering, Student Affiliate Wing paid an advocacy visit to NBRRI. The two-man delegates led by the National President Salisu Usman and the National Financial Secretary Nura Sanni Ntoro appreciated NBRRI and mainly the DG for finding time despite the busy schedule to grant audience to them.

Salisu Usman outlined the purpose of the visit which he explained to be seeking for collaboration and assistance from NBRRI in areas of training and acceptance of IT students, NYSC members and to grant the

student wing the opportunity to be mentored by NBRRI. All these he stated will assist the body to add its own quoter to nation building. He explained that some of the findings after investigations on building collapse and road failures are associated with quacks

in the field doing the jobs of professional engineers; and to tackle and prevent these from happening, the student wing is seeking for mentorship and guidance so as to enable them be effective and efficient in service delivery after graduation. He then used this opportunity to notify the institute on the planned road walk being organized by the students which is tagged "Say No to Building Collapse".

In response, Engr. Prof. Duna encouraged the students not to relent in their efforts to create positive impact in nation building. He stated that despite NBRRI is already handling almost all the request they tabled down, the institute will not relent in doing more.

YOUTH GROUP HONORS DG AND HEAD OF PROCUREMENT



The Northern Youth Council of Nigeria (NYCN) on Thursday 20th of June 2024 presented an exemplary leadership award of excellence to both the Director-General/CEO of the NBRRI, Prof. Samson Duna and the Head of Procurement and Maintenance Department of the Institute, Engr. Isah Dantala.

This took place during the NYCN courtesy visit to the NBRRI headquarters in Abuja. The awards were presented to the recipients in recognition of their contributions and commitments towards the growth of

youth education, moral development and progressive future as well as for their upwardly mobile and digital approach to administrative, professionalism in service and public spiritedness.

In his citation, the NYCN president Mr. Abubakar Isah praised Engr. Dantala as a role model, a global citizen and a philanthropist. According to him, Dantala is an inspiration to Nigerian youths as he always “guided us all in the right direction and motivated us to do our very best”.



In a similar note, Mr. Abubakar lauded Prof. Duna as an outstanding leader with the capacity to teach and educate humanity in intellectual distinction, a man with the power of making lasting impressions on the people he leads. He commended him for his brilliant hard work and humility towards his subordinates.

Engr. Isah Dantala expressed his gratitude for the honour first to Prof. Duna for the trust and the opportunity given to him to work as the director of procurement and the NYCN for the recognition and award with promises of rendering better services in the future.

In his remarks, the director general of

NBRRI Prof. Samson Duna made known to NYCN that NBRRI is always open to sponsor Nigerian youths with good, innovative ideas they have regarding building and construction. He stated that NBRRI is always willing to work with youths and as such will accept any youth that comes for either Industrial Training program or National Youth Service



scheme. He implored the NYCN to take the word home and spread to other Nigerian youths as he encouraged them to be good ambassadors of the nation anywhere, anytime and any day.

