



# The Nigerian Society of Engineers

PORT HARCOURT BRANCH

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L I T H A P R I L , 2 0 0 9

## Happy Easter To Everyone

### An interview with Engr. Prof. K H. Bob-Manuel (FNSE) on the Effect of Research and Development in Engineering Education on National Development.

*E-Newsletter: Good afternoon Prof. Can you please tell us briefly your background and perhaps your contributions to the engineering profession?*



Engr. Prof. Bob-Manuel FNSE

**Prof Bob-Manuel:** Thank you very much NSE-PH E-Newsletter. I hail from Abonema, Akuku Toru Local Government Area, Rivers State. I attended Kalabari National College Buguma. Thereafter I was very fortunate to be one of those recruited by Nigerian Navy out of over five hundred applicants. I was sent abroad for my engineering training where I obtained OND in Marine Engineering. Later I had sea experience with the Navy before proceeding for a degree course (B. Sc) in Mechanical Engineering at North East London Polytechnic, now a university. I also obtained M. Sc and Ph D degrees at the university of Southampton and Birmingham University of London respectively. I decided to be a lecturer and I came back home where I applied with Rivers State University of Science and Technology. Fortunately for me after over one year when the Polish lecturers left (at the end of their contract) I became the first indigenous Head of Department of Marine engineering.

*E-Newsletter: Thank you very much. Can you tell us the importance of research in Engineering Education?*

**Prof Bob-Manuel:** Research and Development is the back bone of the economy of any nation. Without research and development no country can really experience progress and economic stability. Let me site some examples from abroad. In Birmingham University the departments have a centre to carry out research. There Science and Research council has grants to give to us for research purposes; Companies and individuals give us grants to carry out research. For your information, immediately after my master degree, I was working for a research development company in London. I was a development research Engineer; this is to tell you how Engineering research and development was rated abroad. In Nigeria there is no government body that takes care of research as is being done in other places. There is no fund given to universities to carry out research that is why our research has not moved forward in this country.

*E-Newsletter: in respect to that and your experience, how do you rate our standard with those of other countries of the world?*

**Prof Bob-Manuel:** Very low! You see for example our Gross National Product is very low because apart from the fact that we are not taking research seriously, even quality control test is not taken seriously in this country. If we had taken quality control in high esteem the Oando case, where methanol/premium motor spirit mixture was found at our filling station would not have occurred. You are a chemical engineer, characterisation of methanol mixture with petrol, quality test on the batches that were imported would tell us that these are not the characteristics of fuel, but it is not done. Our people are so careless. Let us consider the case of my 'pikin' syrup where quality control check was also found wanting. Research should give us laid down routine procedures for ascertaining the quality of

products and materials we import into our country and from time to time this can be upgraded. So if we have to rate ourselves I cannot give us zero because there maybe some universities that are doing something of which are not made public. They might have been given some grants which may not be enough. Manufacturing of products, assembly of components are not research works but research into optimum application of services can improve the quality of life of the people. We are talking about pure academic research that will lead us through into the next century.

*E-Newsletter: Thank you very much. Now let's look at our National Economy, what extent has our poor attitudes towards Research & Development affected our National Economy?*

**Prof Bob-Manuel:** Look at frequent power out-stage in this country, it trips on and off despite the fact that NEPA has been changed to PHCN. In such a situation why can't we carry out investigation on such problem? If it is overloading because of population explosion that is causing the trip off, we can then carry out a research to come up with a design that when it comes to certain load, it rejects the load. Well I am not an electrical engineer but in my area where I carried out research I would have gone into it. Why is it that this thing is not happening in developed countries, even in some of our neighbouring countries? See the outage of light how it has affected our economy. This is because we don't actually go into either investigation or research. The power sector for instance has affected the economy of this country.

*E-Newsletter: Do you think that research and development has any impact on our Gross National Product? Why is the development of new product scarce?*

**Prof Bob-Manuel:** Development of new product is scarce because we do not approach it in the right direction. Let me give you an example, a friend of mine is manufacturing an equipment for the marine engineering sector. When he advertised the product to a Chinese firm, they agreed to buy, but on the condition that my friend will give them the drawings of all the components. Their intention was to buy that one component, dismantle it, and following the drawing manufacture that same component even in a better way. But here once we know how to put the components together, we do not care about improving on it. In some manufacturing companies, they don't do all components; they do some of the components then the assembly.

*E-Newsletter: Ok let's come to your own area of specialization Marine Engineering. It has to do with research and development, we found out that in this country all vessels, marine structures, platforms components, jacket legs all are imported, even maintenance like dry docking of*

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offshore barges, marine vessels is done outside this country. What do you think is responsible for the negligent in this area, despite the fact that we have the enabling environment where this service can be rendered?

