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# NBRRI ORGANISES WORKSHOP FOR ZONAL COORDINATORS

The Nigerian Building and Road Research Institute (NBRRI) organized a Workshop for the Coordinators and key Officers of the six NBRRI Zonal Offices located in Lagos, Jos, Nnewi, Gombe, Kano and Uyo. The 3-day workshop took place at the Conference Room of NBRRI Administrative Headquarters in Abuja between the 25th and 27th March 2014. The objective of the workshop was to build the capacity of these Zonal Coordinators with the necessary tools; administrative, technical and marketing skills to enable them discharge their duties in line with the mandate of the Zonal Offices. This was to enhance effective linkages and collaboration on the massive use of NBRRI technologies in construction at grassroots level with communities in the six geo-political zones of Nigeria. The target participants included the following Zonal Coordinators:

Mrs. Mabel Igweonu  
Mr. Terver Tyosar  
Mr. Baba Yerima  
Mr. Moyi Zayyanu  
Mr. Sunday Ezirim  
Mr. Etuk Enefiok

Lagos, Lagos Zonal Office  
Jos, North-Central Zonal Office  
Gombe, North-Eastern Zonal Office  
Kano, North-Western Zonal Office  
Nnewi, Eastern Zonal Office  
Uyo, South-South Zonal Office

On hand to declare the workshop open was Engr. Austin Eneh, a member of NBRRI Governing Board and Chairman of the *Commercialization and Revenue Generation* sub-Committee of Board. The Director-General/Chief Executive Officer of the Institute, Prof. D.S. Matawal delivered the keynote address while the Director, Consultancy and Extension Services Department, Builder Hafizu Illyasu Wali gave the welcome address. Present at the Opening ceremony were the heads of Units and Departments in NBRRI Abuja Office which included the Head of Admin & Personnel, the Head of Audit Unit, the Head of Public Relations Unit, some Management Staff; some Research Officers and Extension Officers based in Abuja Office; and the head of Consultancy and Extension Services Department in NBRRI Ota.



*Group photograph of Participants and Facilitators at the Conference;  
with the Director-General/CEO, NBRRI*

Six (6) papers were presented at the Workshop and these addressed the following critical aspects, namely: administration, funds utilization, public relations, commercialization through consultancy as well as artisanal training. These papers were delivered by high profile resource persons drawn from within the Institute. There were robust group and syndicate sessions.



*Cross-section of Participants at the Workshop*

At the end of the three (3) day meeting/workshop, the following recommendations were proposed for management consideration and approval:

- Meetings of Zonal Coordinators should be held quarterly and should rotate around the six zonal offices and Ota in order to expose the Coordinators to the activities in other zones.
- Similar Workshops should be conducted for other cadres of NBRRI staff, utilizing internal resource persons to build the capacity of staff members.
- Zonal officers should establish collaboration with tertiary institutions within her zone (Universities, polytechnics, etc) towards actualizing the institute's mandate and creating awareness on its R&D results/innovative technologies.
- Training manuals on various innovative technologies of the Institute should be produced jointly by the Consultancy and Extension Services department and the relevant research department.
- Libraries, Laboratories and Display Centres should be set up in all zonal offices in order to deliver optimum services to the public within the zones and its environs.
- NBRRI Consult, a company incorporated by the Institute, should be resuscitated to boost commercial activities of the Institute. NBRRI Consult will handle matters related to consultancy, Capacity Building and Training expositions.
- The working environment of the zonal offices should be upgraded in order to build a good corporate image for the Institute. Vehicles should be provided for easy mobility and coordination of activities in the zones.
- The staff of the zonal offices should comprise Extension Officer (with technical background), Admin Officer, Account officer, Research Officer and a Library Officer. The zonal coordinators will be the image maker in the zone.
- Zonal Officers should be equipped to participate in programmes and activities organised by the States Governments in their respective zones. The Zonal Coordinators and/or other staff of the zone will represent the Institute in any programme or activity

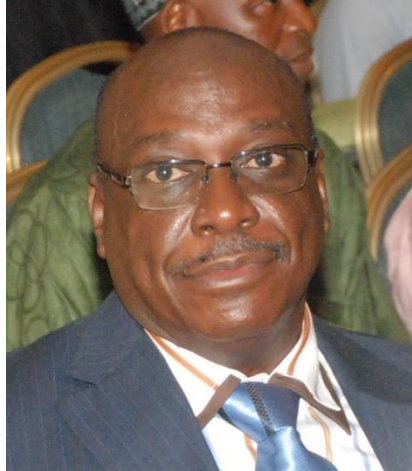
that falls within their Zones in order to reduce cost of staff to the Institute while enhancing greater involvement.

- The zonal Coordinators should be encouraged to keep proper account/records in order to keep track of all funds released to them.

# BASICS OF CONSULTANCY AND EXTENSION ACTIVITIES

By

Bldr Hafizu Ilyasu Wali (Director, CES, NBRI)



The Paper was divided into 6 parts. Part 1 focused on Consultancy activities which it defined as the deployment of an entity's resources to generate additional income. In doing this, consideration was given to *Resources Availability, General feasibility, Commercial viability and Commercialization of Technologies*. The paper noted that the issue of modeling (Enterprise and Business) is crucial in the process of planning for commercialization.

In part 2, the paper looked into extension activities stating that *Extension is the promotion of a 'product' in order to secure sales through effecting attitudinal change*. It listed three basic steps as Strategy for Extension services as: Formulation of an appropriate message; Dissemination through an appropriate medium; and targeting it to an appropriate receiver. It listed the two common approaches to the provision of Extension services as: Experiential and Promotional. The paper further discussed the concept of *Quality Function Deployment (QFD) as Feedback Mechanism from Extension defining QFD as a method of determining which type or model of a 'product' economically satisfies market demand*. It added that *QFD provides the necessary feedback in order to: correct an anomaly; redesign the product; or altogether withdraw it from the market*.

Part 3 was on *Work plan which is described as a project management tool that is vital for the implementation of all extension and consultancy activities*. It divided work plan into two: Work and planning adding that the types of work plan are: Activity Work Plan; Work Plan & Budget

and Annual Work Plan & Budget. Uses of work plans include: Target setting; Proper Budget Implementation; Deployment of resources (human + material) and Monitoring of progress.

Part 4 focused on *Modalities for commercial activities in NBRRI*. It emphasized that NBRRI is at the moment not empowered by its law to carry out commercial/business activities; hence such dealings require the kind of flexibility which government general rules/regulations do not provide. As a way out/way forward for NBRRI, the paper proposes special purpose vehicles (SPV) to conduct commercial business. These SPVs could be:

- i) Business Enterprises that have MOU with MDAs;
- ii) Business Enterprises which are wholly or partially owned by the MDA; or
- iii) An NGO with which the MDA has good understanding.

NBRRI according to the paper has already set up two SPVs: *Messrs NBRRI Consult Ltd* (for technical issues, consultancy, training and capacity building) and *Messrs Brem Technologies Ltd* for contracting/supplies, etc. It therefore states that the Zonal Coordinator, by implication, is a commercial officer and must see his/her role as the representative of both SPVs in the Zone in which he/she operates.

In part 5, the paper suggested the *formation of three syndicate groups* to look into the following issues in zonal offices:

**Group 1:** To look into the functions, structure of Zonal Offices and to draw up responsibilities of key officers;

**Group 2:** To come up with programmes and activities for all Zonal Offices for the year 2014 and also to generate a Work Plan and a Budget; and

**Group 3:** To look into the possibility of resuscitating NBRRI-Consult as a commercial entity, determine its modus operandi and how it can harvest the outreach of Zonal Offices to the benefit of NBRRI.

Concluding the paper in part 6, the following were suggested as roles/ responsibilities of the CES Department at NBRRI Administrative Headquarters, Abuja: Facilitating the programmes/activities of the Zonal Offices and NBRRI Consult in the Zones; coordinating the programmes/activities of the Zonal Offices and NBRRI Consult in the Zones; Providing technical support/expertise to Zonal Offices and NBRRI Consult in their programmes/activities; Providing technical back-stopping for programmes and activities of Zonal Offices; Provide technical support for the development of Enterprise and Business Models by Zonal Offices and NBRRI Consult in the Zones; Assist in carrying out QFD tests in conjunction with Zonal Offices for the various technologies that may be deployed in the Zones by NBRRI for feedback; Give Zonal Offices continuous guidance

# OFFICE MANAGEMENT AND ADMINISTRATION

By

Mrs. Ifeoma Jude-Iloma,  
Deputy Director, Administration and Personnel



The paper began by defining Office Management as the act of running and controlling a business or organization. This involves among other things, Planning, Organising, Staffing, Leading/Directing, Controlling/Monitoring and Motivation. It also stated that Administration is in consonance with Office Management as it refers to the activities that are done in order to plan, organize and run a business, school or other organisation.

With regards to Administrative/Office procedures, the paper listed the flow of communication to be either: downwards from superior to subordinate; upwards from subordinate to superior officers or horizontal/sideways. It added that for easy flow of communication there must be clarity of writing, thoughts, and assemblage of facts. It also stated that the proper Line of communication is very essential to avoid hiccups in administrative procedures. Under minuting of files, the paper states that minutes must be clear and concise while the language should be polite and straight to the point. It should be devoid of ambiguity and probability especially when giving directives or making recommendations, adding that if in doubt, reference books like the Public Service Rules, Guidelines for Appointments and Promotions, Schemes of Service, Conditions of Service, etc. or more experienced colleagues can be consulted.

The paper stated that every staff has Personal, Confidential, Financial files opened for him or her in the Administrative Headquarters and urged the zonal coordinators to open ancillary files for zonal staff for record purposes. It also stated that files should be opened for a variety of items such as Projects, General Administration, Collaborations, Sub-files, etc.

The paper further touched on *induction of new staff* saying relevant file(s) should be opened for the staff after documentation, and Variation Advice raised for the staff to be pay rolled.

Stressing on attendance register, the paper said it is mandatory that every staff signs the book as failure to do so amounts to insubordination; and the staff may be declared absent from duty which will attract strict sanctions. On leave roster, it stated that this Roster allows for proper planning so that key staff of any given department may not embark on leave at the same time.

