

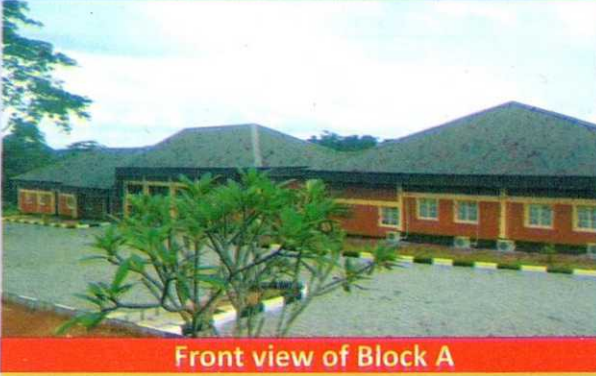


NBRRI

NEWSLETTER

Vol. 2, No. 7, December, 2014

The Quarterly Newsletter of the Nigerian Building and Road Research Institute



Front view of Block A



Back view of Block A

NBRRI CONSTRUCTS IMPOSING OFFICE COMPLEX AT NLC OTA USING ITS R&D PRODUCTSP4



Dr. Abdu Bulama
Hon. Minister, FMST.

AGENCIES UNDER FMST MUST SYNERGIZE TO ADVANCE SCIENCE & TECHNOLOGY IN NIGERIAP6

NBRRI HAS BEEN UNDERGOING REMARKABLE TRANSFORMATION IN RECENT TIMES ...P17

SOME NBRRI PUBLICATIONS

- NBRRI TECHNICAL REPORT NO. 22:** Collapse of Buildings in Nigeria: Technical Report on the Collapse of a 2-Storey Building at Mararaba (Near Abuja), 22pages, Oct 2011
- NBRRI TECHNICAL REPORT NO. 23:** Collapse of Buildings in Nigeria: Technical Report on the Collapse at Adenubi Close, Ikeja, Lagos State, Nigeria, 19pages, Oct 2011
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- NBRRI TECHNICAL REPORT NO. 25:** Preliminary Survey of Some Clay Deposits in Nigeria, 8 pages, May 2012
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- NBRRI REPORT No. 32:** Evaluation of a Nanotechnology-Based Polymer on some Tropical Soils. 34 pages. 2014
- NBRRI REPORT No. 33:** Investigation of Road Failure in Nigeria: A Case Study of Enugu-Port Harcourt Expressway. 48 pages. December 2013
- NBRRI REPORT No. 34:** Effect of Mineralogical Composition on Performance Characteristics of Compressed Stabilised Earth Blocks (CSEB). 63 Pages. December 2014.
- NBRRI REPORT No. 35:** Technical Report on the Collapse of Six-Storey Guest House of the Synagogue Church of All Nations (SCOAN) In Ikotun-Egbe, Lagos State, Nigeria. 35 pages. November 2014
- NBRRI RESEARCH SEMINAR:** Book of Abstract, No. 1; *Bi-Weekly Seminar (2011-2013)*. 15 pages. April 2014
- Proceedings of NBRRI Stakeholders' Forum: Bridging the Gap Between Building & Road Research and Stakeholders, 98 pages, May 2011
- Proceedings of National Technical Workshop on Building Collapse In Nigeria: Curbing the Incidences of Building Collapse In Nigeria, 140 pages, July 2012
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- HOUSING SUMMIT 2014:** Proceedings of International Conference on Achieving Affordable Housing in Nigeria, 221 pages. June 2014
- The Challenges of Building Collapse in Nigeria, 52pages, May 2012
- Road Safety Guidelines for Nigeria (RSG 2014), 240 pages, September 2014
- West African Journal Of Building and Road Research, Vol. 1 (1), 84 pages, March 2014
- NBRRI CONSTRUCTION DIGEST No. 1:** Corbelling in Residential Buildings, 16 pages, June 2013
- NBRRI CONSTRUCTION DIGEST No. 2:** Nigerian Housing Policy- Challenges and Prospects, 15 pages, December 2013
- NBRRI CONSTRUCTION DIGEST No. 3:** Construction for Durability in Nigeria- The Strength of Building Materials, 15pages, January 2014
- NBRRI CONSTRUCTION DIGEST No.4:** Laboratory and Field Tests for Quality Control of Road Works, 16pages, January 2014

NOTE: ALL REPORTS ARE AVAILABLE AT NOMINAL COSTS FROM NBRRI

EDITORIAL

How time flies! In a jiffy, the year 2014 rolled by as fast as it came. It was however not without exhibiting and divulging its divine contents. In retrospect, the year was quite eventful for the Nigerian Building and Road Research Institute (NBRI); and it was characterized by a lot of activities, programmes and successes, many of which were highlighted in the earlier three editions of *NBRI Newsletter* in 2014. In this 4th Quarter Edition, some critical news events were captured and presented to complement the 2014 success story of NBRI and the Federal Ministry of Science and Technology (FMST).

The main spice of this edition is the exclusive interview which *NBRI Newsletter* editorial crew had with the Honorable Minister of Science & Technology, Dr. Abdu Bulama. The Yobe-State born seasoned educationist puts into perspectives and retrospect, his first few months in office and his deep optimism for Science & Technology to take its proper place in the development of the Country. This special interactive session with the Man at the helm of the Science & Technology Ministry is a must read.

Also interviewed in this edition is Dr. Charles Chuka Osadebe, the Deputy Director in the Road Research Department. The interview provided a window to and a bird's eye view of the importance and critical role of Science, Technology and Innovations (STI) to socio-economic development; and narrows it down to some of the issues responsible for the success story in NBRI, while highlighting areas for improvement. This interview is an interesting read which will captivate the attention of the reader.

As part of its statutory annual programme, the FMST featured in the 2014 MINISTERIAL PLATFORM, which was a Forum designed by the Federal Government for MDAs to present to the public, their stewardship and contributions to the success story of Transformation

Agenda of the Federal Government. Precisely on the 27th November 2014, the Hon. Minister of Science and Technology (FMST), Dr. Abdu Bulama presented the scorecard of activities and achievements of the FMST and its Agencies (including NBRI) in a widely publicized Ministerial Press Briefing. The highlights of this event are pictorially presented in this edition of *NBRI Newsletter*.

Another highlight of events during the period was the completion and handing over of the massive but imposing Office Complex built by BREM Technologies Ltd (a subsidiary of NBRI) at the NBRI National Laboratory Complex, Ota Ogun State. This was a turn-key project which involved the use of NBRI Interlocking Blocks for the construction of the walls; and in effect it turned out to be a critical and wholesome demonstration of the veracity and effective application of NBRI Technology in housing delivery. The two-block massive structure, which has changed the landscape of NBRI NLC Ota Office, initially started and was built as a Skills Acquisition Centre. With its unique aesthetics, the structure now provides space for offices, 7 Laboratories, a 1000-seat capacity Auditorium, and a Canteen. The highlights of the structure and pictorial overview are presented in this edition.

On the social angle, this edition presents highlights of the send forth party held by the CES Department for its retired Director. All these and more including the highlights of the 2014 Nigerian Academy of Engineering Annual Lecture that was delivered by DG NBRI, Professor D.S. Matawal, are presented in this edition of *NBRI Newsletter* to provide excitement and an interesting read as you enjoy the Christmas and New Year festive period. *NBRI Newsletter* wishes all its readers a fruitful and successful year 2015.

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NBRI (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 appropriate technology development and transfer, sustainable 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 meeting global standards.

MISSION

Integrated R&D, capacity building and robust extension services in which technological 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
- Commitment and integrity
- Resourcefulness
- Innovativeness

NBRRI CONSTRUCTS IMPOSING OFFICE COMPLEX AT NLC OTA USING ITS R&D PRODUCTS

As part of its continued efforts to demonstrate the viability of NBRRI technologies and popularize the use of these technologies in housing delivery, the Nigerian Building and Road Research Institute (NBRRI) embarked on the construction of a huge Office Complex in its Ota Office. The complex, which has several Offices, 7 Laboratories, a Cafeteria, and a 1000-seat capacity Conference Hall, originally started as a Skills Acquisition Centre and was constructed using NBRRI Interlocking blocks for its walls, most of which are high walls. The huge complex has transformed the outlook of the National Laboratory Complex in Ota and has become an edifice that conspicuously displays NBRRI technologies.

In a recent interview, the Director-General/CEO of NBRRI, Professor D.S Matawal emphasized that “The complex in Ota is going to be phenomenally useful because ever since the Institute moved to Ota there has not been any tangible building expansion. The Building and Road Research departments are congested in one building; the laboratory facilities are decaying and in need of a bigger space than the one they are in now. So the new center (Complex) will actually address some of the office and laboratory challenges that the Institute is facing right now.” With the completion of the Complex which consists of two large blocks, the assertion of Professor Matawal has been brought to fruition. The Office Complex has been furnished and has been put into use.



Back view of Block A



Front view of Block A



Close-up on Front view of Block A



Front view of Block B

Other views of the Office Complex at NBRI NLC, Ota Ogun State



AGENCIES UNDER FMST MUST SYNERGIZE TO ADVANCE SCIENCE & TECHNOLOGY IN NIGERIA

....Dr. Abdu Bulama (Hon. Minister, FMST)

The vibrant Hon. Minister of Science and Technology (HMST), Dr. Abdu Bulama, strikes one as a strict disciplinarian with perhaps a straight-faced persona. However, as the crew of NBRI Newsletter discovered during an interview with him in early December 2014, the Minister is a simple and intelligent personality who displayed his thorough grasp and knowledge of his workings/responsibilities and undoubtedly justified his appointment as a Minister of the Federal Republic of Nigeria. The Interview, which was facilitated by his SA Media, Hassan Gimba, looked at the scorecard of the Minister and the current happenings in the S&T sector. It is our delight to present to you the interview session with the easy-going academician, a delegate at the just concluded Nigerian National Conference (2014), the Zanna Uyoma of Gujba, Yobe State and Honourable Minister of Science and Technology, Dr. Abdu Bulama,

NBRI Newsletter: Sir, it has been four months since you assumed office as the Minister of Science and Technology. How has it been so far?

