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Interview with Engr. Prof. A. P. Onwualu on Raw Materials in Nigeria.

Engr. Prof. A. P. Onwualu is an Agricultural Engineer from the University of Nigeria, Nsukka. He is the Director General/CEO of the Raw Materials Research and Development Council, Nigeria.



Engr. Prof. A. P. Onwualu

E-Newsletter: *Sir on the issue of raw materials, which area do you cover ?*

Engr. Onwualu: We divide raw materials in this country into two major parts: one is mineral raw materials, and the other is the agro raw materials.

The mineral raw materials are referred to those both solid and liquid minerals that we have all over the country. It covers both metallic and non-metallic minerals. We have a list of all the minerals that are available but our work is in the area of adding values to these minerals, creating an enabling environment for people, not just to mine these things and export, but to mine them and add value to them, so that we can actually get industrial raw materials from these minerals; so that's one aspect. The other aspect is agro-based raw materials, referring to all the industrial crops, animal products, and so on, and things we can do from them. These agro commodities are usually referred to as the primary raw materials; but we know that you can add value to them so that they become secondary raw materials which industries can now use; whether we are talking of the food and beverage industries or pharmaceutical industries, and all sectors of the economy. Essentially you are aware that every industry is based on adding value to some natural resource. You send in some raw materials, you work on them, and you get some products; so essentially, that is what we are working on.

E-Newsletter: *What has been the achievements of the Raw materials Research and Development Council since its inception?*

Engr. Onwualu: Yes, our work is divided into a number of areas. The first thing we do is information generation and dissemination. Ten years ago, it was difficult to find information on raw materials that are available in Nigeria; but under our raw material information system, we do conduct annual surveys, generating information on the raw materials that we have in this country. Almost all the minerals that we have in this country, we have information on them, where they are, their quantities, their qualities, the nature of technology required for adding value to them, the challenges and so on. The same thing with the industrial crops, as of today, we have covered over thirty industrial crops. If you name any of them; tomatoes, groundnuts, cocoa, cassava, we now have information in the council, useful information for the investors, telling you the quantities. We have what we call the technology briefs; giving information on the various stages of processing involved and where you can even source the machines; information on fabricators and producers of machines. If they are machines that have to be obtained from outside the country, we also have information. So over the years, we have generated these information and we have them both in electronic and printed form. Usually, from time to time, the council distributes these information to the relevant industrial sector and potential entrepreneurs. We do this during exhibitions, trade fairs, conferences and in fact we do attend the sectoral meetings of Manufacturers Association of Nigeria, all the different sectors of manufacturers and also Nigerian Association of Small Scale Industrialists. So we have done a lot in terms of generating this information. The other thing we do is that potential investors who want to go into resource based industries, we actually provide feasibility studies for them, and then we have over one thousand of such feasibility studies on small scale industries that people want to go into. That is one major achievement, so in terms of information, these things are now available and we continue to update these information. Once you have these information, the next stage is industries need some raw materials, the natural resources are there, but the industries cannot use them in their form; for example those who make powder needs talc. We have deposits of talc in Nigeria, but they occur with some impurities, so what we have done is to give some research grants to people to study how to extract the actual talc, and then based on that, we now moved into pilot plans, from pilot plans, we promoted investments in the sector, and today, we have a factory somewhere in

Niger State that is now producing talc and supplying to industries. So when we generate information, we do research, and our research is on a competitive basis. We give annual research grants; we give research grants to researchers in universities, research institutes and even in industries. They conduct research for us, and then the result of the research are now taken for industrial testing and from there, we now promote the investments. Today we have over hundred projects that we have funded and probably another fifty that are still on-going, and the results we have ranges from processing of cassava to processing of talc like I have just mentioned, processing of barite, processing of fruits, in fact we have driven fruit juice up to the point that we even built a plant in Kaduna, and then last year, we sold it to a private sector which is now making fruit juice. There are many other examples; production of high quality cassava flour, which we have worked on and there is a factory in Obudu that is now using that technology. You find it in some of our publications. The other interesting thing we do is that, we know that our industries are still at their infancy, so even when we encourage people and they establish industries, there is a lot of competition. You have people bringing in products from Asia, from India, from China, where the manufacturing environment is better, so the products come in cheaper than what the local person is doing, so he cannot compete; so what we do, because we are members of the National Tariff Board, in

NSE PH Branch Organises A One Day Workshop on "Anti Corruption In Engineering Practice" on Thursday 19th August, 2010

The speakers and their topics are: **Engr. Chief O. O. Oruye**, FNSE: Professional Codes and Ethics in Engineering Practice, **Engr. Prof. H. I. Hart**, FNSE: Enforcement of Procurement Regulations in Engineering Projects. **Prof. Chinedu Adiele** (from ICPC): The Varying Dimensions of Corruption in Engineering Contracts—The ICPC Experience.



L-R: Engr. Emaobong Iyang, FNSE, NSE President, Engr. Chief. O. A. Ajibola, FNSE (Chairman of the occasion), Engr. A. H. Igoni, MNSE, (NSE PH Branch Chairman), Engr. Prof. H. I. Hart, FNSE, Engr. Chief. O. O. Oruye, FNSE and Engr. Chief Dr. M. E. Ephraim FNSE



Participants at the event

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fact the tariff board relies on us to give them information; so if we find a local industrialist who have started a project, and is able to supply the economy a particular product, what we now do is to recommend an increase in tariff for those who are importing the same product; so using the pricing difference, the local manufacturer is encouraged to produce, so he has a competitive advantage and we have done this for a number of products, and those industries are now enjoying that kind of protection; but we can only do this for a period of time, after like five to ten years, by then the industries would have stabilized and then we can remove the tariff.

