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Middle Tennessee State University, 1990

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**EDUCATION AND ECONOMIC GROWTH IN NIGERIA:
A CASE STUDY**

by

John Chukwuka Obi

**A dissertation presented to the
Graduate Faculty of Middle Tennessee State University
in partial fulfillment of the requirements
for the degree Doctor of Arts**

May 1990

EDUCATION AND ECONOMIC GROWTH IN NIGERIA:
A CASE STUDY

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ABSTRACT

EDUCATION AND ECONOMIC GROWTH IN NIGERIA:

A CASE STUDY

BY

JOHN CHUKWUKA OBI

The existence of unemployed college graduates alongside a continued dependence of the Nigerian government on foreign specialists has prompted the questioning of the efficacy of education in Nigeria as a means of attaining economic growth and development. The discovery and exportation of crude petroleum and the subsequent jump in world prices of crude petroleum in the early 1970s were considered to be major contributing factors in the steady growth of school enrollment in Nigeria. Many studies have shown that enrollments generally increase as the national income increases. Enrollment growth in Nigeria has, however, been mainly linked with increases in oil revenue.

This study investigates a two-way relationship between education (represented by school enrollments) and economic growth (represented by gross domestic product per capita) in a simultaneous equation framework using Nigeria as a case study. The statistical data cover the period 1960 to 1983.

The study also examines the impact of some exogenous factors, including the Nigerian government's expenditures on education and health care, investment in fixed capital, value of crude petroleum produced during the period, and

population growth management on school enrollments and economic growth. Results of the estimated system of simultaneous equations using the two-stage least squares (2SLS) procedure indicated that there is a significant negative relation between economic growth and school enrollment at the three education levels in Nigeria. Investment in fixed capital and the value of crude oil produced during the period were found to have statistically significant and positive influence on economic growth. The other exogenous variables considered (government expenditures on education and health care) exhibited no significant influence on economic growth during the study period.

The results also indicated that income growth had no significant impact on school enrollments at the three levels of education in Nigeria. Population growth, however, played a major role in the rise in enrollments at all levels of education. Exogenous variables, such as the value of crude oil produced during the period and government expenditures on education and health care, did not significantly influence enrollments at the three school levels.

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CHAPTER I
INTRODUCTION

After the Harrod-Domar model added capacity generation to the Keynesian income-generation of investment, planners and aid officials regarded capital accumulation as the main strategic variable (via the propensity to save and capital/output ratio) for economic development.¹

The notion that capital was scarce and savings difficult to raise in developing countries was qualified by the availability of capital from external sources. This is based on the belief that investors from capital rich countries will find new and profitable investment opportunities in the countries to be developed. Paul Streeten argues that both theoretical and empirical evidence show that capital does not necessarily play the crucial role that has been allotted to it.² This resulted in the erosion of the importance of physical capital and other missing

¹Bruce Herrick and Charles Kindleberger, Economic Development, 4th ed. (New York: McGraw-Hill Company, 1983), pp. 28-32.

²Paul Streeten, "Development Ideas in Historical Perspective" in Toward a New Strategy for Development, ed. Kim O. Hill (Rothko Chapel, Pergamon Press, 1979), pp. 24, 39.

components such as foreign exchange, investment in human human capital, and even birth control to gain prominence.

Long before T. W. Schultz came up with the idea of human capital as distinct from physical capital,³ economists such as David Ricardo,⁴ Sidney Webb,⁵ and Alfred Marshall,⁶ had recognized that "population," "the skill and intelligence of the mass of the people," and "human faculties" were just as important as physical capital. Development scholars subsequently recommended investment in human capital in developing countries to be a necessary ingredient for economic development.

Policy decisions on investment in human capital are often made by governments. Options open to the government, as listed by Pius Okigbo, are:⁷

³T. W. Schultz, "Investment in Human Capital in Poor Countries" in Foreign Trade and Human Capital, ed. Paul D. Zook (Dallas: Southern Methodist University Press, 1962), pp. 7-14.

⁴David Ricardo, The Principles of Political Economy and Taxation (Homewood, IL: Richard D. Irwin, Inc., 1963), pp. 48-49.

⁵Sidney Webb, London Education (London 1904), p. 9, quoted in Paul Streeten, The Foundation of Development Studies (New York: Halstead Press, 1972).

⁶Alfred Marshall, Principles of Economics, 6th ed. (London: McMillan, 1980), p. 564.

⁷P. N. C. Okigbo, "Criteria for Public Expenditure on Education" in The Economics of Education, eds. Edward Robinson and John E. Vaizey (New York: St. Martin Press, 1966), p. 479.

1. Removal of social injustice by reducing illiteracy.

2. Limitation of the role of public authorities to merely promoting those conditions that will enable the educational system to produce men whose minds are free.

3. Embarkation on the development of specified skills necessary for the country's well-being.

The governments of the 21 states in Nigeria have autonomous responsibility for education at all levels within their respective areas of jurisdiction. The Federal government has a ministry of education which is responsible for education within the Territory of Abuja and other Federal institutions spread all over the Federation.

On the attainment of self-rule in 1955, the first wholly Nigerian governments one after the other acknowledged and accepted the principle of full state responsibility for developing and financing public education on a massive scale so as to promote the social and economic development of the community as a whole. The governments of the then Western and Eastern Nigeria introduced Universal Free Primary Education (UPE) in their respective regions as did the Federal government in the then Federal Territory of Lagos. This meant the adoption of option one as listed by Pius Okigbo--removal of social injustice by reducing illiteracy.

The first six-year development plan of the Federation of Nigeria defined the main aim of education as providing

the informed electorate without which a democratic state could not survive. This definition led to the adoption of education policies aimed at achieving concrete results in terms of economic and social progress. These policies involved the acceptance of educational expenditure on an unprecedented scale as a public responsibility and as a strategic item of development investment. This and subsequent plans (four) found it necessary to carry out surveys of the existing manpower situation and to work out projections of future manpower requirements. They were undertaken in order to ensure that education would effectively fulfill its economic role of producing competent citizens and trained manpower for the myriad needs of a developing society. It meant the adoption of option three on the Okigbo list--embarkation on the development of specified skills necessary for the country's well-being.

Option two (limiting the role of public authorities to merely promoting those conditions that will enable the education system to produce individuals whose minds are free) was initially adopted with some modifications. The State and Federal governments initially formed a partnership with voluntary agencies (e.g., religious bodies and private citizens) who had control over 90 percent of primary and secondary schools. The agencies retained their quasi-proprietary status, their independent initiatives, and their denominational identities. The government, on the other

hand, set policies, enacted the laws and regulations, provided the inspectorate, carried out the overall planning and administration, and provided funds to cover the initial capital and virtually 100 percent of the recurrent costs.