Discussing the issue of discipline, the paper warned that indiscipline amounts to irresponsibility; hence, it is the duty of every officer to be acquainted with the extant rules as ignorance is no excuse in law. It noted that it is the duty of every superior officer to bring to the notice of his or her subordinate officers their misconduct either orally or in writing. This may be in the form of a query or a reprimand, as the case may be. Likewise the superior officer is to bring up the misconduct of a subordinate officer to the notice of Management for corrective measures; or for punitive measures in cases of serious misconduct(s) where the offender may get to the level of appearing before a Disciplinary Committee. Some of the misconduct listed include: dishonesty, false claims against government, foul language, insubordination, negligence of duty, falsification of records, suppression of records, sleeping on duty, improper dressing to office or while performing official duties, hawking merchandise on office premises during office hours, engaging in political activities, corruption, fighting while on duty, membership of secret societies, etc. It emphasized that sanctions such as dismissal, termination of appointment, suspension from duty, interdiction, retirement, reduction in rank, withholding of annual increment, letter of warning, letter of advice, may be applied depending on the magnitude of the misconduct. The paper noted that mentoring is a very good and effective administrative technique for a recalcitrant subordinate who might need some probing and counseling.

The paper, in conclusion, stated that the Office Manager/Administrator is an all rounder, an organizer, a planner, a leader, a monitor, a motivator and a mentor. It therefore urged the participants to imbibe these seven habits of highly effective people which are: being proactive; begin with the end in mind; putting first things first; think win-win; seeking first to understand, then to be understood; supervise (Networking) and sharpening the saw.

# RETIREMENT OF FUNDS IN PUBLIC SERVICE

By

Boniface AJAH (Head, Internal Audit Unit) NBRRI



The paper stated that Fund Accounting is one of the fundamental principles underlying the Public Sector Accounting; and defined *Fund* as a separate fiscal and accounting entity in which resources are held, governed by special regulations, separated from other funds and established for specific purpose.

It classified Funds into 3 categories: Government, Proprietary and Fiduciary Funds. It also listed the various types of Funds in Public Accounting as: General, Capital Project, Special, Contingency, Trust and Inter-Governmental Service Funds.

The paper defined *Virement* as expenditure from one expenditure head for another without a due approval from the National Assembly while *Fund Retirement* was defined as the act of rendering accountability or stewardship of Public money advanced or entrusted to a responsible Public Officer.

Quoting the Financial Regulations 1401 with regards to Advance, the paper noted that Personal Advances, which are cash loan to individual officer in the employment of the Federal Government of Nigeria, may only be granted on the authority of Financial Regulation and the Public Service Rules. It also quoted FR 1402 dealing on Non-Personal Advances being advanced to an officer in his official capacity such as imprest.

Elaborating on imprest, the paper defined it as a sum of money advanced to an officer of Government to meet daily expenditure as the case may be under the current estimates for which Vouchers cannot be raised immediately to Sub-Account. It also stated the types of imprest account as *Standing Imprest* (amount given which is replenishable from time to time and are retired as soon as it is expended to make way for a new one) and *Special Imprest* (meant for Special Projects, not re-imbursable and is to be retired at the end of the project life).

On advances that are retireable, the paper noted that all Non-Personal Advances are retireable. Also official overseas trips may need to be retired. However, some Personal Advances such as Duty Tour Allowances are not retireable.

The paper concluded by defining some common words used in Public/Government Finance such as: Appropriation Bill, Budget Estimate, Warrant, Authority to incur expenditure (A.I.E) and Treasury Circular.

## ORGANISING ARTISANAL TRAINING/LEARNING EVENTS

By

INOH, A. G. (Chief Technical Officer, NBRRI)



The paper highlighted issues for consideration by a Trainer/Training Facilitator when organizing a training/learning event, especially when it involves the introduction of a new technology. It defined Training as “the process of learning the skills that one needs to do a particular job; and defined Artisan as a class of persons who do skilled work, making things with their hands. Examples of Artisans include Carpenters, Brick/Block Layers (Masons), Iron Benders, Painters, Plumbers, Welders, Machine Fabricators, Electricians, etc. Artisanal Training was therefore defined as the Acquisition of Skills, Concepts or attitudes that results in improved performance within the Job and Environment. They are very essential tools for extension of new technologies.

The paper noted that it is important to first select area(s) that the training will be conducted based on the need to create awareness on a new technology or product and to improve the proficiency of those who have basic skills. In case of NBRRI, it can be in the areas of: Buildings (Materials production and usage and maintenance.); Roads (Construction and Maintenance); and Equipment (Machine fabrication, assemblage and maintenance).

It stressed that the trainee is key to having the training. When organizing a training programme, the following issues have to be considered with respect to the trainee: Age; Gender; Background; Education Background; Technical/Professional competence; Cultural background; etc. In addition, the training needs of the trainee must be identified via the Needs assessment or Skills gap analysis. The paper further stated that the Identification of training materials is crucial; and can be carried out through physical appearance of the materials or through simple tests. The training venue such as Classroom; Workshop; Building Construction Site; Road Construction Site; Production Shed, etc. should also be determined based on the type of training to be carried out and the materials to be used.

The Training method to be adopted will depend on several factors but primarily on the ability and level of knowledge of the trainee as well as the objective of the training. The paper

suggested the following methods to be adopted in conducting Artisanal Training: Introduction; Lecture/Discussion; Skill lesson; On the job training and Group exercise.

The paper stated that a good presentation of the Training exercise should be lively while the required information are conveyed to the Trainees. This strategy elicits the attention and interest of the Trainee. Trainers should therefore try to build their own credibility in the introduction of the subject matter; and create a safe, comfortable environment for the trainees while considering the following: Putting up smiles; Avoid taking too much time on a particular issue; Language (Reader friendly/User friendly) and Dressing.

In conclusion, the paper stressed on Training Impact Assessment (TIA) which is a tool used in evaluating the impact of training on the social and economic well being of an organization, community, group and/or individual. TIA could be done through the following ways: Physical assessment; Interviews; and Questionnaires. Some practical and hands-on demonstration exercises were provided.

# ENHANCING AND PROPAGATING NBRRI IMAGE THROUGH EFFECTIVE PUBLIC RELATIONS STRATEGIES

By

Makava Daniel, Head Public Relations Unit



The paper discussed the basic components of the principles and practice of Public Relation; and related these to the need for effective publicity, creation of favourable awareness and/or good corporate/product image for the Institute and its products and activities.

According to the paper, it is a paradox that a large number of people lack adequate knowledge of Public Relations (PR) which everyone needs; and indeed which everyone applies consciously and unconsciously. The confusion about public relations could be linked to the fact that everyone uses it anyhow. Public relations, as the name implies, deals with the public. Whatever is done rightly or wrongly by anyone who intends to have a good relationship with any member of the public is referred to as Public Relations. It should be noted that it is impossible to build good corporate image or product image on words (Publicity or Advertising) alone. The best image is formed as a result of action or good performance.

The paper further gave several definitions of Public Relations. Some of them are:

- ✓ According to the British Institute of Public Relations: 'Public Relations practice is the deliberate, planned and sustained effort to establish and maintain mutual understanding between an organization and its publics.'
  
- ✓ Dr. Chuks Osuji defined PR as 'a process of creating a favourable public opinion for an organization, institution, individual, commodity or for intangible things (such as names) so that relevant members of the public who have something to do with these tangible or intangible things may perceive them in good way'.

- ✓ The widely accepted definition of Public Relations is the Mexican Statement reached in 1978 at an International Conference of PR practitioners held in Mexico. It says 'Public Relations practice is the art and social science of analyzing trends, predicting their consequences, counselling organizations' leaders and implementing planned programmes of action which will serve both the organization and the Public interest.

The paper also looked at the need for PR. The need for explanation and education on many aspects of our lives and other activities has never been as serious as it is in recent times. This is because organizations survival now depends largely on public approval, and this comes as a result of the understanding and knowledge of their (organization) relevance. There is need to explain new technologies, government programmes and the Institute's policies. People can no longer be left uninformed or just expect to know what is going on in an organization. There are many products, services, ideas and organizations and they all compete for the attention and understanding of the general public. The dynamism of our social, political and economic systems has made free flow of information more compelling than ever before.

According to the paper, all organizations, in-fact, everybody uses PR to get along with his fellow human being. Even religious bodies apply a lot of PR to get follower-ship. All organizations need and use public relations whether they are aware of it or not. In the execution of our jobs in the Institute, there is absolute need for effective PR Planning. It should be noted that every management wants nothing but results; therefore for our duties to be more respected and viewed more seriously, PR planning programmes will be necessary and relevant to our various tasks.

The paper dealt with the functions of an extension officer and the reasons why the Institute established the zonal offices. It went further to look at avenues to employ in the promotion of the corporate identity of the Institute. It tasked the zonal coordinators to make sure that the following are in order in their various offices:

- Institute's Flag
- Institute Corporate Colours
- Institute's Products
- Manner of Approach of staff of the office to visitors
- Office Environment (building, sanitation, equipment, method of operation, etc)
- Zonal Coordinator has Complimentary Cards and are on hand
- Styles of correspondence, quality of paper used, etc, are of standard.
- Life styles of top management staff are presentable
- Way and manner in which the Institute responds to government laws and regulations, fulfils its civic obligations and encourages its employees to do the same.

In conclusion the paper opined that in the promotion of the Institute's corporate image, both the management and staff of the Institute must contribute positively.

# WE ARE AVAILABLE FOR CERTIFICATION PURPOSES ..... Prof. Matawal, DG/CEO NBRRI

*Recently, there have been debates over the quality of cement being sold in Nigeria. The debates generated a lot of concern by the Coalition of Civil Society and Professional Bodies in the construction industry, Regulatory Bodies, the Standards Organisation of Nigeria (SON), Cement Manufacturers, Cement Users in the construction Industry and the General Public with claims and counter claims. The debate centred on the accusation that the quality of the 32.5 grade of cement which has been in the open market was not adequate and has been responsible for the spate of building collapse in the country. While some school of thought was of the opinion that the accusation was wrong and ill conceived, others believed that the accusation was right and advocated that the minimum grade of cement in the country should be pegged at the 42.5 grade. As the foremost Research Institute in Nigeria with mandate on the construction industry, the Nigerian Building and Road Research Institute (NBRRI) lent its voice to the debate. In a recent interview, the Director-General/CEO of NBRRI, Professor Danladi Matawal spoke on what the Institute has been doing towards ensuring that cement factories meet specifications and global best practices. Below are excerpts from the Interview.*



**NBRRI Newsletter:** What is the Institute doing in the aspect of cement meeting up to specification and standard?

**Prof. D. S. Matawal:** I believe that the Nigerian public is entitled to asking questions about the quality of construction materials that are being used. I believe also that there are many questions that need to be answered by both cement manufacturers and those in charge of regulations and specifications and that includes NBRRI (for providing testing infrastructure) as well as primarily the Standards Organization of Nigeria (SON). It should be noted that the activities and mandate of SON covers a wide array of specializations, disciplines and materials. They will have to depend on the goodwill of research and development (R&D) from specialized research institutions, like ours, and possibly our laboratories and those of the tertiary education sector, to provide and give them data in areas where it is their responsibility to set standards and undertake regulation. This is because, SON could be lacking well-equipped laboratories and facilities for quality assurance tests and specifications in the several but varied areas of disciplines covered by their mandate, which is wide.

