



Harnessing the Potentials of Talented Nigerians for Sustained Technological Development (HAPTAN) in the Oil and Gas Industry

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Abstract

This article examines the possibility of harnessing and developing the abundant human and natural resources for a technology-driven Nigeria. It seeks to highlight the creative ingenuity of budding Nigerian talented technicians, crafts-men, trades-men and the typical Nigerian engineers, from all nooks and crannies of the nation, to train and harness their potentials for the technological advancement of the nation. It suggests a well established, and managed all-in machine production and fabrication technology villages in various parts of the nation. Employment of systems approach to curriculum planning for schools is suggested. It advocates the introduction of arts and crafts as teaching subjects at pre-school, primary and post-primary schools levels of education. It suggests a paradigm shift from the use of untrained to trained teachers/instructors with good enough background in principles and practice of education, for enhancement of learning. It will list some of the objectives derivable from harnessing the Potentials of Talented Nigerians for the Oil and Gas Industry (HAPTAN). Finally, it advocates the support and commitment of the Federal Government of Nigeria (FGN) for a success implementation of the programme.

Introduction

The world is fast shrinking into a global village and only the technologically advanced nations can compete in the global and local market. Nigeria is about 49 years old as an independent nation, and is yet to join the league of the technologically advanced nations in spite of her rich human and material resources. This is largely attributed to her abandonment of agriculture which was her mainstay before her discovery of crude oil in the nineteen-fifties. The discovery of crude oil and its attendant oil boom in the nineteen sixties to nineteen eighties diverted the nation's attention to Oil and Gas (O&G) as it became her largest foreign exchange earner. It accounts for over 70 percent of her foreign exchange and 85 percent of total government expenditure. Till date, the nation has been unable to translate her abundant human and natural resources to home-grown technological know-how for a competitive edge in the global scene.

Consequently, almost all the human and material resources needed for exploration and exploitation of crude oil is imported, with the resultant huge foreign exchange expenditure. The Nigerian Content Development (NCD) policy was put in place in response to the need for Nigerians to become full partakers in their God given human and natural resources. The policy is targeted at vigorous implementation of the policy for drastic reduction of importation of human and material resources for utilization in that sector of the economy. This will fast track the development of her industries and reposition her for global challenges and competitive advantage in the oil industry, because she lacks the calibre of human capital required for the survival of that sector of the economy.

For any meaningful industrial and national growth, Human Capital (HC) which is the soft compliments of the production process, the tacit and explicit human assets that coordinate and add value through the processes of human resource framework¹ is required. Efforts at technology transfer have almost eluded the nation because such has not been truly 'Nigerianised'. There is therefore, a dire need to harness or utilize the source of power, and develop the potentials and talents, which is the innate mental and artistic aptitude², of her human resource for industrial and national development through training. In an annual conference organized by Petro-Conference in Warri, October 2003, it was observed that countries like Malaysia, Venezuela, Brazil, Indonesia and

¹ Rabiou, M. (2004) "Challenges of Promoting Learning and Performance in Exploration and Production Industry". A paper presented at the Learning and Development Stakeholders forum. Warri

² Webster's New World Dictionary (1995) New Delhi: Oxford and IBH Publishing Company

Norway contribute as high as between 45 percent and 75 percent in local content goods and services to their industry, whereas Nigeria's contribution has remained as low as 5 percent³.

Countries like Japan, China, Korea, Taiwan and other developing nations compete with Britain and America today because they embraced true technological development, laced with unreserved commitment to succeed by her industries, dogged political will of their leaders and the patriotism of her nationals. Today, they are rated among industrialized nations of the world. It is therefore imperative that the goals of the government, academia and industry be synergized towards achieving the NCD policy⁴. This will bridge the ever yawning gap (due to global economic demands) between her available and required stock of HC especially in that sector of the economy. Only then will at least, 90 percent domestication of major jobs executed, and materials used in that sector of the economy will be possible.

