

**AN ANALYSIS OF TECHNICAL EDUCATION PROGRAMMES
IN NIGERIA: A STUDY OF NASARAWA STATE
POLYTECHNIC, LAFIA 2001-2007**

BY

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**A THESIS SUBMITTED TO THE POSTGRADUATE SCHOOL, AHMADU
BELLO UNIVERSITY, ZARIA. IN PARTIAL FULFILLMENT OF THE
REQUIREMENT FOR THE AWARD OF MASTER OF SCIENCE (M.SC)
DEGREE IN POLITICAL SCIENCE**

JANUARY, 2011

DECLARATION

I **Abubakar, Hussaini Ibrahim** hereby declares that the Thesis titled: *An Analysis of Technical Education Programmes in Nigeria: A Study of Nasarawa State Polytechnic, Lafia 2001-2007* is a product of my rigorous intellectual exercise carried out in the Department of Political Science and International Studies Ahmadu Bello University, Zaria, under the supervision **Dr. Isah M. Abbas** and **Dr. Umar M. Kaoje**. I also declare that no part of this Thesis has been presented or submitted elsewhere for the award of a degree or higher degree.

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CERTIFICATION

This Thesis titled: *An Analysis of Technical Education Programmes in Nigeria: A Study of Nasarawa State Polytechnic, Lafia 2001-2007* meets the requirements governing the award of Master of Science (M.Sc) degree in Political Science at Ahmadu Bello University, Zaria as is approved for its contribution to knowledge and the broad spectrum of literature in the subject matter.

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DEDICATION

This work is dedicated to the everlasting memory of *Muhammadu Abubakar Rimi*, a frontier politician who lived a life of courage, doggedness, commitment, fearlessness and determine to fight injustice whenever it was. Rimi died after a brush with armed robbers on April 4, 2010. May Allah forgive him.

ABSTRACT

Since the 80s Nigeria has been struggling to build a solid base for economic development and growth, which has seen little success. Our technical institutions, especially the polytechnics are only for the theoretical training which does not respond effectively to the needs of our socio-economic development nor our changing national environment. This absence of an indigenous capacity to conduct basic and applied research work in emerging areas of science and technology has continued to engender the culture of backwardness and total dependence on foreign industrial/consumable goods in Nigeria. This study therefore sought to examine the role of the Nigerian state and the economy in the area of technical education, as well as those problems that led to poor industrial growth which clearly showed the inability of the sector to produce the required technical experts who can man the sector. This study therefore is an investigation of the policy direction of technical education in Nigeria with specific reference to Nasarawa State Polytechnic, Lafia and the impact it has on the technical education in Nigeria generally. The elite theory was also employed in the study due to the fact that it exposes the role of the elites and how state power is used to destroy the economy. As for method of data collection, both primary and secondary methods were utilised, with emphasis on the secondary methods. Findings on the study indicate that the combined impact of the socio-economic crises and the negative tendencies of the elites has exposed Nigeria as reckless, irresponsible and insensitive state. On a whole, the work has concluded that Nigeria cannot afford to lag behind others in Africa, and therefore, a very high priority must be accorded to technical education.

ACKNOWLEDGMENTS

Glory be to Allah (SWT), the creator off heaven and the earth, the Lord of the worlds for the successful completion of a journey that seemed too far and full of difficulties. My joy and gratitude goes to Him for successful completion of this work and His bountiful blessings all through.

My appreciation goes to my parents, especially my Late mother, Hajiya Zainb Ibrahim Abubakar, who could not live long enough to see the harvest of a high-bread seed she left ripening. Mother, may Allah reward you with Al-Janat Firdausi and to my father, Alhaji Abubakar Ibrahim, an exemplary leader and a good friend for ensuring that I grew through the path of obedience and hard work. May you equally be rewarded.

I am indebted to my supervisors; Dr. Isah M. Abbas. Your deep tolerance, patience, in-depth criticisms, corrections and inputs have strengthened my faith and zeal. That has always renewed my enthusiasm in the pursuit of the work. Mallam, may Allah make you a winner in all your affairs.

Dr. U.M. Kaóje, I remain ever grateful for all that you have been to me right from my undergraduate days. Your critical suggestions made the journey a wonderful one. I wish to also appreciate and thank all my lecturers in the Department of Political Science, Ahmadu Bello University, Zaria. I will remember you people in all I do in life. I most sincerely thank my wife, Princes Rasheedah and our little daughter, Zainab (Mama) for the understanding all through. I love you with all my heart.

My brother, Alhaji Dalhatu Umar, you will forever be remembered. And I thank you too. I wish to gratefully acknowledge the input of my friends and colleagues, especially, Mohammed

Rabiu Garba, I found true friendship and neighborliness in you. This work also benefited from the intellectual endowment of Professor Attahiru Jega, Dr. Nuru A. Yakubu, Dr. M.S. Abubakar and Mallam Muhammad Hussaini Haruna (NBTE). I wish to register profound gratitude to Mallam Abubakar Balarabe who did the typesetting. He has been very wonderful and accommodating.

I must also thank my friends, associates and comrades in ASUP, who are too numerous to be mentioned, but in particular Muhammad Umar Kibiya, Buhari Abdullahi Maiyama, Shammah Kpanja, and all my course mates.

Finally, I must acknowledge my root, members of my original constituency, the poor, who in plenty continue to wallow in abject poverty. By very definition, this research work shows my commitment to the problem facing my people. I assure all the masses that my education will be a blessing to them. I will always remember them with the deepest interest and affection, and my organic link with them and other comrades at home and in every part of the country is forever a dialectical relationship.

Hussaini I. Abubakar

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CHAPTER ONE

Introduction

1.1 General Background to the Study

The fundamental basis for education world over is to transform the socio-economic wellbeing of the entire populace. The transformation however must be anchored on sustainable change which can be achieved through research and skills acquisition. In other words the purpose of education is not only to perpetuate the culture, but also to improve the society in which it exists. Education is the fundamental indicator of the national development because it develops the human resources, which is most important factor of national development.

Curle (1966) argues that there is a close relationship between a country's attitude towards the education of its people and rate of its development. He further posits that countries investing more on education had high rate of economic growth as compared to the countries spending less on education. It has been emphasized that the work oriented education should be recognized as an effective means for fulfillment of individual needs and for employment.

Consequently, technical education, by its nature, has to be relevant to other sectors of society in order to educate and train the technical personnel and skilled workers needed for socio-economic development. The global perspective on education is rapidly changing, it is essential for technical education to strengthen its linkage with world of work in order to meet changing requirements. To cope with this changing nature of workplace, it is essential to development through life-long education, the necessary skills required for performing jobs.

More so, technical education is indispensable for the building and sustenance of modern nation-state. It prepares enlightened citizens capable of communicating among themselves at an intelligent level, thus making it possible for them to work out their social and economic relationships. Technical education is in fact, a necessary ingredient for national unity, stability and development, for it does not only prepare the individual citizen for living personal fulfillment but also makes it possible for him to contribute effectively to the development of his community and the nation generally.

However, in Nigeria despite the best intentions of successive Nigerian governments, technical education programmes are still fraught with problems, including administrator's misconception of the nature of technical education, inadequate political will by the government, deficient education monitoring and evaluation procedures, poor funding, poor incentives for teachers and a rapid rate of technological change. This situation is not just a paradox of uncertainties amidst availability of technical institutions across the country (Nasarawa State Polytechnic inclusive) but a very disturbing scenario. The concern here is not to examine problematique of national education policy in Nigeria generally, but rather, it is an attempt to situate the policy direction of the state with particular reference to technical education in Nigeria and Nasarawa State Polytechnic, Lafia in particular.

1.2 Statement of the Research Problem

There is an uncompromising stand that the image of technical education in the public eye is regrettably low. It is sad that polytechnics in Nigeria, as in many parts of the world, that are expected to operate on the basis of enrolment ratio of 70:30 between science/technology and Art/Business programmes could not meet up with that global challenge. Polytechnics are

expected to produce the nation's technical manpower in Nigeria, this has not happened. In terms of ratio the reverse is the case. The ratio of programmes is 65:35 in favour of Art/Business against science/technology.

Contrary to policy objectives of establishing polytechnics, the admission profile is heavy on accountancy, business studies, banking and finance, marketing and secretarial studies. This is a major problem. Polytechnics are virtually schools of liberal arts and business studies. Technical Education as a whole in Nigeria has become an orphan. No one cares about that sector of education. Therefore, the sort of policy and financial support required to lift it from the present morass is not forthcoming.

It is quite alarming that the National Policy on Education (NPE) which was designed to promote technical and vocational education within 6-3-3-4 framework is also a failure. Students have shown no interest in technical and vocational education as they all want to go to universities. The positive role played by education in other parts of the world, however, has eluded Nigeria. These technical problems are largely due to the administrators misconception of the nature of technical education, drastic reduction in the amount and proportion of government expenditure allocated to education, poor incentives for teachers, massive corruption and continuous change and shift from one system or programme on education to another as well as the rapid rate of technological changes.

Nigeria boasts of becoming one of the top 20 leading economies in the year 2020. This is to the neglect of the fact that without quality education a country cannot become competitive. The most competitive countries in this century will be those that can produce in large quantities innovative societies and technologists, thinkers and philosophers and creative social societies and

writers. Many countries are working hard to move from capital intensive economies to innovative based economies.

This study therefore is an investigation of the policy direction of technical education in Nigeria with specific reference to Nasarawa State Polytechnic, Lafia and the impact it has on the technical education in Nigeria generally.

1.3 Research Questions

This study is anchored on the following research questions;

- i. To what extent has the social and political structure in Nigeria considered technical education as the basic ingredient for national development?
- ii. How has government policy cum that of the management of Nasarawa State Polytechnic, Lafia encouraged or hampered the rate of enrolment, advancement and success of students?
- iii. What does Nigeria stand to benefit by introducing a rapid boost in the growth of technical and vocational education sub-sector?
- iv. What constitutes the cardinal crises of technical education in Nasarawa State Polytechnic, Lafia what can be done to address them?

1.4 Objectives the Study

The study is premised on the following research objectives;

- i. To determine the extent to which the social and political structures in Nigeria considered technical education as the basic ingredient for national development.

- ii. To assess government policy and that of the management of Nasarawa State Polytechnic, Lafia encouraged or hampered the rate of enrolment, advancement and success of students.
- iii. To determine the benefits Nigeria stand to gain by introducing a rapid boost in the growth of technical and vocational education sub-sector.
- iv. To identify factors that constitute the cardinal crises of technical education in Nasarawa State Polytechnic, Lafia and profer solutions to them,

1.5 Research Propositions

The study proposes the following propositions;

- i. That the neglect of technical education by the governing elites from the onset has affected the industrial sector in the country.
- ii. That elitist misconception which placed technical education second to the literary education has grossly affected the growth of technical manpower in Nigeria.
- iii. That the poor funding or technical educational sector in Nigeria has engendered the culture of dependency on the economy.

1.6 Significance of the Study

It is important to state here that this research is very relevant, and of great benefit to Nigeria as a country that is on the search for a more regional or continental followership. This is so because technology is the bedrock for industrial breakthrough which in turns brings about stability in the entire economy.

The research is also timely as it intends to disabuse the minds of both the leaders and the led on the feeble conception that technical education is for the weak students, and therefore deserves complete government's attention. Literature on the subject matter is not large as such this work further adds to the scarce body of literature on technical and vocational studies in Nigeria.

1.7 Scope and Limitations of the Study

The study covers only the Nasarawa State Polytechnics Lafia, which shares common problems with other sister Polytechnics in Nigeria. We assessed activities ranging from curricula, management style, quality of staff, and staff development and government attention in the areas relating to the upgrading of facilities, business and employment opportunities of Polytechnics products as well as the general academic environment from 2001-2007.

The researcher faced problems in data collection, particularly, in terms of literature. There are not enough materials in this area of study, particularly by indigenous authors. Other problems have to do with the respondents during the administration of questionnaires as people were too mean and unwilling to respond to questions. Notwithstanding these problems, we adequately got substantial data to prosecute the research.

1.8 Definition of Concepts

There are technical concepts that are used in this study therefore their definitions tend to give more meanings to how they have been used

Policy: a policy is a statement of principle or a group of principles, with their supporting rules of action, that conditions and governs the achievement of certain objectives to which a business is directed.

Public Policy: is an integrated course and programme of action that government has set and the framework or guide it has designed to direct action and practice in certain problem area

Technical Education: encompass the training of artisans such as the “roadside mechanics” as well as highly skilled technicians/technologists required in the manufacture and maintenance of high-tech system such as space crafts, nuclear facilities and advanced computers.

1.9 Research Methodology

The researcher employed the use of both primary and secondary methods of data collection for the study. To be specific, the data for the study was collected from numerous published research materials in forms of books, reports, journals, workshop proceedings and working papers obtained from libraries and the internet. This also includes magazines, periodicals as well as newspapers. More so, the researcher made use of questionnaire, oral interviews and participant observation.

1.9.1 Primary Source

The primary source of data collection embraced in the study includes administration of questionnaires and key stakeholders interview (KSI).

1.9.2 Secondary Source

The researcher employed content analysis of exiting literature on the subject matter under study. As such, books, journals, articles, newspapers and magazines, reports, and internet as well

as other related government publications were used to get the needed information. The initial steps was to undertake desk review of available literature and the latter step was to deal with

1.9.3 Sampling Method

The researcher made use of stratified random sampling technique to get the population interest for the study since it was not economically wise to use the entire population due to time and logistics constraints. However, the researcher ensured that the randomly selected sample was indeed a true representation of the characteristics of sought population of interest.

1.9.4 Sample Population

For the purpose of this study, the researcher randomly select a total number of 100 Polytechnic staff as respondents for the administration of questionnaires. 10 questionnaires were administered on the management of Nasarawa State Polytechnic, Lafia and NBTE. For the key Stakeholders Interview, efforts weree made to get at random, two each from both the management of Nasarawa State Polytechnic, Lafia and NBTE, a grand total of 110 respondents constituted the population of interest for this study.

1.9.5 Data Presentation, Analysis and Interpretation

The method for the presentation of data was both qualitative and quantitative descriptive analysis with the use of tables. This is done in chapter four where the researcher presents data that was collected from the field by way of table which is a method of transferring data from its gathering instruments to a statistical form, where they are systematically examined for further interpretation and analysis.

The analysis involved the use of quantitative and qualitative descriptive analysis to summarize the results of the subject matter under investigation. The use of quantitative descriptive analysis method was anchored on simple percentage statistics to sum up the mass of information generated during the field work, so that appropriate analytical method can be further applied to discover the relationship between Technical Education and the policy direction of the government. The use of qualitative descriptive analysis on the other hand, afforded the researcher to literally explain the statistical result (i.e. interpretation) of the findings from the generated information. The conclusion was therefore drawn based on such findings as could be seen in the work.

1.10 Organization of Chapters

The research is presented in five chapters. Chapter one which is an introductory chapter sets out the general background to the study which includes; statement of the research problem, research questions; objectives of study; research propositions; significances of the study; scope and limitations of the study; definition of concepts; research methodology and organization of chapters. Chapter two encapsulates the review of related literature and theoretical framework. In chapter three, the study evaluates in time perspectives, the historical development of technical education in Nigeria and Nasarawa State. Chapter four deals with the case study where we examine the public policy on technical education in the Nasarawa State Polytechnic, Lafia. Chapter five contains summary, conclusion and recommendations.

CHAPTER TWO

Literature Review and theoretical Framework

2.1 Introduction

This chapter deals with a review of a broad spectrum of literature in the subject matter (Technical education) and application of a theoretical framework. It is imperative here to consider relevant issues that relate to technical education in Nigeria. It is equally important to appreciate the fact that the entire history of the rise, progress and development of industrialized countries shows that they have given due consideration and importance to technical education and all their progress owes a lot to the advancement and priority given to technical education.

2.2 Technical Education: Divergent Perspectives

Education generally can be considered as permanent change in behaviour as a result of learning, consists of all efforts (conscious or incidental) made by a society to accomplish set objectives, which are considered to be desirable in terms of the individual as well as the societal needs. In all human societies, particularly the modern ones, education remains one of the most powerful instruments for both the development of man and transformation of the human society. However, the efficacy of education as an instrument of transformation depends entirely on how the government manages the project meant for the upliftment of the educational system. (Abolarin, 2001). According to Aluede (2006) It is a truism that education is the source of national power. Even the most powerful nations of the world still increasingly invest in education.

In the present globalizing world, science and technology is the benchmark on which national progress and development is measured. Therefore, no nation can be competitive in the modern world without properly harnessing and developing its science and technology potentials. Socio-economic development is in the most dictated by the techno-scientific advancement, a global trend that is glaring.

In Nigeria, education has generally been recognized as an important catalyst for development. The National Policy on Education (NPE) sees education as an instrument per excellence for effecting national development. The policy stated the national goals of Nigeria on education which stressed its essence among other things was to encourage the acquisition of appropriate skills and the development of mental, physical and social abilities and competencies as equipment for individual to live in and contribute to the development of his society (Onukaogu, 2008).