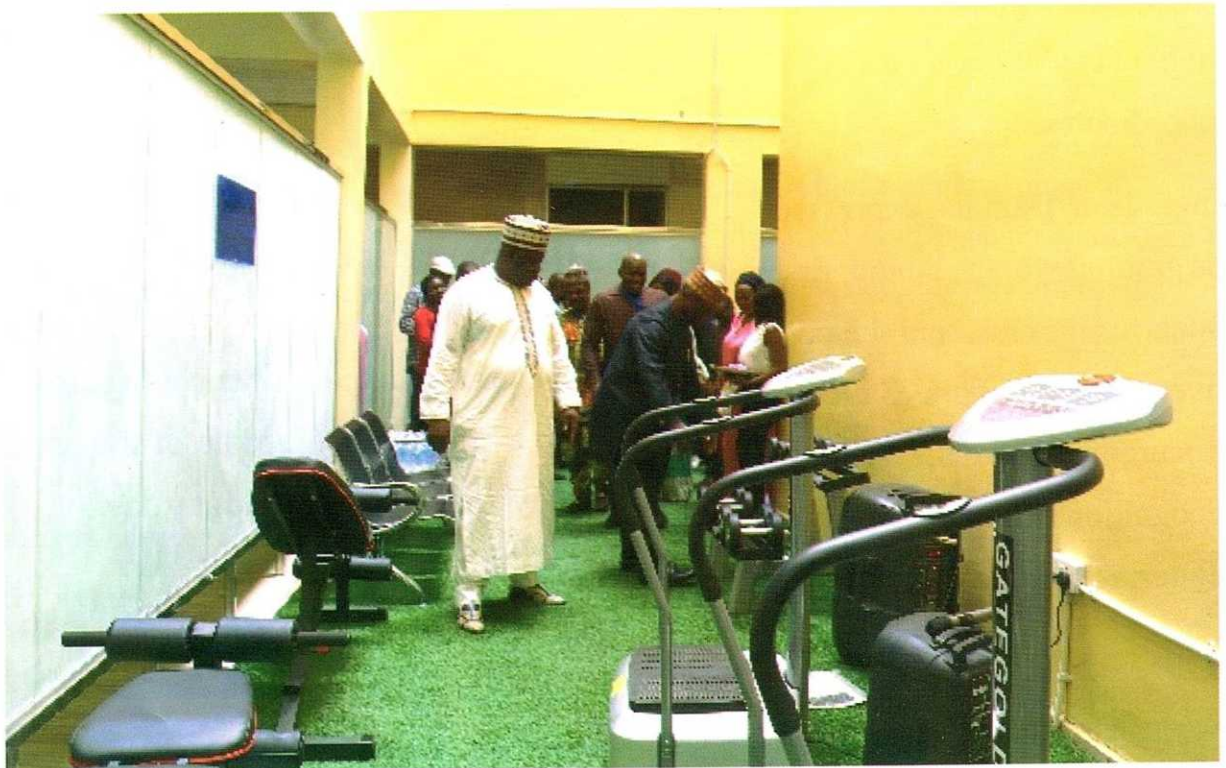
ENSURING STAFF HEALTH: NBRRI COMMISSIONS FITNESS CENTRE



Fitness they say is one of the core boosters for healthy living. Being healthy is a sure way of better service delivery in all sphere of the labour force. This is one area that the Director-General/CEO of NBRRI Engr. Prof. Samson Duna and the management

of the institute hold dearly in order to boost the fitness level and create a healthy living for all staff of NBRRI so as to spur the staff for better service delivery at all time.

It was a joyous moment on Wednesday 22nd of May 2024 when the institute commissioned a mini-gym and fitness centre situated at the institute's Head Office in Abuja.



While delivering the welcome address, Prof. Duna emphasized on the need for healthy living and better work delivery by staff. He encouraged staff to make proper use of the centre and not to make it a centre of distraction during working hours. He also elaborated on the rules guiding the usage time allotted for staff to use the centre which shall be after closing hours of working days and also during weekends. He charged the institute's sport committee to set proper guidelines and make it known to all staff of the institute.

Performing the commissioning

ceremony, the immediate past Director-General of NBRRI, Engr. Prof. Danladi Slim Matawal who was present at the occasion also threw more light on the importance of exercise and its value to better service delivery. He also encouraged staff to appreciate this kindhearted gesture by the management and seize this opportunity to make something meaningful out of this act.

Highlight of the commissioning was the testing of the equipments by the past DG, the DG, Directors and staff of the institute.



replacement in concrete. We were able to preserve the bamboo, we treated it so that it will last long by using some preservatives by using some bitumen to treat the bamboo and along the line we couldn't replace the steel 100% in the building but we were able to reduce the quantity of steel by about 40 to 50% and we were able to use that bamboo with steel in combination to construct a storey building and I'm happy to inform you that the story building using bamboo as steel replacement is standing in OTA, Ogun State as an office building. We have pictures on the bamboo reinforced concrete structure flying over.

So where am I heading to, where am heading to is that we might not be able to replace the steel 100% but we were able to reduce the steel to appreciable quantity of say 40 to 50% thereby the cost of money spent in buying of steel will be drastically reduced if the steel is used as supplementary material by using it with combination of bamboo, so that is one area that we were able to do in terms of research.

Cement is not left behind; cement has been one of the sole products used as binder normally the cost of building is

linked basically to cost of cement one can agree with me that there was a quantum jump in price of the cement recently. It used to be three thousand it went to five thousand from five thousand it shoots to fifteen thousand and now its stabilizing between seven to eight thousand naira. Why the increase? Why, because cement has no alternative, cement has been a sole product, people patronize it by saying we don't have an alternative. I always give an analogy of cement with Maggi product, per adventure you want to use Maggi to cook, Maggi with the star. If the price of Maggi with the star goes up, you can go to Knorr, if Knorr goes up you go to Royko, if Royko goes up you go to 'dawa-dawa' just to mention different varieties. But cement has no alternative, its either cement as a binder or nothing that is why few individuals in this country continue to enjoy monopoly as far as cement is concerned.

NBRRI in its own wisdom sat down and carried out quite a lot of investigation, we came up with the pozzolana. A pozzolana is produced from waste and it can be used not solely as replacement for cement but as a supplementary replacement of cement.