Nigeria is endowed with highly creative and talented people yearning for attention. These have remained unsung and unnoticed, to the nation's peril. Little or no emphasis is placed on the development of the potentials of her human and material resources which is the existing but not fully developed or exploited source of wealth⁵. Regrettably, the FGN and most of the key players in the oil industry hardly recognize the inevitability of training as a panacea for industrial and national growth.

In recent times, their attention has been turned to talent hunt for footballers, and for, exportation of music, fashion, entertainment, arts and crafts for which they earn "peanuts" in foreign exchange. Little attention is paid to actual training and manpower development programmes, particularly for the O&G sector which accounts for her largest source of income. This explains why multinational oil companies have continually controlled that all important aspect of the economy to the detriment of the nation. She is therefore rated one of the twenty poorest nations of the world.

Although the importance of training for sustained national development can never be over-stressed, studies have shown that where it exists, it is the first to get the boot in times of economic crunch.

The Nigerian policy on Industrial Training Fund (ITF) came into being in with decree no 47 of 1970-1971. It articulates the manpower training scheme related to the needs of the Nigeria economy. Part of the objectives of the scheme on manpower development and utilization were:

1. To reduce the proportion of expatriate quota in employment and
2. To meet the manpower requirement for a successful implementation of the plan and an optimum development of the plan as a whole⁶.

ITF is basically meant to provide training for persons employed in industry and commerce. Another FGN owned manpower development establishment is The Petroleum Training Institute (PTI) Effurun, Delta State, charged with manpower development in the Oil and Gas sector. Established by

³ Proceedings of 2003 Annual National Conference of Petrosearch PTI Warri.

⁴ Amachree, S. M. O "Strategy for successful Implementation of the local content Development strategy in the Nigerian oil and gas Industry:" Collaboration of business, Education and Government. (2006)Vol.3 No. 2 PTJ.

⁵ Hargen per (2001) "Norway's Experience in Developing Local Content" National Workshop on Improvement of Local Content. Abuja-Lagos

⁶ ITF. (1989) "Essential Foundation for Economic and Industrial Development in Nigeria, Conference Proceedings". ITF official gazette Part A 1. 2 ITF Publications Jos.

decree no 37 of 1972 and amended by Decree No 57 of 1975. Part of the objectives of the institution is to provide courses of instruction, and research in oil technology; to provide technicians and such skilled personnel normally required for oil production; arrange courses conferences, seminars related to the field of learning in oil and gas⁷.

These establishments are designed to train persons employed in industry and commerce as with ITF and the training of young Nigerians as semi-skilled manpower for placement in the O&G industry as with PTI. How much of these objectives have been achieved? In spite of the huge expenditure on the above named federal government establishments among others, Nigeria is still heavily saddled with the challenge of gross lack and dearth of human capital to man her natural resources. Inclusion of the members of the grassroots whose natural endowments could be harnessed as supplement to the products of ITF, PTI and graduates of her higher institutions is advocated. If the potentials of this calibre of independent but talented technicians and persons (be they illiterate, semi-illiterate or literate Nigerians engineers and graduates of other fields of endeavours) who demonstrate the much needed talents in arts, crafts, and technical fields to enable them function in industry and commerce is harnessed, the dream of NCD would be actualized.

The advocacy for NCD policy for economic development by FGN is a very welcome development. However, fabrication of machines, machine parts, tools etc. needed to move the country forward have been ongoing. The recognition of the effort of the talented engineers, technicians, artisans, trades-men, crafts-men who produce these locally made wares at road sides and shanty workshops is still absent. Many such individuals have made endless efforts at getting financial support and encouragement from the powers that be, to no avail. They therefore become disillusioned, discouraged, disenfranchised and defeated. They either resort to less profitable ventures or join the larger-than-life band wagon of the unemployed job seekers. Worse still, they resort to crimes, a situation that would have been mitigated, if the FGN had harnessed their talents to the nation's benefit.