HMST: Thank you. It has been quite exciting and challenging indeed. I really do appreciate the challenges in this assignment but you see, as a public officer, the first thing you do is try to know what the goals and objectives of the job is, and then your role in it. As Minister of Science and Technology, my role is to see how we can help advance the role of S&T for national development. It is also the collective responsibility of the FMST, in its mandate, to see to it that S&T is properly developed and strategically applied in the country.

Any responsible manager has clear-cut objectives and knows that there are challenges; so he sits down and looks at the objectives, challenges and then develops his master plan to achieve those objectives. I assumed office in the FMST, straight from the recently concluded National Conference. There was a sub-Committee on S&T which I was not a member of but was privileged to be close to the members. The Committee worked essentially with materials from



Dr. Abdu Bulama
Hon. Minister, FMST.

the Ministry. There was this document on the new *National Policy on Science, Technology and Innovation*, which was very useful to the Committee.

The main challenge of Science and Technology in Nigeria is inadequate synergy and coordination between the various Stakeholders. We have technology almost everywhere. It has moved to a level whereby we cannot do without it. Here in Nigeria, we have innovations in the Universities, Polytechnics, in the Industry, etc., but our major problem is inadequate coordination and synergy of the various ST&I outputs and

establishments towards effective application in nation building.

Universities and polytechnics have been churning out huge amount of research and development outputs year in year out. I know so because I have been in the system for the past 35 years. I have been in the Polytechnic and University system and I am aware of the amount of work students and lecturers research into. But there is no synergy between the various institutions and between the institutions and the

“Here in Nigeria, we have innovations in the Universities, Polytechnics, in the Industry, etc., but our major problem is inadequate coordination and synergy of the various ST&I outputs and establishments towards effective application in nation building.”

private sector, particularly the industries. One critical issue however is that Research and Development is not demand-driven and there is limited linkage with the key primary stakeholders, and S & T results. These are some of the critical challenges. But hopefully, the *National Policy on Science, Technology and Innovation* will address these challenges. So as a Minister of Science and Technology, my major challenge is to see to it that we develop the right orientation among ourselves because I believe in collective responsibility. I and my principal officers in the Ministry as well as the Directors-General of Agencies under my Ministry will come together and see how we can bring S&T to the main stream of our national life and socio-economic development. These are some of the strategies for implementing the policies which I intend to pursue.

The Research Institutes in the Ministry have done so much in the areas of R&D of which I am very proud of. When you see all these, you get excited. So, let us get things together so that the industry will benefit, and Science and Technology will also benefit.

There are excellent programmes on ground as part of the strategy for implementation. Some have taken off while some are yet to take off. We have agreed to consolidate our efforts. In fact in the past three months we have been making appropriate efforts to

implement the ST&I Policy. But you know, issues to do with policy implementation is not something that can be done overnight. The good news however is that we have been able to make some progress. We have gotten our bearings as we are now linking up properly with the private sector on key areas that has to do with the structure of governance of the Science and Technology policy.

We also have the National Research and Innovation Council (NRIC) that was inaugurated by Mr. President sometimes ago. We are preparing the ground work for its implementation by constituting an Inter-Ministerial platform. The platform met about three weeks ago (in November 2014) to get input from all the all sectors as well as from the Ministries and Agencies for us to look towards coordinating Science and Technology. We are also in constant communication with Mr. President and he is very keen

about the initiative. In fact, it is very possible for us to have our first meeting soon with Mr. President presiding despite his tight schedule. That tells you the seriousness Mr. President attaches to this. We are developing relevant papers towards proper take off of the Research Council.



Dr. A. Bulma responding to questions from NBRII Newsletter Correspondent

Related to the National Research and Innovation Council and still part of the inter-ministerial platform is the *Research and Innovation Fund*, which is another major challenge in the ST&I sector. You cannot undergo research and development without funds.

“Universities and polytechnics have been churning out huge amount of research and development outputs year in year out. But there is no synergy between the various institutions and between the institutions and the private sector, particularly the industries.”

Science, Technology and in particular the resulting Innovations must be properly funded. The strategy adopted by the Policy is to have a Research and Innovation Fund. We are developing the papers for effective implementation; and hopefully we will be able to present it during the first inaugural meeting of the Council.

We have also attended to some other key areas of National Science, Technology and Innovation Policy especially the appropriate legal framework of some Agencies (under FMST) including your own NBRII. In the last 2 to 3 months we have been able to develop at least three important memos to the Federal Executive Council in this regard and they were graciously endorsed. So, we are looking towards getting the Bills sent to the National Assembly hopefully before the end of the first quarter (2015). We are also building on some projects that I met on ground. For example, the Ward-based Cluster project which has been there for the past few years is very a very important project. The project provides the platform for synergizing different R&D innovations and demonstrating them in a single setting to improve the

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quality of life in a community at ward levels. It is a project that will have a multiplier effect, including providing employment opportunities at the grassroots; empowering members of the community, promoting high local content; and generally helping in promoting science and technology. To begin with, the ward-based cluster project is not a new concept at the global level; it is a strategy adopted by many developed and developing nations like Japan, Indonesia, Malaysia, etc. All these countries have something similar; they religiously implemented the programmes which laid the foundation for their industrial take-off.

In our own case, the idea is simple. We will organize the projects based on the political wards in the country; and you know that each ward has natural resources. We intend to go to these wards, identify the resources there, and together with the relevant Research Institutes, see how we can develop these resources for the overall benefit of the nation's economy. For example, if a mineral resource is identified in a ward, it will be mined, and then processed through linkages. This will definitely create jobs for those in the ward. Along the line, we are also developing our technology. This initiative started during the Obasanjo Administration but was stepped



Hon Minister of Science & Tech, Dr. A. Bulma admiring NBRII Publications after the interview session

down due to the huge cost of implementation.

This Administration has revived the initiative and is starting with nine wards as Pilot schemes. Based on its importance, I am taking the project as a major focus and want to ensure its success. We have made significant progress in the last three months and will continue to do so in 2015, especially when the Research and Innovation Fund comes on stream.

There is also the issue of the Silicon Valley (S&T Parks) which the National Policy on ST&I identified as key for the nation to establish across the country. These parks will provide a platform where Science & Research, Government and the Manufacturing sector (the Triple Helix) come together for the purpose of adaptation of R&D to national development. Again, this is not a new concept as it is obtainable in some countries. In the last couple of years, the FMST has come up with a model park here in Abuja (SHETCO), although it is still in its early stages. When I assumed office, I tried to make further progress. There were some MOUs signed between the FMST and some foreign partners on the model S&T Park. The Partners are from China, USA, and most especially Poland. Few years ago, my predecessor signed a Memorandum of Understanding (MoU) with the Mayor of Levinsky in Poland for a consortium in that City to be involved in the development of the proposed Silicon Valley Park here in Nigeria. As a follow-up, I was able to embark on a trip to Poland last October with five Directors-General of some relevant Agencies in the Ministry that are stakeholders in the project. The trip was very useful as we were able to consolidate and make progress on the agreement. The next phase is for the Ministry to work with the Consortium on the

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role they will play. We have also received a submission from UNESCO on the project because they are involved too. UNESCO was requested to make a feasibility study on the project which has now been received by the Ministry. Last week, the Ministry met with the Heads of Agencies involved in the project to look at the proposal from the Consortium and also the report from UNESCO. A Committee has been set up; and we will, with all sense of responsibility and vigor, pursue this project. Hopefully in the next couple of weeks, we will come out with a report and submission for Government to see how we can move from ordinary fencing of the Park site to real involvement by other countries including China, USA, etc.

I was also in France in respect of the Mosanto Project. The firm is into hi-tech seed production and biotechnology. They have a partnership agreement with one of our agencies, NABDA, to involve biotechnology in seed production particularly Cotton, as they have successfully done in Burkina Faso. Based on this, we (I and some DGs) travelled to France for a very productive meeting. We will be meeting with

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them next week here in Nigeria to further consolidate on the bond and project we are developing. Incidentally, NABDA is doing quite well; however, they are having challenges like the lack of an enabling Act and the lack of a Bio-Safety Bill. Without that Bill, there is no way we can allow Biotechnology to influence our economy as obtainable in other developed parts of the World. Fortunately, the Bill is before the National Assembly; and some few weeks ago, there was a Public Hearing on the proposed Bill, which I personally attended. Hopefully, by the beginning

of next year, the Bill will scale through and be signed into Law. Once that is done, NABDA will be able to go into partnerships both within and outside the country like that with Monsanto.

I have also visited all our Agencies to see what is on ground. These trips have been very useful to me as we interacted on the way forward. Indeed, the last four months have been interesting, and I am happy the FMST is making progress.

NBRI Newsletter:

Sir, immediately you were appointed in August, 2014, you hit the ground running. So much has achieved as a result. But sir what do you think are the common challenges faced by the Agencies under the aegis of the FMST?