This situation has since changed as most state governments started in 1979 to take over control and management of schools at all levels from voluntary agencies. Today, education in all its facets is primarily the responsibility of the State and Federal governments.

Statement of the Problem

The task at the time of self-government in Nigeria was to lay the human, institutional, and technical foundation for a progressing economy. This meant creating an educational system conducive for economic growth, an efficient and honest administrative service, a literate and motivated class of farmers, and a disciplined, skilled, and adaptable agricultural and industrial labor force. In order to be effective, education must be a part of a wider plan so that skills can be matched by the opportunity for work. The supply of capital equipment, the demand for skilled labor, and the demand for the goods produced by the factories of production must fit into the supply of manpower with specific or adaptable skills.⁸

⁸This is the guiding principle on which Paul Streeten based the requirement for aid in Africa in his book, Aid to Africa: A Policy Outline for the 1970s (New York: Praeger Publishers, 1970), p. 159.

The introduction of free primary education and heavy subsidization of both secondary and third-level education after the attainment of self-government encouraged huge increases in school enrollment at all levels. This continued into the 1960s, and the Federal government's announcement of a 1976 target year for a free and compulsory primary education resulted in continued increase in enrollments in the 1970s. During these periods, unemployment figures were relatively low, though employment activities shifted from the agricultural sector to the service and manufacturing sectors.

The 1980s have witnessed rising unemployment of college graduates due to the rapid expansion of the educational system since the 1950s and the subsequent saturation of the labor market. Thus, the promise to the Nigerian Foreign Minister by the Pakistani government "to send managerial experts and other specialists to Nigeria as part of our African program"⁹ becomes ironic in light of the excess supply of educated manpower.

But Nigeria remains a third world nation, relying on the export of crude petroleum for more than 80 percent of its foreign earnings and importing most of both its capital and consumer needs. The sharp decline in the price

⁹Economy and Business, "Looking East," West Africa Weekly (11-17 September 1989): 1528.

of crude petroleum during the same period exacerbated the poor employment situation. As a result, these conditions prompted the questioning of the efficacy of education in Nigeria and other developing nations as a means of attaining economic growth and development.

As suggested by Alan Peshkin¹⁰ and Henry Steadman,¹¹ education itself may in turn be affected by income growth, especially from the oil exports in the case of Nigeria. It should, however, be noted that increases in enrollments in Nigeria did not start with either the beginning of crude petroleum exportation or the oil price hike. Babs Fafunwa argued that the demand for education in Nigeria rose between 1910 and 1930.¹² Enrollment increases also occurred when the governments of the then Western and Eastern regions proclaimed free primary education for the people in 1955 and 1957, respectively. These were before Nigeria started exporting petroleum in 1958 and before the crude petroleum price hike of the 1970s.

¹⁰Alan Peshkin, "Education in the Developing Nations: Dimensions of Change," Comparative Education Review (February 1966): 53-66.

¹¹Henry J. Steadman, "Some Questions About National Education Investment and Economic Development," The Journal of Developing Areas (6 October, 1971): 51-62.

¹²Babs A. Fafunwa, History of Education in Nigeria (London: George Allen and Unwin Ltd., 1974).

The efforts of local communities in encouraging education in Nigeria is well-documented.¹³ In some instances, communal efforts replaced government or private entrepreneurial funding, with communities building their own primary and secondary schools and assuming responsibilities for their maintenance. All they asked for was government recognition for these schools. Where they could not administer the schools themselves, they handed them over to the government or religious organizations.

It may, therefore, be possible for enrollment in Nigerian schools to be increasing even in the face of declining revenues. The result may be a further thinning out of the scarce resources available for education and thereby threaten the quality of education in Nigeria still further.

This dissertation investigates a two-way relationship between education (represented by school enrollments) and economic growth (proxied by gross domestic product per capita) in a simultaneous equation framework. The statistical data cover the 1960 to 1983 period.

The study also examines the impact of other exogenous factors such as government's expenditures on education, health care, investment in fixed capital, revenues from sale

¹³David B. Abernethy, The Political Dilemma of Popular Education (Stanford: Stanford University Press, 1969), pp. 103-105.

of crude petroleum, and population growth on school enrollment and economic growth.

Hypotheses

In light of the foregoing discussions, the following hypotheses are advanced:

Hypothesis 1: Economic growth is not affected by school enrollment at all three levels of the Nigerian school system.

Hypothesis 2: School enrollment at all three levels of the Nigerian school system is not influenced by economic growth as measured by income growth.

Background and Significance of Study

Nigeria was a British colony until its independence in 1960. During the colonial period, the British actually had a part to play in the educational policy of Nigeria, although its interests may have been limited to the preparation of interpreters and clerks who could help in carrying on the day-to-day clerical duties of running the colony. Higher level manpower requirements were met from the home country, the United Kingdom. Such colonial policies on education only infuriated the newly emerging elites and nationalists.

The indigenous elites and nationalists were already convinced of the effectiveness of education as a means of

attaining both political power and economic progress. For example, Nnamdi Azikiwe wrote in 1928:

I pray that the Lord help me so that I may return to Africa with the golden fleece, and propagate from the Zambezi to the Nile, yea, from the Nile to the Congo, the new learning, the recent philosophy of education that education is life and not necessarily a preparation for life.¹⁴

Obafemi Awolowo also succinctly put his own view on education as follows:

To educate the children and enlighten the illiterate is to lay a solid foundation not only for future social, and economic progress, but also for political stability.¹⁵

It is, therefore, no surprise that Obafemi Awolowo, premier of the then Western region of Nigeria, quickly introduced a Universal Free Primary Education (UPE) scheme in January of 1955. His action was quickly followed by the introduction of something similar in the Eastern region--an area governed by the political party led by Azikiwe. The Northern region followed soon after. Although school enrollments rose rapidly during the first five years (see Table 1), a chaotic environment surrounded the school system. This situation resulted from inadequate statistics, lack of funds, and incompetence on the part of local government officials who were supposed to maintain the newly opened schools. D. B. Abernethy describes the problem as

¹⁴Nnamdi Azikiwe to T. J. Jones, Director, Phelps-Stokes Foundation, June 16, 1938. Quoted in The Political Dilemma of Popular Education by David Abernethy, p. 118.