What do I mean by that? We produce a product called pozzolana, where you're expected to use 100 bags of cement you might end up using 60 bags of cement and using 40 bags of pozzolana. It will reduce the price of cement. If you take a visit to cement factory where cement is produced one thing that catches your attention is the presence of carbon dioxide in the atmosphere. The emission of green gas is herby polluting the environment, that is why workers working in cement factory immediately after working you give them milk to take, to tell that the environment is toxic. The idea is to get a green healthy environment, use of cement is not healthy to all of us because the environment producing cement end up being polluted because of the essence of the co2 that goes into the atmosphere. So, what NBRRRI did was to come up with a product called pozzolana, we were able to use two raw materials for the production of the

pozzolana. One uses clay and ash which is in Ota; the other one uses scoria. Scoria is these perforated stones that we have, very light in nature. People use it to clean their legs, when you're taking your bath at times in the village people use it to scrub their legs and so on and so forth. Those perforated stones, a byproduct of volcanic eruption is called a scoria. So, we grind the scoria to certain fineness, we add certain chemicals to it and it becomes pozzolanic in nature and that of Ota that uses clay, we mix it with some agricultural waste product and get our pozzolana. The pozzolana you might not use it 100% to build but you mix it at certain percentage maybe 40% or 50% pozzolana and 50% of cement, mix it together then you get a product. I'm happy to inform you that we were able to construct a building using the product of pozzolana both the one produced in Jos and the one produced in Ota and those buildings are standing.

So NBRRI has done quite a lot in other areas of construction materials like bamboo laminated panel. POP fiber that we import, you agree with me that the fiber used in the production of POP (Plaster of Paris) is imported. Ordinary fibers that you can see is imported, we came up by getting some fibers from local source, we fabricated the machines we use in the extraction of the fiber and we were able to construct our POP using the fiber obtained from natural source. We were even able to come up with what we call Rubberized Asphalt Mat (RAM), it is basically a product we invented in NBRRI. It is produced from waste tires people throw around that is polluting the environment, we gather them, cut them into some slices. Other by products are these plastics you see around and waste bottle water plastics, cut them into slices put certain chemicals, burn them at certain temperature and we are able to use them to patch our asphalt roads and I am happy to inform you that we have a demonstration road that had porthole presence everywhere and we were able to use this RAM to patch our portholes and those roads are standing and promising. It has passed the first rainy season, this year after this rainy season will be the second rainy season. And if this result is promising all these

portholes that we are talking about, we have quite a lot of waste tires in the society so we are doing two things by clearing our environment of waste tires and plastic and at the same time we are adding value by patching the portholes in our own community. Any road that is built with asphalt that has presence of portholes we patch them to ensure that these portholes become case of the past. Now from undergoing a study what are the real causes of accidents on the road, one of the prominent factors that appear is vehicles trying to dodge portholes as they are moving on the road causing accident. So, if you can use that RAM to patch our portholes the case of accident will be reduced drastically and it's a breakthrough as far as alternative construction material is concerned.

One area again we have done so well is in the area of Compressed Earth Blocks. These Earth Blocks are produced from laterite. You know we have abundance of laterite in the society. Normally our traditional building materials is like sandcrete blocks, the hollow sandcrete blocks we see around is what people are used to. We came up with a technology; we said no let's see if we can use laterite around instead of producing the block

to quite a number of the quantity of cement, we just mix 5% of cement to the laterite. Initially we started by having a collaboration with a south African country where we import these machines from them to produce our blocks. But as time goes on, we developed our own machine. We say no, don't give us the machine give us the knockout parts let us do the assembly of the machines ourselves. And I'm happy to inform you that as of today, the machines are fabricated by NBRRI. It is our own product. Compressed Earth Block is our own product and we use it to construct houses, hospitals, schools, offices, just to mention a few. And the good thing about these our Compressed Earth Block is that it is temperature regulative. It will regulate the environment; during wet rainy season when it is cold, if you enter a building constructed using Compressed Earth Blocks you see it is warmer during inside and during hot season when you enter its cooler as if there is AC everywhere and the good thing about it is that you can produce it without a technical know-how. Even someone that did not go to school, someone that is not skilled enough, someone that is

not knowledgeable, an unskilled person, you can teach him how to operate the machine and the machine is friendly; you can end up producing your products. And the good thing again about the product is that you don't need water or cement to lay it you lock it up, you lock it and the technology is very good. It is in that aspect of locking again that NBRRI came up with the idea of saying let us introduce this interlocking for these sandcrete blocks we have. We came up with a technology of trying to have a key, you see when you have sandcrete blocks and you construct a house with it, you cannot have a way of modifying it. Anytime you want to modify you destroy because water has been used to gum them but if we want to interlock our sandcrete blocks now, we lock it up with a key, after locking it when you say you don't need it, we remove it gradually and it will be used somewhere instead of bringing caterpillar to demolish. Now we lock the sandcrete blocks you can remove it easily. And the Compressed Earth Blocks we are talking about; you don't plaster it is naturally sealed. The colour is there, all these are alternative materials.