HMST: Like I mentioned earlier I have been to a good number of the Agencies under my Ministry; and the challenges they are facing is the same we have here in the Ministry. And all the time, I tell my colleagues and the DGs of the Agencies that we must tell ourselves the truth and face these challenges together. We cannot operate in isolation. Here you are (in NBRI) doing lots and lots of research works; same with FIIRO, PRODA, NARICT and NILEST in Zaria among others; and yet, there is not have much significant impact on the economy. We keep on saying that there is no synergy and partnership as well as no linkages with the Industry. Why is this so? Are we not part of the problem? We are! Please let the Agencies under the FMST not work in isolation. I discovered that there is this orientation that each

We are also building on some projects that I met on ground. For example, (we have) the Ward-based Cluster project which provides the platform for synergizing different R&D innovations and demonstrating them in a single setting to improve the quality of life in a community at ward levels..... (The) ward-based cluster project is not a new concept at the global level; it is a strategy adopted by many developed and developing nations like Japan, Indonesia, Malaysia, etc. All these countries have something similar; they religiously implemented the programmes which laid the foundation for their industrial take-off."

Agency wants to work in isolation. But in this global world and in our quest to develop the S&T sector, all Agencies must link up. So this is one of the key areas I am battling with. I mentioned earlier that I am just coming from a function organized by NOTAP and I am not happy that no DG of other Agencies attended. If for example, some key Agencies were there, it will be very useful to them, because the meeting is about *Technology Transfer and Exchange Network* among the D8 countries. We are complaining about no linkage amongst the Agencies. We must face this challenge squarely. For some of them, they are beginning to appreciate this effort to synergize and open up to each other. Some of the Agencies are realizing that

they will achieve more if they link up with others and halt the issue of duplicating efforts. We will get there.

One of the ways to address this is by holding regular meetings with DGs of the Agencies; at least quarterly. Such regular meetings will provide the opportunity for the DGs to open up consciously or unconsciously. Along the line, we will develop that orientation for the agencies to share ideas and link up. I am not saying

that the ideas and innovations of the various Agencies must come to the Ministry, but we must come together as a matter of principle to know what we are doing as a Ministry and move forward.

Another key challenge I have observed is that when you go out to some Agencies you see old innovations and materials still being showcased that have no value in this present time. There is no need to still have exhibition

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that showcases Soap making or detergent production as an achievement. Even a secondary school leaver with knowledge of chemistry can produce soap today. All this is because we are not synergizing and our research activities are not demand-driven. Even our linkage with Tertiary Institutions, the Universities, Polytechnics and Technical Schools are not properly coordinated. These Institutions as a matter of policy should be linked up to the Industries. As at now the linkage is not what I wish it should be.

I am talking now, not as a Minister but as a Teacher of Technology who has put in over 35 years of service in the Polytechnic; as I know what is obtainable. I know the level of participation by the industry through the Industrial Training Fund (ITF), the SIWES programme, Curriculum Development by NBTE etc. but I am not satisfied. I feel that the system should be such that these Institutions should have a stronger linkage either through a legal framework such that the Industry will be part of the School training. For example in South Africa, if you are in the Polytechnic, you will spend three years for your Diploma programme; the first two years for studies and the third year will be spent in the Industry. That third year will determine your fate; either to proceed for your degree, then up to a PHD Technology level or you terminate with HND depending on your performance in the Industry. But it is essentially an industry thing. So, all that is being done there is industrial training. The industry is the sponsor, so people go for their research in B. Tech., M. Tech., Ph.D, all in technology-related fields. There is linkage and partnership. They also partner with the University of Technology. Technical education is very viable, participatory and fully in the economy; and the economy is fully contributing to it just like the Curriculum. It naturally develops into it because of the linkage with the industry. In such a scenario, there is no way Research and Technology will not be linked to the industry and education, as the relevance of Science and Technology is there.

In our own case in Nigeria, we have all on paper, but that is not good enough. We send our students for industrial training, but the private sector does not challenge them, they are not subjected to challenges. At a certain time, we had to drop the one year post NDE programme before proceeding for HND because we realized it was useless. They were not getting places to be properly trained. Instead of that, we can open up the curriculum to ensure that, that one year is part of the industrial training just like they have in South Africa. If we do that, it is going to be better than what ITF is doing. Since ITF gets its funding from the industry, why can't the industry fund it.

Sometime ago, while still a Rector in a Federal Polytechnic, I went to Lagos and paid a visit to the District President of the Manufacturers' Association of Nigeria (MAN); and he told me that you are meant to be our primary partners but you do not produce what we want. What you produce is useless to us. He said as an industrialist, he goes to Asia to employ a technician, something he should have gotten within. But because the technician is a foreigner, he has been regarded as a big man, housed in a place like Ikoyi while his salary is twice or even thrice times that of the employer. This happened more than 15 years ago when I was a Rector in 1997, and that actually prompted us to make some fundamental changes. So, the early training of science and technology needs to be addressed.

Again, I must mention the issue of our Research officers. This is a process of development. In my own vision, I want a situation whereby all our research Institutions and Agencies develop a platform where we have one single cadre just like the Universities and Polytechnics do. I know it will take some time as I have raised the issue several times. For instance, recently I

“Here in the FMST right now, we are looking at how we can synergize all the 17 parastatals under the Ministry towards creating a certain number of jobs; and when we are satisfied, we will approach government. But this is besides our normal mandate of trying to get appropriate technology to serve at all levels.”

As Minister of Science and Technology, my role is to see how we can help to advance the course of S&T for national development. It is also the collective responsibility of the FMST, in its mandate to see to it that S&T is properly developed and strategically applied in the country.

was in Zaria and I told them that we can start or initiate the process. Even though I may not be here but we can have a Research Officer cadre that could grow to become a Chief Research Officer. You do not have to call yourself a Professor; you could even earn a salary that is higher than that of a Professor. Also, along the line we can have a corresponding scheme of service and then develop a condition of service.

Funding is yet another challenge which is common everywhere but this can be tackled in so many strategic ways like the Research and Innovation Fund; although to me, this is for a lazy man. But, let us use our own initiative to see what we can do by ourselves. I am throwing the challenge back to the Chief Executives in the Agencies.

NBRII Newsletter: Science and Technology as known all over the world today is the bedrock of any developed nation. Year after year, we record mass failure in Science subjects. As a former Rector of the Polytechnic, what is the way forward for science education in Nigeria?

HMST: We must start by improving the teaching of science right from the basic level, from pre-primary to primary education. Policy is very good on how to popularize S&T at all levels and how to motivate the young ones, provide enough teachers and many more. However, one aspect of Science is to make it more practical-oriented and to make technology work in the mindset. The Agencies under the Ministry are developing such technology; for example, NASENI now has a Science Kit for the young. So, we have to devise the means of making the teaching of science and technology more interesting and exciting by giving incentives to both the teacher and student. The strategies (for teaching of Science) are all there in the Policy. It is just a matter of implementation and that of linkage. This is because the teaching of science and technology is not in our (FMST) mandate, but that of our sister Ministry (Federal Ministry of Education). However, we are interested because it is also our

challenge in the Ministry of Science and Technology. If we don't have a basic background of S&T at the elementary level, then we are in trouble; we cannot develop our science and technology appropriately.

NBRII Newsletter: Sir, can you clearly intimate us on the place of Science and Technology in the Transformation Agenda of this present Administration.

HMST: I just addressed the G10 meeting and this same issue was raised. I said to them that the philosophy of the group is in consonance with Mr. President's Transformation Agenda, which focuses attention on job creation, empowerment, economic development. But we cannot create wealth without technology. You need technology even in the farm which has made us to advance from the use of hoe to more sophisticated means of farming. God has given man the intellectual power to develop science. So, we can create wealth using technology.

Here in the FMST right now, we are looking at how we can synergize all the 17 parastatals under the Ministry towards creating a certain number of jobs; and when we are satisfied, we will approach government. But this is besides our normal mandate of trying to get appropriate technology to serve at all levels.

NBRII Newsletter: As a Minister, your schedule is quiet tight, how do you balance this with your leisure? How do you unwind after a hard day's job?

HMST: What I tell people as a matter of principle is that after my programmes with my electorate, I try as much as possible to attend to official duties here in the office. After this, I return to rest with my family; and try as much as possible not to carry official matters to the house. I need my family and need to

The main challenge of Science and Technology in Nigeria is inadequate synergy, coordination between the various stakeholders.

rest. This has been on for quite some time. Having been in the public service for quite some time, I have learnt to develop a programme that will suit me, that will take care of my health and others.

NBRII Newsletter: Thank you.

DG NBRRI DELIVERS 2014 ANNUAL LECTURE AT THE NIGERIAN ACADEMY OF ENGINEERING

The Nigerian Academy of Engineering (NAE) on 9th December 2014, held its annual Academy lecture with the Director-General/CEO of the Nigerian Building and Road Research Institute, Professor Danladi S. Matawal delivering the lecture.

The event which took place at the auditorium of the National Institute of Medical Research, Yaba, Lagos, was titled Roads and Building Research in Nigeria: Panacea to Nigeria's Quest for Infrastructural Development.

