

ELIMINATING THE NATION'S MANPOWER BOTTLENECK FOR DEVELOPMENT THROUGH TECHNOLOGY EDUCATION

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Abstract

All human societies, particularly the sovereign nations aspire to clinch a stable and well-developed state. A stable society here means the society that has efficient mobilization of human as well as material resources for improving security, achieving production maximization, functional transportation system. The developed nations effectively utilized technology education to achieve it via training of highly skilled manpower. This paper therefore, discusses problems, which impede manpower development and the place of technology education in developing the nation's manpower for the purpose of national development.

Introduction

According to Ojo, Aderinto and Fashoyin (1986), manpower is a basic resource for converting oilier resources for the benefit of mankind. Manpower is therefore concerned with developing and employing human skills in accomplishing the development of the nation. Ekufe (2002) agreed with this assertion when he stated that for economic growth to take place, it is the developed human capital that controls physical investment with diligence and expertise. Hence, human resource development, which is the building and effective utilization of skills, is an essential of any modern development strategy (Ojo et al, 1986). Realizing this fact, FGN (1998) emphasized on the training of minds in the understanding of the world and the acquisition of skills and competence as a tool for an individual to contribute to the development of his society.

The problem of manpower faced by the country before and after independence led to the Ashby Commission Report (1960). The report stated strategies for achieving national manpower needs vis-a-vis educational planning. The inclusion of education in the report underscored its importance in manpower development. Despite considerable effort and progress made in this direction, much is left to be desired in mobilizing human resources for achieving a stable economy.

In view of this, technology education is contemplated in order to eliminate bottlenecks in the nation's manpower development efforts.

Manpower And Technology Education: Meaning and Relationship

Yesufu (1978) sees manpower as a country's labour or potential labour force. He further added that it is the prime mover in the production process as it provides the means to invent and adapt relevant techniques combined with other resources to meet the requirement of the society. Ojo et al (1986: 1) held that manpower is beyond labour force and therefore stated that "it is the managerial, scientific, engineering, technical craftsmen and other skills which are employed in creating, designing and developing organizations, managing and operating productive and service enterprises and economic institutions".

From the foregoing, it can be inferred that manpower is the development of human capital for the purpose of national development.

Technology education is a potent force for developing technical manpower requirement of the country. This is at the backdrop of the fact that it is the education that leads to the acquisition of practical and applied skills as well as basic scientific knowledge (FGN, 1998). Nwoko (1992) defines technology education as the study of techniques employed in industry, agriculture and practical activities for providing goods and services for man's use, enjoyment and well-being. The link between manpower and technology education is in "inculcation of adequate and appropriate skills". The latter leads to the acquisition of skills towards achieving the development of these skills in citizens who constitute the nation's manpower base.

The Place of Technology Education In Manpower Development

The developed societies like Japan and United States of America, owe their greatness (i.e., economic dominance) to stock of skilled manpower with well-funded technology education being the source of their supply.

Omenkeukwu (1998) in Sadiq, Kirc and Kwairanga (2002) believes that technology education is the engine that generates creativity and skillfulness. In addition, it ensures intuitiveness and ingenuity in its recipients for:

- (1) Employability skills in people in a changing technological world.
- (2) Self-employment which, in turn, creates job opportunities thereby reducing employment and social/security pressures on government alone.

Nigeria has a low Manufacturing Value Added (MVA) Capability. According to Animalu (2001: 4) "standard of living of any people is linked to MVA potential per capita and MVA, in turn, is linked to technological capability"¹. The low MVA denotes poverty, low standard of living, poor youth empowerment etc. Animalu added, "to solve problem of poverty, Nigeria should increase her MVA and demands the following factors that favour manufacturing:

- (1) Stable polity;
- (2) Favourable economic climate;
- (3) Available pool of technological and skilled manpower;
- (4) Access fo and ability to absorb and harness science and technology on a continuous basis."

In this light, technology education has a place by making available technological manpower for the manufacturing sector of the economy towards increasing-the MVA per capita of the nation.

Most industries in Nigeria rely on imported machines for production in the industries. Today, many of the industries are closed down for reason of exorbitant costs brought about by high foreign exchange rate(s). Experts developed through technology education will both manufacture and operate industrial machines for production maximization. In spite of the above, available technical skilled manpower will control and manipulate natural resources with diligence and expertise without wastages and harm to the environment.

Factors Affecting Technologically Oriented Manpower Development

There is an interplay between factors affecting manpower development and utilization. The factors are grouped under the following:

- (A) Economic factors;
- (B) Altitudinal factors;
- . (C) Educational constraints.

(A) Economic Factors: - Economic Recession and brain-drain

Brain drain constitutes manpower deficiency medium of most developing countries, It has the following effects; (i) Reduction in high-level manpower in all fields including engineering, science and technology; (ii) Inability to meet development targets/objectives.