When I'm saying alternative, you can shift from the normal tradition of the sandcrete blocks and you go into the Compressed Earth Blocks. Not that cement is not there but we reduce the quantity of cement as much as possible. Where you're using 100 %, you might end up using only 20 or 15% of the cement to construct the entire building. So, you have drastically reduced the quantity of cement which is good, which is friendlier to the environment and just to mention a few.

So, we worked on bamboo again this time around we are using the bamboo as a panel in the room, it can be used as a ceiling material, it can be used as a walling material, it can be used as a flooring material. It's part of the product we always exhibit when we are doing science expo here at the eagle square. We always have a week where the research institute come to showcase some of their research findings. So NBRRI has come up with quite a lot of alternative products; paving stone is there and time is not enough I could have spoken quite a lot in terms of alternative materials.

NBRRI Newsletter: We saw your website sometime when you used bricks, like red bricks.

Prof. Duna: That's the truth, yes, it's there. It is called Compressed Stabilized Earth Blocks, that is the red brick. When you say a brick, it means that it has been burned with fire, it's not a brick its Compressed Stabilized Earth Blocks, no fire attached to it.

NBRRI Newsletter: So, this is really interesting like I mean it's really enlightening to know that NBRRI have done all of these but my question this time is, I've been wondering while you were speaking, it feels that the publicity is low, people do not know about these things or is it that government is a bit apprehensive as to whether these things, these materials stand the test of time. Why is it that it feels that the publicity is low, is there any publicity first to the people to use these materials or is it that the laws or rather the government hasn't fully approved these materials. Is there a publicity around it to encourage people to try these alternative building materials?

Prof. Duna: You see in terms of construction materials; government have no law but what we have is a code of practice that guides you. There is building code of practice that covers how construction work is carried out, how material is use. For any material to be used it must meet the standard specification it supposed to. For you to use these materials, they will tell you that the strength must be within a certain range, the water absorption must be in a certain range, the toughness, the elongation of the properties, just to mention but a few. If what you are producing, if what you are telling people falls within the standard specified by the code of practice that means that thing is good you can use them. But as I said the problem is change, people find it very difficult to change. Why, because of fear of the unknown? No matter what it is, they say give me what I'm used to. Just as you have a new product in the society, it's not easy for you to have a breakthrough.

NBRRI in its own part, we are a research institute, we are not expected to sell these products to people. We are expected to sell a prototype to investors. When an investor comes, he picks the product, he picks the

commercialization of the product and just to mention. What we have is a prototype from the investigation and inventors' point of view. When you invest something and the person comes and it is tested, and it is okay it meets all the requirements next is for someone to come and commercialize it. Once he picks it up, he makes it available. Let's take for instance this pozzolana, you don't expect NBRRI to bring cement to start selling to people, we cannot do that. We do not even have the capacity to do that. We have the knowledge, we have the technical know-how, we have the ability and the research findings. We were able to test these materials and the material is promising, we were able to compare in respect to the standard and code of practice which meets up with the requirements. We are telling investors come we have this product, come and make it available to people. We have gone to several exhibition centers; we were able to use these products to construct a building come and see this building. The last time, I think last two years, I received some few visitors in Lagos basically they came and showed interest in these products, I welcomed them. I was not there in person but my head of department in Lagos welcomed them.

I thought they came with good intention of collaboration, I never knew they came to ask questions with the aim of taking the technology from us for them to start producing their own pozzolana, it was later on that I discovered. You can see the hazard we face as a research institute; you try to do something and people come to ask questions, you talk by giving them answers for development and progress but they are basically trying to steal the technology from you so that they will go and duplicate it. They never came back again and we never see people trying to show interest. There was a time we came up with good items of these alternative materials, you know its not easy to fight a cartel. The cement industry run like a cartel bringing an alternative that will knock them in the market is not going to be easy. So, it is like saying you have a system on ground coming in trying to push yourself and going it's not going to be easy on you. But we are trying our best and we are trying to create awareness just as you said with you coming in now, you are going to help us in creating awareness that there's a product called pozzolana you might not use it 100% but you can use it with less

quantity of cement. While that product is there, I'm sure there will be drastic reduction of cement production because people will start reducing the purchase of cement; instead of buying 100 bags you can end up using 30 bags and use pozzolana to mix it up and you get the same product binder as cement.