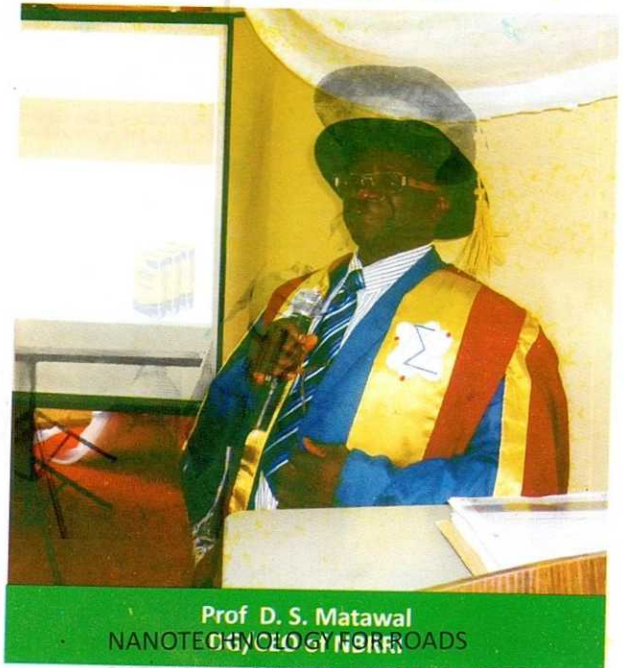
Prof. Matawal's paper began by comparing the road networks of some selected countries across the world. He also highlighted Housing availability in some selected nations in contrast to their population.

The paper then looked at the Nigerian Building and Road Research Institute: the circumstances that led to its establishment; its mission; mandates; organizational structure and departments. The Paper further presented previous R&D activities of NBRRI which included Laterite grinding, Laterite mixing, Paving stone making machine (manual and electrohydraulic), Pedestrian roller-compactor, Fibre concrete roof tile making and clay roof tile making machine, semi sheet roof tech, tools for bricklaying as well as tools for plastering.

The paper also highlighted other R&D strategies programmes in NBRRI such as which included the Development of Digitized Subgrade Soil Maps (DSSM); Community-based technology for construction and maintenance of access/feeder roads; Development of Sand Lime Bricks for use in affordable housing in Riverine areas; Development of Particle Board from Agro-industrial wastes like Saw Dust, Paper, Polythene Bags, Satchet water Bags; Design & production of Gear box for use in the fabrication of NBRRI Roller/Compactor; Production of Blended/Alternative Cement, among others.

The lecture then dwelt extensively on some recent special Research & Developmental projects embarked upon by NBRRI which included the following:

- CEMENT, OPC, RESEARCH
- SUPPLEMENTARY MATERIAL, FLY ASH
- ROAD PAVEMENT FAILURE STUDIES
- BUILDING FAILURE STUDIES
- DIGITIZED SUBGRADE SOILS MAP FOR NIGERIA



Prof D. S. Matawal
NANOTECHNOLOGY IN ROADS

- POZZOLANA PILOT PLANTS FOR NIGERIA
- ROAD SAFETY AUDIT (RSA)
- CAPACITY BUILDING FOR NIGERIA

After a comprehensive overview of the array of tested and on-going alternative building and road technologies that can be usefully applied in the Nigerian construction industry, the paper concluded as follows:

- Nigeria is in need of approximately twice the volume of road network it currently has (~400,000km) including length widening to meet the quest for development
- Nigeria in need of 16-17million houses as well as utilization of indigenous and user-friendly materials and techniques to make affordable housing available to the urban and rural low-medium income earners
- The establishment of NBRRI in 1977 was in response to lesser challenges at the time. It resulted from over 10years of frantic efforts of government to address the dire needs for an indigenous and alternative construction equipment and materials culture, through R&D.
- An R&D Institution that gives rise to Roads and Building technologies that are cheap/affordable, user-friendly and sustainable will raise the quality of life and

continued on page 16

FMST 2014 MINISTERIAL PLATFORM IN PICTURES

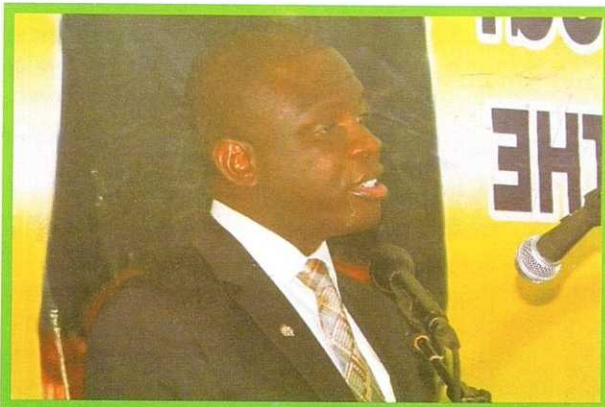
The Federal Ministry of Science and Technology (FMST) held a Ministerial Press Briefing on the 27th of November 2014. This was a platform for the Honourable Minister of Science and Technology, Dr. Bulama Abdu to showcase the achievements of its Ministry in 2014. It was also a scorecard presentation forum of the Ministry's achievements and contributions towards the Transformation Agenda of the Mr. President, Goodluck Ebele Jonathan, *GCFR*. At the Briefing which took place at Radio House in Abuja, the critical achievements of every parastatal under the purview of FMST were presented. NBRI Newsletter brings to you the 2014 Ministerial Press Briefing of FMST in pictures.



Dr. Abdu Bulama, Hon. Minister FMST



Hon. Minister, Dr. Bulama and Permanent Secretary, FMST, Mrs Oyo-Ita listening to the MC.



Supervising Minister of information, Dr. Nurudeen Muhammed delivering his address.



Hon. Min. FMST, Dr. Bulama presenting the scorecard of the Ministry



Mrs Oyo-Ita, Perm. Sec, FMST giving the opening remarks.



DG NBRI elaborating more on a question during the event

PHOTO GALLERY



DG/CEOs of NBRI, Prof D. Matawal (left) and of FIRO, Dr. G. Elemo with the Hon. Min. Dr. Bulama (Right)



Dr. Nurudeen Muhammed receiving documents from Dr. Bulama with PS, FMST watching



Hon. Ministers of FMST and Information in a group photo with the DG/CEOs of Agencies under the aegis of the FMST



A cross section of the audience at the Ministerial Press Briefing



Hon. Minister, FMST, Dr. Bulama and the Supervising Minister of Information, Dr. Nurudeen inspecting NBRI stand during the Ministerial Platform

continued from page 13

- the standard of living in the country
- NBRI was in fact 15 years behind the Ghanaian BRRI, which was established in 1962, when Ghana broke out of the West African Building & Road Research Institute (WABRRI) that had existed from 1952. The Ghanaian BRRI is well maintained and supported; similar Institutions are well supported and protected in all developed economies of the world
 - Traditionally, most of these Institutes are actually strongly laboratory-based, providing robust, strong and bespoke research support to government, industry and tertiary education sector
 - Many Innovations, especially in the areas of Metals & Materials have the potency of massively inducing industrialization that would give rise to employment, saving foreign exchange and generating wealth
 - Ultimately, industrialization is only feasible through immediate interventions and protections by policy to encourage commercialization through the establishment of fabrication enterprises
 - NBRI Intervention, by providing a Curriculum for Artisans in the country, along with current capacity building programmes will generate a large amount of employment opportunities through training and training academies round the country.
 - Improving Nigeria's Artisans and Craftsmen will save the country's large resources (over N600 billion) used to service imported labour annually. It will also lead to more development through more qualitative, more durable and cheaper roads and housing, which are critical infrastructure for development
 - Quality construction will evolve from the availability of up-to-date and bespoke laboratories and technicians being developed by NBRI.
 - Training and re-training of Research Staff and active collaborations with scholarly organizations like the Nigerian Academy of Engineering (NAE), will bring satisfaction and stability to the Institute.
 - NBRI will continue with its activities in Road Safety Audit, Pilot planting, capacity building through the installation of Skills Centres using NBRI technologies, to improve safety on Nigerian roads, provide indigenous materials options for housing and road infrastructure, and improve the lives of urban and rural populace.

NBRI ADVISES HOUSING CORPORATIONS TO RE-STRATEGIZE FOR BETTER PERFORMANCE IN HOUSING DELIVERY

Housing Corporations in Nigeria have been advised to re-strategize to become more vibrant and engage more in housing delivery. This call was made in a technical Paper titled: *Harnessing inherent Opportunities in Local Building Materials for Social Housing and Poverty Alleviation* which was presented by NBRI at a 2-day National Workshop on *Social Housing As Agent of Poverty Alleviation*, organized by the Association of Housing Corporations in Nigeria (AHCN).

The National Workshop had its Theme on the *“Role of Governments in Utilizing Social Housing as Agent of Poverty Alleviation in Nigeria”*. The call was based on the observed dwindling relevance and activities of Housing Corporations in the Nigeria's construction industry, in spite of the myriads of opportunities. Noting that while many of the Housing Corporations may be facing challenges in their respective States, it

was opined that Housing Corporations can still make significant impact in Nigeria's Housing delivery programmes by initiating and embracing products and processes to make them remain active participants in Real Estate development. It was suggested that Housing Corporations can leverage on and promote Cooperative Housing Development, which has a lot of potentials.

The Workshop which was followed by the 92nd Council meeting of AHCN took place between the 25th and 27th November, 2014 at Haske Hotel in Minna, Niger State; and was declared open by the Governor of Niger State, Alhaji Babangida Aliyu, who was ably represented. The Workshop which was convened at the instance of the President of the Association of Housing Corporations in Nigeria, Dr. I. Chukwujekwu was well-attended with participation from Housing Corporations in all States of the Federation.

NBRRI HAS BEEN UNDERGOING REMARKABLE TRANSFORMATION IN RECENT TIMES

... DR. C. C. OSADEBE

Dr. Charles Osadebe is a Deputy Director with the Nigerian Building and Road Research Institute (NBRRI). He is also in-charge of the Research Seminar Series at the National Laboratory Complex (NLC) Ota. In this interview with NBRRI Newsletter crew, Dr. Osadebe shared his insight into several aspects Institute's activities

NBRRI Newsletter: Can we please meet you?