However, Nigerian education system has attained massive expansion in the number of institutions, courses and enrolment across all tiers. But currently, the crisis in the sector reflected in much deeper and wider socio-economic and political crisis of the nation. This is because the tertiary education has been confronted with several problems that include falling standard, poor funding, infrastructural decay, poor social service and ethical problem such as cultism, examination malpractice, sexual harassment etc. Other reasons were equally advanced by scholars for the poor performance of sectors.

A major corollary of the advent of British colonialism in Nigeria was the introduction of western education in the country. This development was compelled on the British imperial regime by the imperatives of effective communication with the local natives and needed skilled

personnel for its various services, all geared towards the realization of their exploitative mission. The colonial government did not promote the study of science or technical courses. This could be attributed largely to the ecclesiastical objectives of using education as a tool for proselytization and evangelization.

It was not until 1895 that the first technical institution in Nigeria, Hope Waddell Institute, Calabar, was established by a Christian Mission – the Presbyterians, almost fifty years after the advent of western education in the country. The institution had only three departments – Secondary, Teacher Training and Industrial. The industrial department was to train students in trades like tailoring, carpentry, banking, printing, agriculture, book binding etc (Yakubu, 2001).

The stunted growth of technical education programmes institution known as trade centres (now technical education colleges) and technical institutes (now polytechnics) was very insignificant in number compared to the provision made for grammar school education. In 1960, there were only 29 technical institutions with a total enrolment of 5087 while there were 883 secondary schools with 135,000 students (Yakubu, 2001).

It was equally noted that the current low status of technical education in Nigeria could not be divorced from the historical antecedents of the introduction of western education in the country which was closely associated with Christian Missionary activities whose cardinal objectives were evangelism and winning convert and producing literary oriented workers who could assist their missionary work as pastors, teachers, clerks, interpreters, etc. Against this background, there is no looking far to see the reason for neglect of technical education in the colonial era.

Not just that, the early elites in Nigeria were mainly people who had a literary and humanist education and had been trained as teachers and administrators. It was not until the 20th century that the country started producing professionals in fields such as engineering, medicine, pharmacy and technologies.

This has grossly affected the growth of technical education for self-reliance, in fact, many years after the attainment of political independence, no serious efforts were made to improve the sector, the basic issue, which seems to me to arise on this crucial matter of education and the future of this country, are also basic choices. The magnitude of these issues and the significance of these choices are not often appreciated, even by many who lament the state of education in our country today. This is partly because they do not often place the issue in its global context and see our country in terms of its true size and potential among nations.

By comparison, it is however, instructive to note that at the time of political independence, Pakistan had no organized system of technical education, and it was not part of public education. The only institutions providing technical and vocational training were artisan and trade schools, and number of private commercial schools and some professional colleges of engineering and agriculture. In the educational conference of 1947, the desirability of establishing of a technical education council was also considered in order to survey the field of technical education in Pakistan and to make suggestions for its improvement. One of the recommendations was to establish technical high schools in order to introduce a technical base in secondary education. Such schools would be of three categories: Engineering base, commercial base and agriculture base.

Science and technology has contributed enormously to achieve the nation's goals for development. Science and technology are closely linked since technology refers to the utilization of scientific progress. Scientific development itself is governed by the number and quality of appropriately trained manpower available for national development activities (Government of Pakistan, 1947).

It is an indispensable fact that research efforts by scientists, inventions and designs by engineers cannot be translated into reality without the invaluable contributions of proficient and well-bred craftsman or technician who will make the difference in the success or otherwise of a production process, the affordability of food all year round, efficient transportation and housing system, the supply of essential utilities, and in general the quality of life available to the citizenry.

To ensure these, technical colleges and similar institution must be designed to play a crucial role by providing the much needed skilled manpower in form of artisans, craftsmen and technicians in the various trades. Aina (2006) posits that the present state of technical education in Nigeria calls for a drastic and holistic intervention in order to save it from its present state of anomie.

It is universally acknowledge that technical/vocational education is that aspect of education that could facilitates a nation's technological, economic and industrial development. A look at the developed nations of the world today has shown that their development is due to the development of their technical education sector which has been responsible for the high quality and skilled manpower – technicians, technologists, and engineers etc. even in some of the developing countries, technical education is being accorded all the importance it deserves.

2.3 Technical Education and the Challenge for National Development in Nigeria

According to Hussain (2004:48), the normal usage of the term asserts that technical education, in Pakistan, generally refers to industrial technology offered in polytechnics, monotchnics institutes, colleges of technology and technical colleges to train supervisory personnel for industry. It also includes vocational education for boys and girls for the training of skilled workers and commercial education which serves the needs of the distributive sector of the economy retailing and business organization.

Aina (2006), observes that the hitherto growth of technical education in Nigeria in 1960s started to suffer a decline in the 1980s as a result of unfavourable government economic policies, which have forced many industries to close shop or operate at an abysmally low capacity level.

Our problems in the education sector have become so serious that the United Nations Educational, Scientific and Cultural Organization (UNESCO) recently concluded that the aims of various governments to combat poverty through the establishment of different programmes aimed at job creation and poverty reduction have failed because graduates of these institutions lack the necessary practical skills. This is a matter of great concern to all key players in technical vocational education, in both formal and informal programmes.

In practical terms, the performance of technical and vocational education in Nigeria and the effect on society has been too sorrowful. The following findings have revealed the state of technical education. First and foremost a structural imbalance has been identified in the system. The framers of the National Policy on Education envisaged a post-primary streaming distribution of:

- Secondary School - 60%
- Technical Collage - 20%
- Vocational Training Centres - 10%
- Apprenticeship - 10%

By this arrangement, the ratio between secondary and technical education is expected to be 3:1. However, Nigeria has 5,100 secondary schools with enrolment of 4,448,991 as against technical college of 138 with enrolment of 43,354. These represent ratio of 37:1 and 102:1 respectively (Aina, 2006).

Inadequate resource input has also been identified as another area of problem. Technical colleges are expected to feed polytechnics just as secondary schools are expected to feed universities. The situation on the ground, however, is that the total turn out of our Technical Colleges represents only 17% of available spaces in polytechnics. So, right from the onset, the mission of Technical Colleges with regards to feeding polytechnics is not being met (Aina, 2006).

In 2005, about 16,000 candidates applied for admission into the 138 Technical Colleges in Nigeria. Akwa-Ibom, Edo, Lagos, Ogun, Osun and Oyo States contributed an average of 450 candidates. On the other hand, Bayelsa, Borno, FCT, Kebbli and Sokoto states contributed only an average of 30 candidates. Between 1999 and 2005, the core trades in our technical colleges continue to record declining enrolment.

- Mechanical – vehicle mechanics, mechanical engineering, craft practice, refrigeration and air conditioning recorded 02% of enrolment.
- Electrical-radio and television recorded 03%

- Civil-bricklaying and concreting trade had 0.2%
- Business and Hospitality trades 93% (Nura, 2007).

The story is the same in our polytechnics, where Salim (2000) reported the case of admission seekers. According to him, Accounting, Mass Communication, Management and Business Studies recorded 4,036; 4087 and 3,056 respectively. On the other hand, those for Electrical, Mechanical and Civil Engineering were a mere 146,103 and 45 respectively. This is perhaps one of the reasons why most polytechnics today depend on Pre-ND programmes or second best candidates for their intake.

While we witnessed these shocking and discouraging results in the sciences and technically-based courses in Nigeria, a journey into the happenings in other countries have revealed the contrary. For instance, the importance of human resources for achieving technical self-sufficiency was perceived by the pioneers of Pakistan movement. Iqbal (1994), expressing his views on the subject as stated:

The battle for existence which is waging amongst the nations of the world today and whose result will certainly prove disastrous for some people is a battle which does not need armed soldiers. The real soldiers in this struggle are those artisans and technicians who are quietly working in factories of their countries. In this era, if you want to judge the real strength of a country, you should not just examine its guns and rifles. Go into factories and weigh for yourself how far that nation is dependent - upon others and to what extent it is able to meet all its needs by its own efforts (Adapted from Hussain, 2004:102).

The onslaught of the generalized crisis of World capitalism and the attendant institutionalization of structural adjustment measures have engendered serious impact on the Nigerian political economy. In particular, the ongoing crisis has, right from the early 1980s been marked by a declining role of the state in the area of social provisioning to the Nigerian

citizenry/ indeed, consequent upon the formal introduction of the Structural Adjustment Programme by the Babangida regime in 1986 with its attendant conditionalities, namely, cut in public expenditure, devaluation of currency and privatization and commercialization of public or state-owned enterprises. The Nigeria state would seem to have gradually divested itself from the provision of social services such as education, health among others (Mohammed, 2008:6).

In consequence, the operation of these vital social service sectors began to be adversely affected. For instance, as noted by Professor Adesina (2005:11) that between 1980 and the late 1990s, Nigeria's government spending on education declined from 6% of the GDP to about 0.6% of the GDP and rising slightly to about 1% in 2002.

Apart from the fact that what is being spent by the Nigeria state on education from the nation's GDP is not up to the UNESCO recommended ratio, the little that is being allocated is also grossly inadequate to fund a functional educational system in the country. Accordingly, it is not surprising that educational institutions, especially those of higher education, including the polytechnics, have been seriously under-funded for quite some time now. The increasing under-funding of the educational institutions is manifested not only in the death and or decay of infrastructural facilities such as classrooms, laboratories and hostels, but also in the conspicuous inability of the institutions to effectively run their teaching and research activities

It is an unfortunate fate of technical education in Nigeria that its products are being accorded a low esteem in both the individual and societal estimations. Many parents do not like their children to go into the technical education except when they could not secure admission into the universities.

Since the return to civil rule in 1999, a reform agenda was put in place as a “medium-term development strategy”. Government reform agenda has been elaborated in the National Economic Empowerment Strategy (NEEDS). The NEED policy implementation is in collaboration with the State Economic Empowerment Strategy (SEED) and Local Economic Empowerment Strategy (LEED). The programme is also in active support of the Pan-African NEPAD strategies and the Millennium Development Goals (MDG’s) (Mohammed, 2008).

Mohammed (2005) asserts that reform in Higher Education as an integral part of the reform agenda were designed to overcome the challenges of funding, quality, access, relevance, governance and management. The main principles guiding funding were “a tripartite approach based on increased government funding, cost sharing and promotion of internal efficiency.

The reform is being implemented through the entrenchment of autonomy and academic freedom. An Autonomy Act has been put in place to bring financial and administrative autonomy to high education. Undue interference from government has reduced, particularly with governing councils in place, as well as the encouragement of transparency and due process. The policy sought for the commercialization of education to make it available to the teaching populace.

However, it is stressed that the reform agenda was instituted at the backdrop of monumental crisis which manifest since the onset of the Nigerian economic crisis. Higher education, particularly the polytechnic sector, that would seem to have only recently escaped an “untimely death” in the hands of a misguided government that was hell-bent on reducing the Nigerian education sector into a mere laboratory for its dubious “reform test”, was confronted with declining funds, infrastructural decay, poor condition of service, brain drain, strike action by staff unions and social vices such as cultism, sale of grade, and exam malpractice. The

consequence of these vices was a sharp decline in “standard and global competitiveness” (Mohammed, 2005).

The reform programme is also premised on a neo-liberal ideology which opposes public control of education. It sees education as a commodity to be purchased by clients (students). The marketization of education resulted to the commoditization of access and dwindling commitment to research and scholarship. It opposes the public good concept of education and sought private sector control.

The policy thrust of the reform is anchored on the directive and control of Breton Wood institution. The IMF and World Bank position on educational development in Africa is premised on private participation. It advised governments to concentrate on basic and technical education.

Higher education is a luxury which the country could obtain at a comparative advantage from developed world. Accordingly, the World Bank suggested a policy action on higher education in its report of 1986 in which developing countries were advised to increase “user fees”, reallocate public spending away from the higher education sector, decentralize education offering through increase private provision of higher education and non-publicly funded community schools (Adesina, 2005).

2.4 Nigerian Elites and Technical Education Reforms in Nigeria

The reform agenda of the Nigeria elites amount to the politicization of education for self and class interest. Their hostilities to the educational sector is a reflection of their anti-intellectualism. Policies of the reform have reduced access to higher education and exacerbated the crisis within the system.

From the foregoing discussion, it may be stated that the world is a global village, but Nigeria is still far from recording significant technological breakthrough. For Nigeria to take full advantage of developments around her, she must first of all record appreciable breakthrough in science and technology which should make a positive contribution to poverty alleviation, a big problem in Nigeria.

The polytechnic/technical vocational sub-sector of higher education is faced by a myriad of problems, which have persisted over the years and have the cumulative effect of eroding previous gains in the sub-sector. Until these problems are tackled and solved, the situation of neglect of polytechnic education in Nigeria would continue to militate against efforts at achieving technological development.

Of course, there is no doubt that national development is a desirable goal to be pursued through a re-structured and re-engineered technical education in Nigeria, a system in which there is a positive change in the curricula, where practical skills-acquisition is emphasized, where staff welfare in educational institutions is enhanced and motivation sustained, where infrastructure and facilities are functional and where positive and mutually beneficial linkages and relationships are established and nourished with industries and multi-lateral agencies. This would signal a new dawn in which our technical education institutions are producing young men and women who can depend on their skills and abilities for economic survival as well as the realization of the national dream for economic and technical self-reliance.

Onukaoga (2008), stressed that one of the ways through which the Federal Government has tried to respond to the problems of rot in Nigerian educational institutions is done by establishing the NUC, NBTE and NCCE. The primary duty of these institutions has been the

implementation of quality control. They are to ensure that standards are set and that no institution is established at the tertiary level of education if that institution does not meet minimum standards. These standards are: Administrative standards which include curriculum and examination practices, proper mix of personnel, especially in academics, infrastructure, and support facilities like medical centres, sports, libraries etc. these quality control institutions work in concert with established professional bodies like ICAN, COREN and medical council to ensure that the maintenance of standards is ensured through Resources Inspection, Accreditation and Re-accreditation visitations. In fact, the seriousness attached to these quality control exercise became even more manifest when some first and second generation universities were directed to close their Law and Medical facilities if they did not upgrade their standards. In the past, between these tertiary institutions, the fear of the NUC, NBTE and NCCE was the beginning of wisdom.

However, Mohammed (2008), making an observation maintained that it is worthy of mention the underhand tactics being employed by both institutions and the supervisory bodies (or their agents) such as NUC, NBTE and NCCE in the processes of accreditation of the academic programmes of higher education institutions. It is known that the institutions often spare no efforts in settling the accreditation teams being sent by their supervisory bodies and they are always willing accomplices in the desecration of academic standards through granting of dubious and questionable accreditation verdicts to underserving programmes and even institutions.

Modern scholars especially in the science are generally in agreement with the critical role theories play in social sciences research and as such have always applied theories in studying and explaining contemporary social problems and phenomena. Theories present to us as scholars and

researchers a clear view of what we hope to study and how we go about studying it with fewer problems.

2.5 Recent Global Technical and Vocation Education and Training TVET Reforms for Quality Assurance

There is currently a strong move in many countries towards having rigorous, internationally recognized TVET quality assurance process. Many countries have initiated steps for establishment of quality assurance mechanisms keeping in view the provision of TVET. This initiative is tied to the reforms in TVET sweeping round the globe. Existing TVET policies are often fragmented and limited in scope; so far the formal training sub-sector attracts the largest proportion of government support (Kingombe, 2011). This supply-driven system is exclusive, inefficient and unresponsive to labour-market needs. According to Ahadzie (2009) as cited by Kingombe (2011) a national training policy should be all-embracing. However, the future of TVET is generating heated debate nearly everywhere in the world. Atchoarena and Grootings (2009) in Kingombe (2011) posited that globalization and the failure of development policies in the fight against poverty have put TVET back at the centre of national and international policy debates; as a result TVET reform constitutes a vibrant area of public policy. Various national government and international organization like the UNESCO has being clamouring for overall change in the system of TVET. According to Kingombe (2011), the purpose of a TVET Reform Project is to support change within the TVET system, the TVET reform consist of a broad range of programme of TVET activities that focus on;

- i. Development of new national TVET policy
- ii. Implementation of competency based training.

- iii. New TVET teacher training arrangement (e.g. development of National Technical and Vocational Education Qualification Framework and development of teachers training Qualification).
- iv. A greater role for the private sector and
- v. More decentralized management of the formal TVET institutions.

These TVET reforms differ in various countries due to their various levels of technological needs and aspirations. On the other hand, when examined TVET across the globe , it is clear that the global reforms is directing focus and interest to address social, environmental, political, agriculture, business, sciences and technological needs amongst others. This is so because the world is gradually transforming from knowledge base to competency base. Nonetheless, many countries based their TVET reform strategies on sector strategy plans which are derived from national development plans, such as the improvement of productivity through skills development in industrial sectors. Consequently, these transformations have made many nations to establish their TVET model based on their technological needs.