E-Newsletter: *Ok sir. Do we have enough industries to explore and exploit these raw materials?*

Engr. Onwualu: Definitely we don't have. What we do as an organization is to; For example, there is one we just commissioned two days ago, for processing melon seeds, now we have technologies for shelling and processing melon into different products; but we can only do one as an organization, and we gave it to a private sector, a co-operative society. Now for that kind of project, we need to have about one thousand of those projects. In the paper I presented I listed a number of industries that we need to have, like five thousand of such industries for this country to move forward. I give you an example, we demonstrated that you can use 20% even up to 25% of cassava for making confectionaries. We assisted somebody in Oguta, Imo State, and we commissioned that project last year. They now produce bread, cake and so on using 80% wheat flour, and 20% cassava flour; and it's working. But then, for this to have meaningful impact in the society, you need about five thousand of such industries, and as a government agency, we don't have the funds to replicate all these; so we are appealing to investors, banks, financial institutions, capital ventures, even government to assist individuals. We have so many people writing to us needing assistance and to assist these people to be able to come up is not easy because the biggest challenge is that the average entrepreneur finds it difficult to access funds from banks and it is an area we are now working on. We can only do so much based on our own budget strength. For example, we are now working with a group in Kogi State, to add value to cashew, and in the next one month or so, we will commission that project that will produce export quality cashew nuts. It is a factory we are working in collaboration with Kogi State University and Kogi State Government. Once we finish, the company will be established, and it will start running. But then, there are other cashew growing areas in the west, in the east, so we now want people to take up this technology and begin to produce. The answer to your question is that we don't have enough. We need more and the system should find a way of enabling, there are so many investors who are interested in establishing these industries, but they don't have the money, they don't have the cash; so government or organized private sector should find a way to make it easier for young men and women, for entrepreneurs to be able to pick up these technologies we are developing and go into mass production of goods and services using locally available raw materials.

E-Newsletter: *Ok thank you very much sir, one last thing, how do you think these industries can survive with the current power situation?, Let me quote Engr. Chief O. O. Oruye, he said; "Electricity is the air which industries breathe". So how do you think these industries can survive?*



Engr. Prof. Onwualu & Engr. Otueneh

Engr. Onwualu: It is one of the biggest challenges we have, because most of these industries are citing they are all running on generators. Some of them don't get up to two hours of electricity in a day, and so the profitability of the venture is really jeopardized, and what we are saying is that government should really take this issue of power very seriously; and I think they are taking it seriously but a lot needs to be done. We have made

recommendations. For example, we don't have to be looking at the country to have the national grid, we can zero in on the existing industrial centres, places like Onitsha, Nnewi, Aba, Port Harcourt, Lagos, Ibadan, Kaduna, Kano. We can pick those industrial hubs, and make sure that they have steady power supply. Then of course, the industries that are having problems there can now survive and wake up again; so it is a major problem that the country has to take seriously, and I think the present government is taking it seriously. As a council, we are also looking at "why are we having these power issues?" One major problem is that most of the power stations were based on 100% foreign technology, so from design and actual commissioning of the plant, everything is done offshore. So it takes like minimum of two years; so it will appear the present administration is not working, they are working, but all their efforts so far may have been at the stage of design; so we are also looking at the issue of producing power components within the country, using locally available materials. If we can design and build turbines in Nigeria, then we don't need to import turbines. If we can design and build some power components, swift gears, transformers, these are all products made from materials, and we have some of the materials within Nigeria. So from this year, we are beginning to target materials for producing power components so that an engineering company can actually find some of those components within Nigeria, and so you can actually decrease the period of time you require from design to commissioning of a power plant; maybe from two years to about six months; and that way, the investment in power will give dividends in a shorter time. But what is happening now is that all the power projects are all based on bringing technologies from Germany, China, India, and these things take time. Money may have been taken away, but the money may be sitting in Central Bank waiting for letters of credit and designs from Germany or whatever for the money to be transferred and these power products are not bought off the shelf from the power companies abroad. It is when you place your order and pay your money that they start your product; so it takes time. The only problem is that some of these areas require high technology and high investments. We also need to expand, increase our power meet. It is not only the gas station or thermal stations, there are many other possibilities with renewable energy; and so we are also giving research grants to people who want to work on solar energy for the production of power. Whether they are small power, it doesn't matter.

E-Newsletter: *Alright. Thank you very much sir, we are grateful for the time you just shared with us.*

The Career Development Committee of NSE PH Branch organised a Career Talk on Entrepreneurship/ Internship for the engineering students (NUESA) of University of Port Harcourt on Friday 27th August 2010 at the Engineering Drawing Hall. The speaker was the Vice Chairman of NSE PH Branch, Engr. Denis A. A. Dania, MNSE (standing). Also present were Engr. Goodluck Ikenyiri (Secretary) left, Engr. Mrs. Adimelechi (Chairman, Career Development Committee) 3rd left & Engr. Otueneh, 2nd right.



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