The need for Training

The globe has become highly technology-driven; nations who must tag along must embrace regular training and retraining of her manpower to make a difference. This has become necessary as the shelf-life of skills and knowledge needed for competitive advantage in the global market is getting increasingly shorter. Training should therefore be regularly provided to equip the workforce with necessary skills and competencies required to remain viable, attractive and competitive. It should be job, individual and organization oriented. It should also suit the characteristics of the trainees for the attainment of desired objectives. Needs analysis, needs assessment should precede objective formulation, design of instruction, development, implementation and evaluation of same. The management of the feedback from evaluation of training determines the success or failure of the entire exercise. The abundant information provided by the internet must also be brought to bear. Computer training is therefore imperative to facilitate the attainment of training objectives .

Who should be trained?

Talented technicians, tradesmen, craftsmen, artisans and individuals who have contributed to national development through dint of hard work by locally fabricating machines and tools (on their own) for industrial use. Nigerian Engineers will form part of the target group for this article because the training received by them from the Nigerian tertiary institutions is basically theoretical and insufficient to impact

⁷ PTI Act 1972

the qualities and skills expected of them. Additional training for skills acquisition, creativity, communication, human and material management is needed for them to fully contribute to industrial development in Nigeria.

Such Nigerians are scattered in various parts of Nigeria. For instance, Wheel barrows are produced by such people along Miliken-Hill Road, Aria Market Enugu. At the Tinkers Shed Coal-camp Enugu all forms of motor parts that sometimes far outlive the imported ones are fabricated. The Nnewi industrial village, Nkpor and Obosi motor parts in Anambra State are eloquent testimonies of what could be locally produced in Nigeria. The Aba technology village, Nnentu spare parts village Aba, shoes, bags, ready-made wears, fine and solid canopies etc are also produced in Aba, Abia State. The spare parts market in Lagos, Lagos State, to mention but a few. Motor spare parts of all brands of vehicles and trucks, Garri grating and grinding machines of all sizes and shapes, spare parts for printing machines, baking ovens of all sizes, gas and kerosene cookers, bodies of vehicles just name it. Some are even produced while you wait. All these are produced with 100 percent local (Nigerian) materials. Some of these young men and women display of forms of their creative fabrications at Trade-fairs within and outside Nigeria, these too are never taken cognizance of by ministries of industry and other stakeholders. So, like others, they also get “missing in action”. The fabrication of machines and tools by students of Government Technical College (GTC) Enugu will convince any “doubting Thomas”. Such schools abound unnoticed in other states of Nigeria.

Nigerian Graduate Engineers

A typical Nigerian engineer is expected to be provided with skills that will build in him, creative, imaginative, initiative, communication human and material management abilities⁸. This has not been the case because their training has been based on the theoretical aspect of the field. Consequently, these graduates can neither appreciate, install, operate nor maintain the sophisticated machines that are constantly imported for use in the country. This crop of Nigerian graduates will form part of HAPTAN. There’s will however be intensive skills acquisition training programme for capacity building, to enable them contribute to national building as expected. Huge expenditure in foreign exchange is made to retrain them abroad (by multi-national oil and gas companies) so they can function optimally; this amounts to colossal waste of fund. Worse still, the nation suffers brain-drain whereby talented Nigerians graduates and even non-graduates alike seek greener pastures abroad where their creativity and innovative tendencies count.

Consequences of Brain Drain on the Nigerian Economy

The country suffers brain-drain in all fields of endeavour as a result of her disregard for HC development. This anomaly accounts for why all Nigerian refineries, motor manufacturing companies in fact almost 90percent of huge government and private investments have been moribund for years now. The FGN is the culprit in the matter, for lack of political will, commitment and inability to properly fund and equip schools for adequate and appropriate educational development of her citizenry at all levels. The need brace up to the glaring challenges, the realities of human capital development and related critical matters if we must achieve the Millennium Development Goals (MDG) by the year 2020.