2.6 Quality Assurance in Technical and Vocational Education and Training (TVET)

The concept of quality has been one of the most important concepts in contemporary educational terminology (Zelvys, 2004). In terms of general concept, quality is defined by Adebayo, Oyenike and Adesoji (n.d.) as the ability or degree with which a product, service, or phenomenon conforms, to an established standard, and which make it to be relatively superior to other. Idialu (2007) described quality as standards of something as compared to other things that is the degree of goodness or excellence. According to Adegbesan, (2010) quality is not just a feature of a finished product or services but involves a focus on internal processes and outputs which includes; the reduction of waste and the improvement of productivity. In the same vein,

Saba and Ibrahim (2011) refers to quality as the totality of features and characteristic of product or service that bear on its ability to satisfy stated or implied needs.

With respect to education, African Union (2007) stated that quality is a multidimensional concept, embracing all functions and activities of education system, including teaching and academic programmes, research and scholarship, staffing, students, buildings, facilities, equipment, services to the community, academic environment; taking into account national cultural values and circumstances and international dimensions such as exchange of knowledge, interactive networking, mobility of teachers and students, and international research projects. According to Olusola (2008) quality in education has to do with excellence, standard, appropriateness and real value. Similarly, Oyebade, Oladpo and Adetoro (2012) opined that quality in education may be considered on the basis of how good and efficient the teachers are; how adequate and accessible the facilities and materials needed for effective teaching and learning are; and how prepared the graduates are for meeting the challenges of life and for solving the social problems.

In TVET, quality is directly related to the achievement of the learning outcomes (knowledge, skills and competence achieved at the end of the learning process) that fulfils the key stakeholders' expectations: - students, parents, employers and community in general (Romanian Ministry of Education, Research, and Youth, n.d.). Continuous enhancement of the quality of TVET system is a key priority to any nation that desires to reap the benefits of this all important aspect of education system. In fact, quality enhancement is viewed as one of the main objectives of TVET system.

In order to ensure quality in TVET, it is essential to establish quality assurance (QA) frameworks applying to all aspect of TVET. Globally, the focus today is on strengthening

quality assurance at all levels. Quality Assurance (QA) is a generic term that can mean different things in different national and regional contexts. In a broad sense, Onocha (2002) sees quality assurance as the management of goods, services and activities from the input stage, through processes to the output stage of production. According to Adebayo, Oyenike and Adesoji (n.d.) quality assurance is about consistently meeting product specification or getting things for the first time and every time. It involves series of operational techniques and activities which includes all actions taken when requirement for quality are met. Similarly, Maajumdar, Khambayat, Tsesoro-Gayondato and Solla (2010) described quality assurance as the process of verifying or determining whether products or services meet or exceed customer expectations. They maintained that QA is a process-driven approach with specific steps to help define and attain goals. Majumdaret *al* further stressed that QA helps determine whether the steps used to provide the product or service is appropriate for the time and conditions. Quality assurance is about what people at different levels or units of an organization contribute to accepted standard of product quality. This involves a coordinated quality assurance system, which should be systematic; provide fundamentals of practice; be manageable so that its people will use it; be integrated; and allow scope for individual initiative and professional judgment (Kirkpatrick, 2005). QA therefore when applied in general concept, is seen as any systematic process of checking to see whether a product or service being developed is meeting specific requirements.

Quality assurance in education is the consistent and adequate provision and utilization of good and high standard resources to foster effective teaching and learning in every stage and aspect of the educational system (Fasasi, 2006). Quality assurance is the systematic review of educational programmes to ensure that acceptable standards of education, scholarship and infrastructure are being maintained (Unesco, n.d). According to Tuck (2007) quality assurance in

education is the process and procedures for ensuring that qualifications, assessment and programme delivery meet certain standards. Oderinde (2004) enumerated two aspects of quality in education, which are both internal and external. The internal aspect is the implementations of the school objectives while the external aspect deals with the implementation of national objectives, which are pre-requisites to the achievement of quality in any educational institution. Quality Assurance can refer to all forms of internal and external quality monitoring, evaluation or review or the systematic review of educational programmes to ensure that acceptable standards of education, scholarship and infrastructure are being maintained (African Union, 2007).

Quality assurance in TVET is the systematic management and assessment procedures adopted by an educational institution or system to monitor performance and to ensure achievement of quality outputs or improved quality (Majumdaret *al*, 2010). The main actors to quality assurance in TVET are; teachers, the commission for quality assurance and evaluation, school management, school inspectorate, and community (Romanian Ministry of Education, Research, and Youth, n.d.). It can be simply put that quality assurance in TVET programme is the adequate provision and utilization of resources in all aspects of the programme activities to produce competent and effective graduates. So, any activity that is concerned with assessing and improving the merit or the worth of an intervention in the field of TVET or its compliance with given standards constitutes quality assurance.

2.7 Indicators and Indices of Quality Assurance in Technical and Vocational Education and Training (TVET) Programme

Ogbodo and Nwaoku (2009) and Ehindero (2004) opined that there are indicators and indices that are associated with quality assurance in education, TVET inclusive. Some of these

indicators and indices are students, teachers, supervision of instruction and teaching effectiveness, teaching and learning environment, student admission policy, recruitment and selection of academic staff, measurement and evaluation as well as the flow of operational fund. Similarly, UNICEF (2000) explained quality education by enumerating the components of quality education which are:

1. Learners who are healthy, well nourished and ready to participate, learn, and supported in learning by families and communities.
2. Environments that are healthy, safe, protective, gender sensitive, and have adequate resources and facilities.
3. Content that is reflected in relevant curricula and materials for acquisition of basic skills, skills for life, and knowledge in such areas as gender, and health.
4. Process through which trained teachers use appropriate teaching approaches in well managed classrooms and schools; and skillful assessment to facilitate learning and reduce disparities.
5. Outcomes that encompass knowledge, skills, attitudes, and are linked to national goals for education and positive participation in society.

According to Nonye, Bakare, Virgy, and Ngozi (2011) education quality is measured using already established standards or quality indicators that can be low or above a given benchmark. The quality is said to be low or poor where standards are not met, or where stakeholders query or doubt any area of the process or the competencies of graduates of the educational system/programmes.

2.8 Technical and Vocational Education and Training (TVET) Quality Assurance Agencies in Nigeria

In Nigeria, accreditation is based on individual programmes. The issue of establishment of an institution is a different matter. The Nigerian Constitution has placed education under the concurrent legislative list, which means that both the Federal and state governments can legislate and establish schools and enable them with laws or edicts as the case may be (Muhammad,2007). More so, educational standards/quality fall under the exclusive power of the Federal government, hence the establishment of quality assurance agencies such as National University Commission (NUC), and National Board for Technical Education (NBTE), National Business and Technical Examination Board (NABTEB). The NUC's roles include the accreditation, monitoring, and evaluation of Universities programmes, infrastructural facilities, teaching and non teaching staff, and instructional materials. On the other hand, the NBTE performed similar task as that of NUC to polytechnics, technical colleges, and other certificate awarding TVET providers. NABTEB is the examination body that is responsible for the external examination for technical and business education trades in technical colleges.

2.9 Challenges of Quality Assurance in Technical and Vocational Education and Training (TVET) Programme in Nigeria

Quality Assurance is a key component of successful internalization, mechanism for building institutional reputation in a competitive local and global arena and necessary foundation for consumer protection (National University Commission, 2007). The concept of quality with regards to education is considered as the worth of education in the area of input, teaching/learning process, and output as well as the entire gamut involved in the education delivery system (Onojetah&Amiaya, 2012). However, various challenges have been identified to

affect the achievement of the goals and objectives of quality assurance in TVET. Evidence from research studies (Alfred & Kayoma, 2012; Idialu, 2012; Money, 2012; Olagboye, 2004; Onoshakpokaiye, 2012; Onwuegbu, 2012; Singer, 2012; Uwaifo & U.I Uwaifo, 2009) indicated that the factors militating against quality assurance in vocational education programmes are numerous. Some of these factors as highlighted by these authors include the following: inadequate funding; inadequate staff quality and quantity; inadequate provision of facilities; insufficient provision of instructional materials; poor retraining scheme for vocational teachers and poor societal attitude. Other factors include poor remuneration of vocational teachers; poor administration and supervision; examination malpractice; poor assessment methods; absenteeism of teachers and students; poor teacher student relationship, counseling services are not provided in the schools, administrative flaws in terms of appointment of teaching staffs; politicization of teachers' appointment; and total disregard of accreditation report.

According to Anachuna and Nwachukwu (2012) the factors militating against quality assurance in TVET in universities include: population explosion in our universities; overcrowded classrooms; inadequate funding; inadequate infrastructural facilities; inadequate academic staff; poor remuneration of lecturers; mirage office accommodation; poor school management; unstable academic calendar due to incessant strikes by staff, students unrest, examination malpractice; dearth of research grants; cultism, ill equipped libraries; and too much emphasis on paper qualification. Furthermore, Babalola (2001) posited that universities in Nigeria are in crisis. He stated that, there is less money to spend on teaching, research, and community services. Also, he maintained that libraries in Nigerian universities lack adequate and relevant books; laboratories do not have essential apparatus; classrooms are without adequate seats for students and even office accommodation to university staff is a mirage. The Educational Sector

Analysis shows that equipments for science and technical vocational education among others were lacking in majority of the schools in Nigeria. Many school buildings in every state of the country were in a terrible state of disrepair; teaching materials, workshops, staff offices, and school furniture were also lacking, although there was wide variation from state to state (FME & UNESCO, 2003).

Folashade (2005) observed that many school teachers are unhappy, lack the zeal and enthusiasm in their jobs because their welfare is not taken into consideration by their employers. They go on strikes before being paid their salaries and retirement benefits are not guaranteed at retirement. Under these conditions, quality in teaching may be affected. However, Anyanwu (2009) stated that students can make or mar quality in teaching. Indeed when the students are not interested in a subject and do not possess learning materials such as text and exercise books, quality teaching is jeopardized especially for technical and vocational education which contribute significantly to economic and self reliance. Based on the foregoing, it is evident that the quality and functionality of technical and vocational education programmes in has been marred by several factors, this situation is worrisome to TVET stakeholders and need to be addressed.

2.10 Quality Assurance Strategies in Technical and Vocational Education and Training (TVET) Programme in Nigeria

Various strategies have been put in place to tackle the challenges of quality assurance in education in general and TVET in particular in different countries in the World. However, some of these strategies include: planning; internal and external evaluation of TVET programmes; improved funding; public private partnership; training and retraining of TVET teachers/instructors; adequate provision of required infrastructures; organizing seminars and workshop for

TVET teachers/ instructors; provision of research grants to TVET teachers/ instructors; accreditation; and provision of scholarship to TVET teachers and students. Anyakwo (2012) posited that factors such as adequate and functional facilities, appropriate class size, the right number of qualified and competent TVET educators, appropriate teaching methods/ strategies; and funding promote the quality of TVET programmes.

Similarly, Aworanti (2012) stated that to promote the quality of TVET, there should be adequate and functional facilities; good students' teacher relationship; conducive teaching/learning environment; and sufficiently learner-centred environment. According to the Romanian Ministry of Education, Research, and Youth (n.d) the main actors (teachers, quality assurance agencies, school management, employers, school inspectors, and community) in quality assurance plays vital roles in achieving the goals of quality assurance. The following are some roles of the various actors of quality assurance for quality outcomes:

Teachers: the roles of the teachers include: use of student- centred teaching methods; improvement of the quality of teaching process after regular evaluation (at least annually) of students' satisfaction; team planning (at least at curriculum level) of teaching and assessment activities; offering individual support at student request; and applying the quality assurance measures established at school level.

Quality Assurance Agencies: Their roles include: internal monitoring of TVET quality; and coordination of TVET quality assurance and evaluation processes.

School Management: the roles of the school management include: development of school action plan, following consultation processes with all stakeholders and taking into account regional and local priorities; promoting a quality culture at school level; permanent communication with

students, parents, and employers; and efficient and effective maintenance of teaching and learning resources.

Employers of Labour: The roles of the employers include: involvement and identification of training needs, and the planning of vocational education and training offer; involvement in the design of locally developed curricula; participation in the certification of vocational competences acquired by students; and formulating proposal for the improvement of vocational education and training.

School Inspectorate: The roles of the school inspectorates include: give guidance and support the schools in quality assurance process; quality control and formulation of quality improvement proposals; support for professional development of teachers; and dissemination of good practice in quality assurance.

Community: The roles of the community include: support the school's institutional development; pro active participation in the school's administration council; and assurance of the necessary resources for the teaching and learning process.

Similarly, Onyesom and Ashibogwu (2013) posited that control measures of quality assurance in vocational education include: proper evaluation and monitoring; adequate funding; improved supervision; retraining of teachers; research improvement; and attitudinal change on the part of government, school administrators and management, TVET teachers, parents, and students.

2.11 Theoretical Framework: Elite Theory

Theoretical framework adopted for this work is the Elite Theory. The principal proponents of this approach were the Italian Political Scientist, Gaetano Mosca; Vilfredo Pareto elaborate the idea in his doctrine of the elite although greatly reinforced by Pareto's theory, goes

further back than Karl Marx and Frederick Engels, who employed the term “elite” to describe the class conscious communist, the leading group within the proletariat.

One of the most famous modern uses of the term occurs in “iron law of oligarchy” a concept devised by a German Sociologist Robert Michels to refer to the alleged inevitable tendency of political parties and trade unions to become bureaucratized, centralized and conservative.

From the perspective of the elite theory, public policy may be viewed as the values and preferences of governing elite/ the assumptions of elite theory are captured by Thomas Dye and Harman Zeigler as follows:

- i. Society is divided into the few who have power and the many who do not. Only a small number of persons allocate values for society; the masses do not decided public policy.
- ii. The few who govern are not typical of the masses who were governed. Elite are drawn disproportionately from the upper socio-economic strata of society.
- iii. The movement of non-elites to elites position must be slow and continuous to maintain stability and avoid revolution. Only non-elites who have accepted the basic elite consensus can be admitted to governing circles.
- iv. Elites share a consensus on the basic values of the social system and the preservation of the system.
- v. Public policy does not reflect demand of the masses but rather the prevailing values of the elite. Changes in public policy will be incremental rather than revolutionary.

- vi. Active elites are subject to relatively little direct influence from apathetic masses.
Elite influence masses more than masses influence elites.

GactanoMosca (1858-1994) denied the possibility of a democracy. He maintained that in all societies, two classes of people appear: a class that rules and a class that is ruled. The former always less numerous, performs all political functions, monopolizes power and enjoys the advantage that power brings; whereas the latter, the numerous class is directed and controlled by the former.

He further argued that the rule of the minority over the majority is possible by the fact that the former is organized, while the mass of the down-trodden are not organized, each individual is standing alone.

Mosca further contended that in every society, the governing elites tries to find a moral and legal basis for its being in the mantle of leadership and represent it as the logic and necessary consequence of doctrine and beliefs that are generally recognized and accepted. The moral and legal right may not, and generally does not embody truth, it may as well as merely a plausible myth which is accepted by the people. supporting the general view about the criticality of the elites in society, Karl Manhein (1893-1947) also contends that the “actual shaping of public policy is in the hands of elites” but in his view, “this does not mean that the society is not democratic”.

Karl Marx (1818-1883 maintained that all societies have been dominated by a ruling class which had attained its position because of its possession of the major instruments of economic production. The political power of the ruling class therefore flowed from its economic power.

From these various writers, it could be summarized that elite theory maintain that public policies far from emerging from the struggle among various groups, actually come into being as a reflection of the preference and values of the governing elite.

In its classical formulation, elite power could be acquired through military conquest, revolutionary overthrow, command of economic resources etc. In the modern state, however, elite status is associated with the development of large scale organizations and the resultant creation of different kinds of elites such as political, military and economic elites whose sources of power include access to formal political office, wealth, technical expertise, knowledge etc. What is significant for our purpose here is that it is these elites who make policy; that when they do, they tend to reflect their values and preferences and that it is only a matter of coincidence if the policy decisions of the elites reflect the interest of the masses, as they sometimes do.

1. Basically, the theory is relevant to this study in the sense that it explains how public policy is being made. Elite theory contends that public policies are preference and values of the governing elite.
2. It stressed that it is normally the few members of the upper class of the group that normally make decisions.
3. It attempts to explain the belief that only a party organization, inspired correct and “scientific doctrines, formulated by the written word and interpreted by authority can rightly guide the state”.

There are two other issues that should be raised concerning the relevance of elite theory for policy analysis. Even if we concede the leadership role of elites in policy formulation strategic placement in elite position as a source of power is hardly a scientific conclusion. In

addition, we know little or nothing about the specific form which the participation of the masses in policy takes.

It is interesting to note that a major feature of the advent of British colonialism in Nigeria was the introduction of western education in the country. This development was compelled on the British colonialists by the imperatives of effective communication with the natives and needed skilled personnel for its various services all geared towards to realization of their exploitative mission.

Colonial schooling was “education for subordination, exploitation and creation of mental confusion and the development of underdevelopment”. The governing elites, who serve the interest of the metropolitan capitalist system have over the years refused to effect any meaningful changes in the educational sector.

Indeed, it is needless to say that the suffocating ambience within which the operators of the system, administrators, teachers and students have found themselves today has also contributed to the emergence and prevalence of other negative trends (such as brain drain and irregular session) and social vices like cultism, examination malpractice, admission racketeering, sexual harassment and so on.