Specifically on the issue of Cement quality in Nigeria, we have spoken in public fora organized by the Cement Manufacturers Association of Nigeria (CMAN). We have also made similar initiatives in public fora of the Standards Organization of Nigeria relating to the quality of

construction materials; where we have given our views on quality of Nigerian cement and other construction materials, like sandcrete blocks and concrete. Cement generally, as example, is in classes and fundamentally, there are five classes of cement all over the world. There is Cement Class 1, Cement Class 2, Cement Class 3, Cement Class 4 and Cement Class 5.

Cement Class 1 is the most popular of the Ordinary Portland Cements (OPCs) that are very ubiquitously applied in the Nigerian construction industry. Cement Class 2 is also Portland Cement but modified so that it has a lower heat of hydration. The Class 1 Cement type releases high heat during the process of transforming from liquid to plastic paste and the hardening phase known as hydration. In many circumstances, high heat of hydration is not to the advantage of concrete and the structure because, though it results in higher early strength but leads to cracking, lower ultimate strength and the processes for its production are not energy efficient; as a result of which this second type of cement was brought into contention. Comparing and contrasting the other three types: Class 3 is for high early strength designed for specialized rapid strength requirements. Unfortunately, as is typical with higher early strength, it leads to low final strength and high heat of hydration. Class 4 is cements that have partial replacement up to 55% Pozzolana, a material that NBRRI is now promoting and championing in Nigeria. It has its own advantages when you want to improve on the degree of imperviousness of structures. It also gives higher workability and has pronounced appeal as it relates to affordability (because of lower costs). Type Class 5 are composite cements which are primarily developed to provide resistance to leaching in saline environments associated with sea water; and they are known as sulfate resisting cements for special purpose conditions.

Since Cement Classes 3 and 5 are for special conditions, they are not commonly available for everyday and common applications, while Class 4 cements are just being championed by the Nigerian Building and Road Research Institute for extensive use in Nigeria. Therefore, it is both Classes 1 and 2 that the Cement manufacturers claim are being produced for the Nigerian construction industry. Their application depends on the circumstances whether it is Class 1 or 2; each is also further re-categorized theoretically and practically according to the strength class. Therefore, Classes 1 and 2 Cements, depending on chemical proportioning of the four primary compounds constituting cement and smaller additives, each has strength Classes 32.5 and 42.5 in Nigeria, and also Class 52.5 available internationally. The problem in Nigeria is vividly that the cement companies do not explicitly state the cement specifications on their bags, if they know it at all, or they are making errors of haphazard production, or they are making the matter some sort of trade secret, in order to maximize profits and evade enforcement.

I recommend that the cement bag should be appropriately labeled to contain details of whether the cement content is Class 1 or Class 2 in addition to the strength Class (whether 32.5 or 42.5 MPa). Where special cements are to be produced, the additional details should be provided. These are the issues that Nigerians are complaining about without even being technical personnel. Once the cement quality and specifications are clearly stated, then the argument of who should be giving the instructions and monitoring field use in terms of appropriate mixing and application of different types of cements to achieve the optimal results dictated by design, can be looked into. In a nut shell, there are definite questions of quality that

Nigerians need clarifications on from the Cement Manufacturers, from regulators (like SON), from certification agencies (like NBRRI) and from R&D groups (like NBRRI and tertiary education institutions).

**NBRRI Newsletter:** You talked about strength of cement?

**Prof. D. S. Matawal:** Definitely, strength is a quality matter and there is the need for quality control at the production source. Quality control is not an issue of arbitrariness. When cement companies are working towards a set of specifications, they need to be guided about the chemical composition of the cement, the calcining conditions, including incinerating temperatures, milling, etc. For example, the relative proportions of the four primary compounds constituting cement is the primary determinant of the various classes of cement. In another dimension, there is a broadband of specifications about the specific sizes of the cement constituent particles themselves that determines their strengths, limited by the percentage passing micron sizes of aperture openings, like 5 and 45 micrometer sizes. These need to be carefully observed, monitored, and regulated, not by the consumer public, but by experts in and outside the cement companies and government regulators. In any case, there are tests available on Nigerian cements that reveal that even if they do not fail very general criteria, but vary very widely and wildly in terms of minimum criteria and specifications such as the initial and final setting times, fineness (which I earlier pointed out as a primary determinant of strength), etc. These are issues of regulation because there is no reason why materials, in this case cement and in one country, governed by uniform rules would vary in results from one source to another. The Institute did present the results of tests on 14 Nigerian Ordinary Portland cements, from a sponsored research, to prove the above deductions. The results were presented in a forum of Cement manufacturers; and to ascertain that the deductions are being used for compliance, more frequent tests need to be conducted for certification and/or regulatory purposes.

**NBRRI Newsletter:** What factors could lead to deterioration of cement?

**Prof. D. S. Matawal:** One of the most important factors, related to deterioration, is the level and period of exposure of the cement. Basically, the shelf life of cement should not be more than 3 months, given proper compliance with storage processes so that they are not unduly exposed to humidity and very high pressure from over-stacking. I don't know if anybody is observing these at all because the cements we buy from the open market do not even carry manufacture date; and quite many of the cement would have started caking, losing some of their potent cementitious properties while still in the warehouses. If cement is exposed to damp weather, it is likely to deteriorate much faster; if it is stacked more than 10 bags, which exist all over the place anyway, the undue pressure will have its deteriorating effect. These are rule-of-thumb laws made for a purpose, not arbitrarily, to protect even the most ordinary user.

**NBRRI Newsletter:** Is there any area of partnership with other regulatory bodies to ensure that cement is produced to standard?

**Prof. D. S. Matawal:** We partner and synergize in most of our activities with Universities, SON, cognate Professional bodies, and many other government agencies. We are available for certification purposes and I recall vividly in one of our public outings, the DG/CEO of SON made

a proposal to visit our laboratories with a view to utilizing them for their monitoring activities; and we have given the go-ahead. Therefore, NBRRI is very open to collaboration and complementation for the benefit of Nigerians. NBRRI is also well placed to guide in the evolution of Standards, Codes of Practice and Specifications for Nigeria. The study of Nigerian Cements I sighted earlier was presented last year at a forum organized by CMAN in Abuja and was also presented in other fora. The objectives of such NBRRI presentations are to build capacity, emphasize the need for regulation and to be firm on specifications. From the NBRRI viewpoint, the Institute has done what it is supposed to do on this matter.

**NBRRI Newsletter:** Are you saying there is a specification for cement in Nigeria?

**Prof. D. S. Matawal:** Yes there are sets of specifications: what is generally referred to as the Nigeria Industrial Standards, NIS, related to Cement. There are couples of documents on the shelf and without any ambiguity you can trace them to SON. These specify many of these limits that have or may not have already been mentioned in our discussions; such as Setting times, fineness modulus, loss on ignition and strengths at varying curing ages. These specifications are there and some of NBRRI's presentations have comprehensively analyzed them; and compared and contrasted with other countries' specifications, like S/Africa, India, US, UK, based on which opinions were made. It is also important to note that some of these specifications are between 40-50 years old and are long overdue for review, which can only succeed through collaborations and research.

I think some form of visitation program on a regular basis must be instituted to bring sanity to the industry. This is a fundamental issue that has to do with application not theoretical. There should be commissioned laboratories that back up any claims with tests, because this is an issue of confirmatory and baseline tests completely. It does not matter where the tests are done as long as they are authentic. This is called Certification which NBRRI can easily provide. One of the fundamental tests for cement, as an example, is the chemical composition determinations; and I am aware that a number of laboratories in African countries, in fact most African countries were commissioned to do research on cement between 2012 and 2013 and the results were presented. But it was discovered that most African laboratories are deficient in chemical laboratories. This is one fundamental area that we need to pay attention to, and NBRRI will equip itself for all tests. It turns out that this test is also an item that appears to approximately define the borderline between developed and developing countries. So many laboratories in developed countries conduct chemical tests and conversely, very few or no laboratories in developing countries conduct chemical tests. NBRRI does specialize primarily in physical tests but has already installed capacity for the important chemicals too because they are important. Every cement company should also have its own laboratory. A number of the tests that NBRRI has done were domiciled in the laboratories of a Cement Company but we now have the facilities to do that by ourselves.

**NBRRI Newsletter:** What are your challenges in discharging your responsibilities?

**Prof. D. S. Matawal:** The country is very big and we find it difficult to cover the entire regions, states and zones. That is why we decided to established zonal offices. The philosophy behind the zonal offices is that they will be promotional offices and we shall install Display Stands and

Areas where our literature (research work and technology) will be made available to the people within every zone. In this regard, we have revived our zonal offices in Kano, Lagos and Nnewi, and we have opened new zonal offices in Uyo, Jos and Gombe so that all the six geo-political zones in the country are covered. We will welcome all intervention and support to make sure that these offices grow in order to serve the purposes of reaching the very large population of Nigerians and meeting the high demand of the construction industry.

We also offer spotlight attentions in parts of the country where Construction activity is high. Such spots include Abuja, Lagos, Kano, Kaduna, Onitsha-Awka-Enugu-Portharcout axis, and Benin. All these need funding, which is only scantily available and continually dwindling. Our research Officers are also in dire need of continuous further training in Nigeria and abroad.

**NBRRI Newsletter:** Any international collaboration?

**Prof. D. S. Matawal:** We have international collaborations with our sister institute in Ghana, with an outfit, *Totally Concrete* in South Africa, with Fengkai Jiayuan Group in China, ELE Group and TRL both in UK, a Belgian Group and many others. We welcome any International organization, Foundation and other corporate bodies to support the operations of the institute on specific research activities.

**NBRRI Newsletter:** What advice do you have for Nigerians who intend to buy cement in the market?

**Prof. D. S. Matawal:** When you want to buy cement, there are certain simple tips about the set of questions to set out to answer. How explicit are the specifications and how long has it been on the shelf? Is it always exposed to the environment, i.e. not in an enclosed environment or it is given good protection. Is it a heap so high that maybe it begins to deteriorate in quality under pressure and what are the weather conditions, especially humidity? I would definitely truly love to see inscriptions on bags of Nigerian cements that says: "Manufacture Date; Cement Class I, II, etc; Strength Class 32.5, 42.5; etc".

Finally, there should be consultations in application because not every Nigerian is so conversant with cement use. Therefore Users should be able to make minimal consultations with some professionals or experts who can provide some guides about how it should be applied.