Yesufu (1978) identified the cause to economic reasons when he stated that the local manpower is pulled towards the advanced countries by prospects of higher remuneration. Brain drain heightened in the 1980s due to decline in oil sales and hence decline in real incomes. This encouraged mass exodus of expatriate manpower from Nigeria and also discouraging Nigerians abroad from coming home (Yesufu, 1978). Table 1 below shows loss of manpower between 1985 • 1990.

Table 1: **International Immigration And Emigration: Nigeria 1985- 1990.**

Year	immigration	Emigration	Emigration As A Percentage Emigration of
1985	689,972	746,122	108.5
1986	647,763	635,397	98.1
1987	186,346	271,047	145.5
1988	147,810	376,240	245.5
1989	275,264	687,689	249.8
1990	208,743	395,076	189.3

Source: Federal Office of Statistics in Ycsufu (1978).

The table above indicates loss of manpower as emigration outweighed immigration. Technical manpower was lost during these periods and till date.

Also affected by the economy is unemployment, which has retroactive effect on education in general, and manpower development of the country. Jakande (2004: 27) lamented the gravity of unemployment thus:

The labour market is in disarray with lay-offs in the various economic sectors, products of the various educational and vocational training institutions trained with SAP and sapped resources plus externally borrowed funds are floating.

High unemployment rate is an indicator of inability of the economy to grow at the same pace with its human training and production. This leads to under-utilization of trained manpower and hence calls for concern.

Attitudinal Factors -Under-utilization and apathy against indigenous experts.

Attitude of indifference against home expatriates results in their under-utilization. Darkoh (1993: 5) stated the scenario thus:

That African Governments have turned away from using their own scientists, experts and intellectuals. The expertise of highly trained Africans is not utilized or respected by Africans themselves and donor countries. This attitude of apathy has led to brain drain of technical manpower from the tertiary

institutions, industries and other sectors of the economy. Abdus-Salem (1988) also observed that there is feeling of inferiority against indigenous scientists and technologists by decision makers in the developing countries. The consequence manifests in unemployment, as foreign experts are favoured. Besides, it inhibits and subjugates technological initiatives of home experts and hence, constitutes bottleneck in the development of the nation's manpower.

Educational Constraints

Constraints to quality science and technology education have been identified and decried by many educationists (Nworgu; 1997, Egbute, 2001). The most constraining problem of technology education is poor funding. Egbule (2001) citing Okebukola (1997) revealed that the funding of science and technology is between 25% - 35% against 70% - 85% funding level in Japan, Australia and United States. Perhaps, this explains why highly qualified scientists and technologists are available in the advanced countries. Informed by the above, Ayo (1998) asserted that funding is one of the strategies for fostering sustainable human resource development essential for national growth and socio-economic transformation,

Closely affected by poor funding is the poor state of infrastructural facilities in schools, which impinge on the inculcation of technical skills - a requisite element in manpower development. Other factors include:

- i. Lack of qualified teachers,
- ii. Negative attitude of teachers to work,
- iii. Poor attitude of students to studies,
- iv. Lack of computer education.
- v. Examination malpractice and cultism, which detach students from learning practical realities of what, they will meet in real life situations in the work place on graduation. By this, the potential required of graduates to invent and adapt relevant techniques to meet the society's- requirement becomes affected,
- vi. Lack of computer education in our technological institutions.

However, dedication, commitment and strong political will can enable the nation satisfy her human resources development requirements for technological and hence national development.

Recommendations

- (1) Government should continuously fund technology education as a strategy for fostering human capital development.
- (2) Government should facilitate employment creation through requisite policies and institutions. Organized private sector should also join in employment generation.
- (3) Training of manpower should be in excess of the nation's manpower targets so as not to be affected by manpower flight (i.e., brain drain), which Yesufu regards as a world phenomenon. Manpower planning arm of government has significant task and role to play in this respect.
- (4) Obstacles, which create sense of inferiority, such as discrimination against indigenous expatriates resulting in poor remuneration, low ranking etc., should be discarded.
- (5) Economic growth should not be left in the hands of foreign expatriates alone as it inhibits initiative of home experts. In spite of this, it discourages foreign-trained technical manpower from returning to contribute their quota towards achieving national development.

Conclusion

In conclusion, technology education is an avenue for technological and economic development as it equips citizens with skills and knowledge for increased production and as well assist the nation meet her manpower needs. It develops individuals with skills who would device, borrow and adapt own technology for the society's advancement

Factors, which can directly or indirectly impede technology education in providing the pool of technological manpower are mentioned. Finally, for technology to play its role, adequate funding is advised.

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