From the above fascinating theoretical discourses, the problems of Nigerian education and other socio-economic crisis could be attributed to elitism, the dynamics of global capitalist expansion and class formulation in Nigeria.

For the Nigerian elites, the act of governance and the control of state power is hardly desirable if it can facilitate access to ore power, create a window of opportunity to loot public treasury and keep the people at their mercy.

Due to the recklessness of the Nigerian elites, there does not appear to be what can be termed as the public schools in the country. The real concept of education is quite different from what the elites termed to be an education. Emphasis must all be towards the real African education which has made provision for the physical, intellectual and vocational education of the children such that at adulthood the child was physically, intellectually and vocationally equipped to function effectively and contribute comprehensively to the development of his community.

In fact, until issues mentioned above, and others which did not feature on this review are squarely and thoroughly addressed, the hope of Nigeria to become one of the top 20 most industrialized countries of the world would continue to be a marriage that merely exists on a paper.

CHAPTER THREE

Historical Development of Technical Education in Nigeria

3.1 Introduction

This chapter deals with the historical development of technical education in Nigeria. It also deals with the entire history of the rise, progress and development of advanced countries of the world. In Nigeria, the early promoters of western education did not promote the study of sciences or technical courses.

3.2 Non-Governmental Effort in Technical Education from (1900-1960)

The first known effort at institutionalized technical and vocational education came more than 50-years after the first systematic introduction of the western type of education in Nigeria by the Christian Missions. The Methodists have the lead in bringing Western education in to Badagry near Lagos and later to the inland areas. Other Missions eventually followed; prominent among them were the Church Missionary Society (CMS) and the Roman Catholic Mission (RCM) which were later to play an immense role in educational development in the country, the Presbyterian, the Baptist and the Qua Iboe Mission (Inwang, 2000).

One of the early post-primary institutions of renown was the Hope Waddell institute, Calabar which was established in 1895 by the Presbyterian Church of Scotland Mission. It was one of the foremost educational and training centres in West Africa. It was this institution which first had meaningful programmes in technical and vocational education. The school consisted of three parallel sections, each with different curricula; these were the secondary section, the teacher training section and the industrial section.

The secondary section had students who followed literary education and the teacher training section produced teachers for primary schools. The industrial section, however, had students who taught various trades, such as printing, tailoring, carpentry, banking, engineering trade and agriculture. The students also learnt general subjects in addition to their trades.

Taiwo, (1998) gives the number of apprentices enrolled at the time as 42 and distributed as follows:

Table 3:1 Number of Apprentices Earmarked and Distributed

| Apprentice | No. Enrolled |
|-------------------|---------------------|
| Gardening | 2 |
| Printing | 5 |
| Tailoring | 8 |
| Engineering | 5 |
| Carpentry | 11 |
| Banking | 11 |
| Total | 42 |

Source: Journal of Technical Educators, 1998

From Table 3.1, it is very necessary to recall here categorically that the need to address the shortage of indigenous trained technical manpower took over some of the skilled jobs available to reduce the financial burden on the colonial government was never intended.

First and foremost, all the 42 apprentices enrolled at that time were all enrolled in more of subordinating trades for them to only aid the perpetuation of the metal and cultural domination of Nigerians. Only five (5) out of these numbers were enrolled to learn the engineering trade, which was too insignificant.

It is equally important to state here that Nigerians then were never trained to take up serious jobs in the factories and other related outfits, since they were only trained at the apprentice level. Coupled with this stigma, the number of enrolment was never meant to free the

nation from scientific and industrial dependence. Other Mission which had early technical and vocational education programmes or schools were the Church Missionary Society (CMS) and the Roman Catholic Mission (RCM). A trade schools was established in Onitsha in 1908 by the Church Missionary Society (CMS). The Roman Catholic Mission (RCM) also had a similar trade school at Onitsha. In all these cases the trade training was at the primary school level and enrolment were small (Inwang, 2000).

There was virtually no private effort at this time in technical and vocational education. The only one which be mentioned was the Blaize Memorial Institute in Abeokuta which was established by a few Nigerians and West Indian entrepreneurs. The school had vocational courses in building and engineering trades. Very little is known of its subsequent development.

Such was the extent of involvement by the Christian religious bodies and private individuals in technical and vocational education. As can be seen, this was little.

3.3 Early Government Effort in Technical Education in Nigeria

Technical education was not given attention by the government from the early years of educational development. Up to the period of the world depression of the 1930s. education up to that time was meant to produce mainly persons who could function as clerks, interpreters and primary school teachers to meet the immediate needs if the colonial government and commercial establishments. Even after this time and leading up to the period of independence, emphasis was still placed on literacy education with low priority accorded to technical and vocational education. The “educated” Nigerians and those who controlled the civil service were almost exclusively those who had literary education. This state of affairs drew the attention of the Ashby Commission to make the following observations in its report of 1960:

The first western schooling brought to Nigeria was a literary education...An so the literary tradition and the university degrees have become indelible symbols of prestige in Nigeria; by contrast, technology, agriculture, and other practical subjects particularly at the sub-professional level, have not won esteem. It is small wonder, then that training for qualifications other than degrees, especially in technology, is not popular (Yakubu, 2001:8).

It is noteworthy, however, to know that when Kings College, Lagos, the first government secondary school in Nigeria was established in 1909; it was envisaged to provide not only literary education but also commercial and technical education. According to the original scheme, the college was planned to have three departments, namely; sub-secondary, secondary and post-secondary departments. Students whose attainment on admission were below the standard of the Cambridge Preliminary Local Examination were placed in the sub-secondary department.

Those admitted in the secondary department worked up to the standard of the Cambridge senior local examination or the London University Matriculation Examination. The past-secondary department was intended to consist of students taking special courses of study in the theory and practice of teaching, engineering, science, commercial subjects, etc but this did not eventually materialize.

However, evening classes were held in the colleges for teachers preparing for Teacher's Certificate Examination. For those young men and women designed to improve their general education, for those requiring instruction in sectarian subjects and for apprentices in the engineering workshops of the marine and public works department of the government. The only technical subject which formed part of the regular curriculum of Kings College was woodwork.

This used to be taken by all students up to fourth form only. Although the subject was popular, it was not taken up to the school certificate level.

It is also to be noted that the curriculum of some government (primary) schools such as the ones at Bonny and Benin City included some technical subjects like carpentry, coopering, typewriting and telegraphy etc. This then was the extent of technical and vocational subjects in government educational institutions under the education department.

3.4 Government Departmental Schools in Nigeria

We have seen that except for the inclusion of one or two technical subjects in the curriculum of a few government primary schools there was virtually no technical and vocational education given by the government in its regular schools. The first real concrete move by the government towards technical education and training was the setting up of department training schools to produce middle level technical staff for the respective department of the civil service. Each school was managed by its own department, and training was geared to the needs of that department. Admission were tied to the vacancies in the department and therefore annual intake was expectedly very limited. Admissions were also restricted to mainly those who possessed the senior Cambridge School Certificate or Middle Six Certificate the duration of the programmes varied from one year to six years depending on the programme. Although some of these schools were started before the world depression of the 1930s, not much attention was paid to them then. It was really from the time of the depression onwards that any meaningful attention was turned to them.

This was because the recruitment of expatriate technical staff during the period of depression up to the Second World War years was restricted by many circumstances and local

staff had to be trained to make up for the inadequate or at least to fill part of the gap that was created by the shortage. The expatriate technical staff were mostly craftsmen and technicians who were employed as inspectors of works in the government department.

The first departmental technical school was the Survey school for the training of surveying assistants and was established in 1960. A strong need had been felt to train these assistants for the land and survey department and this led to the founding of the school. The school was initially located in Lagos. Some years later, it was moved to Ibadan and in 1934, it was then moved to Oyo where it has been since. The course duration including field work was four years.

The school was affiliated to the Yaba Higher College when the later was established. By this arrangement the survey students spent part of their training period at Yaba for the theoretical aspect and the remaining part at Oyo for the specialized training and practical work. Students who successfully completed the survey course were awarded the diploma of Yaba Higher College. When the Higher College was close down in 1947, this led to changes in the survey programme. The school has existed up to the present day but the structure and certification of the programme have undergone considerable modification as should be expected.

The Marine Department was one of the government department which had a training programme to train Nigerians and other African staff for positions of responsibility in the department and in the Nigerian Marine vessels. A training school was started in 1928 and the course lasted as long as six years. Part of this period was spent at sea for practical experience. The course was tailored to lead to an oversea qualification, that is the United Kingdom Board of

Trade Certificate Examination. What became the Nigeria Port Authority, the Government Coastal Agency and possibly the inland Water-Ways Department.

Other government departments that had training schools were the Nigerian Railways, the Public Works Department, the Department of Agriculture, and the Department of Health. Although, the Nigerian Railways had mounted an earlier course for the training of some of its station staff, the course was really not technical. The real technical training school was started in 1942 for the training of Mechanical Engineering Apprentices. The entry qualification was the Senior Cambridge School certificate and the duration of the course was five years. This was a very popular course and many Nigerians who later became engineers passed through this apprentices training programme (Inwang 2000).

The Public Works Department (PWD) as it then was, had the responsibility for not only the construction and maintenance of public building, roads and water supply, but also the generation and distribution of electricity. The department started a technical school in Lagos in 1931 to train “Junior Technical Staff” (JTS) or Engineering Assistants as they were later called.

The school ran its programme on the sandwich system covering a total period of 3½ years, made up of 1½ years of theoretical works in the school and 2-years of practical experience in the department. The programme was spread out in three “courses” as follows:

Table 3.2: Number and Categories of Programmes ran by the Institutions

| Course | Months in School | Duration of Practical |
|---------------|--------------------|---------------------------------|
| First Course | 6 months in school | 1 years practical in department |
| Second Course | 6 months in school | 1 year practical in department |
| Third Course | 6 months in school | - |

Source: Adapted from Inwang (2000).

From Table 3.2, it is very necessary to state that the duration of courses in school for practical as well as the period provided for practical skills in the department are quite insufficient. The aim was mainly to further deepen the subordinating status of the Nigerian technicians to the aspiration as well as the parade and march pass of western imperialism. The courses were never designed to provide opportunities for intending Nigerians to graduate as professionals or skilled engineers in their various areas of specialization. The positions of Engineering Assistant Grade II or Architectural Assistant Grade II was at that time similar to that of an apprentice.

As it was in the colonial civil service, Nigerians were never given equal opportunities with their white counterparts so as to ensure further deprivation on the side of the nationals and perpetual disarticulation of the nation. Four disciplines were covered in the programmes, namely: Civil, Mechanical, Electrical engineering and architecture. The subjects taught in the first “course” were common and consisted of mathematics, surveying, building construction, quantities and specification, electricity and magnetism and applied machines.

Specialization took place in the second and third courses. Trainees who passed the three courses were promoted to the Post of Engineering Assistant, Grade II or Architectural Assistant Grade II. A similar Public Works Department school was established in Kaduna some years after to meet the needs of the North in particular, although the Lagos School was also open to candidates from the North.

Those who had gone through the public works Department Technical Schools and eventually went on for engineering degree programme in universities abroad found out that the public works department schools was concerned, they had little or no difficulty at all in their

degree programmes. The Public Works Department (PWD) School ceased to exist from 1950. The training there was transferred to the Yaba Technical Institute which was established following the recommendation of the Elliot Commission on higher education in West Africa.

Following the recommendations of the Elliot Commission on higher education in Africa, the department of posts and telegraphs (P&T) established a technical school in 1932 for the training of sub inspectors for the department. The course lasted six years (inclusive of practical training) and the examination taken at the end of the course was the City and Guilds of London Institute examination in telegraphy and telecommunications. The school was located in Lagos Island at its inception. It was moved to the Yaba Technical Institute (when the latter was established) to become part of the programme in electrical engineering of the institute.

In 1964, the (P&T) school was re-established and located at Oshodi in Lagos main land. The school awarded its own certificates. The P&T Schools is one of those departmental schools that have managed to exist up to the present moment. The programmes and their duration and the curricula have undergone transformation as would be expected to meet changing circumstances and needs.

3.5 Technical Institutes in Nigeria

In addition to the technical programmes of the departmental schools which played a great part in producing trained manpower, mention must be made of the contribution by the Yaba Higher College where some kind of higher technical education was given. Yaba Higher College was established by the government in 1932 and provided programmes in engineering, medicine, pharmacy, teacher-education, agriculture, surveying and forestry. These programmes were

generally of four years duration (except medicine which lasted longer) and led to the Yaba Diploma.

This diploma although of a high standard was, however, rated below the Bachelors Degree, hence products of Yaba Higher College were recruited into the civil service as “Assistant”. The technical programmes at Yaba Higher College, therefore produce assistant engineers, assistant surveyors, assistant agricultural officers, assistant forestry officers etc for the respective government departments.

There had been agitations for quite sometimes not only by students but also by Nigerian nationalists and politicians that the status of Yaba Higher College should be raised to that of a degree granting institution. But these agitations did not receive any attention until 1943 when the Colonial government set up a commission on Higher Education in West Africa under the Chairmanship of Sir Walter Elliot.

The report of the Elliot Commission (submitted in 1945) as it affected Nigeria recommended the establishment of a university college at Ibadan and the closing down of the Yaba Higher College. In May, 1947 Dr. Kenneth Mellanby was appointed principal of the University College and shortly afterwards he assumed duty and started up the new university College. In January 1948, the Yaba Higher College students started their first term at Ibadan as undergraduates of the University College.

The decision to close down the Yaba Higher College has a great consequence on the development of technical education. The Elliot Commission had recommended, and the government had accepted the recommendation, that in order to utilize the buildings and other facilities available at the defunct Yaba Higher College, the post-secondary departmental schools

should be brought together to form a technical Institute at Yaba. This is what the commission stated in its report on this matter. The Higher College at Yaba can provide not only the buildings but also much of the necessary equipment, and we recommend that it should become the technical institute of Nigeria. It would provide (we believe more economically), for much of the instruction at present being given in several government departments. And so the Yaba Technical Institute (now Yaba College of Technology) came into existence in 1948 as the first purely technical institution ran by the Education Department. The institute started with courses in Civil, Mechanical and Electrical Engineering and Architecture for the training of Engineering and Architectural assistant for government department and private firms.

Later, the institute added other courses, namely; the manual instructors course for the training of manual instructors for senior primary schools and for handicraft centers, and the junior technical course (that is, secondary technical) from which some intake of students was made for the post-secondary courses of engineering and architectural assistant. The duration of the engineering assistants courses was three years, including one year (second year of the course) for practical experience. Manual instructors' course took six months but this course was discontinued before 1960.

The junior technical course lasted four years and led to the G.C.E. of ordinary level. Eventually, commercial course were added both at the post-secondary level (leading to the intermediate ACCA and ACIS) and at the secondary level leading to the General Certificate of Education, ordinary level. Other courses which were also ran at the Yaba Technical Institute were part-time courses, namely, Day Release course and Evening courses. The Day Release courses were for apprentices both in industry and some government department mainly from printing trade.

The Evening and Day Release courses covered a variety of trade and technical disciplines. The part-time trade courses at Yaba Technical Institute included radio mechanics, mechanical trades, electrical trades, building trades and refrigeration trades and students were prepared for the City and Guilds examination in these trades. The part-time technical courses were similar to the full-time courses but took longer to complete. Each of the then regional governments eventually established institutions similar to Yaba Technical Institute as had been recommended by the Elliot Commission thus: We visualize a future need for further technical institutes in Nigeria as for example at Enugu and Kaduna. But these institutions came more than ten years after Yaba. These were the Technical Institute Enugu established in 1958, the Technical Institute Kaduna in 1958 and the Technical College Ibadan in 1960.

At the time of independence of Nigeria, there were therefore, four Technical Institute for Training of technicians. The Technical Institute Kaduna grew out of Kaduna Trade centre which was earlier established in 1949. It is to be noted that institutions in Nigeria that were at this time known as technical institutes or technical colleges for training of technicians have since developed into college of technology or polytechnics. What were called Trade Centres or technical training schools (the latter name was used in the north) for training of craftsmen have since 1979 been renamed Technical Colleges.

3.6 Trade Centres in Nigeria

When the Yaba Technical Institute was established, it was also decided to have another level of institutions near it for the training of craftsmen. This was the Yaba Trade centre, (now Federal Technical College, Yaba) established in 1948. The Yaba Trade centre shared some of the building of former Yaba Higher College with the Technical Institute. Eight other trade centres

during the pre-independence period were established and these were in the regions. In the north there were the Kaduna Trade Centre (as it was then called) opened in 1949, and technical training schools at Ilorin, Kano and Bukuru all 1953. In the East, Enugu Trade Centre came up in 1950 and in the West there were the Trade centre at Sapele (1955), Ijebu-Ode (1959) and Oshogbo (1959). Apart from the Kaduna Trade Centre which after some years was converted to a technical institute and later to a polytechnic, all the others have remained as craftsmen training institution.

The trades taught in these trade centres included carpentry and joinery, bricklaying, cabinet making, fitter mechanics, motor vehicle mechanics, welding, electrical installation and so on. The students were prepared for the intermediate examination of the City and Guilds of London Institute in these trades. Each trade centre did not necessarily teach all the trades.