**“I believe that the Nigerian public is entitled to asking questions about the quality of construction materials that are being used. I believe also that there are many questions that need to be answered by both cement manufacturers and those in charge of regulations and specifications....”**

**“Cement generally, as example, is in classes and fundamentally, there are five classes of cement all over the world. There is Cement Class 1, Cement Class 2, Cement Class 3, Cement Class 4 and Cement Class 5.”**

**“Cement Class 1 is the most popular of the Ordinary Portland Cements (OPCs) that are very ubiquitously applied in the Nigerian construction industry. Cement Class 2 is also Portland Cement but modified (and).... has a lower heat of hydration. .... Class 3 is for high early strength designed for specialized rapid strength requirements..... Class 4 is cements that have partial replacement up to 55% Pozzolana, a material that NBRRI is now promoting and championing in Nigeria. .... Type Class 5 are composite cements which are primarily developed to provide resistance to leaching in saline environments associated with sea water and they are known as sulfate resisting cements for special purpose conditions.”**

**“Cement Classes 3 and 5 are for special conditions .... are not commonly available for everyday and common applications, while Class 4 cements are just being championed by the Nigerian Building and Road Research Institute for extensive use in Nigeria. Therefore, it is both Classes 1 and 2 that are produced for the Nigerian construction industry.”**

**“I recommend that the cement bag should be appropriately labeled to contain details of whether the cement content is Class 1 or Class 2 in addition to the strength Class (whether 32.5 or 42.5 MPa). Where special cements are to be produced, the additional details should be provided.”**

**“.... there are sets of specifications: what is generally referred to as the Nigeria Industrial Standards, NIS, related to Cement. (However), It is also important to note that some of these specifications are between 40-50 years old and are long overdue for review....”**

**“NBRRI is very open to collaboration and complementation for the benefit of Nigerians.**

**NBRRI is also well placed to guide in the evolution of Standards, Codes of Practice and Specifications for Nigeria.”**

**“There should be commissioned laboratories that back up any claims with tests, because this is an issue of confirmatory and baseline tests. It does not matter where the tests are done as long as they are authentic. This is called Certification which NBRRI can easily provide.”**

**“I would definitely truly love to see inscriptions on bags of Nigerian cements that says: ‘Manufacture Date; Cement Class I, II, etc; Strength Class 32.5, 42.5; etc’”**

**The problem in Nigeria is vividly that the cement companies do not explicitly state the cement specifications on their bags**

# NIGERIAN SOCIETY OF NIGERIA (NSE) MAKURDI BRANCH, VISITS NBRRI

The Nigerian Society of Engineers, Makurdi Branch led by its Vice-Chairman, Engr. Alex N. Akorigyah paid a courtesy visit to the Institute's administrative headquarters in Abuja on 13<sup>th</sup> February, 2014. On hand to receive the delegation was NBRRI Management team led by its Director-General/ Chief Executive Officer, Prof. D.S Matawal.

Addressing the Institute's team, Engr. Akorigyah thanked the DG/CEO and its management team for welcoming them. He took the opportunity to commend the Institute on some of the giant strides it has recorded under its current leadership adding that Makurdi branch has come to felicitate with NBRRI as a whole and with Prof Matawal in particular since he is also a Fellow of the NSE. The vice-chairman further encouraged the NBRRI DG/CEO to continue with the good work; describing him as a worthy ambassador of the NSE and a good mentor to most of the members.

Engr. Alex Akorigyah informed the DG/CEO and NBRRI Management that the NSE Makurdi Branch is currently embarking on a project known as *Community Engineering*. He revealed that the project was designed to execute some community development projects in the locality using direct labour and local technology. He therefore called on the Institute to partner with the Branch in executing this very important social responsibility programme.



*A group photograph of the Exco of NSE, Makurdi branch with some NBRRI management staff*

He took time out to speak on some of the ways in which the current executive intend to make the NSE Makurdi Branch vibrant, despite the fact that they came into office when the branch was very much inactive. The vice-chairman said that, as a way of reinvigorating the branch, the executive decided to embark on courtesy visits and partner with progressive organizations, NBRRI inclusive. He called for effective collaboration between the Branch and NBRRI.

In welcoming the group, the Director-General/Chief Executive Officer of NBRRI applauded the steps the new executive has taken in visiting some institutions like NBRRI. He promised to collaborate with and render appropriate technical assistance to the Branch in some of its

laudable projects under the *community engineering programme* and in the refurbishment of its Office.

Prof Matawal intimated the delegation with a brief on the mandate, activities and some of the achievements recorded by NBRRI since 2011. He informed the Team that NBRRI is tasked with the mandate to carry out capacity building, conduct integrated and applied research in the areas of building, road and engineering materials sectors of the economy. He further highlighted some of the activities and successful achievements recorded within the period. The DG/CEO of NBRRI, Prof Matawal specifically made mention of the successful hosting of a Conference annually on topical issues since 2011; the development and setting up of a pilot Pozzolana Cement pilot plant in its National Laboratory Complex in Ota, Ogun State; the setting up of another similar pilot plant in Plateau State which will use volcanic ash as its raw materials; and the on-going construction of seven skills acquisition centers in Benue State which when completed, will go a long way in providing jobs for the people.

# NBRRI CONSTRUCTS NEW ROAD AT NLC, OTA

As part of efforts geared towards revamping and re-engineering the Institute, Prof. Danladi Slim Matawal, the Director-General/Chief Executive Officer of the Nigerian Building and Road Research Institute, NBRRI has embarked on yet another laudable project which is the construction of a new road at the National Laboratory Complex (NLC), Ota, Ogun State. The road will link the NBRRI Pozzolana Pilot Plant with the Skill Acquisition Centre through the major roundabout in the Complex. The primary objective is to provide access for the movement of goods and services to these two new infrastructures at the NLC.

The Pozzolana Pilot Plant is a NBRRI pet project just established for the production of pozzolana using clay as the raw material. This will be used to produce pozzolana cement with the partial replacement by Ordinary Portland Cement. On the other hand, the Skills Acquisition Centre is another flagship project of NBRRI just constructed using NBRRI interlocking blocks.

The construction of the road is being carried out from resource persons from the Road Research Department of NBRRI. The construction is under the supervision of Mr. Bobzom B.G. other members of the construction team include Mr. Ajayi Abiodun, Mr. Oshiodi O.R., Mr. Adeyemi Adeyinka, Mr. Akanbi Dayo, Engr. Quadri H.A.



Road construction NLC Ota



Road construction NLC Ota



Road construction NLC Ota

# SENIOR STAFF ASSOCIATION NBRRI BRANCH ELECTS NEW EXECUTIVES

At the quadrennial election held at the Institute National Laboratory Complex in Ota, Ogun State on 23rd January, 2014, a new Executive of the Senior Staff Association (SSA) NBRRI Chapter emerged. The election, which was supervised by the National Officers of the Senior Staff Association of Universities, Teaching Hospitals, Research Institutions and Associated Institutions (SSAUTHRIAI), saw Comrade J.S. Ameh being re-elected as the Association Chairman while Comrade Mbaso Ebele became the newly elected vice-chairperson. Other elected Officers of the Executive included Comrade Ibadobe Osagie as the Secretary, Comrade Nwaigwe Daniel as the Assistant Secretary, Comrade Ibe Kingsley as the Treasurer, Comrade Bayo Olaifa as the Financial Secretary, Comrade Ajayi A.A. as the Public Relations Officer and Comrade Samson Fiyebo as the Trustee member of the Association.

In his acceptance speech on behalf of the newly elected Executive members, the Chairman Comrade Ameh promised a more vibrant association that will provide better service and performance to members. He called on the other newly elected executive to join hands with him in making sure that the Branch becomes a centre-piece for emulation by others in terms of service delivery and performance. He promised to sustain the cordial relationship which has existed between the Branch, the Institute and the national body.



Mr. Ameh (newly elected SSA chairman)



Newly elected SSA exco

INTERVIEW WITH DG/ CEO PROF. DANLADI S. MATAWAL ON HIS 3<sup>RD</sup> YEAR IN OFFICE ANNIVERSARY.

# NBRRI IS HERE TO MAKE AN IMPACT ON THE NATION

*On 1<sup>st</sup> March 2014, Professor Danladi Slim Matawal was three years in the helm of affairs as the Director-General/CEO of NBRRI. Followers of events at NBBRI in the last three years will attest to the remarkable turn-around which NBRRI experienced in the short period. These achievements span all areas including but not limited to the tremendous improvement in the Administrative and Financial Management of the Institute; enhanced Human Resources Development for Staff; the provision of remarkable leadership in Research and Development activities; development of Pilot and Flagship Developmental projects; provision of Welfare schemes for staff; his Open Door Policy in running the Affairs of the Institute; etc. **NBRRI Newsletter** had an interview with the erudite Professor of Civil Engineering to find out from him about the journey so far and his aspirations for the future. In his characteristic manner, Professor Matawal gave a frank and candid overview of his impression on the activities and achievements of the Institute as well as its relevance to the construction industry and the nation at large.*

**NBRRI Newsletter:** Congratulations on your three years in office as the DG/CEO of NBRRI. In summary how will you described your journey so far after these years?

**Prof. D.S Matawal:** Thank you very much. First, I want to thank the Almighty God for attaining three years in Office. It has been years of all kinds of experiences. It has been a time for synergizing with the Federal Civil Service structures, for charting new frontiers for NBRRI, etc. People now have a positive outlook about NBRRI and so its future is now in proper perspective. In this regard, it has been a very satisfying experience in the sense of touching on the lives of the people, giving people an assurance for their future and giving R&D a proper focus and vision for the betterment of Nigerians in the future.

**NBRRI Newsletter:** When you assumed office in 2011, you must have set for yourself some goals to achieve. What will you say are the goals you have so far achieved and the ones you are still pursuing?

**Prof. D.S Matawal:** There were many goals that I wanted to achieve: I needed to build a new profile for the Institute; to build appropriate infrastructure for R&D; to address the accommodation challenge of the Institute; to secure land in Abuja to accommodate the permanent administrative office of the Institute; and so on. I will say that a number of these goals have been realized while a few are still within the timeline for actualization. Staff are now happy for the movement of office to a more conducive edifice and environment; we have set off re-equipping our laboratories in Ota as well as establish a new Materials Testing Laboratory in Abuja; we have set up three new zonal offices to complement the existing three in such a way that the six geo-political zones of Nigeria are covered; we have cleaned up the main research centre of the Institute at Ota (the National Laboratory Complex, Ota) and given it a

befitting background and corporate image, with adequate water and power supply there. There is an injection of young and very enthusiastic research officers to pursue the Institute's goals of conducting concerted R&D and building requisite capacity. We have also continuously held an annual National Conference on topical issues in the construction industry; and this has now taken an international focus, with the participation of people from abroad. We have renovated the Lagos Zonal Office as well as reactivated the Nnewi and Kano Zonal Offices. We have established a Construction Materials Library in Abuja and made it lively by injecting new and relevant books every year. We have also published Proceedings of our annual National Conferences; technical reports on some of our research findings. Modest interventions have been made in the area of staff training and retraining. By and large, there have been a number of achievements and more are still being achieved. In spite of all the successes mentioned, the acquisition of Land in Abuja to commence the construction of our Administrative headquarters using wholly local technology, has remained a big challenge. It is a fact that it is more expensive to acquire land than to build in the FCT, but it is one of the primary issues in focus.