¹⁵O. Awolowo, "An Autobiography," quoted in History of Education in Nigeria by Babs Fafunwa, p. 180.

TABLE 1
 PRIMARY, SECONDARY, AND UNIVERSITY ENROLLMENTS
 IN NIGERIA FOR SELECTED YEARS: 1955-1984

| Year | Primary School | % Increase | Secondary School | % Increase | University | % Increase |
|------|----------------|------------|------------------|------------|------------|------------|
| 1955 | 1,759,533 | | 27,347 | | 931 | |
| 1960 | 2,912,619 | 65.53 | 55,235 | 102.00 | 2,000 | 114.82 |
| 1965 | 2,922,741 | 0.35 | 205,015 | 278.41 | 7,709 | 285.45 |
| 1970 | 3,515,827 | 20.30 | 319,054 | 52.65 | 14,468 | 87.58 |
| 1975 | 5,950,196 | 69.24 | 854,785 | 167.90 | 44,964 | 210.78 |
| 1980 | 13,777,487 | 131.60 | 2,332,235 | 172.84 | 150,672 | 235.09 |
| 1984 | 14,383,487 | 4.4 | 2,999,088 | 28.60 | - | - |

Sources: U. N. Statistical Yearbook, History of Education in Nigeria, and Social Statistics of Nigeria, 1985.

"difficulties that arise when political reasons for embarking upon a program of primary education for all becomes paramount and the economic consideration is ignored."¹⁶

The Federal government of Nigeria did not make the Universal Primary Education (UPE) a national policy until 1974 when it announced a 1976 target year for a free and compulsory primary education policy for the federation as a whole. Earlier, a National Curriculum Conference had convened in 1969 and submitted a plan of action reflecting the mood of the nation about the roles of the three levels of education in Nigeria (see Appendix).¹⁷ This conference was attended by representatives of unions, farmers, religious organizations, teachers' associations, women's organizations, youth club organizers, business and state government representatives, and other professional bodies. However, the Federal government's decision to introduce the UPE coincided with an increase in government revenues as a result of big jumps in the prices of crude petroleum. This decision reflected a high government optimism that the increase in the prices of Nigerian crude petroleum

¹⁶Abernethy, The Political Dilemma of Popular Education, p. 143.

¹⁷Recommendations of the 1969 National Curriculum Conference, cited by Fafunwa, History of Education in Nigeria, pp. 232-246.

(especially the spectacular jumps in the 1970s) would continue for a long time.

Nigeria was one of the 32 countries classified as economically fast-growing during the 1970s. The escalating price of crude oil contributed in no small measure to this flattering classification. By 1980, Nigeria had disappeared, along with 16 other Less Developed Countries (LDCs) from the classification, and this disappearance coincided with a fall in crude oil prices.¹⁸ At the same time, the United Nations Educational, Scientific and Cultural Organization (UNESCO) publications and many other writings on the contributions of education to Nigeria's well-being attribute most of its social and economic progress to education. Little or no empirical evidence exists, however, to show that education is making a headway in contributing to Nigeria's economic progress.

Looking at the steady numerical increases in school enrollments since 1955 (Table 1) and the steady increase in crude oil prices (Table 2), it would appear that growing revenues might result in increased enrollment in schools. The question then is whether this observation can stand an empirical test, since good policy recommendations should be based on an outcome of an objective study. Although

¹⁸United Nations Department of International Economic and Social Affairs, World Economic Report, 1987 (New York, 1987), pp. 156-157.

TABLE 2
CRUDE OIL PRODUCTION ('000 B/D) AND PRICE PER BARREL 1971-1983

| Year | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 |
|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| b/d | 1530 | 1815 | 2055 | 2260 | 1785 | 2065 | 2085 | 2126 | 2300 | 2055 | 1445 | 2200 | 1850 |
| p/b | 3.05 | 3.39 | 4.80 | 14.09 | 12.17 | 13.81 | 14.56 | 14.17 | 20.72 | 35.20 | 35.90 | 32.21 | 30.25 |

Source: Oil Economic Handbook, 1984, and the price list from UN Bulletin of Statistics.

previous studies showed a positive relationship between education and economic growth on the one hand (Muhammed S. Huq,¹⁹ Harbison and Myers²⁰), and between economic growth and education on the other (Henry J. Steadman,²¹ Ginzberg and Smith²²), warnings also existed on the interpretation of these results. Philip Foster wrote that the problem with educational-sector reports is that they are obliged to pay scant attention to the general economic and political context within which educational reforms must take place.²³ Bowman and Anderson also pointed out that "education-income relationships may be quite different in one time and place from one another."²⁴

It may, therefore, increase the confidence attached to research findings if the data used for such studies cover a

¹⁹Muhammed S. Huq, Education and Development in South Asia (Honolulu: East-West Center Press, 1965).

²⁰Frederick Harbison and Charles Myers, Education Manpower and Economic Growth (New York: McGraw-Hill Series in International Development, 1964).

²¹Steadman, "Questions on Educational Investment and Economic Growth."

²²Eli Ginzberg and Herbert A. Smith, Manpower Strategy for Developing Countries: Lessons from Ethiopia (New York: Columbia University Press, 1967).

²³Philip Foster, Commenting on report of World Bank Symposium, Comparative Education Review (February 1989): 106.

²⁴Mary J. Bowman and C. Arnold Anderson, "Concerning the Role of Education and Development" in Old Societies and New States, ed. Clifford Geertz (London: Collier-MacMillan Ltd., 1963), p. 266.

country of interest and the latest period. This study attempts to explore the impact of the interdependence of education and economic growth, using Nigeria as a case study.

Limitation of Study

The following limitations apply to this study:

1. School enrollment is used as an indicator of national educational development due to a lack of a better alternative measure.
2. The setting in which Nigerian schools operated (characterized by such variables as degree of urbanization, political structure, and cultural factors) will not be featured in the study.
3. Gross domestic product (GDP) per capita is used as a rough indicator of economic growth.
4. The study covers a particular country (Nigeria) during a particular period (1960-1983). Hence, the results may not be generalizable to conditions of other LDCs without proper adjustments.

Organization of Study

Chapter 2 reviews selected literature, while Chapter 3 describes the data collection method, the measurement instrument, and the statistical technique used in analyzing the data. Chapter 4 presents the findings and their

interpretations, and Chapter 5 contains a summary, conclusions, and recommendations of the study.