A selection was made depending on the facilities available. For instance, Yaba Trade centre taught more trades than any other centre. Its range of trades consisted of those listed above plus printing and decorating sheet, metal work, black smiting and wood machining.

3.7 Post-Independence Decade (1960-1970): The Ashby Report and its Implications on Technical Education in Nigeria

The Ashby Commission Report of 1960 brought a rapid expansion of educational development at all levels of education—primary, secondary, teacher education, university and technical education. In April 1959, the Federal Minister of Education appointed a commission on post-school certificate and higher education with the following terms of reference: To conduct an investigation into Nigeria's needs in the field of post-school certificate and higher education over the next twenty years (that is, 1960-1980).

Sir, Eric Ashby of Cambridge University was appointed the Chairman; the other members of the commission were three Nigerian, two British and three Americans:- Professor K.O. Dike – Nigerian, Minister of Education, Northern Region, Dr. S.D. Onabamiro – Minister of Education, Western Region; Dr. G.E. Watts – British; Sir J.F. Lockwood – British; Professor H.W. Hannah – American; Professor R.G. Gustafson – American; Professor F. Keppel – American Dr. Gordon E. Watts, was at the time of the commission principal of Brighton Technical College England, (later Brighton Polytechnic) and shortly afterward, he became Adviser on Technical Education to Her Majesty’s Government of Great Britain. His membership of the commission was therefore important in that the interest of and input into technical education were assured. The commission utilized the services of some other experts to prepare papers on certain aspects of its work. Among the experts was professor Fredrick Harbison of Princeton University U.S.A. who prepared a report on Nigeria’s future high level manpower.

The Ashby commission submitted its report titled “Investment in Education” in September 1960 just before Nigeria’s Independence, the implementations of the recommendations of the Ashby commission in respects of technical education are summarized as follows:-

- i. The number of technicians to be produced annually for ten years up to 1970 should be 2,500. This is to be achieved by expanding the existing technical institutes and building new ones to give a total of six institutions.
- ii. The technical institutes should be mainly non-residential and the course should lead to the City and Guilds certificates. There should also be sandwich or part-time day release and evening courses for those who are in employment.

- iii. Industrial training should form part of the programme in technical institutes and in this regard there should be co-operation with industrial bodies in the design of the courses.
- iv. Some manual subjects should be an obligatory component of the curriculum in primary and secondary schools to enable the pupils to develop an appreciation of manual and skilled labour.
- v. Technical subjects should be introduced into some secondary schools leading to a school certificate examination.

As a consequence of the Ashby recommendations, immediate action was taken to expand and upgrade the technical institutes, not just that in respect of the production of technicians the figure of 2,500 was considered to be too low and accordingly was modified to 5,000.

As such, between 1961 and 1963 the Yaba Technical Institute underwent a great expansion in its facilities through an independence gift of one million pounds from shell BP Petroleum Company. New blocks of classrooms, laboratories, workshops and library were erected and new equipments purchased and installed. The range of courses was widened both in scope and level leading to the ordinary and Higher Diploma in Civil, Mechanical and Electrical Engineering. Company secretaryship and fine and industrial art. Other courses were printing, fashion design secretarial studies and horology.

In 1964, the Midwest Technical College (Later renamed Auchi Polytechnic in 1972) was established at Auchi by the Mid-Western Region government with courses in engineering (Civil, Mechanical and Electrical) Building and Fine Art were also introduced.

The Technical Institute, Enugu was expanded with British government grant and renamed college of technology and subsequently institute of Management and Technology. Also with British Government financial assistance the Technical Institute Kaduna was greatly expanded and upgraded to Kaduna Polytechnic in 1968 through the merger of three institutions, namely; the former staff development centre of the then Northern Regional Government (now college of Administration and Business Studies (CABS)), the former survey unit of the former Northern Regional Government (now College of Environment Studies, and the College of Science and Technology. Because of this background, Kaduna Polytechnic has had the widest range of courses, from many certificate courses to diploma and higher diploma courses in engineering, food science and technology, textiles, mining, surveying and topographic science, agriculture mechanization, water supply and drainage, business disciplines and technical teacher education which was added later. It is important to mention here that the name polytechnic was first adopted in Nigeria by Kaduna Polytechnic for this level of institute, similar technical institutions of higher learning at that time were called Technical Colleges (e.g. Ibadan Technical College) or College of Technology. From 1979 onwards the term Technical College was, however, restricted to only these vocational institutions that were formerly “Trade centres”, that is, craftsman training institutions.

3.8 Technical Teacher Education Up to 1970 and Enrolment Trends in Polytechnics

Technical teacher education appears to have had a late start in the Nigerian Education System. There was no local technical teacher education programme in Nigeria before 1962 up to this time; the training of technical teachers was wholly undertaken in the United Kingdom in such institutions as the Huddersfield College of Education (Technical). Training was also undertaken at the International centre for Advanced Technical and Vocational Training. Turin,

Italy, the Centre was established in 1965 by the International Labour Organization (ILO). With the increase in the number of polytechnics during the period 1970 to 1980 resulting in a total of 24 institutions at the close of the period, and coupled with the government measures introduced then, student enrolment in all diploma programmes rose from just under 15,000 in the academic year 1977 to 1978 to almost 46,000 in 1983. The range of programmes offered by the polytechnic increase in number, particularly in the technology/science based disciplines which were identified to be priority rating.

A recommended ratio of 70:30 of technology/science based enrollment to non-technology science based was given by the government achieved by the polytechnics. However, it was observed that while the enrolment are increasing in number, the percentages (or ratios) show a progressive decline from 64:36 to 52:48. In other words, the trend is away from approaching the desired ratio of 70:30 for the polytechnics (compare to 60:40 for the universities).

What are the reasons for this trend? The fact that the ratio is decreasing means that the rate of increase in technology/science-based enrolment is lower than the rate of increase of the non-science-based enrolment. Part of the problems is due to insufficient number of candidates with the desired entry requirements for the technology/science-based programmes which usually include mathematics, physics or chemistry or other relevant science subjects at the credit level at the G.C.E. O'Level or West African School Certificate Examination. This is made worse by the fact that the polytechnics draw from the same pool of students as the universities and other higher education institutions. The secondary school produce far too few candidates with credit passes in Mathematics and science subjects.

Table 3.3: Enrolment and Out-Turn in Formal TVET Institutions in Nigeria (2001)

| Type of Institutions | Enrolment | Out-Turn | | | | |
|----------------------|-----------|----------|-------|-----|--------|-------|
| | Sex | Number | % | Sex | Number | % |
| Polytechnic | M | 146990 | 60.5 | M | 23480 | 64.8 |
| | F | 95953 | 39.5 | F | 12749 | 35.2 |
| | MF | 242943 | 100.0 | MF | 2964 | 100.0 |
| Monotechnics | M | 8659 | 76.2 | M | 2264 | 76.4 |
| | F | 2699 | 23.8 | F | 700 | 23.6 |
| | MF | 11358 | 100.0 | MF | 2964 | 100.0 |
| Technical Colleges | M | 73239 | 81.7 | M | 1583 | 86.6 |
| | F | 16799 | 18.7 | F | 2454 | 13.4 |
| | MF | 90038 | 100.0 | MF | 18277 | 100.0 |

Source: NBTE Digest of Statistics on Polytechnics in Nigeria 1999

From Table 3.3, it may be observed that the total enrolment in technical colleges is much lower than in the polytechnics (less than 50% of polytechnic enrolment in 2001). However, the female enrolment was a mere 19% of all students in Technical Colleges, but about 40% in polytechnics in 2001. We may also note that total polytechnics and monotechnics enrolment was less than 50% of total university enrolment, yet government position is that there should be between 3-4 students in polytechnic for every student in university. Compared to the total senior secondary enrolment in 2001 (M:1,115,360, F:905,577 and MF:2,020,937), the proportion in Technical College was a mere 4.5% i.e. less than 1 in 22 were in Technical College after the 3-year Junior Secondary (M:less than 1 in 15, F:less than 1 in 601). In fact less than 2% of total secondary enrolments are in technical and vocational education.

However, in most of the developed and fast developing economies, between 30-40%. In the Republic of Korea in 1995 where Technical and Vocational Education played a pivoted role in its rapid industrialization, 34% of total senior secondary enrolment was in vocational senior secondary schools and they were still aiming at least 50%.

It is clear from the foregoing that Technical and Vocational education is characterized by very low enrolment at senior secondary school level. At the tertiary level, technical and vocational education has not been able to attract students away from the universities. This is further confirmed by the Joint Admission and Mathematics figure, where over 1 million students sit for the universities matriculation exams compared to less than 250,000 for the polytechnic matriculation examination.

Consequently, there is inadequate supply of the right type of manpower necessary and required by the industries (cited in Yakubu opt-cit). The other problem is inadequacies in the facilities for the programmes special laboratories and workshops are required for technology/science based programmes and student enrolment cannot be increased generally without increasing or improving the facilities.

Table 3.4: Students Enrolment in Polytechnics by Programme type and gender as at 2005/2006

| Programme Type | Gender | | |
|----------------------|------------------------|------------------------|-----------------------|
| | Male | Female | Total |
| Technology-based | 115,717 (34.0%) | 56,603 (16.6%) | 172,320 (50.6%) |
| Non-Technology-based | 90,795 (26.7%) | 77,420 (22.7%) | 168,215 (49.4%) |
| Total | 206,512 (60.6%) | 134,023 (39.4%) | 340,535 (100%) |

Source: Abubakar, M.S. (2010).

The total enrolment in these institutions in 2005/2006 was 34,535 made up of 206,512 (60.6%) male and 134,023 (39.4%) female students as shown in Table 3.4 above. The table also shows that 172,320 (50.6%) students were undergoing technology-based programmes compared to 168,215 (49.4%) undergoing non-technology-based programmes. However, only 56,603 (16.6%) of female students were in technology-based programme compared to 77,420 (22.7%) undergoing non-technology-based programmes. The comparable figures for the male students were 111,717 (34.0% and 90,795 (26.7%), respectively.

This shows that there were twice as many male students as female students enrolled in technology-based programmes in the polytechnic and monotechnics in the country (Abubakar, 2010). Total enrolment in federal polytechnics in 2005/2006 session was 182,082. This was against the backdrop of the fact that actual total carrying capacity was barely 80,000 showing over-subscription by over 100% with consequent implications on quality of graduates. This clearly shows that there is need for additional infrastructural facilities, laboratory and workshop equipment and human capacity, not only to ensure quality, but to attain the objective of increasing access to technical and vocational education.

Table 3.5: Distribution of Academic Staff in the Federal Polytechnics based on Qualifications

| Academic Qualification | Full Time | Part Time | Total |
|-------------------------------|----------------------|-------------------|---------------------|
| Doctorate | 152 (2.3%) | 0 (0.0%) | 152 (2.3%) |
| Masters | 2475 (38.0%) | 225 (3.5%) | 2700 (41.4%) |
| Bachelors/HND | 3608 (55.4%) | 57 (0.9%) | 3664 (56.2%) |
| Total | 6,235 (95.7%) | 282 (4.3%) | 6,517 (100%) |

Source: Abubakar, M.S. (2010).

As at 2005 there was a total of 12,593 academic staff in the polytechnic comprising 10,919 full-time and 1,674 part-time. The corresponding figures for Federal Polytechnics were 6,517 and 6,235 and 282, respectively (Table 3.5). About 45% of the academic staff hold Masters Degree or higher, indicating a reasonable mix between academic staff and technical support staff.

However, there is clearly a need to increase the proportion of teaching staff with Doctorate Degrees, through staff development programme. With about enrolment figure of about 180,000 in the Federal Polytechnics and a total of fulltime academic staff complement of 6,300, the student: lecturer ratio is 30:1, which is far above the ideal ratio stipulated by the NBTE of 10:1 for technology-based programmes or 15:1 for non-technology-based programmes. This

clearly shows that there is a serious shortage of number of teaching staff in the polytechnics vis-à-vis the demand for polytechnic education.

Table 3.6: Students Enrolment at the Nasarawa State Polytechnic, Lafia by Programme type and Gender as at 2005/2006

| Programme Type | Gender | | |
|----------------------|----------------------|----------------------|--------------------|
| | Male | Female | Total |
| Technology-Based | 1060 (20.47%) | 302 (12.47%) | 1362 (12.47%) |
| Non-Technology Based | 4118 (79.53%) | 2120 (87.53%) | 6238 (87.53%) |
| Total | 5178 (68.13%) | 2422 (31.87%) | 7600 (100%) |

Source: Admission Files at the Office of the Registrar, 2007.

The total enrolment in Nasarawa State Polytechnic from 2001-2007 was 7,600 made up of 5,178 (68.13%) and 2,422 (31.87%) female students as shown in Table 3.6. the table also shows that 1362 (32.94%) students were undergoing technology-based programmes compared to 6,238 (67.05%) undergoing non-technology-based programme. It is important to note that only 302 (12.47%) female students were into technology-based programmes compared to 422 (31.87%) who were into the non-technology-based programmes. The comparable figures for male students were 1060 (20.47%) and 4118 (79.55%) respectively. This shows that more than twice male students in the technology-based programme as compared to their female counterparts. Indeed, even in the non-technology-based programme the case is the same or more pathetic. This is an issue that required urgent attention.

Many of the polytechnics, particularly the newer ones, have not been able to equip their laboratories and workshops in engineering and allied disciplines due to the high cost of equipment, or because their permanent buildings have not been completed. Staff shortage is yet another problem because engineering staff and other applied science staff are more difficult to get than arts and social sciences staff. All these problems combine to affect the enrolment in the technology/science based disciplines.

3.9 Establishment of National Board for Technical Education in Nigeria

With the increase in the number of polytechnics and other Technical institutions and the expected further rise, it was deemed necessary to have a body to coordinate technical education and advise the government on further development and financing. This is why the National Board for Technical Education was conceived.

The idea of having the National Board for Technical Education was actually first made in 1972 in a recommendation of a committee on scientific and Technical Manpower and science education set up by the then Nigerian Council for science and Technology (NCST) (Later renamed National Science and Technology Development Agency). The Board came into existence by Decree No. 9 of 1977 with a membership of twenty four and with the general responsibility of coordination of all aspects of technical education falling outside the universities and advising the government on the national policy for the training of technicians, craftsmen, and other skilled manpower.

Other functions of the Board include preparing period master plans for the balanced and coordinated development of polytechnics; inquiring into the financial needs of technical institutions to enable them meet their objectives of trained manpower; laying down standards of skills to be attained; harmonizing entry requirements and duration of courses; reviewing methods of assessment of students and trainees; developing a scheme of national certification of technicians, craftsmen and other skilled personnel and collating and publishing of information relating to technical and vocational education.

The relevant section of the legislation conferring this authority to the board states as follows:

1. The responsibility for the establishment of minimum standards in polytechnics, technical colleges and other technical institutions in the federation shall be vested in the minister after consultation with the National Board for Technical Education and there after the Board shall have responsibility for the maintenance of such standards.
2. The Board shall have power to accredit programmes of all institutions for the purpose of award of national certificates and diplomas and other similar awards and for entry into national zonal examinations in respects of such institutions.

The National Board for Technical Education is one of the greatest development that have occurred in technical education. The Board has a status parallel to that of the National Universities Commission (NUC) and the National Commission for Colleges of Education. The Board was the first to set the pace for accreditation of programmes which practice has been adopted by the NUC for University Programmes and National Commission for College of Education (NCCE) for Programmes in Colleges of Education.

Table 3.7: Categories and Proprietorship TVE Institutions

| Category of Institutions | Federal | State | Private | Total |
|--------------------------|---------|-------|---------|-------|
| Polytechnic | 17 | 33 | 5 | 55 |
| Monotechnic | 21 | 21 | 0 | 42 |
| | 7 | 0 | 2 | 9 |
| Technical College | 19 | 108 | 19 | 146 |

Source: Annua Report, Science and Technology Agriculture.

From Table 3.7, one may be tempted to doubt the Nigerian government's position which has it that there should be between 3-4 students in polytechnic for every student in the university.

First and foremost, the number of these polytechnic are not enough to meet the technological ambition of Nigeria as it is contained on paper.

Secondly, from the categories and proprietorship of Technical Vocation Education (TVE) institution, conclusions can easily be drawn, particularly when compared to countries like South Korea where Technical and Vocational Education played a pivotal role in its rapid industrialization that Nigerian state is only doing a lip-service to the sector.

Not just that, the seeming and glaring lack of government attention as well as presence in most of these TVE institution in Nigeria has made them nothing more than camping grounds, since equipments and skilled personnel needed for training of students are lacking.