**NBRRRI Newsletter:** What are some of the major research initiatives the Institute is pursuing presently?

**Prof. D.S Matawal:** There are quite a number of researches completed or ongoing. We have looked at the issue of traffic and speed in Abuja. We have intervened in the issue of cement classes, grades and its quality as a primary construction component; we even picked some nano-technological solutions and researched into their application in the Nigerian environment; we have continued with the digitization of sub-grade soils maps of States in Nigeria. Only three States in the North-East (Borno, Yobe and Adamawa) are left to complete the field and physical investigation of the sub-grade soils in Nigeria; and this is due to the security concern in those areas. The laboratory work on the field samples has been completed. We have our finger prints on the issue of building collapse in this country; because we have made our technical contributions in that regard. One of the critical Developmental projects we embarked upon at NBRRRI to make impact on the Nigerian construction industry is the setting up of a pilot plant for the production of Pozzolana Cement in Nigeria. This is one of our flagship projects targeted at introducing pozzolana cement into Nigeria. I believe the construction of a pozzolana pilot plant in Ota is a major R&D activity. Everybody praises that initiative especially those who have been to the plant site in Ota, as it is a major step to put Nigeria on the global scale in the application of a critical construction cementitious material that had hitherto been ignored but now being harnessed globally. There are also issues in the Engineering Materials Research Department like the walling machines (blockmaking machines) which we have looked into with the aim to modernizing them. We are developing a machine that will produce interlocking blocks with conduit to allow internal conduit wiring. We are looking into capacity building for artisans like masons, iron binders, craftsmen, etc. in order to increase their capacities and technical abilities to give very fine construction and finishing to Nigerians. We are looking at issues of specifications in the road sector. In this regard, we are developing a road capacity manual and the road safety guidelines for the country. This is apart from the artisan curriculum development issue that is still being pursued to date.

**NBRRI Newsletter:** When you resumed office, one of your major pet projects is the development of a pilot pozzolana cement plant. What is the update on the plant?

**Prof. D.S Matawal:** As at today, test firing of the plant is on-going. One of the major obstacles that need to be addressed is the appropriate firing regime for the raw materials and we have had a number of firing tests to determine the optimal regime. All the machines in the plant are in place and working. Even where there were some challenges of the hammer crushers for grinding, we were able to fabricate our own palm kernel grinding machine to replace the crusher and it is working steadily. So we are looking forward to finishing the work on the appropriate firing regime. Thereafter, we will begin ball milling into pozzolana cement and bagging. Once we start bagging, we will then proceed into setting up standards for application in the construction industry. So for me it has been a very highly successful project; the only thing I will be blamed for now is that we have not yet formally commissioned it because it is a project of national interest. However, I don't think we should commission the project until there is an appropriate bagging in process. But the principle behind establishing the pilot plant has been achieved and that is to have a complete production line that is able to produce this substance called pozzolana. In the past, even for research experimental purposes in the universities, other tertiary institutions and also in research institutes; they had to use rudimentary processes to fire and grind to powder; but we have now established a baseline for production. Added to this, we have set out to establish another pilot plant using volcanic ash as the raw materials. This is in the pipeline and we are working very hard for it to succeed. The primary reason is that the baseline has been set. The secondary reason is that we should have a material that is applicable in construction for partial substitution. Ultimately when we start bagging, that second goal will be achieved. Thirdly, to set up a pilot plant based on basic baseline raw material and ultimately to expand it for other pozzolanic materials particularly agro-industrial wastes like rice husk ash, groundnut hush ash, etc. So I think all the objectives have been achieved as much as 90%. But when all these objectives are fully achieved, then national specifications for field applications would be set. Indeed, this may serve as a commercial base for NBRRI to generate revenue for the Institute.

**NBRRI Newsletter:** Part of the things you did when you came into office is to create three new zonal offices apart from revamping the existing three zonal offices that were inactive. What has been the response from Nigerians on this development?

**Prof. D.S Matawal:** First of all, I know that some of the new zonal offices were set up on very urgent request like the one in south-south where the people there craved for a zonal office. There is also the one of north-east where it was a tussle between two states on where it will be sited. The old zonal offices have been revitalized and rehabilitated with nominal staff sent to occupy them. For the physical structures of the new offices, the one in north-central zone was donated by the Plateau State Government while the ones in south-south (Uyo) and north-east (Gombe) zones are rented accommodations. Overall, there has been a lot of enthusiasm on the opening of these zonal offices. I recall a situation where there was major public occasion in the north-east; and when NBRRI was introduced, it received a large ovation from the gathering;

primarily because of our visibility on ground. Of course you are aware that we just held a workshop for the zonal coordinators where ideas were exchanged on how to make the zonal offices more functional. I believe when they are able to reach out to the people either in terms of the presence of laboratory facilities, display centers, construction materials, library, technological promotion documents, research pamphlets and reports, I am sure it will further lift the prestige of the Institute and make it an indispensable component of the infrastructural development requirements of this country. You are also aware that Universities and other tertiary institutions even from outside the country, like from Kenya for example, have come to our laboratories to do their work. So people have been coming, post-graduate students have been looking at our technical reports in trying to pursue their researches, projects and other academic as well as professional duties and functions that will put Nigeria on a very high level of technological achievement.

**NBRRI Newsletter:** Another area we have ventured into in the last two years is the construction of Skills Acquisition Centers. What is the idea behind this initiative and can you give an update on the current status on these centers and the benefits to the Nigerian public?

**Prof. D.S Matawal:** Let me say that the Institute has engaged in developmental projects that are based on research findings and output. In addition to the Skills Acquisition Centers, there are other such projects. We have been involved, very successfully, in promoting NBRRI technologies in the provision of access and feeder roads using Community-Based construction technology. A typical example is the project in Kaduna State, and the benefiting communities of these facilities have been full of praises for NBRRI. In 2013 we embarked on a similar project in Benue State. We are planning more of such road projects in order to propagate the technologies used.

Coming back to your question, the Skills Acquisition Centers are prototype structures built to a large extent with local technologies, primarily developed by NBRRI. The Skills Acquisition Centers are in two categories: The first category are those belonging to NBRRI, like in those located in Bayelsa, Akwa Ibom and Plateau States as well as the one in our (NBRRI) Office Complex in Ota. Incidentally, the one in Ota is providing an expansion facility for our laboratories and offices. The second category refers to Skills Acquisition Centers brought to the purview of NBRRI for implementation as Constituency projects by some National Assembly members, mainly from Benue State. In 2013, we had projects in Ogun, Ondo, Kano and Sokoto States. The main purpose for these Centers is to use local technologies to provide facilities for the training of community members in different aspects of Skills and Trades. Of great significance is that the provision of the structure harnesses abundant locally available construction materials in the form of laterite. When these projects are being constructed, it is expected that the people of that particular constituency should participate so that they can benefit in the end. It is also expected that when the projects are completed, there should be facilities for community assembly as well as for imparting training on different Trades such as carpentry, computer and ICT training, training for construction techniques, metal work as well as for women (cosmetology and weaving).

So Skills Acquisition Centers is a complex and a one-stop shop that is provided with cheap alternative technology for people to have a central facility for community services. The philosophy behind this project has been well achieved; firstly, we have completed a number of these facilities; one center has been handed over; the one that is going to be an extension for Offices in NBBRI Ota is about to be handed over. This is going to change the outlook of the Institute there because the Conference Hall itself will provide an attraction for people to come and rent. There is a Cafeteria big enough to service staff and other members of the community. The Skills Acquisition Centers in Benue State has been completed while the one in Akwa Ibom and Plateau are at advanced stage of completion.

Even as we complete these flagship projects, we must then begin to look into the next phase which is to equip with relevant equipment. It is important that we must not lose the vision that these Centres are supposed to be the focal areas for people to acquire skills that will make them self-sufficient. We also need to go ahead to obtain Certificate of Occupancy because they are NBBRI property. Although they are built for the communities but some day they can be centers of research for the Institute. The center 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 ones presently occupied. So the new Skills Acquisition Center located in NBBRI Complex Ota, will actually address some of the office and laboratory challenges that the Institute is facing right now.

**NBBRI Newsletter:** Among the technological innovations that you met on ground, one that is giving the Institute so much challenge is the interlocking block making machine. What steps have taken so far to address this and what are the results?

**Prof. D.S Matawal:** Well, the first step that I took is to deploy some of the machines to the field. Of course it was not a huge success as a number of them were returned because they did not perform very well. But when they were returned, all the faults and challenges posed in the field were noted. Secondly, we set out to search for fabricators; because the objective of some of these innovations is not for us to become producers and manufacturers but to create commercial enterprises out there, that can key in and set up fabrication workshops and even industrial ventures that will create jobs and generate wealth for the people.

The first success I had is very recent, when the machines that were said not to be working turned out producing in 2-3 weeks, what people could not produce in 6 months. This was after some reworking; and the appropriate department has also designed a cooling system which we are also attaching to these machines to increase their efficiency. But I have also set up a committee comprising of high powered personnel and I am waiting to see their report to tell me what the problems with the machines are and how they should be addressed.

We have also set an agenda for the future as we cannot continue at the same level all the time. We need to forge ahead so that we can make these machines compete with those in the international arena. For example if a lot of the processes were manual, how can we automate it

or how can we have a production line? Let me also just emphasize very plainly that to me the problem has not been the technology but rather the patronage. This is because if there is an industrial venture, I believe that the challenges in the field would have become a thing of the past. They would have, through collaboration with our research team, perfected these machines and produce them on large commercial scale. They would have also been deployed massively in the field, check foreign exchange drain in the country by domesticating the production process of many of these machines in-house instead of importing their equivalents from outside Nigeria.

**NBRRI Newsletter:** What are the other major challenges that are still besetting the Institute?

**Prof. D.S Matawal:** Up till now, I think the public has found it very hard to depart from a past impression that the Institute had created. Many are still finding it very difficult to give the Institute another chance, but I want to assure everybody that nobody is joking. We are here to make an impact on this nation; we are here to make a difference in the Nigerian construction and engineering materials development sector; as an Institute we are here, to free Nigeria from the legacy of over-dependence on foreign services and goods, even in the areas of codes of conducts, of standards and of specifications.