Dr. Osadebe: I am Osadebe, Charles Chuka, a staff of Nigerian Building and Road Research Institute (NBRRI) and a Deputy Director in Road Research Department. I hold a doctorate degree in engineering geology and other degrees in various fields of specialization. I have served NBRRI for twenty seven years as a Research Officer.

NBRRI Newsletter: Having worked with NBRRI for several years and risen to the rank of a Deputy Director in the Road Research Department, can you please give a run-down of the Department, Its Staff; particularly the crop of Researchers and the current Research activities in the Department?

Dr. Osadebe: Road Research Department has two Divisions, namely the Highway and Geotechnical/Environment Divisions and consisting of eight Sections. The Department has twenty seven Research and Technical Officers at the NBRRI NLC Complex, Ota; and more than fifteen Researches and Technical Officers in Abuja

Currently, the Department has two primary on-going research projects; and more than ten research proposals slated for 2015. With respect to research activities, it may interest you to know that the Department has just undertaken field investigations on the two projects and the laboratory investigations are in progress.

NBRRI Newsletter: Sir, what is your view on the management style of the DG/CEO of NBRRI?

Dr. Osadebe: As you are aware, NBRRI has

At this critical point of the Institute's history, what is needed is the kind of leadership that the current DG is providing. This is a leadership that is visionary, democratic, pacesetting, coaching and mentoring



Dr. Charles C Osadebe. Deputy Director, Road Research Department, NBRRI

undergone a lot of metamorphosis in recent years. At this critical point of the Institute's history, what is needed is the kind of leadership that the current DG is providing. This is a leadership that is visionary, democratic, pacesetting, coaching and mentoring. This leadership style is most appropriate now that the institute needs a new direction. To my mind, I believe his primary goal is to move people towards a new set of collective and shared dreams which would involve creating the appropriate environment to set staff free to innovate and experiment. This is borne out of the fact that the DG always lays emphasis on the team works which creates harmony amongst staff and boost staff morale while reducing communication gaps and repairing broken trust amongst staff.

He specifically focuses on developing individuals, showing them how to improve their performance, (especially the young researchers) and helping to connect their goals with the vision of the institute. He occasionally constitutes research committees that draw on staff knowledge and skills that translate

collective commitment to Institutional goals. The DG is a pacesetter; he sets high standards for performance. He has obsession for doing things better and faster, and expects same from every staff. He relates effectively with all staff and has encouraged staff to express opinions on most of the activities of the institute.

NBRI Newsletter: Can you tell us more about NBRI'S Technological Innovations and R&D activities over the years?

Dr. Osadebe: Over the years, NBRI has designed and fabricated a number of brick and block making machines which include manual brick making machine with single and double moulds; electro-hydraulic brick making machine with double mould; interlocking block-making machine (manual, diesel powered and electric-motor model); clay roofing tile making machine; paving stone machines; semi-sheet roofing technology; laterite grinding machine; laterite mixing machine; semi-automated interlocking block-making machine (double mould), tools for bricklaying and plastering, etc. These NBRI technologies have been used over the years in the construction industry with significant successes achieved. Notably, the NBRI Brick making Machine was used to produce cement stabilized-brick for the construction of several durable, cost-effective building projects for individuals, private and government organizations.

Generally, other NBRI technological innovations are already making tremendous impact in the construction industry. The innovations have been used for the construction of school buildings, market stalls, residential buildings, office buildings etc. However, it must be noted that these technologies have not been used on a massive scale as expected in the provision of affordable housing. This may be attributed to the reluctance of professionals in the Nigerian construction industry to use the research

There has been dramatic facelift of NBRI within the last few years in every facet including the provision of laboratory equipment, borehole, well furnished offices, etc. R&D started showing signs of overheating in recent years due to the infrastructural development.

Generally, other NBRI technological innovations are already making tremendous impact in the construction industry. The innovations have been used for the construction of school buildings, market stalls, residential buildings, office buildings etc.

innovations, in spite of their durability and cost-effectiveness.

NBRI Newsletter: As a management staff, what is your view on the infrastructural development going on in Abuja, Ota recently and the Zonal Offices?

Dr. Osadebe: In recent times, NBRI has been undergoing remarkable transformation both at the Administrative Headquarters in Abuja and at the National Laboratory Complex in Ota. For once, NBRI can be seen and heard. This development has created and stimulated both economic and social activities. In Abuja, NBRI was relocated to a more conducive place with good corporate image. In Ota, additional infrastructures were provided within the last few years. Particular mention must be made of the Building Complex initially called Skills Acquisition Centre. This structure, built with NBRI technologies, is an imposing edifice on the National Laboratory Complex (NLC) in Ota and has provided the much needed space for official activities. As a Research Officer, I find the Pozzolana Pilot Plant, which is the outcome of NBRI R&D activities and located at NLC Ota very intriguing. There has been dramatic facelift of NBRI within the last few years in every facet including the provision of laboratory equipment, borehole, well furnished offices, etc. R&D started showing signs of overheating in recent years due to basic infrastructure development.

NBRI Newsletter: Sir, what is your take on the last NBRI Annual Conference which focused on Affordable Housing and the papers that were presented at the Housing Summit?

Dr. Osadebe: The Housing Summit organized by NBRI in June 2014 was a timely event. This is because Housing is one of the most basic human needs but the challenge of Availability, Accessibility and Affordability has placed Housing out of the reach of

Nigerians, especially the low-income and “no” income group.

The housing challenge facing Nigeria for instance is multifarious in dimension. It ranges from a huge housing deficit due to imbalance between supply and demand, rapid urbanization, steady population growth, high cost of construction, paucity of housing finance, lack of affordable supply, with prohibitive financing available to developers. Other areas of challenges include the high cost of building materials, planning/building regulations, lack of skills/capacity, poor state of infrastructure, under investment in low-income group, etc. The Housing Summit therefore provided the platform for all Stakeholders including the professionals, the professional and regulatory bodies, technocrats, relevant private and public establishments, contractors, consultants, building materials producers, etc., to discuss and chart a Way Forward.

You will agree with me that the International Summit was well attended even from outside Nigeria. High quality, peer-reviewed and professional Papers were presented; and these have been published in a

Book of Proceedings by the Institute. The general discussions were robust and key recommendations to address the housing challenges were proffered and presented in the Communiqué issued.

NBRII Newsletter: As a Stakeholder in the construction industry, how do you think we can achieve affordable housing in Nigeria?

Dr. Osadebe: An effective housing delivery can only be achieved with a good mix in policy, strategy and resources. The recently concluded housing Summit organized by NBRII identified criteria required in achieving affordable housing in Nigeria as the 8Rs of Affordable Housing i.e. Reduce LABOUR costs; Reduce MATERIALS cost; Reduce reliance on SERVICES; Reduce reliance on TRANSPORT' Reduce or eliminate

FEES for services; Reduce OCCUPANCY COSTS; Reduce the cost per person housed; and Remove all encumbrances to accessing land. All efforts geared towards achieving these will no doubt make Affordable Housing achievable.

The creation of affordable housing in Nigeria requires highly skilled coordination among many key players. Another critical thing is that there should be commitment and political Will to provide Affordable Housing in ample supply. When this is complemented with providing/sourcing cheap Funds and creative partnerships among key players in the industry, the prospects of ensuring affordable houses for all the people will be much brighter; and the Housing deficit, currently put at about 17 million units will be drastically reduced within a short time frame.

In recent times, NBRII has been undergoing remarkable transformation ... In Abuja, NBRII was relocated to a more conducive place with good corporate image. In Ota, additional infrastructures were provided within the last few years. Particular mention must be made of the Office Complex initially called Skills Acquisition Centre. This structure, built with NBRII technologies, is an imposing edifice on the National Laboratory Complex (NLC) in Ota and has provided the much needed space for official activities. As a Research Officer, I find the Pozzolana Pilot Plant, which is the outcome of NBRII R&D activities and located at NLC Ota, very intriguing.

Government should intensify its current political will and commitment to affordable housing delivery and demonstrate this by the effective implementation of existing Policies in the Built environment; passage of laws on outstanding bills in respect of the built environment, that are in the National Assembly; provision of adequate resources

and enabling environment; and ensuring effective mobilization of the Private sector in affordable housing delivery.

Furthermore, NBRII R&D technological innovations are veritable alternatives for building affordable housing. There is also need for appropriate collaborations in the building and construction industry in the areas of development of appropriate policies.

NBRII Newsletter: Sir, as part of the management staff, is NBRII funded properly in the areas of Research and Development and if not, why?

Dr. Osadebe: Past successive governments had given little attention to Science and Technology as evident in the weak funding of agencies in the sector, including

Housing is one of the most basic human needs but the challenge of Availability, Accessibility and Affordability has placed Housing out of the reach of Nigerians, especially the low-income and "no" income group

NBRI. To secure adequate funding streams for the various science, technology and innovation components, a robust institutional framework should be established to source, mobilize and manage ST&I resources targeted at strategic national priorities.

NBRI Newsletter: What are the major challenges that NBRI is facing in the areas of R&D?

Dr. Osadebe: The major challenge is poor funding and this gives rise to other challenges. Without adequate funding, the provision of needed Infrastructures, training tools and facilities, equipping the various research laboratories, capacity building, recruitment of quality research personnel etc. will be hampered; and R&D will be affected as well. Indeed, the importance of R&D as a necessary tool for socio-economic development of a nation is not well understood by many developing nations, Nigeria inclusive. Otherwise, how can one explain the very low priority given to the Science, Technology and Innovation (STI) sector in Nigeria's national Budget. That is why some stakeholders have called for some type of dedicated Funds to ensure sustainable STI in the country. I believe the Federal Government is taking steps to actualize this.