**Prof Bob-Manuel:** Dry docking depends on the capacity of the vessel. At Niger Dock you will find out that most times the dock is fully booked for the smaller vessels which the dock is designed for. When they are fully booked the vessels cannot stand and wait because vessel waiting probably under lease or so is losing money. So they now go to a nearby country like Cameroon. Cameroon has a very large dry docking and has different capacities of dry dock for different sizes of vessels. Niger dock here also has capacity for different vessels but it is not as wide as Cameroon from what I have seen. The expertise is here so we need research into expanding our base.



Engr. Dr. Ujile &amp; Engr. Prof. Bob-Manuel

**E-Newsletter:** Considering the number of activities in the marine region of this country, don't you think that it is necessary to build more dry docks in places like Onne, Warri instead of depending on Niger dock?

**Prof Bob-Manuel:** Yes they can, especially in Port Harcourt. We need something like the Niger dock capacity even more because of water depth. The West African Maritime activities are more in this country than any of these neighbouring countries. So we need more dry docks. Private Participation should be encouraged.

**E- Newsletter:** Ok. Let us digress a little bit still on research and development in our universities, you made mention of funding, how do you think this problem can be solved, for instance our students' attitude towards research and development, university administration and government. What do you think should be done right away for such problem to be tackled?

**Prof Bob-Manuel:** I thank you very much it is a very good question. First of all who are those to benefit from this? It is the companies who fund research that would be the beneficiaries. If NNPC or even Shell Petroleum Development Company comes into it, you will be surprised that what obtains in other parts of the world could be experienced in terms of development. Nanotechnology is an area we should go into which affects all areas of life be it transport, power, environment, energy, health and medicine, national security, space exploration and so on. They are the beneficiaries. Government will assist of course eventually it will help the economy of the nation but the immediate beneficiaries is the company that will package it and then get the profit.

**E-Newsletter:** With the slow pace of development we are experiencing in this country and our target for vision 20/2020, if research and development is not incorporated, do you think it is possible to achieve this target?

**Prof Bob-Manuel:** I have just said it without research and development vision 2020 cannot be realized. When you are projecting for at least the next ten years, eleven years from now, what have you achieved in the past five years? Look at the immediate five years so that you will be able to project properly. The immediate past five years you have done so much, you have carried out a research and statistics, so if you look at the trend, is it going up to a point that is comparable with other countries of the world? One nearby university was saying that "look we have fabricated this thing, we have put in some research into it but companies are not coming to look at what we have done and then to improve on it, probably put a little more to improve on it and then pay them to manufacture those things. They are not coming forward so how are we going to progress? Instead they prefer importing the same equipment. That university was on network news, they showed us what they have done, asking companies to come and look at it.

**E-Newsletter:** Thank you very much Prof. before we draw the curtain, we will like you to tell our reading audience the role we have to play in other to improve our national economy.

**Prof Bob-Manuel:** What I will advise is that if we want our economy to grow individual, government and industries; let us really face the fact, whatever we are producing for God's sake, we should carry out a quality test. This will improve our economy, spare human lives and loss of properties can be averted. To the Government I will say, even though the companies are the main beneficiaries finally the economy is the government, when the economy improves the government will also benefit. Government should set up a body or agency where universities can compete, carry out series of research so they can fund if they don't want to fund individual universities let this body co- ordinate it. The universities too should not relent. They should put in their budget some amount for real valuable research. The engineers should not look at immediate benefit from services we render. Let us work thoroughly and make sure that the results we now produce are real results. Let us be honest with ourselves because some of us, what we are looking for especially in the academic is publication for promotion. Let us also look at research that will help the economy. That is my advice to my fellow engineers, government and the industries. Thank you.

**E-Newsletter:** Thank you very much for the audience you have given us.

#### INTERVIEW & EXAM FOR NSE PROSPECTIVE MEMBERS



A cross section of the prospective members

The oral interview for the prospective members of NSE will come up on the 14th and 15th April 2009 while the written exam will come up on Saturday the 18th of April 2009. The oral interview and the written exam will take place at the Rivers State University of Science & Technology, Port Harcourt by 9.00 am respectively.

#### NOTICE! NOTICE!! NOTICE!!!

All members of NSE PH should pay their annual branch dues of N4000 and compulsory levy of N5000 towards the Engineer Resource Center to UBA ACC. NO: 0802080000194 (Port Harcourt main Branch). Also pay National Annual Subscription of N5,500.00 directly to AFRIBANK ACC No. 1420202215613 & forward all tellers to the secretariat for reconciliation. All payments should be made at the Bank