CHAPTER II

LITERATURE REVIEW

In attempting to establish any argument about the relationship between education and economic development, it should be recognized that public education has from the beginning played a role in economic thought. There existed a long and honorable tradition from Adam Smith to Alfred Marshall which assigned to publicly supported education a major role not only in promoting social peace, harmony, and self-improvement, but also in promoting the process of wealth-creation itself.¹

Adam Smith placed education at the center of his thinking because it was due to its system of national education that Scotland was, perhaps, mainly indebted for the superior intelligence and the providential and orderly habit of its people. This system was the basis of good civil government, and it was the basis of economic activity and progress.

Ricardo wanted to show that an increase in economic well-being of the masses would result with a decline

¹For a good summary, see John Vaizey, The Economics of Education (New York: The Free Press of Glencoe, Inc., 1962), Chapter 1, to which this section is indebted.

of population, or the augmentation of capital. He and Malthus favored education as a means of inculcating habits which would lead to limitation in family size.² Alfred Marshall referred to education as a national investment, and he gave a detailed mathematical demonstration of the method of calculating the returns to education.³

Although most statements before Marshall about the relationship between education and economic development were obiter dicta, other works which were based on empirical evidence from studies of specific countries or group of countries did exist. T. W. Schultz used the rate of return approach as a basic rationale for the expansion of societal investment in education and training.⁴ He attempted to explain why in the United States economy the ratio of capital to income was falling and why property income was declining relative to the wage and salary share contrary to the microeconomic predictions. He attributed a major share of the increase in earnings per worker to the investments made in human beings which greatly increased their productive capacity. Becker and Schultz showed that the rate of return on education, both private and social, is

²David Ricardo, The Principles of Political Economy and Taxation, Chapter V.

³Marshall, Principles of Economics, p. 564.

⁴T. W. Schultz, "Investment in Human Capital," American Economic Review 51 (March 1961): 1-17.

significantly higher in the United States than the rate of returns to physical capital.⁵

Denison⁶ and Solow,⁷ utilizing a linear production function technique, attempted to relate increases in either national product or per capita income to increases in productive factors included in the function. The residual then is attributed to factors not included in the production function. The proportional size of the residual is, thus, affected by a number of explanatory variables included in the production function (especially education). Solow's production function had the quantitative increase in capital as its major variable, but left a very high residual attributed to labor. Denison, for his part, increased the number of variables in his production function, including increases in man-hours worked, education and training, with the latter treated as synonymous with improvement in quality of human resources. His summation attributed 42 percent of the growth of per capita income in the United States inferentially to investment in human capital.

⁵Gary Becker and T. W. Schultz, "Capital Formation in Education," Journal of Political Economy 68 (December 1960): 557-558, Table 307.

⁶E. F. Denison, "Measuring the Contribution of Education to Economic Growth," The Economics of Education, eds. E. A. G. Robinson and J. E. Vaizey (New York: St. Martin Press, 1966): 202-260.

⁷Robert Solow, "Technical Changes and the Aggregate Production Function," Review of Economics and Statistics 39 (August 1957): 312-320.

Psacharopoulos' study of 32 developed and underdeveloped countries in all parts of the world resulted in the following generalizations:⁸

1. Nominal social rates of returns for secondary education average approximately 9.5 percent for developed nations and 15.8 percent for developing nations in the sample. Corresponding social rates for higher education are 9.4 and 12.4 percent. The conclusion is that education pays off both in developed and underdeveloped countries. But the payoff is substantially higher in less developed than in advanced nations.

2. There is a higher return to primary education than to secondary education.

3. Returns to investment in human capital are well above returns to physical capital in less developed countries (LDCs).

4. Investment in education contributes substantially to the rate of growth of output in most countries, especially in the less developed group.

5. Higher education is very expensive in relation to the other levels of education, particularly in LDCs.

⁸George Psacharopoulos, Returns to Education: An International Comparison (San Francisco: The Jossey-Bass Inc. Publishers, 1973).

Harbison and Myers⁹ looked at the relationship between the national incomes of 75 countries and school enrollments of various types, heavily weighted toward higher level technical and vocational education and scientific fields. They found high correlation ratios between human resource and income groupings. These were interpreted as suggesting that the way to move into higher categories of income classification was to invest in education.

Alan Sica and Harland Prechel¹⁰ compared the relative effect of dependency and development on the distribution of education. They found that with the exception of primary education, the level of development is very strongly associated with education measures--an indication that education is an important element of development.

Bowman and Anderson,¹¹ in a multi-country study of the relationship between education and income for periods 1930 to 1935 and 1950 to 1955, pointed out the importance of the interaction between education and economic conditions

⁹Frederick Harbison and Charles A. Myers, Education, Manpower and Economic Growth: Strategy of Human Resource Development (New York: McGraw-Hill series in International Development, 1964).

¹⁰Alan Sica and Harland Prechel, "National and Political Dependency in the Global Economy and Educational Development," Comparative Education Review 25 (October 1981): 384-402.

¹¹Bowman and Anderson, "Concerning the Role of Education and Development," p. 266.

through time. They argued that both education-to-income and income-to-education sequences can operate at the same time. In other words, a two-way causation can be in effect at the same time.

Also dealing with the cause and effect relationship between education or school enrollment and economic growth (GDP per capita), Steadman studied 67 developed and developing nations.¹² His findings showed that for the high and intermediate income per capita nations, education positively correlated with economic growth (0.474 and 0.596, respectively) more than economic growth determined education (0.191 and 0.503, respectively). For the low per capita nations (21 countries), the study found that income growth caused larger increases in school enrollment than increases in income resulting from increases in enrollments (0.555 compared with -0.086).

But a study by Peter Easton and Simon Fass found a different situation in Haiti. Part of their findings indicated increases in school enrollments (of primary school level) in cases where income per capita actually declined.¹³

These and other similar findings convinced a World Bank sponsored symposium to conclude that compelling

¹²Steadman, "Questions on Educational Investment and Economic Growth," pp. 51-62.

¹³Peter E. Easton and Simon M. Fass, "Monetary Consumption Benefits and the Demand for Primary Schooling in Haiti," Comparative Education Review no. 2 (May 1989): 184.

research evidence exists to support a claim that "greater investment in education can, at this time in Africa's history, be expected to yield broad economic benefits."¹⁴ These benefits include higher income and lower fertility. The symposium, however, added a caveat that the studies examining the welfare benefits of education were based necessarily on education as provided at some historical point in the past. To the extent that the quality of education has declined recently and is allowed to deteriorate further, new investments in the quantity of education may not yield returns commensurate with those in the past. The study re-emphasized, therefore, that quality be enhanced through revitalization as a prerequisite and complement to further expansion.