Mobilisation of trainees

The need for the FGN to direct most of her hunts at fishing for men and women in whose hands the fate of the country lie as regards technological advancement, especially in the face of present global

⁸ Oboho, E. O. Training of Engineers in Nigerian Tertiary Institutions: Petroleum Training Journal, (2001) Vol.1. No 1. PTJ 44

economic melt-down, can never be overstressed. Proper identification of would be participants of HAPTAN is critical to the success of the programme, they may then be screened and tested for a given period on the basis of required skills, abilities and attitude and aptitudes as prerequisite for enrolment into HAPTAN. This will eliminate those who may not be favourably disposed to the programme. Obviously, it must not be an all comers affair, lest it fails. They will be grouped according to their innovativeness and creative tendencies.

Training workshops will be established in designated locations in the country, for various skills depending on the availability of raw materials and machines expected to be fabricated for use at such locations. Training is then provided on the basis of specific skills required for fabrication in full fledged training outfits duly equipped for actual training. The benefits of such ventures may not be manifest in the short-run but, over years, if properly managed and supervised; a true industrial revolution with the potentials for transforming Nigeria into an industrialised nation will emerge.

Expected Functions OF HAPTAN

Having identified and mobilized the HAPTAN participants from desired fields of local technological endeavours, they may be organized for training according to skill's cluster. They will be formally trained by master trainers in their areas of interest or skills required by HAPTAN managers. This programme will differ from the skills provided for National Development of Entrepreneurs (NDE) scheme. While NDE is for the individual's entrepreneurship training, HAPTAN will be basically for possible employees of the FGN for the O&G sector and other relevant sectors of the economy. These skills will be provided through, induction courses, brainstorming, lectures, background knowledge/skills probe, demonstrations, case studies, field trips, hands-on skills, coaching, mentoring etc. The training will afford the participants the skills needed to improve their skills in machine production. They will be expected to study, operate, analyse, dismantle, and produce both simple and sophisticated imported machines and tools needed in the Nigerian commerce and industry with local (Nigerian) materials. This will further improve their innovative and creative tendencies for the production of Nigerian made machines and tools.

The machines so produced will be trial tested, modified, improved, fine-tuned, used over time to ensure conformity with foreign standards. If conformity is attained, prototypes will be produced and packaged for use. The products may be sold in local and foreign markets as additional source of foreign exchange to the Nigerian economy. The success of the programme will determine the extent to which Nigeria can de-emphasizes her dependence on foreign multinational companies in crude oil exploitation and production.

HAPTAN Curriculum

The training curriculum will be a synergy of all the intra and extra curricular activities needed to achieve the desired change in behaviour of the trainee. It will be able to solve the identified individual, societal and national problems. It must be trainee oriented such that it considers the age, educational background, language, beliefs, attitudes, instincts and idiosyncrasies of the trainees. It will have both general knowledge and specific skills training component. The theoretical, process and product aspect of the curriculum must be explicit. It must be fluid, that is, it would be regularly revised and re-evaluated to conform to the changing global technological climate. It must be proactive, generative and reactive (if need be) until the products meet international standards. In essence, a systems approach to curriculum design must be applied to ensure efficient and effective implementation and evaluation of the programme, as follows:

Step 1: Diagnosis of needs

Step 2: Formulation of objectives

- Step 3: Selection of content
- Step 4: Organisation of content
- Step 5: Selection of learning experiences
- Step 6: Organisation of learning experiences
- Step 7: Determination of what to evaluate and how

Teachers and Instructors with Background in Education

The use of subject matter experts, graduates in business studies and the pure sciences as instructors in training institutions is a regular feature in the Nigerian training institutions. A paradigm shift from the above to hire of instructors with strong bias in the principles and practice of education holds great promise for HAPTAN and HC development in Nigeria. Whereas trained teachers are the custodians of what it takes to provide efficient and effective instruction for skills, knowledge, character and abilities at all levels of learning, studies have shown that they are seldom considered for such jobs. This contributes to the inability or difficulties encountered by trainees to transfer knowledge and skills so acquired to the workplace. If HAPTAN must succeed, there is need to train instructors with educational background in the skills required for the programme or equip the instructors with relevant skills, and adequate training and re-training in principles and practice of education, needed to deliver the goods.