NBRRI Newsletter: That's actually really interesting. So, sir upon all of this research, has government adopted any of the materials like say okay we want to build this project in a certain community let's adopt this material and let's experiment with it and see, have they done that?

Prof. Duna: I'll say yes in a way since NBRRI is government agency, any building project as far it is cited in NBRRI you must use NBRRI technology to construct it. For instance, we have quite a lot of building projects in our 2023 budget, almost all of them had to adopt the use of Compressed Stabilized Earth Blocks in the walling unit. You have to come to us, you have to key in, you have to go for laterite, you have to go for our machines for the production of these blocks, then you use these blocks and key in.

So you can see if you go round the country there's no local government I think in Nigeria that has no presence of NBRRI product in one way or the other either you're constructing a school, constructing a hospital, constructing a stadium, constructing a house like a palace as long as it is a building you must use NBRRI Compressed Stabilized Earth Blocks . By so doing as a government agency, we are compelling people to use these blocks and it has been very interesting. There are quite a lot of pictures personally myself for the past weeks I have been going round commissioning projects constructed using NBRRI compressed blocks. One is here, not far from Masaka here by the roadside, I was given a chieftaincy title when I went there for the commissioning it was very nice. There are quite a lot of them within Abuja; almost all the secondary schools in Abuja, we did what we call intervention project. With respect to corpors' lodge in these schools, we discovered that corpors are having difficulty with accommodation in Abuja schools so we constructed three-bedroom flats for it to be used as corpors lodge and those bedroom flats were constructed using NBRRI

compressed blocks. So, it's not saying we compel them as such, but government is telling them please use NBRRI's technology for construction. As an agency, we are trying to push this forward to Federal Executive Council, we are working towards that to see if a policy can come out of the government's point of view to state that all primary schools' buildings to be constructed in Nigeria should be constructed using NBRRI Compressed Stabilized Earth Blocks. If a policy of such is passed, you'll see people will look inwards, there will be reduction in quantity of cement, there will be reduction in technical know-how of how to lay blocks and that will be promoting NBRRI compressed blocks. So, we are yet to arrive at that but very soon, we are still pushing for that. Our able Minister of Federal Ministry of Innovation, Science and Technology Chief Geoffrey Nnaji have been doing wonderfully well in terms of preaching and I believe with him being in the executive council very soon we will hear the good news that the federal government has adopted NBRRI technology. That's what we are hoping and praying for.

Prof. Duna: Yes, disadvantage not in the parameter assessment. Disadvantage in acceptability of the product that is given in the society. It is discouraging for you to work hard, discouraging for you to sell the product and people are not buying. Just imagine, you prepare a product, you cook your food you put all the seasoning in your soup you prepare your product in the market and people go to restaurants they are used to leaving your food there and you have one of the best foods, they don't want to taste your food, very few people tasted it and they are ready to buy it. But I am happy to inform you that last Expo we did what we call NBRRRI movable house, we were able to build a house in three days. I didn't talk about that; it is using steel as our fabricated structure then the blocks come in. Within three days we built it three-bedroom flat but all the edges and the foundation was fabricated with steel. Immediately after the show, people were expressing their interest, they want to buy it; at the end we sold it to a bidder that showed interest and he packed the house and went and transferred the house to his village. A house that can be assembled and built in three days. This is another story; we will discuss more on that later. So, as I said, our only

disadvantage is basically in the area of showing of interest. It is discouraging for us to do quite a lot and people are not expressing their interest to patronize or to partner with us. But NBRRRI is still open and the good thing is that we have one of the best laboratories around. We don't just use materials; we test the materials in the lab to see if it meets the standard requirement. So, any organization that is ready to partner with us, for every sand, for every aggregate, for every cement you use in your site we advise you to bring the product for testing so that when you test them, we tell you that this product is good, you can use them. So, it is not basically our own technology alone even all the products you can use at your own site for building, we can help you to test them it is part of our MOU that we go into.

NBRRRI Newsletter: Wow, thank you very much. I think this was a very insightful moment. A lot of things I didn't know about, a lot of things that we never heard about, we just heard about them now.

Thank you so much sir.

Prof. Duna: You are welcome.

SOCIAL DIARY





NBRRI INTERNATIONAL HEADQUARTERS

*No. 10 I. T. Igbani/NBRRI Road, Off Obafemi Awolowo Way, Jabi-Abuja
P.M.B. 5065 Wuse GPO, Abuja-Nigeria
Website: www.nbrri.gov.ng*