¹⁴Philip G. Altbach, ed., "Symposium: World Bank Report on Education in Sub-Saharan Africa," Comparative Education Review (February 1989): 103.

CHAPTER III
DATA AND METHODOLOGY

The basic sources of data for the study are the United Nations (U. N.) Statistical Yearbook, The Social Statistics of Nigeria 1979 and 1985, and Europa Yearbook: A World Survey.

Data on education were obtained for the three standard categories. First-level education represents the number of pupils enrolled in elementary education (primary one through six). Second-level education includes the number of pupils enrolled in secondary schools or their equivalents. Third-level covers all students enrolled in universities, colleges, and their equivalents.

Gross domestic product (GDP) is used as a proxy variable for economic growth. GDP data were obtained from U. N. Statistical Yearbook over the 1960 to 1983 period and were divided by projected population figures to obtain the GDP per capita. The resulting figures were subsequently adjusted to the 1970 price level. Enrollment and GDP per capita data are presented in Table 3.

The choice of data points was based on developments in Nigeria's education policy and the availability of data.

TABLE 3
 PRIMARY, SECONDARY, AND THIRD LEVEL EDUCATION
 ENROLLMENTS AND GROSS DOMESTIC PRODUCT
 PER CAPITA: 1960-1983

| Year | Primary Enrollment (Mills.) | Secondary Enrollment (Mills.) | Third Level Enrollment ('000s) | GDP Per Capita (Naira) |
|------|-----------------------------------|-------------------------------------|---------------------------------------|------------------------------|
| 1960 | 2.91 | 0.06 | 2.0 | 69.09 |
| 1961 | 2.80 | 0.06 | 2.3 | 56.34 |
| 1962 | 2.83 | 0.23 | 4.0 | 70.66 |
| 1963 | 2.90 | 0.24 | 5.9 | 70.82 |
| 1964 | 2.85 | 0.23 | 8.0 | 70.31 |
| 1965 | 2.91 | 0.25 | 9.4 | 69.74 |
| 1966 | 3.03 | 0.26 | 11.0 | 67.99 |
| 1967 | 1.78 | 0.17 | 8.1 | 55.96 |
| 1968 | 1.80 | 0.20 | 9.8 | 51.88 |
| 1969 | 2.35 | 0.22 | 9.8 | 65.98 |
| 1970 | 3.52 | 0.31 | 15.5 | 90.65 |
| 1971 | 3.89 | 0.38 | 17.3 | 94.47 |
| 1972 | 4.67 | 0.43 | 23.2 | 84.75 |
| 1973 | 4.89 | 0.56 | 24.5 | 82.07 |
| 1974 | 4.37 | 0.54 | 25.8 | 141.55 |
| 1975 | 5.95 | 0.86 | 65.5 | 136.18 |
| 1976 | 8.15 | 1.00 | 66.0 | 141.65 |
| 1977 | 9.87 | 1.22 | 51.9 | 139.53 |
| 1978 | 11.41 | 1.41 | 48.1 | 125.54 |
| 1979 | 12.56 | 1.83 | 60.3 | 122.58 |
| 1980 | 13.78 | 2.33 | 101.1 | 119.92 |
| 1981 | 14.31 | 2.37 | 110.9 | 131.99 |
| 1982 | 14.68 | 3.34 | 103.6 | 117.88 |
| 1983 | 14.38 | 3.33 | 134.3 | 95.00 |

Source: United Nations Statistical Yearbook, Federal Office of Statistics, Social Statistics of Nigeria, Lagos, Nigeria, 1979 and 1985.

Note: GDP per capita calculated at 1970 prices.

Free primary education was initially introduced by the regional governments of Nigeria from 1955 to the early 1960s. The Federal government did not have a nationwide program until General Yakubu Gowon, the then head of state, in 1974 announced a Federal Universal Free Primary Education scheme (UPE) to start January 1976. The discovery, exportation, and steady rise in the price of crude petroleum over the same period also contributed to income growth which in turn influenced the choice of years selected in the study.

An Analytical Approach

A simultaneous equation model of the interdependent relationship between education and income growth was estimated using the Two-Stage Least Squares (2SLS) method. The study includes two endogenous variables and five exogenous variables.

In the first equation, investment in fixed capital was expected to affect economic growth because economists from the time of Adam Smith have recognized the importance of capital accumulation on the economic well-being of any nation. For example, in another region of the world, Joseph S. La Cascia found that investment in fixed capital by Mexico contributed to its economic growth.¹

¹Joseph S. La Cascia, Capital Formation and Economic Development in Mexico (New York: Frederick A. Praeger Publishers, 1969), Chapter 8.

Crude petroleum production has played a prominent role in the economic life of Nigeria since the exportation of the first barrel in 1958 which continued during the rapid rise (1970s) and sharp fall (1980s) in the world price of crude petroleum. Sayer P. Schatz wrote that the increase in oil revenues provided a striking 45 percent increase in real 1973 gross domestic product (GDP).²

Government expenditure on education is expected to influence economic growth since such expenditures are investments in human capital. With sufficient funding and an efficient allocation to the educational system, government expenditure can improve the skill of the nation's labor force. This in turn may translate into higher productivity and, therefore, higher incomes.

Expenditure on health by the government may also be treated as investment in the well-being of the country's citizenry. A healthy labor force contributes to increased productivity and higher incomes through a reduction in absenteeism due to illness.³

The second equation considers the relationship between school enrollments and income growth, along with some

² Sayer D. Schatz, "The Nigerian Economy Since the Great Oil-Price Increases in 1973-74," Africa Today, 3rd quarter (1982): 33.

³ Malcolm Gillis et al., Economics of Development (New York: W. W. Norton and Company, 1987), Chapter 10, pp. 234-236.

exogenous variables such as population, values of crude petroleum produced, and government expenditures on education and health. The World Bank symposium recognized the impact of population growth on school enrollments when it suggested that more schools, teachers, books, and other inputs are required each year if the growth of educational facilities are to keep pace with the growth of school-age population.⁴ David Plank also found population to be positively related with growth in school enrollment in his study of Brazil.⁵ Government expenditures on education are expected to make education available to Nigerians through the provision of physical facilities, teachers, books, and other inputs. Thus, it may motivate those who otherwise cannot afford education.

Expenditures on health, apart from keeping students healthy to attend school, may enhance the learning capabilities of students through the promotion of wholesome minds.

The value of crude oil produced was included because the rise in the price of crude petroleum increased the revenues accruing to the nation and thus increased GDP. The

⁴Altbach, "Symposium," p. 95.