NBRI Newsletter: How can R&D can be of benefit to the masses?

Dr. Osadebe: As I earlier mentioned, R&D is the bedrock of socio-economic development of any nation. Developed countries acquire their capacity through R&D and the innovations that result from the R&D activities. Generally, once an innovation is developed through R&D, it is subjected to pilot testing. When the pilot testing is successful, it is made available for potential mass production by interested entrepreneurs. Even when the product is mass produced for public consumption, it is still subjected to continuous modifications and value additions, based on feedback mechanisms. Countries like

Taiwan, Japan, etc. passed through this type of situation. But in Nigeria, such luxury does not exist. What happens in many Research Institutes in Nigeria, NBRI inclusive, is that the tested innovations are further promoted through deployment in pilot schemes to demonstrate their viability. The component that is still lacking is the reluctance of the private sector to commercially invest in such innovations. This is because Research Institutes not only lack the capacity for mass production of R&D products, the Institutes' mandates do not cover such functions. That is why it looks like many R&D products in many Research Institutes are "lying on the shelf" as critics often say.

NBRI has however gone the extra mile by evolving several strategies to engage in limited commercial activities on its R&D products and these have had its multiplier effects. A typical example is the Interlocking Blocks technology which NBRI has perfected. Through the successful massive demonstration programme of using the NBRI interlocking blocks in the construction of massive structures like the Skills Acquisition Centre, many notable Nigerians especially some members of the National Assembly have keyed into it and used the product in the development of constituency projects in their respective communities.

Individuals, Governments and the private sector can use these products for construction of their structures. In fact, all tiers of Government can empower their citizens with NBRI technological innovations not only for the provision of affordable housing and durable feeder roads, but also to create employment, generate wealth and alleviate poverty. The application of these technologies in rural areas and for slum/urban upgrading and regeneration can

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indeed be very beneficial for the economic emancipation of the country.

NBRI Newsletter: What do you think are the possible ways to create a more conducive atmosphere for R&D in NBRI?

Dr. Osadebe: The Institute's Management has a responsibility to provide a good working and enabling environment for the staff to work effectively. The provision of such an environment with adequate research facilities, including library facilities, laboratory equipment, etc., will encourage Research and Technical staff to become more productive, focused and committed to their duties.

The introduction of an effective recognition and reward system should be introduced by Management. The Institute should recognize actions that are truly worthy of recognition. Effective recognition may even take the form of verbal or written acknowledgment from the Director-General in addition to any other physical reward.

Generally, Management staff especially Heads of Department has big roles to play. They should demonstrate respect, trust, and emotional intelligence. They should also relate effectively with their subordinates, and demonstrate that they are personally interested in and care about their staff and encourage genuine and purposeful staff input and opinions.

Most importantly, the laboratories should be equipped with state-of-art facilities and there should be regular supply of electricity. The provision of a

Generally, Management staff especially Heads of Department has big roles to play. They should demonstrate respect, trust, and emotional intelligence. They should also relate effectively with their subordinates, and demonstrate that they are personally interested in and care about their staff and encourage genuine and purposeful staff input and opinions.

With the present pace of development in NBRI, I see NBRI becoming one of the best research institutes in the country in the nearest future. However, adequate preparation should be made to overcome the challenges of the future and absorb the successes that come with it.

conducive environment will stimulate R&D in NBRI

NBRI Newsletter: Where do you think NBRI would be in terms of R&D activities in the nearest future?

Dr. Osadebe: With the present pace of development in NBRI, I see NBRI becoming one of the best research institutes in the country in the nearest future. However, adequate preparation should be made to overcome the challenges of the future and absorb the successes that come with it. I would want to see a very solid and conducive NBRI where knowledge-based Research and Development will be the hall mark of the institute; a Research Institute that can effectively translate its R&D products to innovations; a Research Institute where R&D innovations would be taken over by entrepreneurs and become household name in practice; a Research Institute which will compare with the best in the world; a Research Institute where excellence will be celebrated and rewarded; a Research Institute where every staff will be happy and proud of his or her calling and duty.

To achieve these, however, I must advise that all the Stakeholders in the NBRI project, especially the management staff should shun mundane and parochial interests and exhibit sincere commitment to making NBRI great. We should support this administration under the stewardship of Prof. Danladi Slim Matawal to take NBRI to the promise land.

NBRI Newsletter: In what way could R&D create job opportunities for young graduates in Nigeria?

Dr. Osadebe: Well, you are aware that NBRI has quite a lot of tested R&D innovations in its stable. Some of these include the Interlocking Block making Machine for the production of Interlocking Blocks, the Paving Stone making Machine for the production of

Paving stones, etc. Many of the technologies are manually operated while others are automated. NBRRI technologies can be used to set up Small and Medium Enterprises (SMEs) in building materials production and housing construction. I believe that young graduates, especially those in construction-related professions can come together in groups, acquire the NBRRI Machines under an SME umbrella and offer services in housing and construction, using alternative technologies. For graduates that can exhibit the entrepreneurial capacity, the sky is the limit. Remember that NBRRI is always there to provide the technical backstop for all its innovations. It would have been a good thing if Governments at various levels can see this as an opportunity for job/wealth creation for its unemployed youths; and to promote and facilitate the setting up of construction-based SMEs for fresh graduates on mutually beneficial terms.

Generally, the SME and Small and Medium Industries (SMI) are considered as the key to Nigeria's growth and alleviate poverty and unemployment in the country. Therefore, the promotion of such enterprises in developing economies like Nigeria is of paramount importance since it brings about a great distribution of income and wealth, economic self-dependence, entrepreneurial development employment and a host of other positive, economic uplifting factors.

NBRRI Newsletter: In your opinion, how can Science and Technology be used by the Federal Government to achieve vision 20:20:20?

Dr. Osadebe In the Vision 20:2020 policy, Nigeria aspires to be among the best 20 countries by the year 2020. To achieve this, the socio-economic activities and development in Nigeria have to be driven by its Science, Technology and Innovation (STI); and this is hinged on R&D. History has shown that the greater the emphasis and commitment placed on R&D, the

NBRRI technologies can be used to set up Small and Medium Enterprises (SMEs) in building materials production and housing construction. I believe that young graduates, especially those in construction-related professions can come together in groups, acquire the NBRRI Machines under an SME umbrella and offer services in housing and construction, using alternative technologies

History has shown that the greater the emphasis and commitment placed on R&D, the higher the STI level and the better the level of socio-economic development of any nation

higher the STI level and the better the level of socio-economic development of any nation.

In its long-term development strategy outlined in Vision20:2020, the Federal Government envisages a nation that is globally competitive and prosperous with a high quality of life by the year 2020. In pursuit of the vision, Science, Technology and Innovation should be harnessed to stimulate technological and industrial transformation that will lead to sustained economic growth and social well-being of the people.

In order to realize the above, the Government should commit itself to facilitate the identification, acquisition, transfer, diffusion and application of relevant R&D knowledge in all sectors of the economy. More importantly, special premium should be placed developing strategies for translating R&D products into Innovations that will drive the industrial growth.

NBRRI Newsletter: What can you say about the state of Roads in Nigeria and how it can be improved?

Dr. Osadebe: It is no secret that most Nigerian roads are in bad shape. Many have failed and disintegrated. Many do not even qualify to be called Roads in the true sense of it. They can be best described as death trap. This has contributed immensely to the high rate of accidents and loss of lives on our roads. Some people describe Nigeria's roads as a huge slaughter slab, where lives appear to worth little or nothing. Apart from some trunk A roads and those in municipal city of Abuja and Lagos, you can hardly travel a kilometer without seeing numerous potholes. It has even been postulated that these deplorable conditions of the roads across the nation have contributed immensely to the stunted growth Nigeria's economy.

Poor funding and maintenance are the major contributions to this problem. The Minister of Works had complained that inadequate funding has been the reason for the multiplication of bad roads in the country. However, it must be noted that recent

deplorable conditions of Nigerian roads is a manifestation of long neglect by successive governments and inadequate maintenance due to poor funding. There is therefore the need for Governments to reconsider its priorities and give the desired premium to Road maintenance during budget allocations.

Governments should adopt and enforce the attitude of effecting regular, routine and preventive maintenance of the roads by the relevant agencies, in order to reduce the level of deterioration of the roads. They should form the habit of patching small cracks or potholes on our roads before they develop into big potholes. This will help avoid rapid deterioration of roads. Patching the cracks early would prevent water from seeping into the soils underneath. Premium should also be given to Road Asset Management concept to ensure good quality roads.

NBRI Newsletter: As a Deputy Director in the Institute, how do you rate the attitude and commitment of the general staff to work?

Dr. Osadebe: The attitude of staff to work depends on the broad totality of work conditions. A variety of job attributes are associated with different levels of satisfaction within the organization. From my personal assessment, the attitude and commitment of NBRI staff is relatively satisfactory. However, I must emphasize that job attitude depends on job satisfaction and organizational commitment. Organizational commitment is the emotional attachment people have towards the organization they work for. There is a high degree of overlap between job satisfaction and organizational commitment, because things that make us happy with our job often make us more committed to the institute as well. These attitudes are worth tracking because they are often associated with

important outcomes such as performance, helping others, absenteeism, and output.

The attitude of staff may be attributed to several aspects of the work environment, including how they are treated by superiors, the relationships they form with colleagues (both junior and senior) and the actual work they perform.