Table 3.8: Outcome of Accreditation Visits to Science and Technology Programmes

| Years | Resources Inspection | | | Initial Accreditation | | | Reaccreditation | | |
|-------------------------|----------------------|---------|-------|-----------------------|---------|-------|-----------------|---------|------|
| | No of Visit | Success | % | No. of Visits | Success | % | No. of Visits | Success | % |
| 1998 | 51 | 32 | 62.7 | 45 | 25 | 55.6 | 20 | 11 | 55 |
| 1999 | 28 | 19 | 67.8 | 13 | 7 | 53.8 | 54 | 24 | 44.4 |
| 2000 | 52 | 30 | 57.8 | 43 | 31 | 73.8 | 58 | 28 | 48.2 |
| 2001 | 43 | 21 | 48.8 | 33 | 20 | 60.6 | 44 | 25 | 56.8 |
| 2002 | 42 | 12 | 28.3 | 60 | 21 | 35 | 47 | 20 | 42.6 |
| Average: Success | | | 53.08 | | | 55.76 | | | 49.4 |
| Average: Failure | | | 46.92 | | | 44.3 | | | 50.6 |

From Table 3.8, it is gathered that most Technical Education institutions have performed below expectations during and after resources inspections and accreditation visits. This is largely due to lack of adequate funds to provide the required resources for teaching, especially in science and technology, engineering and environmental studies.

Not just that, the overwhelming number and range of programmes offering in the nation's polytechnics are without doubt dominated by the Arts and Business Studies. Added to this is the lack of accreditation for many of the science and engineering programmes in most polytechnics.

However, Suleiman (2008) maintained that it is worthy of mention the underhand tactics being employed by both institutions and the NBTE in the process of accreditation of the academic programmes of higher education institutions. It is known that the institutions often spare no efforts in settling the accreditation teams being sent by their supervisory bodies and they are always willing accomplices in the desecration of academic standards through granting of dubious and questionable accreditation verdicts to underserving programmes and even institution.

Coupled with the above also, is the politicization of education management. This occurs when managers manipulate the system for parochial interests and it has occurred at different levels. Politicization has been rampant in sitting of institutions, appointment of governing council, principal officers, and in policy formulation and execution.

At institutional and system level, manipulation have been demonstrated in the areas of employment, promotion, discipline, establishment of course etc, where parochial interest override the aspiration of Nigeria. There are also the entrenched malaise of authoritarianism and disrespect for transparency and due process, strong resistance to democratic principles and ideals, including hostilities to unionism. There appear to be no determined efforts to tackle corruption despite the numerous anti-corruption agencies; with no support to staff development programmes.

CHAPTER FOUR

Analysis of Technical Education Programme in Nigeria: A Study of Nasarawa State Polytechnic, Lafia.

4.1 Introduction

This chapter deals with data presentation, analysis and interpretation. As indicated in the introductory chapter the main instruments of this research are the questionnaires, followed by the interviews (even though secondary sources were used). Out of one hundred and twenty questionnaires administered, one hundred and eight were filled and returned. This shows that ninety percent of the total number of questionnaire administered were analyzed.

Percentages were used to interpret all the research findings. It is assumed that the analysis of technical education in Nigeria as studied in Nasarawa State Polytechnic between 2001 and 2007 would become manifested through the pattern of responses of the respondents to the items in the questionnaire.

It is also important to stress here that two different sets of questionnaires were administered in this work, first set to the lecturers while another twenty questionnaires related to policy issues and experiences in the field were administered to the management staff as well as NBTE staff.

Table 4.1: Pattern of Distribution of Questionnaire for Lecturers

| Colleges | No. of Questionnaire | No. of Return | Percentages (%) |
|---------------------------------------|----------------------|---------------|-----------------|
| College of Science and Technology | 25 | 22 | 24.4% |
| College of Admin and Business Studies | 20 | 18 | 20% |
| College of Environmental Studies | 23 | 21 | 23.3% |
| College of General Studies and Pre-ND | 17 | 16 | 17.8% |
| College of Basic and Remedial Studies | 15 | 13 | 14.5% |
| Total | 100 | 90 | 100% |

Source: Field Survey, 2009.

In Table 4.1, the pattern of distribution of questionnaire is shown. This set of questionnaires were distributed proportionately on the basis of the strength of academic staff in each college, not just that, emphasis was laid on the courses taught as it concerns science and technology.

Table 4.2: Pattern of Distribution of Questionnaire for Management Staff and NBTE

| Management | No. of Questionnaires | No. of Return | Percentages (%) |
|--|------------------------------|----------------------|------------------------|
| Rector | 1 | 1 | 5% |
| Registrar | 1 | 1 | 5% |
| Deputy Registrar Academic | 1 | 1 | 5% |
| Director Academic Planning | 1 | 1 | 5% |
| Director College of Science | 1 | 1 | 5% |
| Admission Officer | 1 | 1 | 5% |
| Polytechnic Librarian | 1 | 1 | 5% |
| Head, Physical Planning | 1 | 1 | 5% |
| Director, College of Environmental Studies | 1 | 1 | 5% |
| Chief Laboratory Officer | 1 | 1 | 5% |
| NBTE | 10 | 10 | 50% |
| Total | 20 | 20 | 100% |

Source: Field Survey, 2009.

Table 4.2, it can be seen that questionnaires were distributed to all the management staff. Responses gained from these questionnaires would enable the research come up with analysis of government support or otherwise in the drive for self-reliance, as well as management's commitment in that direction. This will help greatly in providing answers to some if not all the questions raised by the research work.

Table 4.3:Age distribution respondents

| Question | Responses | Frequency Distribution | Percentage (%) |
|-----------------|------------------|-------------------------------|-----------------------|
| Age | 25-30 | 30 | 33.33% |
| | 30-40 | 21 | 23.33% |
| | 40-50 | 25 | 27.77% |
| | 50-60 | 14 | 15.55% |
| Total | | 90 | 100% |

Source: Field Survey, 2009.

In terms of age, 33.33% were between 25-30 years of age, 23.33% of the respondents were between 30-40 of age, 27.77% of the respondents were between 40-50 years of age while 15.55% of respondents were between the ages of 50 years and above respectively.

Table 4.4: Sex distribution of respondents

| Question | Responses | Frequency Distribution | Percentage (%) |
|--------------|-----------|------------------------|----------------|
| Sex | Male | 62 | 70% |
| | Female | 27 | 30% |
| Total | | 90 | 100% |

Source: Field Survey, 2009.

In terms of sex, 62 (70%) of the academic staff are male, while female constitute only 27 (30%) which meant that there is very low participation of females in the sector.

Table 4.5: Problems tied to the teaching and pursuit of Technical Education

| Question | Responses | Frequency Distribution | Percentage (%) |
|---|--------------|------------------------|----------------|
| Are there problems tied to the teaching and pursuit of technological education? | Yes | 68 | 75.6% |
| | No | 12 | 13.3% |
| | I don't know | 10 | 11.1% |
| Total | | 90 | 100% |

Source: Field Survey, 2009.

In Table 4.5, it can be seen that out of 100% respondents that were contacted, 75.6% believed that there is problem in the teaching and pursuit of technological education, 13.3% *12) did not agree that there is problem tied to the teaching and pursuit of technical education while 11.1 (10) didn't care about the problem of teaching and pursuit of technical education. The figure shows that there are problems tied to the teaching of technical education.

Table 4.6: The nature of problems tied to the teaching and pursuit of Technical Education

| Question | Responses | Frequency Distribution | Percentage (%) |
|-------------------------------------|--------------------------------|-------------------------------|-----------------------|
| What is the nature of this problem? | Poor Funding by the government | 35 | 39.3% |
| | Poor Students' background | 29 | 32.6% |
| | Administrative inconsistencies | 25 | 28.1% |
| Total | | 90 | 100% |

Source: Field Survey, 2009.

Table 4.6 shows that 100% respondents that saw problems associated with the teaching and pursuit of technical education 39.3% attributed the problem to poor funding, while 32.6% associated the problems with poor students' background and 28.1% believed that administrative inconsistencies are responsible for these problems. It is actually a fact that all the three positions can be considered as problems. There is no doubt that at the different levels, government source has not been adequate. It has been observed that the major constraint to the successful implementation of the policy (NPE) is "the unavailability of resources for the more than 6,118 secondary schools and technical colleges which include right quality number and mix (there are only about 13,000 teachers in stock against the 109,000 required for 2001-2002 session), consumable materials and textbooks.

On the issue of poor students' background, the performance in the technical subject has been deplorable. For instance, in the 2001, 2005 and 2007 May/June WAEC examinations only few students passed Applied Electricity, while less than 30% passed Auto Mechanic, and 34% passed Building Constriction while 31.8% passed Electronics.

The above problem is a clear manifestation of a system collapse, particularly with regards to social provisioning in essence, therefore, the process of decomposition of the state, characterized by chaotic management of the economy, institutional decay, and the inability of the

state to provide the basic socio-economic and security needs of the people has continued to thrive.

Table 4.7: The declining status of Technical Education and the general rot in the educational sector

| Question | Responses | Frequency Distribution | Percentage (%) |
|---|------------------|-------------------------------|-----------------------|
| Can you attribute the declining status of technical education and the general rot in the education sector to its neglect by the elites? | Yes | 69 | 76.7% |
| | No | 21 | 23.3% |
| Total | | 90 | 100% |

Source: Field Survey, 2009.

Table 4.7 shows that among the respondents to the question 76.7% (69) attributed declining status of technical education to the neglect of the sector by the elite, while 23.3% (21) disagree or refused to blame the elites. It is interesting to stress here that the technical education sub-sector has suffered serious neglect by Nigerian elites. This has led to unquantifiable rot in the sector which is manifest in moral decadence, structural imbalance in the system, inadequate resources input and more than average failure rate in examination.

The implication here is that while a lot of money in millions continued to flow in the name of approval, all sectors of the economy including education has continue to be stagnated with no facilities for teaching and learning, poor infrastructural facilities which lead to gross and massive examination failure, which also has the capability of deepening the culture of dependency.

Table 4.8: General operation of the system particularly in respect of curricula and staff development

| Question | Responses | Frequency Distribution | Percentage (%) |
|---|-----------|------------------------|----------------|
| What do you have to say about general operation of the system particularly in respect of curricula and staff development? | Fair | 5 | 5.5% |
| | Poor | 20 | 22.2% |
| | Very Poor | 75 | 72.3% |
| Total | | 90 | 100% |

Source: Field Survey, 2009.

Table 4.8 reveals that out of 100% respondents, 5.5% (5) granted the system's general operation, particularly in respect of curricula and staff development to be fair 22.25 (20) described it as poor, while 72.3% (75) concluded that it is very poor.

It is regrettable that the curricula being operated in our technical education institutions are outdated having being in use for more than 15 years now. Staff development programme has also been recognized as a problem, there is no doubt that research effort is still the infant stage in most polytechnics.

As a result of the above, polytechnics and most higher institutions of learning have continued to produce robots. The question of Nigerian graduates rubbing shoulders with graduate of other countries including some third world countries has continued to be a mirage. This has conditioned Nigeria to total or over-reliance on foreign experts.

Table 4.9: Problems of Technical education

| Question | Responses | Frequency Distribution | Percentage (%) |
|---|-----------|------------------------|----------------|
| Can you attribute the problem of technical education to other hitches outside those ones mentioned above? | Yes | 82 | 91.2% |
| | N | 08 | 08.8% |
| Total | | 90 | 100% |

Source: Field Survey, 2009.

In Table 4.9, it is gathered that out of the respondents 91.2% (82) believed that there are other hitches to the development of technical education while 08.8% (8) do not see any other problem.

Table 4.10: Identification of these problems

| Question | Responses | Frequency Distribution | Percentage (%) |
|--------------------------|----------------|------------------------|----------------|
| What are these problems? | Politicization | 45 | 52.3% |
| | Corruption | 35 | 40.7% |
| | Global Crisis | 06 | 08.0% |
| Total | | 90 | 100% |

Source: Field Survey, 2009.

Table 4.10 shows that 52.35 (45) above were of the view that politicization of the sector has worsened the problem, while 40.7 (35) saw corruption as a hitch and 08.0% (06) attributed the problem to global crisis. Politicization has been rampant where managers manipulated the system for parochial interest. This occurs at different levels like in citing of institutions, appointment of governing council, and in policy formulation and execution. Quite very often too, corruption appeared to be one other cankerworm that contributes to the death of the system.

Corruption together with politicization are on the increase each passing day. This in effect has weaken the corporate existence of the country as a polity. It has dragged the good name of the country has earned for itself over the years into the mud. In fact, the morale of the students our school graduate today is even in question because deep-seated values necessary for imparting the culture of nationalism is lacking.

Table 4.11: Students admitted into Nasarawa State Polytechnic inception

| Question | Responses | Frequency Distribution | Percentage (%) |
|---|--------------------|------------------------|----------------|
| How many students has the institution admitted since inception? | So many Students | 46 | 51.1% |
| | A very good number | 36 | 40.0% |
| | A lot of students | 08 | 08.1% |
| Total | | 90 | 100% |

Source: Field Survey, 2009.

Table 4.11 shows that 52.3% were of the view that so many students haven been admitted, while 40.7 submitted that a very good number of students were admitted and 08% stated that a lot of students were admitted.

Table 4.12: Level of their performance in the science-based courses

| Question | Responses | Frequency Distribution | Percentage (%) |
|--|--------------|------------------------|----------------|
| What is the level of their performance in the science-based courses? | Satisfactory | 2 | 20% |
| | Fair | 2 | 20% |
| | Poor | 6 | 60% |
| Total | | 10 | 100% |

Source: Field Survey, 2009.

Table 4.12 indicates that out of the 100% (10) management staff that responded to this question, 20% (2) describe the performance in the science-based courses as satisfactory, 20% (2) saw it as being fair, while 60% (6) concluded that it has been poor because only about 30% graduate after normal time. This is prevalent as there was no initial foundation for these students to perform above average.

As opined by various writers and proven beyond all doubt, due to neglect, corrupt practice and recklessness of the operators of the Nigerian managers, the consequences of these abnormal situation is telling on the entire national psyche, as schools now descend in tone and character with a lot pulling down below average.

Table 4.13: The staff strength of the institution particularly in respect of teaching staff

| Question | Responses | Frequency Distribution | Percentage (%) |
|--|---------------|------------------------|----------------|
| What is the staff strength of the institution particularly in respect of teaching staff? | Very adequate | 3 | 30% |
| | Low | 1 | 10% |
| | Very Low | 6 | 60% |
| Total | | 10 | 100% |

Source: Field Survey, 2009.

Respondents from Table 4.13 indicates that 30% (3) of the management responded that they have adequate teaching staff, none describe the staff as low, while 60% (6) responded that it is very low. Indeed, inadequate teaching staff has resulted in poor output particularly in the science and technology courses. This situation has aggravated overtime due to neglect of the system as well as the total neglect of the sector by stakeholders.

The fact of the matter is that by not rising to the occasion of proving adequate and relevant teaching staff, government is failing in its responsibilities. All these have led to an increased crises of legitimacy. Similarly, there has been increased exclusion of a segment of the population through marginalization of the minority of the population from the benefits of development project and social provisioning.

Table 4.14: Impact of the Polytechnic with regards to technical/manpower development of the immediate environment and beyond

| Question | Responses | Frequency Distribution | Percentage (%) |
|---|-----------|------------------------|----------------|
| What is the impact of the polytechnic with regards to technical/manpower development of the immediate environment and beyond? | High | 1 | 10% |
| | Fair | 2 | 20% |
| | Low | 7 | 70% |
| Total | | 10 | 100% |

Source: Field Survey, 2009.

In Table 4.14, out of the 100% (10) respondents amongst the members of the polytechnic management, 10% (1) of the respondents classified the impact of the polytechnic to the

immediate community as high, 20% (2) describe the impact as low, while 70% (7) responded that the impact is low in view of the fact that the institution is not well equipped with enough teaching staff, laboratories, physical structures and teaching materials.

In fact, most public institutions today are mere decorative structures and instrument of political rhetorics. Institutions are not cited for the benefits of the masses but for the personnel aggrandizement of most of the political actors. No one talks of responsibility in almost all governmental affairs.

Table 4.15: Accredited programmes in the Polytechnic

| Question | Responses | Frequency Distribution | Percentage (%) |
|--|------------|------------------------|----------------|
| How many accredited programmes do you have at the polytechnic? | Enough | 1 | 10% |
| | Not enough | 8 | 80% |
| | Not at all | 1 | 10% |
| Total | | 10 | 100% |

Source: Field Survey, 2009.

Table 4.15 revealed nobody agrees that enough courses have been accredited, while 80% (8) of the respondents contended that not enough courses got accreditation as only one programme was accredited while five programmes were visited by resource visitors. In most polytechnics, courses are been run without even approval. Students and parents pay extensively to graduate with certificates that are not nationally recognized which usually informed the low status accorded to the graduates of technical and vocational education.

The effect is such that these graduates cannot be placed side by side with other experts for the market forces to determine their worth. This has hampered the growth of the private sector economy as these graduates filled in more than enough vacancies in public sector even when they are not qualified.

Table 4.16: Polytechnic's policy on staff development

| Question | Responses | Frequency Distribution | Percentage (%) |
|--|----------------------|-------------------------------|-----------------------|
| What is Polytechnic's policy on staff development? | Full-time fellowship | 3 | 30% |
| | Part-time study | 6 | 60% |
| | None | 1 | 10% |
| Total | | 10 | 100% |

Source: Field Survey, 2009.