⁵ David N. Plank, "The Expansion of Education: A Brazilian Case Study," Comparative Education Review 31, no. 3 (August 1987): 173.

relationship between income growth and school enrollment is expected to be positive according to Steadman.⁶

Based on the foregoing arguments, structural equations can now be specified as:⁷

$$Y_t = \alpha_0 + \alpha_1 E_t + \alpha_2 X_{1t} + \alpha_3 X_{3t} + \alpha_4 X_{4t} + \alpha_5 X_{5t} + U_{1t}$$

$$E_t = \beta_0 + \beta_1 Y_t + \beta_2 X_{2t} + \beta_3 X_{3t} + \beta_4 X_{4t} + \beta_5 X_{5t} + U_{2t}$$

Where:

Y_t = Gross Domestic Product per capita, $t = 1965-1983$.

E_t = Enrollments.

X_1 = Investment on Fixed Capital.

X_2 = Population.

X_3 = Value of Crude Oil Production.

X_4 = Government Expenditures on Education.

X_5 = Government on Health.

U_i = Disturbance Terms.

α_i = Coefficients of the first equation to be estimated.

β_i = Coefficients of the second equation to be estimated.

Equations 1 and 2 are used to test Hypotheses 1 and 2 on page 9.

⁶Steadman, "Questions on Educational Investment and Economic Growth," pp. 55-59.

⁷Henry R. Chiswick and Stephen J. Chiswick, Statistics and Econometrics: A Problem Solving Text (Baltimore: University Park Press, 1975), Chapter 7.

CHAPTER IV
STATISTICAL FINDINGS AND INTERPRETATIONS

Results of the study are presented in Table 4. The relationships among income growth (as represented by GDP per capita), education (as measured by school enrollments), and the five exogenous variables are reported for the three levels of education: primary, secondary, and university.

The regression of income growth on enrollment indicated a significant negative relationship at all three levels. These findings are in accord with the arguments made in this study. One interpretation of the findings is that the expansion in school enrollments over the 24 years since Nigeria's independence has not translated into economic growth. This might be attributed to the long gestation period of investment in human capital which is necessary to show positive benefits. Other institutional constraints might also have concealed any positive impact that education might have had on income growth. The result is, however, consistent with the outcome of Steadman's study.¹

¹Steadman, "Questions in Educational Investment and Economic Growth," pp. 55-59.

TABLE 4
ESTIMATES OF STRUCTURAL EQUATIONS

| Explanatory Variables | Equations | | | | | |
|-----------------------|------------------|-------------------|------------------|------------------|-------------------|--------------------|
| | Primary | | Secondary | | Post Secondary | |
| | GDP | ENROLL. | GDP | ENROLL. | GDP | ENROLL. |
| Constant | 57.9** (12.3) | -19.8** (-7.3) | 56.3** (12.3) | -4.8** (-8.8) | 58.00** (11.6) | -185.7** (-7.9) |
| Enrollment | -1.5* (-2.6) | - | -6.43* (-3.0) | - | -0.16* (-2.5) | - |
| GDP | - | 0.95 (0.4) | - | -0.67 (-1.5) | - | -0.98 (-0.5) |
| Fixed Capital | 0.3** (7.3) | - | 0.28** (7.8) | - | -2.27** (6.9) | - |
| Population | - | 0.38** (8.3) | - | 0.99** (10.6) | - | 3.6** (8.9) |
| Oil Revenue | 0.41 (3.1) | -0.33 (-1.0) | 0.45* (3.5) | -0.25 (0.4) | 0.42* (3.0) | -0.21 (-0.7) |
| Education Expenditure | 0.57 (0.2) | 0.40 (0.6) | -0.33 (-0.9) | -0.75 (-1.5) | 0.16 (0.4) | 0.71 (0.1) |
| Health Expenditure | -0.1 (-0.5) | -0.83 (-0.3) | 0.12 (-0.9) | -0.62 (-1.0) | -0.17 (-1.1) | -0.22 (-0.8) |

*Coefficients Significant at P = 0.01

**Coefficients Significant at P = 0.05

Note: The t-statistics are given in parenthesis below the coefficients.

The regression of school enrollment on income growth did not produce a significant relationship at any of the three education levels. These findings were unanticipated since an observation of the raw data actually showed that enrollments rose when income from oil revenue and other sources rose. Statistical problems of multicollinearity might have contributed to these outcomes. The findings indicate that enrollments in Nigerian schools do not seem to have been influenced by changes in economic growth. Except for primary level education, increases in enrollments at both secondary and college levels seemed to have occurred while the economy was either stagnant or diminishing. This finding coincides with the finding of the Easton and Fass study in Haiti.²

As stated earlier, the primary purpose of this analysis was to investigate the relationship between economic growth and school enrollments in Nigeria. The study incorporated five exogenous variables, namely, investments in fixed capital, population growth, revenues from crude petroleum sales, and government expenditures on education and health.

It also recognized, however, that additional variables may be necessary if the purpose is to develop a model to test both the effectiveness of education as a means of

²Easton and Fass, Benefits and Demand for Primary Education in Haiti, p. 184.

attaining economic growth and economic growth as a prerequisite for educational development.

Investment in fixed capital and revenues from oil were found to have statistically significant and positive influence on economic growth, an outcome consistent with theoretical expectations. The regression equations generated by this analysis, however, show that the other exogenous variables (government expenditures on education and health) exhibited no significant effect on economic growth during the study period.

Regression of school enrollments on population, expenditures on education and health, and the value of crude petroleum production indicated a significant relationship only between school enrollment and population. The other exogenous variables exhibited no significant influence on school enrollments.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The primary purpose of the study was to determine the impact of education on economic growth and in turn the impact of income growth on education. The study attempted to answer two major questions in a simultaneous equation framework:

1. What was the relationship between increases in school enrollments and economic growth during the period 1960 to 1983? In other words, what is the lead effect of education on economic growth?

2. What is the lead effect of economic growth on education during the same period in Nigeria?

The model was estimated by the two-stage least square (2SLS) procedure, using the SHAZAM program available at the Academic Computing Center of Middle Tennessee State University. It is found in the study that there is a significant negative relation between income growth and education. This finding may, perhaps, be attributed to the long gestation period of benefits to investments in human resources or to some other institutional faults in the system.

The study also found no evidence of any significant influence of economic growth on school enrollment in Nigeria. Except for primary school enrollment, school enrollments and economic growth were found to have negative relationships.