NBRI staff especially the new staff should develop good relationships at work. Make friends. Try to get a mentor. An experienced mentor can be a great help in navigating life in the institute. They should develop a positive disposition; and also build a trust-based relationship with their supervisors (management staff). These are critically important to job satisfaction and organizational commitment. The management staff especially Heads of Department should realize that the subordinate staff will feel good at work when you listen and care for their official needs and value their opinions.

NBRI Newsletter: Personally, what are the difficult tasks you have ever been faced with, in carrying out research activities in the Department?

Dr. Osadebe: Hmmm. The most difficult task I have ever experienced in carrying out research activities in Road Research Department has

been the dearth of laboratory equipment. This has hampered the progress of research

NBRI Newsletter: Finally, we would want to know your hobbies and interest or better still, how do you unwind?

Dr. Osadebe: I love sports especially football, lawn tennis, watching boxing; reading and travelling. To unwind, I occasionally take a long walk within my environment.

What happens in many Research Institutes in Nigeria, NBRI inclusive, is that tested innovations are further promoted through deployment in pilot schemes to demonstrate their viability. The component that is still lacking is the reluctance of the private sector to commercially invest in such innovations. This is because Research Institutes not only lack the capacity for mass production of R&D products, the Institutes' mandates do not cover such functions. That is why it looks like many R&D products in many Research Institutes are "lying on the shelf" as critics often say.

FMST POISED TO REPOSITION PRESS/PR UNITS IN ITS AGENCIES..... HOLDS MAINDEN MEETING

The Federal Ministry of Science and Technology (FMST) recently organized a meeting of Heads of Press Units of Agencies under its purview. The maiden meeting which was a one day interactive session took place at the Conference Room of FMST in Abuja. The primary aim was to



Public Relations Officers of Agencies under FMST pose for a photo with Permanent Secretary, FMST, Mrs. W. Oyo-Ita and other Staff of the Ministry

re-engineer the Press Units and Public Relations practice of Agencies under the Ministry to become very effective and conform to international best practices, so that the activities of the Agencies and in effect the Ministry can be better projected with significant value addition. In living up to this objective, the Heads of Press Units brainstormed on the best and effective ways to project and relay activities of the Ministry to the public.

In her opening remarks, the Permanent Secretary, Federal Ministry of Science and Technology, Mrs. Winifred Oyo-Ita who is also the convener of the meeting expressed enthusiasm that the interactive session will go a long way in realizing the much needed publicity by the Ministry that would place all its research breakthroughs and activities at the front burner.

She further emphasized the need for a sustainable synergy and collaboration between the Ministry's Press Unit and those of the Parastatals in order to effectively tailor all efforts and actions towards actualizing the Transformation Agenda of the present Government. She noted that specific focus should be placed on evolving strategic and effective publicity programmes on several issues such as R&D outputs of Agencies, turn-key developmental projects like the Ward-Base Cluster project, the Presidential Standing Committee on Innovations and Inventions, the National Science and Technology week, the Engineering Week and the National Council on Science and Technology (NCST), among others. Mrs. Oyo-Ita enjoined the Officers of the Press Units in

Agencies to work assiduously towards ensuring effective collaboration and bridge the seeming gap and lack of synergy between the Ministry and its parastatals in handling media-related issues.

The Honourable Minister of Science and Technology, Dr. Abdul Bulama, who made a brief appearance at the event, applauded the efforts of Press Units in the various parastatals, noting that, the meeting is important and historic. He further noted that if the Press Units put their acts together, the mandates, activities and achievements of the Ministry would be better portrayed and promoted to Nigerians. He emphasized that Nigerians have to be properly educated and carried along on the roles of Science, Technology and Innovation (ST&I) in driving the Transformation Agenda of Mr. President. Dr Bulama enjoined the Forum to ensure consistency and develop structures that will emphasize the impact and effects of Science and Technology as a veritable tool to fast track development and growth of a nation like Nigeria.

The Public Relations Officers later went into deliberations and at the end, came up with a communiqué which has since been forwarded to the Hon. Minister through the Permanent Secretary for consideration and implementation.

The Nigerian Building and Road Research Institute was represented at the meeting by the Institute's PRO, Mr. Peter Mashem and Information officer I, Mrs. Oneshi Umoche.

NBRI ABUJA STAFF WORK OUT TO KEEP FIT

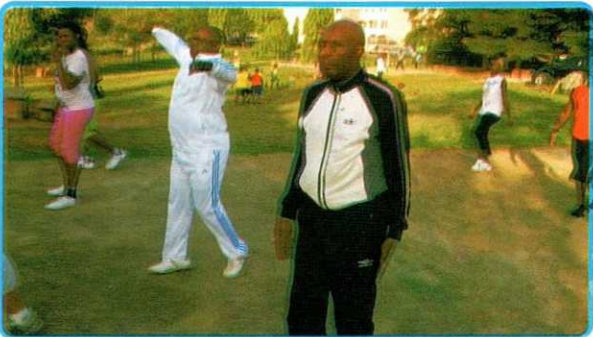
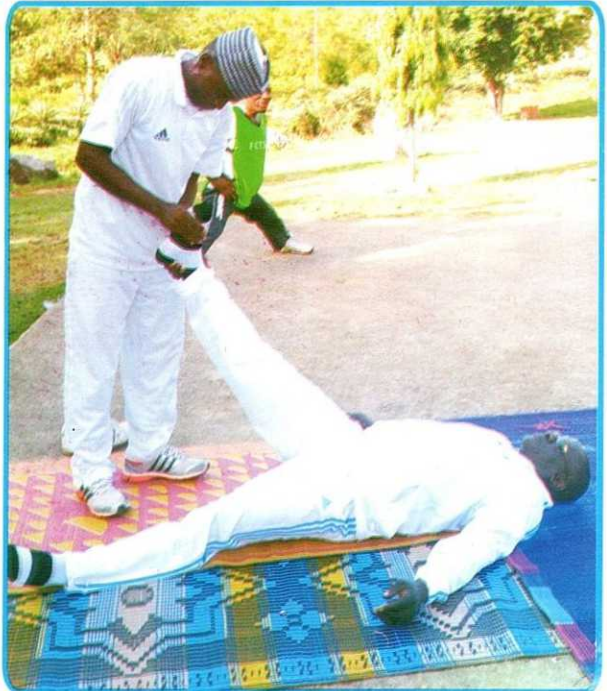
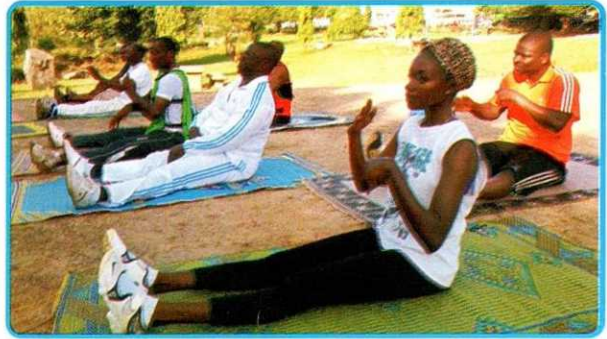
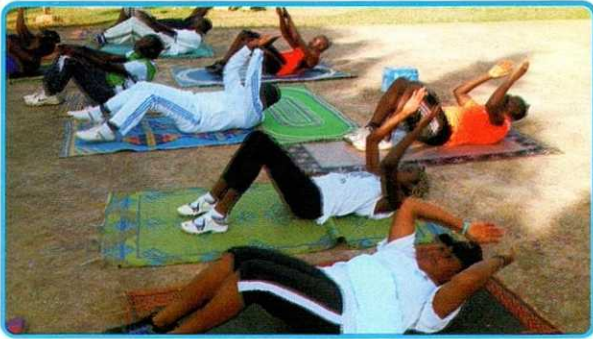
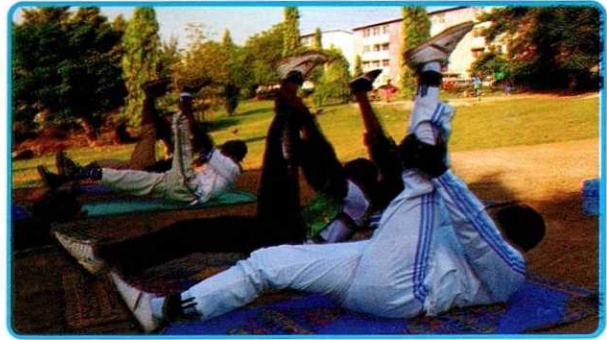
The high point of the Monthly exercise organized by the Sports Committee for Staff of the Nigerian Building and Road Research Institute (NBRI) Abuja is the attendance by the Director-General /CEO, Professor D.S Matawal.

At the exercise which took place on Saturday 25th October, 2014 at the Berger Park in Wuse, many staff attended and were engaged in routine work-

outs, jogging, sit ups, press-up, etc.

Speaking informally, the DG/CEO, Professor D.S Matawal who participated actively in the exercise, said the benefit of exercising cannot be over emphasized especially after weeks of duty.

The Coordinator of the monthly programme in Abuja Office, Mr. Amos Tabe, said the workout has gone a long way to keep staff of the Institute fit and agile.



RIGAN PRESENTS AWARD TO DG NBRII



The Director-General of the Nigerian Building and Road Research Institute, NBRII has been given an award by the Research Institute Games Association of Nigeria (RIGAN). The honour was in appreciation of his integrity, commitment, unwavering support and irreplaceable contribution towards the sustenance of RIGAN in his capacity as the Patron. The award was presented to the DG by one of NBRII's RIGAN Council members, Mr. Amos Tabe in his office.

