THE ROLE OF TECHNICIANS AND CRAFTSMEN

IN A DEVELOPING COUNTRY

CONFERENCE PAPER

TO ASSESS AND EDUCATE PRACTITIONERS ON VARIOUS
DEVELOPMENT WITHIN THE ENGINEERING PROFESSION FOR
DESIRABLE STANDARDS OF ENGINEERING PRACTICE IN
NIGERIA

AT THE ANNUAL CONFERENCE OF THE NIGERIAN ASSOCIATION
OF ENGINEERING CRAFTSMEN' (NAEC)

BY

ELIJAH E.O. IGBOIN, MNAEC
Faculty of Engineering,
Department of Electrical Engineering,
University of Lagos, Akoka-Yaba.

28/11/96
On the 27th June, 1995, the Engineering professionals, policy makers, representatives from various sectors and the Hon. Minister of Works and Housing - Major General Abdukarim Adisa gathered here to witness the launching of the NIGERIAN ASSOCIATION OF ENGINEERING CRAFTSMEN (NAEC). An Association that came into existence in 1993 after the amended Decree 55/70 by 27/92 which empowered COREN to regulate engineering profession in Nigeria.

It was appreciated and delightful, particularly for the Engineering Craftsmen for such large door of OPPORTUNITY and RESPONSIBILITY opened to NAEC as a member of Engineering family.

Therefore, I do not want to miss this opportunity to associate myself with the CRAFTSMEN nor to accept to deliver this paper today (in the first Conference of the Association) even though I received the invitation late on the 4th November, 1996.

Based on my educational background, my professional experience, being a member of the least of the Engineering family - Technicians/Craftsmen and in the presence of these large audience from various professional, I may not be able to deal with this topic "To assess and educate practitioners on various development within the Engineering Profession for a desirable standards of Engineering practice in Nigeria".

However, I am inspired, confidence and courageous, based on the facts and my believe that the role of Engineering Craftsmen to the REALISATION OF ENGINEERING PRACTICE AND DEVELOPMENT OF THE COUNTRY had not been quantified, perhaps this trend may remain for along time, as long as the following facts and the most fundamental roles of the Engineering Craftsmen remains:

(i) Engineering Craftsmen are the bed rocks, the nucleus of a national development;

(ii) They serve a complimentary role to the professional engineers without Craftsmen, practical solution to engineering problems will not be possible;

(iii) Engineering Craftsmen develop practical applications of natural things available and buy available science and technology to adapt or modify already existing methods through innovation.

(iv) They are the only group of engineers in the world over, that had maintain sustainable development through their craftsmanship

(v) They pass their practical experiences from one to another which allows nation or individuals to meet their present needs without compromising the ability of the future generation to meet their own needs.
ASSESSMENT AND DEVELOPMENT OF CRAFTSMEN

We are living in an era where the assessment of individual, group, institutions even the professional engineers is now based on how much money a man has and no longer how hard he works. The formerly cherished social professionalism value have now been sacrificed for the craging gross wealth which led many to indulge in dishonest practices and sometime abandonment of professions. The characters has cut across all classes of live, so the yardsticks with which the standard values is being measured had been missing in the society. This has also affected the Engineering Profession for desirable standards of Engineering practice in Nigeria.

What is The Way Foward For Desirable Standard of Engineering Practice for Development In Nigeria?

REASSESSMENT THAT DRIVES
- The way we THINK
- The way we WORK
- The Way We RELATE
- The way we use TIME

For a proper assessment and development of the engineering practice in Nigeria, we need to think back to examine the way early CRAFTSMEN work and relate the way to the way we use time now.

EXAMINATION: The event in the history of Engineering Craftsmanship, the making of a crude stone and axe may have started long time ago, know as the Stock Age. Making use of this skill through development led the Craftsmen to the new stone Age. The need come up again for Craftsmen extending beyond manufacture of tools weapons and garments; further development followed which emerged in Mesopotamia where sledges were used for Transportation and building mades of Baked Mud started as the major development.

Let us come back to Nigeria to assess the way early Craftsmen THINK the way they WORK Are we related to them they way we use our TIME today?

Think how hard the Craftsmen work to put up the first upstairs building made of mud in Badagry, the musical instruments, the framers implement by black smiths, the carving, Ivory and Brones which the whitemen cherished so much that they have to wage way in order to get them away. May be you want to assess the Craftsmen bridges across rivers and streams in the rural areas. Perhaps you want to assess the Cane Village at Maryland in Lagos, no doubt you will delight yourself with classic artistic design of cane from Nigeria forest by the Nigerian Craftmen.
These and much more are proof that Technicians/Craftsmen had made their contributions for the development of the nation from a very long time till 70s the boom era which change the way we ought to have THINK, WORK RELATE AND USE OUR T1

a. A change from the cherished Engineering craftsmen social value for materialism.

b. Abandonment of the indigenous craftsmen for transfer of foreign technology which will never be possible.

c. Lack of proper programmes objectives to cope with the future development.

d. Education and Educational policies which are too theoretical for the developing country like ours

AGAIN: What Is The Way Forward For Desirable Standard Of Engineering Practice In Nigeria?