But very importantly, in order to achieve this, we also need to take the bull by the horn and this is in terms of a very strong manpower base. You can see that most of the research officers that we have now are very young and enthusiastic. They are looking into the future and are still learning. I think we are still lacking the supervisory cadre of Research personnel to bring up these young researchers to be leaders of research tomorrow; thereby lifting Nigeria to the higher realm to be globally and technologically competitive and comparable with other peer nations; perfect our technologies and fine tune their production beyond any reasonable doubt. I expect to see a generation of People (Researchers) who are self-confident, officers who are meticulous both with their brains and with their hands, with zero tolerance for errors and ensuring that there is perfection in every output that gets out of this Institute. I look forward to Officers who will work with zeal to build this nation to the kind that we dream of, which is comparable to any country of the world.

**NBRRI Newsletter:** Looking at the National budget, what is your comment on the present funding of Science, Technology and Innovation sector and what is the way forward for Nigeria to achieve its technological goals?

**Prof. D.S Matawal:** Firstly, it is important that Nigerians should appreciate themselves. Let us not be over-dependent on foreign technology. Secondly, it is instructive to know that other nations made it through quite tortuous and difficult processes to be where they are today. Our Nation has to be disciplined, thorough, have self-esteem, realize our inner strengths and look in-ward in order to make it. Having said this, our budget is baffling to everyone because the Science and Technology Ministry receives the least budget in the country. To me, we can emphasize this point by looking at the fact that priority is not being given to the Ministry of

Science and Technology in the appointment of a Minister. Our budget has continued to slide down. In 2011, I understand that the Ministry and its Parastatals were given a budget of 22 billion Naira. This reduced to 15 billion Naira in 2012 and 8 billion in 2013. In 2014 it has further gone down to 5 billion; and keep in mind that in all these, the national budget keeps increasing yearly while the budget for the Science & Technology Ministry keeps on dwindling.

Of course you are aware of the predicament that has been affecting many of the research Institutes in the Ministry of Science and Technology. The Research institutes have been threatened with either merger or becoming abolished. Nearly 10 out of the 17 Agencies under the Ministry were penciled down to be abolished but somehow it has not been carried out. That shows the lack of appreciation of the role of Science and Technology to national development. It is important to note that the budget is not adequate. For example, for the first set of equipment bought for our laboratories, the budgetary provision was about 25 million Naira; and when this was presented at a public forum, a high ranking Official with the Federal Ministry of Works stated that their Materials Testing Laboratory alone has received 600 million Naira for their laboratory. So you can compare 25 million to 600 million which shows they have 24 times more budget allocation than our research laboratory, which is supposed to provide the solutions for tests and innovations that cannot be found in any laboratory in the country. This is the sad event that we are having in the Science and Technology family in Nigeria. I dare suggest that we compare ourselves with countries that are developed. I hear that in South Korea, to win an election, any Presidential candidate must appreciate the role of Science & Technology to the growth of their economy. So these are issues that need to be emphasized all the time.

**NBRRRI Newsletter:** Can you comment on the achievements recorded and your current Management's plan for Staff welfare and training?

**Prof. D.S Matawal:** Well I would urge staff of the Institute to be patient for now. The reason is that we are emphasizing on research staff because I want us to pursue an aggressive plan to train and retrain our research staff. This is in addition to the routine that has been going on like management training schemes for our administrative staff. I have said this earlier that most of our staff are young; they are just getting to be confirmed and will be looking forward to training opportunities and we must encourage them in this regard. Staff welfare will continue to be giving priority; because unless the staffs are happy, you cannot expect high productivity. We have also addressed the issue of transportation of staff over the years and will continue to improve on it in the coming months. Even if the policy of Government changes, the Institute will continue to devise some technological promotions programmes like housing projects and in the process assist staff in this regard. We will continue to emphasise on staff welfare. After all, systems exist for mankind and unless man's needs are being addressed or some of its challenges assuaged, then all our efforts will come to nothing. I also want to see a situation where the staffs themselves are contributing towards the growth of the Institute. One hand alone cannot build a house and so it is important that at every forum in the nation, staff of the Institute should take the opportunity to educate their friends and the general public about the importance of research in the building, roads and construction sectors of the Nigerian

economy. This will increase the awareness in the consciousness of Nigerians and will enable it receive appropriate public attention, training opportunities and constructive engagements in national discourse on issues related to the construction industry. Furthermore, our collaborative effort with other relevant and cognate Institutions will elicit due respect that we deserve. As I said earlier, training is very important and we must emphasize it. I hope that Government listens and provide sufficient approvals and cash backing for the myriad of training programs to take its critical place in this Institute.

**NBRRRI Newsletter:** What is your candid assessment of staff of the Institute and in what area would you want them to improve?

**Prof. D.S Matawal:** It is very important that indolence in staff be a thing of the past. A Research Institute is a very active environment in which people are constantly brainstorming; are constantly engaging in activities that will evolve into new ideas, new products and new innovations for the country. And this does not involve only the research staff alone. The service departments should also know about issues of administration in which they are constantly liaising with the relevant agencies of Government so that every administrative item and machinery, which continuously makes the Institute relevant, is appropriately pursued. Finance, budgeting and accounting issues should be addressed very seriously. I sometimes get overworked when proposals get to my table without some intermediary staff scrutinizing it or not making any value addition nor making corrections. I think we have to depart from the past where we just fold our hands and sat in our offices while waiting for our monthly salaries without any tangible output. I don't want to see this in the Institute again. I want to see every staff making himself or herself indispensable in the chain of activities of the Institute and I will like to promise to encourage every staff who continues in this regard.

**NBRRRI Newsletter:** In November 2013, the new NBRRRI Governing Board was inaugurated. What has been your working relationship with the Board?

**Prof. D.S Matawal:** Well you have seen me going all over the place, almost hand in hand with the Board Chairman as if we grew up together. I give him all his respect. The Board has been quite a very calculating one in the sense that it has been taking its time; it is encouraging the Institute and giving it a free hand to pursue research as it should be. The Board members have also made attempts to look at some of the challenges, particularly the issue of funding. I am aware that a board member has made an effort to try and get a capital intervention from the Central Bank of Nigeria. We will like to encourage that Board member to continue to pursue that initiative in spite of the recent changes in the apex bank. The Board Chairman has also been struggling to get enhanced interventions for personnel and capital through the budgetary procedure. So by and large, I have appreciated their presence even though it has just been a period of 6 months or so now. We have held only one major Board meeting since the inauguration and we are planning to hold the second one soon. So far, there has been no time I have had cause to complain about a single Board member. There has been no occasion when we have asked a Board member to come up with a suggestion or to participate in activities and

has failed. One came recently to commission a Workshop on NBRRI Zonal Coordinators and another had earlier inaugurated the Committee on NBRRI technologies. So we thank the Board members for their cooperation.

**NBRRI Newsletter:** What is the update on the critical collaborations entered into by the Institute? What is the relationship between NBRRI and its parent Ministry, the Federal Ministry of Science and Technology (FMST)?

**Prof. D.S Matawal:** Let me take the second one first. There has been a very cordial working relationship between NBRRI and the FMST in all facets. Even today, I was pleasantly surprised as I just got a call from the Legal Department of FMST intimating me that *Draft NBRRI Enabling Law* which had been in the office of the Attorney-General of the Federation was ready; and I have the Draft here now. We will look at it again and send it back through the appropriate channels for processing, to the Federal Executive Council and the National Assembly. You are aware that in 2013, the FMST took the NBRRI DG/CEO to New York, United States to represent Nigeria in the UN General Assembly on the Science & Technology Forum. You are also aware that for every engagement of NBRRI, the FMST has been duly present to support us. Also in the budgeting process, there has been a lot of fairness. Very importantly the FMST has looked up to NBRRI as an Agency with specialty and has always sought our advice in that regard.

Now, let me go to the second question. We have had quite a number of collaborations both international and national. In every national conference of ours, our cognate stakeholders have participated so actively. These include the Federal Ministries of Works; Lands, Housing and Urban Development and the Federal Road Maintenance Agency (FERMA) who have been deeply involved with us. Others include COREN, ARCON, CORBON, SON, NEMA, NSE, TOPREC, the University sector, FMBN, Ministries of works and housing in the States across the country, etc. There has been also substantial international collaborations like with Building and Road Research Institute, Ghana, in which we are about to release our joint journal titled *West African Journal of Building and Road Research*. We have received publisher's interest to publish the journal. We have also been very close to South African groups. Even, Hydrafoam has been inviting us, but the one that has engaged us and displayed our logo as well as interacted with us online via skype is a group in Johannesburg that researches into cement and concrete called *HYPERNECA*. This is a very beneficial collaboration as they gave us a speaking engagement in 2013 and want to engage us in numerous activities in 2014. There is also collaboration with an equipment manufacturer in the United Kingdom called ELE Ltd which is useful in equipping our laboratories. We have *Nigerian engineers in the Diaspora* that have picked up interest in the Institute in addition to Imperial College, London. At the home front, we are collaborating with local fabricators and are trying to promote them to an entrepreneurial level. We have identified some local machine shops and tried them on the fabrication of some of our technological innovations. This is to enhance the capacity of these centres for mass production of these NBRRI innovations for the benefit of Nigerians.

**NBRRI Newsletter:** Since you assumed office in 2011, you have organized conferences annually. What is the 2014 conference looking at?

**Prof. D.S Matawal:** The primary focus of the 2014 conference is on affordable and comfortable housing for Nigerians. The reason for this is multi-fold. Firstly, people talk of housing deficit in Nigeria; but what is the definition of a house and how do people come up with their deficit figure. Secondly, we want to be able to define what a comfortable house is and what an affordable house is. Thirdly, we want to evolve housing policies and schemes that will be for long-term benefit for this country. At the moment, houses are very expensive in Nigeria especially in the cities as most workers cannot afford their own houses. The cost of land in cities is a major issue as it is more expensive to get land than to build a house in urban towns in this country. Fourthly, there is the issue of relevant technologies for housing. Fifthly, there is the issue of Housing Finance. These are issues that are in line with the mandate of the Institute.