In Table 4.16 it can be seen that out of the 100% (10) respondents, 30% (3) responded that there is full-time fellowship, 60% (6) were of the view that the polytechnic has a part-time fellowship programme for staff, while 10% (1) believe that the polytechnic has no any staff development policy. Though majority of the respondents have posited that there is staff development programme, but in the true sense of the word, the staff development programme is only in principle. This is because of the close to two hundred and fifty (250) academic staff in the polytechnic, the number of those with high degree (M.Sc) are not up to thirty five, while none of the teaching staff has a Ph.D. The responses in favour of an existing staff development policy is only official and elitist to cover official dealings.

It is quite unfortunate that there is no motivation of labour in the system. It has been rationally recognized that there is really high correlation between considerable motivation or rewards to labour and efficiency, high productivity and profit creation. Moreso, motivating labour has the added advantage or promoting high management personnel security and corporate security at large. Motivation has taken the form of not only job security but attractive salaries, staff development training, promotion of excelling and diligent staff even to management cadre. The effect is usually increase in output and productivity.

Table 4.17: State of libraries/laboratories in the institution

| Question | Responses | Frequency Distribution | Percentage (%) |
|---|------------------|-------------------------------|-----------------------|
| What is the state of libraries/laboratories in the institution? | Equipped | 2 | 20% |
| | Fairly equipped | 5 | 50% |
| | Not equipped | 3 | 30% |
| Total | | 10 | 100% |

Source: Field Survey, 2009.

Table 4.17 has it that 20% (2) of the respondents maintained that the libraries and laboratories are equipped, while 50% (5) reported that the libraries and laboratories are fairly equipped, and 30 (3) is of the view that laboratories and the libraries are not equipped at all. It is the practice in many schools in the country nowadays to teach science subjects theoretically and only explain the practical aspect verbally without actual laboratory experiments being carried out. Realizing that the philosophy and goal of science are enquiry, testing, observation and findings out, what kind of scientist, technicians or technologists do we hope to produce from such teaching-learning process?

The implication here is that the system is producing technicians and technologists who lack the understanding of modern tools and the implication of misapplication of any technique. That has left most Nigerians at the mercy of foreign producers since the home made goods are always sub-standard. This has also dashed the hope of Nigerians towards attaining a real industrialization.

Table 4.18: Level of government commitment/attention towards the development of programmes in the school

| Question | Responses | Frequency Distribution | Percentage (%) |
|---|-----------------|------------------------|----------------|
| What is the level of government commitment/attention towards the development of programmes in the school? | A lot of Effort | 2 | 20% |
| | Fairly good | 3 | 30% |
| | No much effort | 5 | 50% |
| Total | | 10 | 100% |

Source: Field Survey, 2009.

Table 4.18 shows that of the 100% (10) respondents, 20% (2) concluded that government has made serious efforts, 30% (3) also saw government effort as fair, while 50% (5) did not see any much effort on the side of the government the school environment is not conducive for learning, classrooms are overcrowded and in poor state of repairs. In the polytechnic, like in most other ones, there are situations where a particular building services several purposes – general hall, lecture theatre etc. Besides, the class sizes are very high some being as high as 200 and above and with no public address system or air conditioner which is a luxury that many educational institutions in Nigeria will not dream of.

Government attention in social provisioning has quite significantly increased the incapacity and inadequacy of the state in meeting the fundamental needs of the Nigerian people, particularly now that the economy is fast diminishing in terms of its wholesome capabilities to improve the living condition of Nigerians.

Table 4.19: General state of enrolment in Nigerian Polytechnics as compared to other non-technically-based institution

| Question | Responses | Frequency Distribution | Percentage (%) |
|---|--------------|------------------------|----------------|
| What is the general state of enrolment in Nigerian polytechnics as compared to other non-technically-based institution? | Fast growing | 3 | 30% |
| | Growing | 4 | 40% |
| | Declining | 3 | 30% |
| Total | | 10 | 100% |

Source: Field Survey, 2009.

In Table 4.19, out of the 100% (10) respondents from the NBTE, 30% (3) respondents believed that the general enrolment into technical education institutions is fast growing, while 40% (4) described the situation as growing, and 30% (3) saw it as declining. Due to the neglect of the sector, technical institutions are more of places of last resort for applicants who could not secure admission into universities. Students don't go into technical institutions on interest, aptitude and motivation. The mere fact that the career prospects of technical institutions graduate has not been improved by the government, it makes them inferior to other category of graduates.

It is not just in technical education, every facets of Nigerians life is affected by this inactivity of the government so much that when government talks of development, the question that comes to mind is development for whom?

Table 4.20: The relevance of curricula in the attainment of a technologically embraced nation

| Question | Responses | Frequency Distribution | Percentage (%) |
|---|---------------|------------------------|----------------|
| How relevant is the curricula in the attainment of a technologically embraced nation? | Very Relevant | 2 | 20% |
| | Relevant | 3 | 30% |
| | Outdated | 5 | 50% |
| Total | | 10 | 100% |

Source: Field Survey, 2009.

Table 4.20 shows that 100% (10) staff of the NBTE responded to this question. Out of them, 20% (2) opined that the curricular in use is very relevant, 30% (3) also maintained that the curricula is relevant while 50% (5) categorically stated that the curricula is outdated. Even though it was noted that efforts are under way to carry out the review of the curricula, it is however painful that the curricula being operated in our technical institutions are old. These curricular are not practically oriented with clear guidelines of teacher activities and students experiences.

It is glaring that knowledge is not considered as a factor in economic development. With poor curricula, how do we talk of positive growth in human resources and research? And how feasible is the hope of Nigeria in becoming one of the fastest and the top 20 economies by year 2020?

Table 4.21: Candid view about the state of physical facilities in most Polytechnics today

| Question | Responses | Frequency Distribution | Percentage (%) |
|---|--------------|------------------------|----------------|
| What is your candid view about the state of physical facilities in most polytechnics today? | Adequate | 2 | 20% |
| | Not Adequate | 2 | 20% |
| | Poor | 6 | 60% |
| Total | | 10 | 100% |

Source: Field Survey, 2009.

In Table 4.21, a total of 100% (10) respondents who commented on the general state of physical facilities in most polytechnics revealed that only 20% (2) respondents agreed that the facilities are adequate, 20% (2) described the facilities as inadequate while 60% (6) concluded that the situation is poor. Necessary infrastructural facilities for teaching-learning of science and technological subjects are not provided, repaired or upgraded as the case may be. These according to the implementation guidelines for the UBE (2005) refer to the “physical and spatial

enablers of teaching and learning. They include classrooms, libraries, laboratories, workshops, playfields, school fields and garden etc.

Higher education is currently confronted with declining funds, infrastructural decay and poor condition of services as well as strike action by staff unions and social vices like examination malpractice, sale of grade and handout etc. The consequences of these vices were a sharp decline in standard and global competitiveness.

Table 4.22: The state of staff recruitment/development in most of the Polytechnics in Nigeria

| Question | Responses | Frequency Distribution | Percentage (%) |
|--|-----------------|------------------------|----------------|
| What is the state of staff recruitment/development in most of the polytechnics you have visited? | Adequate | 2 | 20% |
| | Fairly Adequate | 3 | 30% |
| | Inadequate | 5 | 50% |
| Total | | 10 | 100% |

Source: Field Survey, 2009.

In Table 4.22, 100% (10) respondents to the above question, 20% (2) describe the staff recruitment and development programme as adequate, 30% (3) viewed the process as fairly adequate, while 50% (5) of the respondents describe the situation as inadequate. It is truly inadequate. This problem is more acute in the science and technological courses and staffing with the right caliber of trained and experienced personnel is a problem that permeates the entire educational system in the country. It was revealed that Nigeria needs 109,000 technical teachers for the effective implementation of the National Policy on Education at the secondary and technical colleges but only 8,000 were available as at 1997.

Poor staffing has the overall effect of producing half-baked graduates, which is a disturbing phenomena in Nigeria. The way lecturers are employed, particularly in states' owned institutions is quite bad. This is because the issue of merit is never a factor for consideration.

And whatever rubbish these schools produced is not a matter of concern for the elites since their children are not schooling in Nigeria. This recklessness has affected the sector immensely and negatively.

Table 4.23: Funding in state-owned and private polytechnics

| Question | Responses | Frequency Distribution | Percentage (%) |
|--|--------------------|------------------------|----------------|
| What is the level of funding of Federal, State and Private Polytechnics? | Adequate | 1 | 10% |
| | Inadequate | 4 | 40% |
| | Grossly Inadequate | 5 | 50% |
| Total | | 10 | 100% |

Source: Field Survey, 2009.

Table 4.23 revealed that 100% (10) respondents took various positions in respect of the above question. 10% (1) discovered the issue of funding in the course of their various visits to polytechnics as adequate, 40% (4) described the situation as inadequate and 50% (5) classified the system or sector as being grossly underfunded. Apart from the fact that what is been spent by the Nigerian state on education from the National GDP is not up to the UNESCO recommended ratio, the little that is being allocated is also grossly inadequate to fund a functional educational system in the country. Accordingly, it is not surprising that educational institutions, especially those of higher learning, including the polytechnics, have been seriously underfunded for quite some time now.

Table 4.24: Quality Polytechnic graduates in terms of productive abilities

| Question | Responses | Frequency Distribution | Percentage (%) |
|--|-----------|------------------------|----------------|
| Can polytechnics products – current and graduated rub shoulders with other institutions’ graduates in terms of productive abilities? | Yes | 2 | 20% |
| | Possibly | 2 | 20% |
| | No | 6 | 60% |
| Total | | 10 | 100% |

Source: Field Survey, 2009.

Table 4.24 shows that 100% respondents commented on the above question, 20% (2) believed that polytechnic products can rub shoulders with those of other institutions, another 20% (2) also saw the possibility of polytechnic graduates performing if placed side-by-side other graduates while 60% (6) refused to agree that polytechnics graduates can do well. It must be appreciated here that the mandate of the polytechnic is practically based while the universities are theoretically inclined. The role of polytechnic education, the world over has always been emphasized. However, in Nigeria, there is general apathy towards technical education. Governments at national and state levels have continued to maintain several technical colleges that are today ill-equipped, ill-staffed and badly positioned to pursue their primary assignments. They are characterized by poor enrolment due to neglect by the responsible owners, general not in the educational system, policy inconsistencies, inadequate and obsolete facilities, poor staffing and collapse of several industries among other reasons. How then do you expect a better output from the polytechnic?

4.2 Analysis of Findings

The above indicators, like in most sectors of the Nigerian economy has shown that there was rapid growth in the technical education sub-sector. This is very evident in the proliferation of polytechnics both federal, state and private all over the country. However, it is important to stress here that the development of these technical education institutions has not yielded any positive result to Nigeria's development drive.

It must be stated that public responses to this disastrous failure has been expectedly half-hearted and largely unintelligent, the result presents an incontrovertible evidence of the near total

collapse of quality education in Nigeria. As usual, not many people in positions of authority will bat an eyelid to a comatose education sector.

Linked to the assumptions in this work is the fact that tasking job of rebuilding education in Nigeria is not attractive to public officials because there are no immediate benefits they will derive if they do something and no serious loss they will suffer if they do nothing. The reason for this sorry state is that the culture and organization of political leadership in Nigeria makes it attractive for public officials not to pay attention to this sort of crisis.

These findings also revealed clearly that, the combined impact of the socio-economic crises and the negative tendencies of the elite has exposed the Nigeria state as reckless, insensitive, if not structurally weak and incapable of meeting its basic obligations to the Nigerian people.

Furthermore, the Nigerian state which came into being as a super-imposed and, arguably, over-developed (Alavi, 1972), colonial structure attending to the requirements of British conquest and imperial domination. Since independence in 1960, segments of the Nigerian elite associated with the critical organs of the state, such as the military officer corps, the so-called political class and the bureaucratic-technocratic elite, have come to assume and play a prominent role in the Nigerian political economy, a role that has been profoundly facilitated as well as conditioned by the phenomenon of prolonged military rule. They do so, however, in close alliance and collaboration with other segments of the dominant classes in the Nigerian society (Jega, 2003).

CHAPTER FIVE

Summary, Conclusion and Recommendations

5.1 Summary

In a country like Nigeria where the prizes are so few, and the stakes so high, the fight for body or “national cake” is fierce and often vicious. It has at times led to a debilitating corruption in the arena of public policy making and implementation. “who gains, who loses federal, state and local policy arenas is rarely an accident. More often than not, the distributional consequences of public policies are the intended result of private interest which have been instrumental in their design, passage and implementation”. For the entire country, the manipulation of public policy for private purposes comprises yet another disjunction in our fractured history. Not every public policy fails, and not every public programme or project is redundant. But when once in a while a policy succeeds, it is often not because of government per se (Ikpeze, Soludo and Elekwa, 2004).

Virtually everyone who knows anything about the Nigeria education sector already knows that it is fast declining. There is no genuine patriot today who is not worried about the state of decline in the standard of education. The quality of teaching and learning, particularly in the polytechnic sector has declined; the quality of diplomas and higher diplomas awarded from our polytechnics is a shame to show-case anywhere. Most of them cannot justify the award of their diplomas. The education reputation of the country is a source of national shame.

In trying to address the problems raised in this study, the following salient issues were discussed; these are: what is the role of education in national building? What conditions in the Nigerian political environment affects the nature of the current dwindling technical education? And then, how has this education sub-sector fared?

As for the first issue, study have shown that Nigeria had a system of education during the colonial days which emphasized literary subjects and white collar jobs and paid little attention to technical education and skilled occupations. The aim of education then was mainly for administrative and religious purpose. While it served the purpose in those days, such a system could not continue to serve Nigeria for long.

Secondly, as a result of deterioration of the Nigerian state and the economy, standards began to fall, especially with the advent of the military in the civil governance of the country. The system was militarized. The schools were deprived of adequate funding. Old infrastructure was not replaced or repaired. Teachers who had previously been well remunerated suddenly became over-worked and under-paid. Morale became low. The worsening economic situation did not help matters as unemployment ravaged school graduates. They became despondent. School leaves (graduate) suddenly turned into a shadow of what they used to be, and the outside world treated them as such. Eventually the problem got to the peak of its badness when employers began to reject and discriminate against graduate of polytechnics. The situation has got to a frightening proportion that all stakeholders now agree that something has to be done urgently and decisively.

More importantly, the elites' problem has been identified as a factor in the rot. The rich in our country have not helped matters. Aided by the general attitude of the people that government alone must provide everything that the citizenry needs, the rich have shut their eyes both to their responsibilities and the need of others. In some other climes, those who are well off in the society assist the government in the provision of infrastructures for the people and in the discharge of services considered to be primary duties of government.

Here in Nigeria, the rich who could afford to send their children to private schools where they pay more than a million naira per year are always the first to insist that public schools for the children be free. It was further noted that the Nigerian state is just educationally backward because of the rapacity of the ruling elites that has failed in institutional provisions and making funds available for the training of millions of school going children to become qualified school teachers. They believe these are better taken and put in their pockets.

More worrisome is eroded institutional capacity and culture for research, due to lack of funding and an environment, which discourages research, innovation and technology incubation with appropriate linkages to industries. Lack of research funds affects quality of teaching, graduate training and technology incubation, with overall negative impact on the quality of education.

5.2 Conclusion

Nigeria is an acknowledged leader in Africa. It must show leadership in many fundamental respects, not least in the ways in which it addresses the deep rooted education crisis, of which chronic underfunding is a major causal factor. Nigeria cannot afford to lag behind others in Africa and the third world on the priority it should accord education. At the very least, Nigeria should belong to the group of those who accord very high priority to technical education.

As Nigeria strives for greatness and elevation into the class of top 20 most developed countries by 2020, one priority area that requires urgent attention is that of human capital development. Education at all levels and at the tertiary levels in particular needs immediate attention. The sector is crisis-ridden and seems ill-prepared for producing national development requirements and globally competitive human capital is the key ingredient for national

development and for proper placement in the contemporary global economic environment. Thus, the education sector is arguably the one requiring the most urgent immediate priority attention. The demand for vocational, professional and industrial-based programmes requires a separate sector with a separate and distinct tradition and outlook. In order to improve the delivery of quality technical and vocational education in Nigeria there is need for effective mobilization and efficient utilization of resources for this purpose. This should include public mobilization involving the various levels of governments and all stakeholders. The collaborative efforts should aim at supporting TVET and arousing students'/parents' interest in science and technology course which could later result in increased enrolment into these programmes in the polytechnics.

5.3 Recommendations

This study reveals the elites manipulation and the character of the state actors has been responsible for the general rot in the Nigeria education and the technical education sub-sector. In order to address the matter in all its ramifications, a total departure from the prevailing issues become very imperative.

In view of the degree of decay that has already eaten deep into the technical education fabrics, a roadmap of action in which specific and general remedial actions are identified, is to be given urgent and deserved attention as a way out of the logging into a forward match! This can best be pursued by giving a holistic consideration to the following recommendations:

1. A sustainable technical teacher formation scheme must be put in place as a way of ensuring the availability of good quality and specialists staff in the institution.