Investment in fixed capital was shown to have a significant positive relation with gross domestic product during the period under review. A significant positive relation was also obtained between economic growth and the value of crude petroleum produced in Nigeria during the same period.

Government expenditures on education were found to be positively related with economic growth though the relationship was not statistically significant. Expenditures on health also did not indicate any significant relation with economic growth.

Other factors whose relationships with school enrollment were measured are population, the value of crude petroleum produced, and government expenditures on education and health. Of the five exogenous variables, only population displayed a significant positive relation with school enrollment at all levels of education. Government expenditures on health and the value of crude oil production indicated non-significant negative relations with school enrollments at the three school levels, while government

expenditures on education showed an insignificant but positive relation at primary and university levels.

Implications

It is clearly necessary to bear in mind that the accurate calculation of the direct effect of education on the change in national income is difficult. The difficulty arises from the fact that education does not directly affect the growth of national income. The effect is mediated through the operational efficiency of the labor force which in turn is determined by the quality and level of general education, the amount of industrial experience possessed by the labor force, and availability of opportunities to use these skills.

Quality of general education may be affected by such factors:

1. Government expenditure on education
2. Health care availability level
3. Quality of administrative and teaching staff
4. Relevance of materials being taught
5. Learning method

Hypothesis 1 involves the testing of the effect of school enrollments on economic growth. The results indicated significant negative relations between school enrollments at all levels and economic growth. In other words, increases in school enrollments have not translated

into economic growth. This situation may have resulted from shortcomings in one or more of the determinants of the operational efficiency of the labor force.

Taking a first look at the quality and level of general education, it might be pertinent at this point to discuss some of the causes of the deterioration of education in Sub-Saharan Africa as documented by the symposium hosted by the World Bank in 1988.¹ This study found no significant relation between school enrollments and government expenditures on education. The relationship was even negative at the secondary school level. Investment of sufficient funds in education may allow for smaller and thus more effective classes, more books, better teachers, and more functional physical plants. Table 5 shows teachers in primary education in Nigeria by qualification and pupil-teacher ratio for the 1977-78 academic year as an example of the quality of teaching staff in Nigerian schools. The average pupil-teacher ratio of 34.4 (Table 5) was larger in Nigeria than the average of 19.3 pupil-teacher ratio for the United States of America at the first-level education.²

¹"Symposium: World Bank Report on Education in Sub-Saharan Africa," Comparative Education Review (February 1989): 93-104.

²Social Statistics in Nigeria, 1979, p. 21 and Statistical Abstract of the U. S., 1982, pp. 863-864.

TABLE 5
TEACHERS IN PRIMARY EDUCATION BY QUALIFICATION AND STATE, 1977-78

| NO. | STATES | Total Primary School Enrollment | Total of Teachers | CR I & Higher | CR II & Certified | CR II Failed | CR III & IV | H. S. C/ WASC | Incomplete Secondary School | Primary VI/VII | Religious & Arabic Teachers | Student Teachers | Others | Pupil Teacher Ratio |
|-----|-------------|---------------------------------|-------------------|---------------|-------------------|--------------|-------------|---------------|-----------------------------|----------------|-----------------------------|------------------|--------|---------------------|
| 1. | ANAMBRA | 907,252 | 28,813 | 478 | 11,147 | 2,235 | 208 | 1,146 | 108 | - | - | - | 11,491 | 33.8 |
| 2. | BAUCHI | 329,611 | 10,347 | 2 | 3,432 | - | 979 | - | - | - | 2,458 | - | 3,476 | 31.9 |
| 3. | BENDEL | 751,712 | 23,415 | 211 | 9,276 | 3,828 | 383 | 4,038 | 3,916 | 1,607 | - | - | 156 | 32.1 |
| 4. | BENUE | 629,243 | 15,972 | 154 | 2,650 | 903 | 181 | 1,061 | - | 9,613 | - | - | 1,410 | 39.6 |
| 5. | BORNO | 369,052 | 6,712 | 129 | 978 | 1,707 | 770 | 656 | - | - | 1,260 | - | 1,212 | 38.8 |
| 6. | CROSS RIVER | 768,292 | 19,972 | - | 10,750 | - | - | - | - | - | - | - | 9,213 | 38.5 |
| 7. | GOGONLA | 322,313 | 9,525 | 15 | 1,825 | 2,040 | 694 | - | - | - | - | - | 4,951 | 33.8 |
| 8. | IMO | 1,003,824 | 29,171 | 1,409 | 19,617 | - | - | - | - | - | - | - | 8,145 | 34.4 |
| 9. | KADUNA | 613,091 | 20 | 2,523 | 6,034 | 6,034 | 271 | 582 | 3,300 | 3,879 | 4,200 | - | - | 29.5 |
| 10. | KANO | 472,813 | 14,968 | 36 | 872 | 3,052 | 819 | - | - | - | 3,384 | 3,187 | 2,993 | 31.6 |
| 11. | KWARA | 394,030 | 10,458 | 316 | 3,496 | 1,718 | 686 | 1,348 | - | 1,398 | - | - | 1,506 | 37.7 |
| 12. | LAGOS | 400,405 | 10,912 | 391 | 6,524 | 1,219 | 441 | 358 | - | - | - | - | 1,976 | 36.7 |
| 13. | NIGER | 181,731 | 3,849 | - | 1,794 | 107 | 445 | 67 | - | - | - | - | 1,436 | 47.2 |
| 14. | OGUN | 299,015 | 10,018 | 60 | 3,756 | 1,132 | 115 | - | - | - | - | - | 4,955 | 29.5 |
| 15. | ONDO | 428,119 | 14,505 | 149 | 6,506 | 3,055 | 197 | - | - | 95 | - | - | 4,503 | 29.5 |
| 16. | OYO | 866,840 | 26,821 | 52 | 440 | 11,435 | 417 | 2,270 | 5,970 | 872 | - | - | 5,365 | 32.3 |
| 17. | PLATEAU | 365,554 | 11,963 | 163 | 2,858 | - | 134 | 1,019 | - | - | - | - | 7,789 | 30.6 |
| 18. | RIVERS | 430,388 | 11,247 | - | - | - | - | - | - | - | - | - | - | 38.3 |
| 19. | SOKOTO | 301,542 | 8,520 | 24 | 558 | 3,321 | 388 | 1,294 | - | 1,186 | - | - | 1,749 | 35.4 |
| | NIGERIA | 9,845,838 | 285,897 | 3,609 | 89,001 | 41,686 | 7,128 | 13,830 | 13,294 | 18,650 | 11,302 | 3,187 | 72,329 | 34.4 |

Source: Statistics Unit, Federal Ministry of Education

Notes: CR I are teachers with post high school teacher training. CR II are teachers with 4-year post primary school teacher training. CR III are teachers with 2-year post modern school teacher training. HSC are teachers with junior college diplomas and no teacher training. WASC are high school graduates with no teacher training.