Every year we identify a major challenge to this nation and we try to tackle it at the conference. In 2011, we had a *Stakeholders' Forum* to which was designed to reposition NBRRI and get a feedback on what Stakeholders' expect from NBRRI. The objective was achieved. In 2012 we delved into the issue of *Building Collapse* which had become a cause for concern by professionals, Governments and Nigerians at large because of the high frequency of their occurrence. The Conference yielded dividends. No building collapse was recorded in Abuja while in Lagos it went down by 50%. In 2013, we looked at *Road Pavement Failure* which had become a national challenge to all. This year 2014, our focus is targeted on another topical issue of national concern which is tagged *NATIONAL HOUSING SUMMIT*. So this year, it is housing and many issues are to be considered as earlier mentioned. Other issues are; Do we want this kind of spread housing as we currently have? Do we want massive housing without recreational or sporting facilities? All these issues have to be addressed; and I am happy that the time is now to tackle these issues, and the Institute is bracing up for it. Of course in the future we will look at other topical issues like Road Traffic, Transportation, Cement and Local Building Materials, etc.

**NBRRI Newsletter:** As you enter into your fourth year, what will be your major focus and what should Nigerians expect from the Institute?

**Prof. D.S Matawal:** There are a number of businesses that must be finished: firstly, there is the issue of developing a Curriculum for artisan training in this country, which we have initiated. This is paramount and I want to see to its conclusion. Secondly, I want to accelerate the release of two critical documents, which NBRRI initiated, to the construction industry. These are the *Road Safety Guideline* and the *Road Capacity Manual*, which are a set of criteria that will guide practitioners in the transportation engineering discipline towards a number of activities. For example, how you keep proper data base for traffic and accidents in this country is important for planning purposes, to identify and tackle black spots, etc. on our roads. There are other issues like traffic congestion, how to ease traffic congestion as well as provision of indigenous design criteria. I also like the NBRRI Governing Board to join me in solving the issue of land acquisition in Abuja to build NBRRI permanent Administrative Office in Abuja. If we don't solve this soon, my time will run out as DG; and this Office we are in will soon become too small for staff. It will also not meet the aspirations and expectations of young zealous staff that

are looking into the future that is growing skywards. NBRRI and its staff must not be left behind in this glorious future. All these are in addition to other primary objectives like the expansion and modernization of NBRRI laboratory facilities, establishment of a research base where there will be a lot of output for this country. We are making optimal use of our Lagos zonal office which I believe we can put into useful application.

**NBRRI Newsletter:** The Editorial team of the NBRRI Newsletter congratulates you on your achievements within the last three years and wishes you the best in your future plans for the Institute and for Nigeria in general.

**Prof. D.S Matawal:** Thank you and God bless you all.

**“...it has been a very satisfying experience in the sense of touching on the lives of the people, giving people an assurance for their future and giving R&D a proper focus and vision for the betterment of Nigerians in the future.”**

**“Staff are now happy for the movement of office to a more conducive edifice and environment; we have set off re-equipping our laboratories in Ota as well as establish a new Materials Testing Laboratory in Abuja; we have set up three new zonal offices to complement the existing three.....; we have ... given it (the National Laboratory Complex, Ota) a befitting background and corporate image, with adequate water and power supply there. There is an injection of young and very enthusiastic Research officers..... We have continuously held an annual National Conference on topical issues in the construction industry... We have renovated the Lagos Zonal Office as well as reactivated the Nnewi and Kano**

**Zonal Offices. We have established a Construction Materials Library in Abuja. We have also published Proceedings of our annual National Conferences; technical reports on some of our research findings. Modest interventions have been made in the area of staff training and retraining. By and large, there have been a number of achievements and more are still being achieved.”**

**“In spite of all the successes mentioned, the acquisition of Land in Abuja to commence the construction of our Administrative headquarters using wholly local technology, has remained a big challenge. It is a fact that it is more expensive to acquire land than to build in the FCT, but it is one of the primary issues in focus.”**

**“There are quite a number of researches completed or ongoing. We have looked at the issue of traffic and speed in Abuja. We have intervened in the issue of cement classes, grades and its quality....; we even picked some nano-technological solutions and researched into their application in the Nigerian environment; we have continued with the digitization of sub-grade soils maps of States in Nigeria..... We have our finger prints on the issue of building collapse in this country..”**

**“One of the critical Developmental projects we embarked upon at NBRRI to make impact on the Nigerian construction industry is the setting up of a pilot plant for the production of Pozzolana Cement in Nigeria. This is one of our flagship**

**projects (and) is a major step to put Nigeria on the global scale in the application of a critical construction cementitious material that had hitherto been ignored but now being harnessed globally.”**

**We are developing a machine that will produce interlocking blocks with conduit to allow internal conduit wiring. We are looking into capacity building for artisans like masons, iron binders, craftsmen, etc. in order to increase their capacities and technical abilities..... We are looking at issues of specifications in the road sector. In this regard, we are developing a Road Capacity Manual and the Road Safety Guidelines for the country. This is apart from the artisan curriculum development issue that is still being pursued to date.”**

**”We have been involved, very successfully, in promoting NBRRI technologies in the provision of access and feeder roads using Community-Based construction technology. A typical example is the project in Kaduna State, and the benefiting communities of these facilities have been full of praises for NBRRI”**

**“...the Skills Acquisition Centers are prototype structures built with to a large extent with local technologies, primarily developed by NBRRI. The Skills Acquisition Centers are in two categories: The first category are those belonging to NBRRI, like in those located in Bayelsa, Akwa Ibom and Plateau States as well as the one in our (NBRRI) Office Complex in Ota.... The**

**second category refers to Skills Acquisition Centers brought to the purview of NBRRI for implementation as Constituency projects by some National Assembly members, mainly from Benue State.”**

**“Secondly, we set out to search for fabricators (for NBRRI Interlocking Brickmaking Machines); because the objective of some of these innovations is not for us to become producers and manufacturers but to create commercial enterprises out there, that can key in and set up fabrication workshops and even industrial ventures that will create jobs and generate wealth for the people.”**

**“Up till now, I think the public has found it very hard to depart from a past impression that the Institute had created. Many are still finding it very difficult to give the Institute another chance, but I want to assure everybody that nobody is joking. We are here to make an impact on this nation; we are here to make a difference in the Nigerian construction and engineering materials development sector...(and) to free Nigeria from the legacy of over-dependence on foreign services and goods”**

**“...we are emphasizing on research staff because I want us to pursue an aggressive plan to train and retrain our research staff. This is in addition to the routine that has been going on like management training schemes for our administrative staff”**

**“Staff welfare will continue to be giving priority; because unless the staffs are happy, you cannot expect high productivity.”**

**“The Board has been quite a very calculating one in the sense that it has been taking its time; it is encouraging the Institute and giving it a free hand to pursue research as it should be. The Board members have also made attempts to look at some of the challenges, particularly the issue of funding.”**

**“There has been a very cordial working relationship between NBRRI and the FMST in all facets. Even today, I was pleasantly surprised as I just got a call from the Legal Department of FMST intimating me that the *Draft NBRRI Enabling Law* which had been in the Office of the Attorney-General of the Federation was ready...”**

**“We have had quite a number of collaborations both international and national.”**

**“The primary focus of the 2014 Conference is on affordable and comfortable housing for Nigerians. The reason for this is multi-fold. Firstly, people talk of housing deficit in Nigeria.... Secondly, we want to be able to define what a comfortable house is and what an affordable house is. Thirdly, we want to evolve housing policies and schemes that will be for long-term benefit for this country..... Fourthly, there is the issue of relevant technologies for housing. Fifthly, there is the issue of**

**Housing Finance. These are issues that are in line with the mandate of the Institute.”**

**I needed to build a new profile for the Institute; to build appropriate infrastructure for R&D; to address the accommodation challenge of the Institute; to secure land in Abuja to build the permanent administrative office of the Institute**

**I want to see every staff making him or herself indispensable in the chain of activities of the Institute and I will like to promise to encourage every staff who continues in this regard.**



# NBBRI INAUGURATES PLANNING COMMITTEE FOR 2014 CONFERENCE

In pursuant of one of its core mandate of building capacity, the Nigerian Building and Road Research Institute, NBRRI, has in the last few years, been organizing technical fora that bring together stakeholders to address topical issues that affect the Nigerian Construction sector.

In 2011, the Institute organized a Stakeholders' Forum with the *Theme: Bridging the Gap Between Building & Road Research and Stakeholders*. In 2012, it was a National Technical Workshop on Building Collapse with the Theme: *Curbing the Incidences of Building Collapse in Nigeria* that came to the fore.

Last year (2013), the Institute organized a National Conference on Road Pavement Failure in Nigeria. This Conference which took an International dimension, based on attendance and active contributions of Stakeholders from countries like U.K, South Africa etc, had as its theme: *Challenges of Road Pavement Failure in Nigeria*.



The Institute has commenced planning for the 2014 Conference with the inauguration, on January 28<sup>th</sup> 2014, of an Inter Agency Committee to organize the Conference.

Speaking at the inauguration, Director- General/CEO of NBRRI, Professor D.S Matawal said this year's conference is a National/International Technical workshop tagged *Housing Summit 2014*. Prof. Matawal said this year's forum aims at addressing some pertinent issues in the Housing sector of the country, such as: Is there a housing deficit in the country and what is the exact figure of deficit? What is the exact definition of housing shortage and does it apply to those employed or every citizen? What is the agreed concept of affordability and housing finance and mortgage, etc.?

Membership of the Planning committee mandated to organize the 2014 Conference included the representatives from the following Stakeholders: the Federal Ministry of Lands, Housing

and Urban Development; Federal Housing Authority, Council for the Regulation of Engineering in Nigeria (COREN), Council of Registered Builders of Nigeria (CORBON), Architect Registration Council of Nigeria (ARCON), Town Planning Registration Council of Nigeria (TOPREC), Nigerian Society of Engineers (NSE), Nigerian Institute of Architects (NIA), Nigerian Institute of Builders (NIOB), Nigerian Institute of Town Planners (NITP), Standards Organisation of Nigeria (SON), National Emergency Management Agency (NEMA), Federal Mortgage Bank of Nigerian (FMBN), Federal Capital Development Agency (FCDA), Association of Housing Corporations of Nigeria (AHCN), NBRRI, etc..

The DG/CEO listed the Terms of Reference of the committee to include: To plan the conference; to scrutinize suggested topics and select national and International resource persons; to advise on any support works that needs to be done to facilitate smooth conduct of the conference; to draw up a program of events and select dignitaries to the event.

Immediately after the inauguration, the Committee held its maiden meeting where it deliberated and approved the theme of the Conference which is: *NATIONAL HOUSING SUMMIT: Achieving Affordable Housing in Nigeria*. The Committee also approved the following sub-Themes: Housing Availability and Affordability; Housing Finance and Mortgage; Building Materials and Technology; Housing Delivery models and Framework; and Technical capacity, Research and Development. Sub-committees were set up to ensure effectiveness. These are: Technical sub-Committee; Finance sub-Committee; Publicity/Public Relations sub-Committee and Organizing/Logistic sub-Committee. The Terms of Reference for the sub-Committees were also given to the various sub-Committees.