Objectives of HAPTAN

HAPTAN will achieve the following objectives:

1. Identify hidden talents
2. Provide education and skills acquisition training for select Nigerians
3. Reduce unemployment
4. Enhance local technology
5. Export Nigerian technology
6. Reduce foreign expenditure for procurement of machines and tools
7. Reduce trade imbalance between Nigeria and the developed nations
8. Indigenise the nation's oil, gas and other sectors of the economy
9. Check brain drain and its effects on the nation's economy among others.

Training Environment

Strictly speaking, the amount of comfort provided in a learning environment is an index of the quality of learning that can take place there. A good physical environment for learning should integrate the physical, psychological and physiological consideration of the learner in addition to providing opportunity for multi-sensory learning and positive social interactions⁹.

The following physical conditions will enhance learning; flexibility, spacing, isolation and beauty. The suggested psychological environments for effective training include; motivation aptitude, presentation, repetition, practice, and reinforcement and the physiological environment include; light control, ventilation, heating, acoustics colours and wall design.

Establishment of the training institutions must be complete with administrative offices, classrooms, learning resource centres, training workshops, simulation centres, multi-purpose hall, instructional

⁹ Eze. U. N "The Nigerian Learning Environment": A Hindrance to the introduction of the New Information Technologies in Schools. (2002) International Journal of Arts and Technology Education. Vol. 2, No.1.p.44

media, multi-media laboratory, production workshops for mechanical, electrical, civil engineering, instrumentation etc, recreational facilities, hostels, restaurants supermarket and other relevant facilities as may be required in each of the training centres. Consideration for the language, beliefs, values, instincts of the trainees in posting them to the institutions will positively impact the programme.

Government Commitment

The political will, financial support and commitment of the FGN, the organized private sector and well-to-do individuals, will ensure the success of HAPTAN. Huge expenditure may be required, for the programme to be worth-the-while, it is believed however, that “the end will justify the means”, if it is made a matter of policy, properly implemented and managed. Of utmost importance too, is the reintroduction of arts and craft subjects in the school curriculum at all levels of education. This will ensure the identification and mobilization of young talents for HAPTAN. Education is the pivot on which the actualization of the 7 Point Agenda of the President of the Federal Republic of Nigeria, Alhaji Umaru Musa Yar’Adua lies. It is also a major factor towards the actualization of the MDGs in Nigeria by the year 2020.

HAPTAN should therefore be well funded handled with care and managed with prudence for the actualization of the nation’s laudable dreams. The developed nations of the world are so-called because of their digital and technology-driven economy hence they control the world’s economy. They must have started in a humble way, with the full support and commitment of their governments and private sector organisations. It is the benefits of their efforts at industrialisation that has placed them in the fore of world economy. Nigeria will do better if her human and natural resources are adequately and appropriately harnessed.

Conclusion

Effort has been made in this paper to highlight the factors that militate against the nation’s ability to compete with the developed world. We looked at the mobilization and organization of trainees from the grassroots, training curriculum, provision of facilities

and infrastructures, provision of and management of training, training environments, hire of people with educational background as master trainers, training objectives, further training and capacity building for deficient Nigerian engineering graduates. We suggested that more attention be paid to the development of the human and material resources, in response to the request for NCD and the achievement of the MDG by the year 2020. We ended by advocating the full support and commitment of the federal government and the organized private for the success of HAPTAN.