CES DEPT SENDS FORTH PIONEER DIRECTOR

The Staff of the Consultancy and Extension Services Department of the Nigerian Building and Road Research Institute, on Thursday 3rd December 2014, organized a send forth ceremony for its immediate past Director, Bldr. Hafizu Wali. The colourful event which took place at the premises of the NBRII Administrative Headquarters had in attendance the Director-General of the Institute, Professor Danladi Matawal, Directors and other staff.



DG NBRII, Prof. Matawal presenting a gift on behalf of the CES Department to Builder Hafizu Wali with other management staff looking on

Speaking at the event, the Head of the CES Department, Daniel Makava said organizing the send forth was imperative because of the enormous impact Builder Wali had during his tenure in office. While eulogizing his predecessor, Mr. Makava said Wali had put the CES Department on the right path and has contributed its quota to the overall success of the institute.

On his part, the Director of Procurement and Physical Maintenance of NBRII, Engineer Hassan Danjuma, revealed that he has known and worked at various places and times with the celebrant for over 30 years and noted that Bldr. Wali is like a brother to him. Engr. Hassan said Builder Wali is a purpose-driven and highly resourceful personality and noted that the Institute will miss him greatly.

Also speaking, a Management staff of the CES Department, Arc. Augustine Inoh said apart from the leadership and focus that the celebrant gave to the Department, Bldr. Wali had ideas which he implemented for the benefit of not only the Department but also to the institute.

The DG/CEO in his remark, thanked the erstwhile retired Director for doing his best for the Department and the Institute at large. He said that

the Institute will continue to seek for his counsel on issues relating to Consultancy and Extension services. Prof. Matawal commended the CES Department over the spirit of love and appreciation shown to its former Director, and called on staff of the institute to emulate such initiative. He also called on staff to imbibe the culture of diligence to work so that the Institute can benefit, and also be appreciated at the end of their stay in NBRII.

In his response, Bldr. Wali thanked members of the CES Department for organizing the ceremony to honour him and for the DG attending. Bldr. Wali, while cautioning staff to avoid bigotry, called on all to love and respect each other irrespective of their ethnic and religious affiliations. He thanked NBRII for giving him the opportunity to work and contribute its quota to Institute. He expressed his gratitude to staff, especially those of the CES Department, for supporting him to succeed as Director.

The high point of the ceremony was the presentation of gifts to the celebrant by the DG/CEO on behalf of the CES Department.

BIRTHDAYS

NAME	DEPT.	DATE OF BIRTH
Okon Daniel M.	RRD	1 st October
Davies I.	A/F	3 rd October
Agbo Sunday	A/F	5 th October
Ogala O. Mike	BRD	6 th October
Ogalla Mike	BRD	6 th October
Olotu Garba Mohammed	DGs Office	7 th October
Mlanga Victor	RRD	9 th October
Tejumade Olufemi Olanrewaje	A/P	9 th October
Adeyemi O.A	BRD	10 th October
Gidado M Tukur	CES	10 th October
Gwiwanyi Sunday G		10 th October
Obande Peter Obande	P/M	10 th October
Subair Olakunle W	EMRD	10 th October
Alabi Folasade Felicia	A/P	11 th October
Ayitogo A Abdulkadir	PIT	11 th October
Bakoji Adamu		11 th October
Makwin Gillian Unapas	BRD Abuja	11 th October
Adeyemi Aliu D.	BRD	12 th October
Abubakar Tahir	A/F	15 th October
Ajayi Olumide	A/F	16 th October
Ndibe Miracle	A/F	17 th October
Mozea M.N	BRD	18 th October
Obiora Frank I.	RRD	21 st October
Ikani Adah	BRD	21 st October
Prof. Danladi Slim Matawal	DGs office	30 th October
Mr Afolabi Ajibola	A/F	1 st November
Olotu Mohammed	PITD	2 nd November
Fowobaje F.M	A/F	4 th November
Akor Ojochide Innocent	A/F	7 th November
Umoche Thomas	CES	19 th Nov
Peter Mashem	PIT	11 th Nov
Yahaya Sheshi Mohammed		12 th Nov
Nuhu Suleman	PITD	15 th Nov
Inyang Enin Ata	BRD	15 th Nov
Chukwuma Chigo	A/F	15 th Nov
Aderokku G. Akinpelu	A/F	16 th Nov
Egbunike Grace E.	A/F	16 th Nov
Ojeka Gladys	BRD	18 th Nov
Joe -Abaya Justina A.	RRD	19 th Nov
Alabi Vincent Ojo	A/F	20 th Nov
Ameh Ikoyi Gloria	Proc	20 th Nov
Olatoye Temitope .T	A/F	22 nd Nov
Aisha Samaila Yakubu	DGs Office	26 th Nov
Ahmed B. Sanni	BRD	28 th Nov
Sule Amos Dow	A/P	28 th Nov
Ahmed Sani	CES	28 th Nov
Afaha Philip Loveth	CES	29 th Nov
Nden Timnan	BRD	1 st December
Ezirim Sunny Okwuchi	CES	2 nd December
Bldr. Nwaigwe Daniel N.	BRD	3 rd December
Akims Ufoh. A	A/F	6 th December
Engr. R.B Lawal	EMRD	6 th December
Danyiwo .O.F	A/F	9 th December
Sanda Abdullahi Usara	BRD	10 th December
Ojo Soji Olaleye	A/F	12 th December
Asala Joseph	PIT	12 th December
Danyiwo Muraino Adekunle	A/P	12 th December
Egila James Monday	CES	13 th December
Apeh Enebi Solomon	EMRD	14 th December
Ekandem E.S	BRD	16 th December
Dika Sunday Musa	A/F	20 th December
Duru Chuks C.	BRD	22 nd December
Nataala M. Usman	BRD	22 nd December
Ajayi A.A	RRD	22 nd December
Hassan Yusuf	CES	24 th December
Didel Mabilong Juliet	BRD Abuja	26 th December
Obidiozor Anthony	PITD	27 th December
Osei Regina Ime	A/P	28 th December
Sule Emmanuel	RRD	30 th December
Enebi Stephen	EMRD	30 th December
Stephen Joseph	A/P	30 th December
Domi Ali	A/P	30 th December
Monday Eyojo	A/F	31 st December
Sulaiman Oladimeji	PIT	31 st December

MARRIAGE



Builder Nwaige Daniel of Building Research Dept, Ota got married to Chiamaka on 27th December 2014 at Isiala Mbano LGA of Imo State

BIRTHS



Mr Afolabi Kunle of Admin/Finance Dept Ota was blessed with a Baby boy Romola Afolabi on 18th November 2014



Mrs Uchenna Amobi of Planning and Information Technology Department, Abuja was blessed with a baby girl, Ugomsinachi Chimdal Danielle Amobi on the 24th of December, 2014.



Mrs Aisha Yakubu of the DG's office, Abuja was blessed with a baby girl, Hannah Adaken Yakubu on 10th December 2014



Mr Martins Kpanaki of BRD Ota was blessed with a Baby girl, Jemima Precios Uyo Kpanaki on 4th November, 2014

NBRRI LAGOS ZONAL OFFICE PARTICIPATES IN 2014 LAGOS INTERNATIONAL TRADE FAIR

The Lagos Zonal Office participated actively during the 2014 International Trade Fair. The Lagos International Trade Fair is a premier Trade Fair in Nigeria. The theme for the year 2014 fair is "Promoting the Nigeria Economy as a Preferred Investment Destination". The event took place from Friday 7th to Sunday 16th November 2014, at the Tafawa Balewa Square Onikan, Lagos. It was a ten (10) day annual event organised by Lagos State Chamber of Commerce and Industry under the leadership of Alhaji Remi Bello.

The objectives of the Fair are to promote the revitalisation and diversification of the Nigerian economy, to accelerate the development of commerce and industry, made-in-Nigeria Products, evolution of Nigeria's trade with the outside world, prospects for foreign and local investments in strategic areas, among others. Various organisations as well as government agencies and Parastatals displayed their goods and services. Several organisations in the public and private sectors displayed their products and wares. Some organisations were given special days to present corporate profile and briefing on their organisations.

At NBRRI exhibition stand, alternative technologies and innovations developed by the Institute as well



as NBRRI Technical Reports and Fliers were displayed. Many participants visited NBRRI stand and made impressive remarks. Some visitors opined that the institute should be properly funded so as to do more in the area of technological innovations and fabrication of machines. NBRRI was viewed as a hidden treasure and should be in the forefront in the management of roads and building sector in Nigeria.

The Fair was a huge success with some staff from Lagos Zonal office and Consultancy and Extension Service Department, Ota in attendance led by the Head, Lagos Zonal Office, Mrs. Igweonu M.O.

LAGOS ZONAL OFFICE PROMOTES USE OF NBRRI TECHNOLOGIES



As part of the profile building and renovation work being carried out by the present administration of Prof. Danladi S. Matawal at the South-West Zonal Office, Lagos, the Institute has used its technologies to erect a security post at the office.

The erection of the Two (2) rooms security post using the NBRRI produced interlocking blocks was handled by the technical officers at the zonal office. This was done as a way of demonstrating and promoting the Institute's products/technologies to the public.

The NBRRI South-West Zonal Office is located at No 15 Awolowo Road, Ikoyi, Lagos. Based on the location of the office and the nature of the buildings in the environment, the use of the interlocking blocks to erect the security post makes it distinct and brings out the aesthetic beauty and the uniqueness of the technology when compared with the use of conventional materials used for the surrounding structures in the area. The use of the indigenous technology has generated a lot of interest from passers-by and occupants of adjoining structures.