The conference is expected to hold between .... And ....June 2014 at Shehu Yaradua Center, Abuja in the Federal Capital Territory with all the major Stakeholders in the Housing sector in Nigeria and abroad in attendance.

# AWARD WINNING PAPERS

Two members of staff of the Institute, on post-graduate studies in Nigeria and UK, had their thesis winning awards at the respective institutions. Mr. Israel Haruna who just concluded his Masters degree studies at the Federal University of Technology, Akure (FUTA) had his Thesis adjudged the best paper presentation at the 8th International Conference for Internet Technology and Secured Transactions held in London, United Kingdom in December, 2013

The paper titled *DGM Approach to Network Attacker and Defender Strategies* was presented at the Conference by Dr. Kayode Alese on behalf of the co-authors who are Messers. Iwosukun Gabriel Babatunde and Haruna Danjuma Israel, all from the Department of Computer Science, FUTA. The paper was adjudged by a Panel of assessors as the overall best paper amongst 1241 papers received from 96 countries. The paper dwelt on novel strategies to checkmate infiltrations of secured transactions on the information super highway. A lot of uplifting remarks from the international faculty went in favour of the authors which included NBRRI's own Mr Israel Danjuma Haruna. Mr Haruna is currently a Chief Technical Officer (Computer) in the Planning and Information Technology (PIT) Department of the Institute.

Also, Mr. Abu Sunday Paul Agwu, who also concluded his post graduate studies in Renewable Energy Engineering from the University of Central Lancashire, United Kingdom, was awarded a distinction in Research on his paper titled *Maximum Power Point Tracker (MPPT) for Photovoltaic (PV) Application*. The paper dwelt on major factors that have effects on the efficiency of PV technology and how the use of low cost power electronic devices such as MPPT can help mitigate problems associated with some aspects of the technology, and eventually optimize the ratio between power generated from the PV device and the overall installation cost; thereby allowing the application of PV technology to be economically viable in comparison to other options for illumination in buildings.

Aside from focusing on his studies, Mr. Agwu was involved in various International relationship development projects. In particular, he actively engaged and assisted in activities organized by the Confucius Institute, centred on the promotion of Chinese Culture during the Harris Flight Project. Additionally, Mr. Agwu was awarded Member of the Institute of Engineering & Technology (MIET) for his commitment and demonstration of proven level of knowledge relevant to sustainable development. He was recognized for his services to the Engineering community at Cumbria, North - West England. Mr Agwu, is currently an Engineer II (Electrical) with the Nigerian Building and Road Research Institute.



# STAFF

## BIRTHDAY WISHES

The Management and Staff of the Institute wish the under-listed staff long life, prosperity and God's abundant blessings as they mark their birthdays.

S/N	NAMES	DATE OF BIRTH	DEPT.
1.	Tejumade O.A	1 <sup>st</sup> Jan	RRD
2.	Surajo L. Abdullahi	1 <sup>st</sup> Jan	CES
3.	Olutayo Ainde Oyedapo	1 <sup>st</sup> Jan	A/F
4.	Nwasha M. J	2 <sup>nd</sup> Jan	A/F
5.	Amos Tabe	2 <sup>nd</sup> Jan	A/F
6.	Tsamiya Sani	3 <sup>rd</sup> Jan	CES
7.	Kadiri Zulukifilu O.	3 <sup>rd</sup> Jan	BRD
8.	Isah Saliu Dantala	4 <sup>th</sup> Jan	CES
9.	Abu Aminu	4 <sup>th</sup> Jan	A/F
10.	Abah Godwin	5 <sup>th</sup> Jan	A/F
11.	Haruna D. Israel	6 <sup>th</sup> Jan	PIT
12.	Ugo Ukawbasi	10 <sup>th</sup> Jan	RRD
13.	Sanni Reuben	10 <sup>th</sup> Jan	RRD
14.	Oyadosu S. A	11 <sup>th</sup> Jan	EMRD
15.	Egbuna Ikechukwu	13 <sup>th</sup> Jan	EMRD
16.	Stephen Okpah	15 <sup>th</sup> Jan	A/F
17.	Ojenike Lawrence A.	15 <sup>th</sup> Jan	A/F
18.	Igwe Rowland	18 <sup>th</sup> Jan	BRD
19.	Adio Fatimah F.	23 <sup>rd</sup> Jan	RRD
20.	Akinlade S. James	25 <sup>th</sup> Jan	CES
21.	Oneshi Umoche	26 <sup>th</sup> Jan	PIT
22.	Alozie Darlington E.	1 <sup>st</sup> Feb.	EMRD
23.	Jude-Iloma I. E.	1 <sup>st</sup> Feb	A/F
24.	Edibo Jibrin	2 <sup>nd</sup> Feb	A/F
25.	Kadiri Abdullahi	2 <sup>nd</sup> Feb	A/F
27.	Okunochae Reuben	2 <sup>nd</sup> Feb.	EMRD
28.	Legogie Josephine	2 <sup>nd</sup> Feb.	PIT
29.	Etuchere Prisca O.	2 <sup>nd</sup> Feb	CES
30.	Adeyanju Tunde M.	3 <sup>rd</sup> Feb	PIT
31.	Adeyemi James	3 <sup>rd</sup> Feb	CES
32.	Sosanya Oluwatoyin	9 <sup>th</sup> Feb	PIT
33.	Maton John Dafang	10 <sup>th</sup> Feb	BRD
34.	Danjuma Hassan U	13 <sup>th</sup> Feb	CES
35.	Okwunze C. Felix	13 <sup>th</sup> Feb.	BRD
36.	Emore R. A.	17 <sup>th</sup> Feb	A/F
37.	Emole Charles	18 <sup>th</sup> Feb.	A/F
38.	Ima-Ima Ime Amos	18 <sup>th</sup> Feb	PIT

39	Olaife O. Adebayo	19 <sup>th</sup> Feb.	EMRD
40	Hannah Aileku Ayedime	22 <sup>nd</sup> Feb	A/F
41.	Tyosa Terver Elijah	24 <sup>th</sup> Feb	CES
42.	Edeh Blessing O.	26 <sup>th</sup> Feb	A/F
43.	Yakubu Nda Umar	27 <sup>th</sup> Feb	A/F
44	C.C. Osadebe (Dr.)	28 <sup>th</sup> Feb.	RRD
45.	Ogundola Temitope M.	28 <sup>th</sup> Feb	BRD
46	Udenyi A. Wonah	4 <sup>th</sup> Mar	A/f
47.	Arabi Kehinde Paul	10 <sup>th</sup> Mar	PIT
48.	Anthonia Robert	11 <sup>th</sup> Mar	A/F
49	Kareem Y.O	12 <sup>th</sup> Mar	BRD
50.	Iyaji J. Monday	12 <sup>th</sup> Mar	EMRD
51.	Rufus S. Olalekan	14 <sup>th</sup> Mar	CES
52.	Igwe Stanley	15 <sup>th</sup> Mar	CES
53	Abubakar Musa Yola	15 <sup>th</sup> Mar	RRD
54.	Onuche S. Ataguba	17 <sup>th</sup> Mar	RRD
55	Oludare Samuel Olu	17 <sup>th</sup> Mar	A/F
56	Oyeleye Daniel O.	19 <sup>th</sup> Mar	A/F
57	Abdulrasheed Bashir	19 <sup>th</sup> Mar	RRD
58	Mohammed Ahmed K.	23 <sup>rd</sup> Mar	RRD
59	Akpan Smart John	24 <sup>th</sup> Mar	CES
60	Abdullahi Aliyu	24 <sup>th</sup> Mar	CES
61	Aminu Momoh	27 <sup>th</sup> Mar	EMRD
62	Dauda, Yusuf Waziri	27 <sup>th</sup> Mar	EMRD
63	Asade B. E.	27 <sup>th</sup> Mar	EMRD
64	Ahmed Yushau Ibrahim	27 <sup>th</sup> Mar	CES
65	Iruobi E. O	28 <sup>th</sup> Mar	A/F
66	Ajah Boniface Audu	29 <sup>th</sup> Mar	A/F
67	Amobi Uchenna N	30 <sup>th</sup> Mar	PIT
68	Emmanuel Sarah D.	30 <sup>th</sup> Mar	DGs Office

## BIRTHS

Mr. Ayegba M. O. of Road Research Dept. Ota was blessed with a Baby boy Daniel Emmanuel Ojochege Ayegba on 26<sup>th</sup> January, 2014.

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Mr. Ibrahim Samuel of Administration and Finance department, Ota was blessed with a baby boy Ojotule Moses Ibrahim on 23<sup>rd</sup> January, 2014.

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Mrs. Gbemishola Famuyide of Administration and Finance, Abuja was blessed with a baby girl Esther Famuyide on 6<sup>th</sup> March, 2014.

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Mr. Bassey Essien of Administration and Finance department, Abuja was blessed with a baby boy Emmanuel Bassey Essien on 3<sup>rd</sup> March, 2014.

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Arc. Tom Umoche of CES Dept, Abuja and Mrs. Oneshi Umoche of PIT Dept, Abuja were blessed with a baby girl, Elizabeth Ojodemi Ojoduene Umoche on 27<sup>th</sup> January, 2014.

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## WEDDING

Former Miss Mondogha Elsie Bogofanyo of Road Research Department got married to Mr. Amakiri Inyekam on December 28<sup>th</sup> 2013 in Yenegoa, Bayelsa State.

## CONDOLENCE VISITS

The Director-General, Prof D.S Matawal together with some top management staff of the Nigerian Building and Road Research Institute, NBRRI on 4<sup>th</sup> February 2014, paid a condolence visit to the Chairman of the Institute Governing Board, Chief Dele Okeya over the demise of his Brother In-law.



The DG/CEO in his condolence message on behalf of the Institute, prayed for God to grant the Board Chairman and this family the fortitude to bear the loss.

Responding, Chief Okeya while thanking the delegation from the Institute for the visit, described the deceased as a very friendly, sound, lively and easy going person. He added that

the death was a great loss to him in particular as the deceased was more of a friend to him than a brother in-law.

Similarly, a powerful delegation from the Nigerian Building and Road Research Institute led by the DG/CEO were in the house of Mr. Ralph Menegbe (Director, Administration and Finance) to commiserate with him and his family over the death of his father-in-law, late Pa Reverend O.B Sule.

Speaking at the visit, Prof. Matawal urged the family to take heart and thank God for everything. He said based on what he has heard, the late Pa Sule lived a much fulfilled life and was a strong believer in God.

Responding, Mr. Ralph Menegbe thanked the delegation for the visit saying it is an indication that there is love and oneness in the Institute.