2. A special allowance, to be known as Technical Teachers Allowance (TTA) of at least 10% of basic salary, should be introduced as part of incentives for Technical Teachers.
3. The curricula of TVE institutions must be continually revised, expanded and modernized and made galvanize technical education delivery and reflect due relevance in its implementation. The curricula should emphasize on tacit knowledge, practical and entrepreneurship as well as reverse engineering.
4. An intensive staff development project should be embarked upon to ensure that academic staff acquire the relevant post-graduate qualifications. More qualified lecturers should be employed to address shortage in some polytechnics. Similarly, effort should be made to improve the competence and effectiveness of existing staff by encouraging and sponsoring them to attend relevant courses, workshops etc, to enable them keep abreast of current development in their fields and professions. All forms of disparities in remuneration between staff in the polytechnics and their counterparts in the universities should be removed. This applies particularly to salary level barriers.
5. The Education Committee of the National Assembly, and indeed all stakeholders, should also ensure that the National Assembly enables the federal government to respect collective bargaining agreements entered into with the various unions, as well as promote and enshrine constant dialogue to preempt and avert industrial relations conflict and crises. The current situation where the government is constantly on the defensive rather than being proactive needs to change.
6. Fund expansion of infrastructure and facilities to expand the scope of enrolment: classrooms, laboratories, halls of residence, water supply, roads, sporting facilities, power generation etc.

7. Invest in library automation development with a focus on e-collections and expansion of seating capacity. Presently, the libraries are poorly stocked and equipped.
8. Invest heavily in information and communications technologies (ICTs) in teaching and research.
9. Government alone cannot in the long-run shoulder the sole burden of financing education, at some point in the future, rational equitable cost-sharing would be imperative. However, the precondition for popular acceptance of cost-sharing by parents and critical educational stakeholders is the demonstration by government of requisite seriousness and commitment to once and for all address the crises in the education sector by deploying enduring solutions to them.

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APPENDIX 1: Questionnaire for Polytechnic Academic Staff

Department of Political Science,
Faculty of Social Sciences,
Ahmadu Bello University, Zaria.
Kaduna State.

Dear Respondent,

I am a postgraduate student of Political Science, in Ahmadu Bello University, Zaria, carrying out an academic research on “*An Analysis of Technical Education in Nigeria: A Study of Nasarawa State Polytechnic, Lafia (2001-2007)*” as part of the requirements for the award of M.Sc. Political Science. Your response would be treated as confidential.

Thank you.

Yours faithfully,

Hussaini, I. Abubakar

Part A: Bio-data

1. Age (a) 25-30 [] (b) 30-40 [] (c) 40-50 [] (d) 50-60 []
2. Sex (a) Male [] (b) Female []
3. Area of Academic Specialization (a) Natural Science [] (b) Engineering []
(c) Environmental Science [] (d) Social Sciences []

4. Highest Qualification (a) Graduate [] (b) Postgraduate [] (c) Others –
Specify.....
5. Status (a) Lecturer [] (b) Instructor [] (c) Technician []
(d) Technologist []

Part B

1. How long have you been in the employment of the polytechnic?
.....
2. Are there problems tied to the teaching and pursuit of technological education?
(a) Yes [] (b) No [] (c) I don't care []
3. What are the nature of these problems?
(a) Poor funding [] (b) Poor students' background []
c) Administrative inconsistencies []
4. Can you attribute the declining status of technical education and the general rot in the education sector to its neglect by the elites?
(a) Yes [] (b) No [] (c) I don't care []
5. What do you have to say about the general operation of the system particularly in respect to curricula and staff development?
(a) faire [] (b) Poor [] (c) very poor []

6. Can you attribute problems of technical education to other hitches outside the one above?

(a) Yes [] (b) No [] (c) I don't care []

7. What are the problems?

(a) Politicization [] (b) Corruption [] (c) Global crisis []

8. Comment freely on your experience about Nasarawa State polytechnic and the way forward

.....

APPENDIX II: Questionnaire for Polytechnic Management/NBTE

Department of Political Science,
Faculty of Social Sciences,
Ahmadu Bello University, Zaria.
Kaduna State.

Dear Respondent,

I am a postgraduate student of Political Science, in Ahmadu Bello University, Zaria, carrying out an academic research on *An Analysis of Technical Education in Nigeria: A Study of Nasarawa State Polytechnic, Lafia (2001-2007)*” as part of the requirements for the award of M.Sc. Political Science. Your response would be treated as confidential.

Thank you.

Yours faithfully,

Hussaini, I. Abubakar

Part A: Bio-data

1. Age (a) 30-40 [] (b) 40-50 [] (c) 50-60 [] (d) 60 + above []
2. Sex (a) Male [] (b) Female []
3. Institution (In case of polytechnic Management Staff).....

.....
4. Department (In case of NBTE Staff)

.....
5. Highest Qualification (a) Graduate [] (b) Postgraduate [] (c) Others –
Specify.....

Part B

1. How long have you been in your present position?

.....
2. How many students has your institution admitted since inception?

.....
3. What is the level of their performance in science based courses?

(a) Satisfactory [] (b) Fair [] (c) Poor []

4. What is the staff strength of the institution particularly in respect of teaching staff?

(a) very adequate [] (b) low [] (c) Very low []

5. What is the impact of the Polytechnic with regards to technical/manpower development of the immediate environment and beyond?

(a) High [] (b) Fair [] (c) Low []

6. How many accreditation programmes do you have at the polytechnic?

- (a) Enough [] (b) Not enough [] (c) Not at all []
7. What is the polytechnic policy on staff development?
- (a) Full-time fellowship [] (b) Part-time study [] (c) None []
8. What is the state of Libraries/Laboratories in the institution?
- (a) Equipped [] (b) Fairly equipped [] (c) Not equipped []
9. What is the level of government commitment/attention towards the development of programmes in the school? (a) A lot of effort [] (b) Fairly good []
- (c) Not much effort []
10. What is the general state of enrolment in Nigerian polytechnics as compared to other non-technically-based institution? (a) Fast growing [] (b) Growing []
- (c) Declining []
11. How relevant is the curricular in the attainment of technologically embraced nation? (a) Relevant [] (b) Irrelevant [] (c) Outdated []
12. What is your candid view about the state of physical facilities in most polytechnic today?
- (a) Adequate [] (b) Not adequate [] (c) Poor []
13. What is the state of staff recruitment/development in most of the polytechnics you have visited? (a) Adequate [] (b) Fairly adequate [] (c) Inadequate []
14. What did you discover in respect of funding particularly in state-owned and private polytechnics today? (a) Adequate [] (b) Fair [] (c) Inadequate []

15. Can polytechnic products – current and graduate rub shoulders with other institutions’ graduates in terms of productivity abilities?

(a) Yes [] (b) Possibly [] (c) No []

16. Comment freely on the generally problems of the polytechnic in Nigeria and the way forward

.....

APPENDIX III: Data Analysis from Statistical Package for Social Sciences (SPSS).

Table 4.1: Pattern of Distribution of Questionnaire for Lecturers

| Colleges | No. of Questionnaire | No. of Return | Percentages (%) |
|---------------------------------------|----------------------|---------------|-----------------|
| College of Science and Technology | 25 | 22 | 24.4% |
| College of Admin and Business Studies | 20 | 18 | 20% |
| College of Environmental Studies | 23 | 21 | 23.3% |
| College of General Studies and Pre-ND | 17 | 16 | 17.8% |
| College of Basic and Remedial Studies | 15 | 13 | 14.5% |
| Total | 100 | 90 | 100% |

Source: Field Survey, 2009.

Table 4.2: Pattern of Distribution of Questionnaire for Management Staff and NBTE

| Management | No. of Questionnaires | No. of Return | Percentages (%) |
|--|-----------------------|---------------|-----------------|
| Rector | 1 | 1 | 5% |
| Registrar | 1 | 1 | 5% |
| Deputy Registrar Academic | 1 | 1 | 5% |
| Director Academic Planning | 1 | 1 | 5% |
| Director College of Science | 1 | 1 | 5% |
| Admission Officer | 1 | 1 | 5% |
| Polytechnic Librarian | 1 | 1 | 5% |
| Head, Physical Planning | 1 | 1 | 5% |
| Director, College of Environmental Studies | 1 | 1 | 5% |
| Chief Laboratory Officer | 1 | 1 | 5% |
| NBTE | 10 | 10 | 50% |
| Total | 20 | 20 | 100% |

Source: Field Survey, 2009.

Table 4.3: Age distribution respondents

| Question | Responses | Frequency Distribution | Percentage (%) |
|--------------|-----------|------------------------|----------------|
| Age | 25-30 | 30 | 33.33% |
| | 30-40 | 21 | 23.33% |
| | 40-50 | 25 | 27.77% |
| | 50-60 | 14 | 15.55% |
| Total | | 90 | 100% |

Source: Field Survey, 2009.

Table 4.4: Sex distribution of respondents

| Question | Responses | Frequency Distribution | Percentage (%) |
|--------------|-----------|------------------------|----------------|
| Sex | Male | 62 | 70% |
| | Female | 27 | 30% |
| Total | | 90 | 100% |

Source: Field Survey, 2009.

Table 4.5: Problems tied to the teaching and pursuit of Technical Education

| Question | Responses | Frequency Distribution | Percentage (%) |
|---|--------------|------------------------|----------------|
| Are there problems tied to the teaching and pursuit of technological education? | Yes | 68 | 75.6% |
| | No | 12 | 13.3% |
| | I don't know | 10 | 11.1% |
| Total | | 90 | 100% |

Source: Field Survey, 2009.

Table 4.6: The nature of problems tied to the teaching and pursuit of Technical Education

| Question | Responses | Frequency Distribution | Percentage (%) |
|-------------------------------------|--------------------------------|------------------------|----------------|
| What is the nature of this problem? | Poor Funding by the government | 35 | 39.3% |
| | Poor Students' background | 29 | 32.6% |
| | Administrative inconsistencies | 25 | 28.1% |
| Total | | 90 | 100% |

Source: Field Survey, 2009.

Table 4.7: The declining status of Technical Education and the general rot in the educational sector

| Question | Responses | Frequency Distribution | Percentage (%) |
|---|-----------|------------------------|----------------|
| Can you attribute the declining status of technical education and the general rot in the education sector to its neglect by the elites? | Yes | 69 | 76.7% |
| | No | 21 | 23.3% |
| Total | | 90 | 100% |

Source: Field Survey, 2009.

Table 4.8: General operation of the system particularly in respect of curricula and staff development

| Question | Responses | Frequency Distribution | Percentage (%) |
|---|-----------|------------------------|----------------|
| What do you have to say about general operation of the system particularly in respect of curricula and staff development? | Fair | 5 | 5.5% |
| | Poor | 20 | 22.2% |
| | Very Poor | 75 | 72.3% |
| Total | | 90 | 100% |

Source: Field Survey, 2009.

Table 4.9: Problems of Technical education

| Question | Responses | Frequency Distribution | Percentage (%) |
|---|-----------|------------------------|----------------|
| Can you attribute the problem of technical education to other hitches outside those ones mentioned above? | Yes | 82 | 91.2% |
| | N | 08 | 08.8% |
| Total | | 90 | 100% |

Source: Field Survey, 2009.

Table 4.10: Identification of these problems

| Question | Responses | Frequency Distribution | Percentage (%) |
|--------------------------|----------------|------------------------|----------------|
| What are these problems? | Politicization | 45 | 52.3% |
| | Corruption | 35 | 40.7% |
| | Global Crisis | 06 | 08.0% |
| Total | | 90 | 100% |

Source: Field Survey, 2009.

Table 4.11: Students admitted into Nasarawa State Polytechnic inception

| Question | Responses | Frequency Distribution | Percentage (%) |
|---|--------------------|------------------------|----------------|
| How many students has the institution admitted since inception? | So many Students | 46 | 51.1% |
| | A very good number | 36 | 40.0% |
| | A lot of students | 08 | 08.1% |
| Total | | 90 | 100% |

Source: Field Survey, 2009.

Table 4.12: Level of their performance in the science-based courses

| Question | Responses | Frequency Distribution | Percentage (%) |
|--|--------------|------------------------|----------------|
| What is the level of their performance in the science-based courses? | Satisfactory | 2 | 20% |
| | Fair | 2 | 20% |
| | Poor | 6 | 60% |
| Total | | 10 | 100% |

Source: Field Survey, 2009.

Table 4.13: The staff strength of the institution particularly in respect of teaching staff

| Question | Responses | Frequency Distribution | Percentage (%) |
|--|---------------|------------------------|----------------|
| What is the staff strength of the institution particularly in respect of teaching staff? | Very adequate | 3 | 30% |
| | Low | 1 | 10% |
| | Very Low | 6 | 60% |
| Total | | 10 | 100% |

Source: Field Survey, 2009.

Table 4.14: Impact of the Polytechnic with regards to technical/manpower development of the immediate environment and beyond

| Question | Responses | Frequency Distribution | Percentage (%) |
|---|-----------|------------------------|----------------|
| What is the impact of the polytechnic with regards to technical/manpower development of the immediate environment and beyond? | High | 1 | 10% |
| | Fair | 2 | 20% |
| | Low | 7 | 70% |
| Total | | 10 | 100% |

Source: Field Survey, 2009.

Table 4.15: Accredited programmes in the Polytechnic

| Question | Responses | Frequency Distribution | Percentage (%) |
|--|------------|------------------------|----------------|
| How many accredited programmes do you have at the polytechnic? | Enough | 1 | 10% |
| | Not enough | 8 | 80% |
| | Not at all | 1 | 10% |
| Total | | 10 | 100% |

Source: Field Survey, 2009.

Table 4.16: Polytechnic's policy on staff development

| Question | Responses | Frequency Distribution | Percentage (%) |
|--|----------------------|------------------------|----------------|
| What is Polytechnic's policy on staff development? | Full-time fellowship | 3 | 30% |
| | Part-time study | 6 | 60% |
| | None | 1 | 10% |
| Total | | 10 | 100% |

Source: Field Survey, 2009.

Table 4.17: State of libraries/laboratories in the institution

| Question | Responses | Frequency Distribution | Percentage (%) |
|---|-----------------|------------------------|----------------|
| What is the state of libraries/laboratories in the institution? | Equipped | 2 | 20% |
| | Fairly equipped | 5 | 50% |
| | Not equipped | 3 | 30% |
| Total | | 10 | 100% |

Source: Field Survey, 2009.

Table 4.18: Level of government commitment/attention towards the development of programmes in the school

| Question | Responses | Frequency Distribution | Percentage (%) |
|---|-----------------|------------------------|----------------|
| What is the level of government commitment/attention towards the development of programmes in the school? | A lot of Effort | 2 | 20% |
| | Fairly good | 3 | 30% |
| | No much effort | 5 | 50% |
| Total | | 10 | 100% |

Source: Field Survey, 2009.

Table 4.19: General state of enrolment in Nigerian Polytechnics as compared to other non-technically-based institution

| Question | Responses | Frequency Distribution | Percentage (%) |
|---|--------------|------------------------|----------------|
| What is the general state of enrolment in Nigerian polytechnics as compared to other non-technically-based institution? | Fast growing | 3 | 30% |
| | Growing | 4 | 40% |
| | Declining | 3 | 30% |
| Total | | 10 | 100% |

Source: Field Survey, 2009.

Table 4.20: The relevance of curricula in the attainment of a technologically embraced nation

| Question | Responses | Frequency Distribution | Percentage (%) |
|---|---------------|------------------------|----------------|
| How relevant is the curricula in the attainment of a technologically embraced nation? | Very Relevant | 2 | 20% |
| | Relevant | 3 | 30% |
| | Outdated | 5 | 50% |
| Total | | 10 | 100% |

Source: Field Survey, 2009.

Table 4.21: Candid view about the state of physical facilities in most Polytechnics today

| Question | Responses | Frequency Distribution | Percentage (%) |
|---|--------------|------------------------|----------------|
| What is your candid view about the state of physical facilities in most polytechnics today? | Adequate | 2 | 20% |
| | Not Adequate | 2 | 20% |
| | Poor | 6 | 60% |
| Total | | 10 | 100% |

Source: Field Survey, 2009.

Table 4.22: The state of staff recruitment/development in most of the Polytechnics in Nigeria

| Question | Responses | Frequency Distribution | Percentage (%) |
|--|-----------------|------------------------|----------------|
| What is the state of staff recruitment/development in most of the polytechnics you have visited? | Adequate | 2 | 20% |
| | Fairly Adequate | 3 | 30% |
| | Inadequate | 5 | 50% |
| Total | | 10 | 100% |

Source: Field Survey, 2009.

Table 4.23: Funding in state-owned and private polytechnics

| Question | Responses | Frequency Distribution | Percentage (%) |
|---|--------------------|------------------------|----------------|
| What did you discover in respect of funding particularly in state-owned and private polytechnics? | Adequate | 1 | 10% |
| | Inadequate | 4 | 40% |
| | Grossly Inadequate | 5 | 50% |
| Total | | 10 | 100% |

Source: Field Survey, 2009.

Table 4.24: Quality Polytechnic graduates in terms of productive abilities

| Question | Responses | Frequency Distribution | Percentage (%) |
|--|-----------|------------------------|----------------|
| Can polytechnics products – current and graduated rub shoulders with other institutions' graduates in terms of productive abilities? | Yes | 2 | 20% |
| | Possibly | 2 | 20% |
| | No | 6 | 60% |
| Total | | 10 | 100% |

Source: Field Survey, 2009.