EDUCATION - TRAINING

An objective goal oriented training programme that will produce capable indigenous self-reliance and self-sustaining practical engineers is a must. Engineering, Science and Technology are ability to understand the characteristic of the physical world, using them in the services of humanity. Therefore the capability and the capacity with which we acquire this knowledge and apply it is perhaps the most factors in the victory of the so called developed world.

As a growing or developing country an understanding of the right type of Engineering practice for sustainable development may help us to search for goal oriented institution frame work for our level.

Let us reason on this issue, do we really need sophisticated and so much theoretical engineering practitioners before we can develop?

At this present level of our development we need to draft our learning curve and decide where, how and when to start on objective goal oriented training programme that will produce capable indigenous self-reliance and self-sustaining practical engineers. Of course the Technicians and Craftsmen who do not need sophisticated and so much Mathematical and theoretical who are recognised as practical indigenous engineers are prime mover of National development even before the existence of all sorts of sophisticated hypothesis and theorems.

Like the Japanese who do not need so much theory on Yam Powdering machine from Ile-Ife in Nigeria before they built one and now exporting many to us. I will rather submit that we do not go back below zero or to zero point on our learning curve.

Like the Japanese they always starting their learning or development above the zero point that is improving or developing on already existing technology. Let us continue to improve or develop on what our indigenous Technicians and Craftsmen did and keep on doing.
A policy of mass training at all levels either by establishing training institutions on promotion of on-the-job training should be re-assessed.

VOCA TIONAL TRAINING

The National Policy on Science and Engineering Infrastructure which was launched on the 2nd June, 1992 has among its aims:-

To develop an indigenous capacity in the design and mass production of all types of scientific and engineering materials, tools, machinery and equipment for the proper implementation of this programme. National Agency for Science and Engineering Infrastructure (NASENI) was set up.

Some of the programme implementation strategies are to ensure that suitable manpower with skills spreading across the relevant disciplines is available in sufficient numbers. To interact with the various manpower training sectors, relevant government bodies in determining the necessary changes and/or new trends in technical manpower training curriculum.

The existing apprenticeship programmes, such as the Industrial Training Fund (ITF) and the Supervised Industrial Training Scheme in Engineering (SITSIE) will be established and supplemented where necessary according to NASENI.

The Engineering practitioners are looking forward for the realisation of this policy. Because the existing Technical Training had shifted sharply from the oriented objective, perhaps due to:

- Emphasis on paper credentials that what a man can do practically to solve engineering practical problems
- Shifted from Academic excellence to consulting institution in search for financial support.
- Frustration as a result of longer years in the school more than necessary due to strikes and student unrest.
- Unemployment rate in Nigeria which now affects every factor.

NASENI should therefore, put all forces together for implementation of these programmes.

Industrial Training Fund (ITF) should be reviewed or re-assessed to fulfill its roles according to the ITF Decree 1971. The ITF was established for the purpose of promoting, encouraging and financing industrial training of indigenous personnel. The Government expect that all firms will organise training programmes for Nigerians either by setting up their own training centres or running training programmes locally or abroad.
The issue now is where are the training centres and in-service training?

The Nigerian Railway Training Centre,
The Port Authority Training Centre

The Federal Government Training Centre now call Federal Technical Colleges.
The Oshodi Research Centre and all the various In Service Training where are they? The Craftsmen need them all.

ONCE AGAIN What Is The Way Forward?

The development of all grades of manpower should be given the greater priority now at the Federal, State and Local Government levels.

The present Open-end education should be replaced by goal-oriented objective.

NASENI or any other body or bodies concerned should come out with policy that will revieved on-the-job training or Vocational Training.

See page for a programme of Vocational Training Organised by Badische Siehwerke Ausbiuding GMBH in the Fedeal Republic of Germany where I was privileged to do my Industrial Engineering Training in 19984.

To request a periodic report on the staff training including the attendance of a Conferences, Workshops or Seminars organised by the NIGERIAN ASSOCIATION OF ENGINEERING CRAFTSMEN (NAEC)

SUMMARY

The NAEC is faced with many opportunities and responsibilities which call for challenges. We shall accept such challenging perhaps to prove our claim that we have practical solution to Engineering problems.

For desirable standard of Engineering practice for development in Nigeria, the reassessment that drives the way we think, the way we work the way we relate and the way we use our time.

We need an objective goal oriented education programme that are not too sophisticated for self-reliance and self-sustaining for rapid development, we should continue to improve or build on our upon the already available Technology.

Mass training at all levels either by established training institute or promotion on-the-job should be re-assed, Federal, State and Local Government should be involve.

Periodic report on the staff training either locally or abroad should be kept.

And NASENI or other agencies concerned should expedite action on implementation of policies on proper recognition of indigenous engineering practices in Nigeria.
Finally, I would like to congratulate the Nigerian Society of Engineers (NSE) the father or Husband of Engineering family members. Your crucial roles in Engineering practice for the development of the country are now being recognised. Hence the privileges to design and construct of a bridge across River Niger between Asaba and Onitsha had been awarded to you.

We the Technicians/Craftsmen pray that God grant you the practical wisdom to fulfil the challenge. We hope you take us along as a wife to serve as compliment not as a competitors.

E.O. IGBOIN, MNAEC
28th November, 1996

References.
1. NSE proceedings 1992 International Conference.
2. NSE Paper presented by Engr. O.O. Banjoko 1980
3. 1995 Annual Faculty of Science - Lecture by Kunle Funsho.