Table 5 also indicates the qualifications of elementary school teachers in Nigerian schools. As can be observed from the table, the majority of teachers involved in preparing children for secondary school education did not have secondary school education themselves. This and other factors may be responsible for the poor West African School Certificate examination results (Table 6) for 1977. Of 108,642 candidates who took the examination, only 51,949 or 47.8 percent throughout the country attained a passing score.

The negative relationships between economic growth and government expenditure on health on the one hand, and school enrollments and government expenditures on health on the other, may also be blamed for the poor quality of graduates turned out by the Nigerian schools. The converse of a popular saying about "sound minds in sound bodies" may apply in situations like this. Unhealthy minds in unhealthy bodies make poor students who eventually end up as poor graduates unsuitable for productive employment.

Michael Barbour wrote concerning the problem of availability of books and articles in African countries.³ The Symposium sponsored by the World Bank also pointed out the need for research and post-graduate education.⁴ These

³Michael Barbour, "The Supply of Books and Articles about African Countries," African Affairs 83 (1984): 95-112.

⁴Altbach, "Symposium," p. 97.

TABLE 6
 STATISTICS OF EXAMINATION RESULTS, S. C./G. C. E. 'O' LEVEL
 BY STATE BY GRADE: JUNE 1977

| STATE | TOTAL SAT | NO. AND % OF CANDIDATES OBTAINING | | | | | | | ABSENT AND AS % OF ENTRY |
|--------------------------|-----------|-----------------------------------|--------------|---------------|----------------|----------------|----------------|--------------|-----------------------------|
| | | DIVISION I WITH DISTINCTION | DIVISION I | DIVISION II | DIVISION III | TOTAL PASS | G. C. E | FAIL | |
| ANAMBRA | 11 873 | 62 0.5 | 1,036 8.7 | 1,502 12.6 | 4,830 40.2 | 7,430 62.6 | 4,235 36.6 | 208 1.7 | 129 1.0 |
| BAUCHI | 924 | | 12 1.3 | 25 2.7 | 211 22.8 | 248 26.8 | 499 54.0 | 177 19.1 | 39 4.0 |
| BENDEL | 13 915 | 34 0.2 | 669 4.8 | 1,192 8.5 | 4,318 31.0 | 6,213 44.6 | 6,866 49.3 | 836 6.0 | 295 2.1 |
| BENUE | 2,420 | 7 0.3 | 129 5.3 | 237 9.8 | 730 30.1 | 1,103 45.6 | 1,036 42.8 | 281 11.6 | 32 1.3 |
| BORNO | 1,286 | 6 0.4 | 30 2.3 | 46 3.6 | 249 130.3 | 331 25.7 | 611 47.5 | 344 26.7 | 11 0.8 |
| CROSS RIVER | 6,434 | 7 0.1 | 239 3.7 | 491 7.6 | 2,339 36.3 | 3,076 47.8 | 3,020 46.9 | 238 3.7 | 117 1.8 |
| GONGOLA | 1,300 | | 16 1.2 | 42 3.2 | 272 20.9 | 330 25.4 | 888 52.9 | 282 21.7 | 159 10.9 |
| IMO | 16 645 | 31 0.2 | 795 4.8 | 1,620 9.7 | 5,826 35.0 | 8,272 49.7 | 7,588 45.6 | 785 4.7 | 575 3.0 |
| KADUNBA | 2,678 | 9 0.3 | 116 4.3 | 186 6.9 | 570 21.3 | 497 32.9 | 881 55.2 | 317 11.8 | 85 3.0 |
| KANO | 1,429 | 6 0.4 | 74 5.1 | 106 7.4 | 298 20.8 | 484 33.8 | 790 55.3 | 155 10.8 | 14 1.0 |
| KWARA | 5,015 | 16 0.3 | 275 5.5 | 452 9.0 | 1,037 32.6 | 2,380 47.4 | 2,216 44.2 | 419 8.3 | 56 1.1 |
| LAGOS | 9,067 | 22 0.2 | 477 5.2 | 1,207 13.3 | 2,773 30.6 | 4,479 49.4 | 3,950 43.5 | 635 7.0 | 186 2.0 |
| NIGER | 751 | | 4 0.5 | 24 3.2 | 116 15.4 | 144 19.2 | 375 49.9 | 232 30.9 | 24 3.1 |
| OGUN | 5,910 | 14 0.2 | 175 2.9 | 456 7.7 | 2,051 34.7 | 2,699 45.6 | 2,968 50.2 | 246 4.1 | 81 1.3 |
| ONDO | 7 459 | 9 0.1 | 298 1.0 | 648 8.7 | 3,002 40.2 | 3,951 52.9 | 3,179 42.6 | 323 4.3 | 97 1.3 |
| OYO | 13 387 | 24 0.2 | 605 4.5 | 1,247 9.3 | 4,894 6.5 | 6,770 50.6 | 6,082 45.4 | 537 4.0 | 217 1.6 |
| PLATEAU | 1,704 | 4 0.2 | 82 4.8 | 195 11.4 | 477 28.0 | 758 44.5 | 715 41.9 | 231 13.5 | 26 1.5 |
| RIVERS | 5,265 | 14 0.2 | 169 3.2 | 468 8.9 | 1,516 28.8 | 2,167 41.1 | 2,690 51.2 | 400 7.6 | 158 2.9 |
| SOKOTO | 1 180 | 7 0.6 | 61 5.6 | 31 2.6 | 154 11.3 | 233 19.7 | 723 61.3 | 224 19.0 | 33 2.7 |
| FEDERATION OF NIGERIA | 108,642 | 272 0.2 | 5,262 4.8 | 10,175 9.4 | 35,663 33.3 | 51,949 47.8 | 49,719 45.8 | 6,870 6.3 | 2,334 2.0 |

Source: Federal Ministry of Education, Statistics Unit, Lagos. Serviced by the Federal Office of Statistics, Lagos.

and other writings surface when the relevance of materials taught in African schools come up for discussion. Nigeria has a problem with the availability of books and relevant research materials for use in schools similar to the other Sub-Saharan African countries.

Another determinant of the operational efficiency of the labor force is the availability of opportunities to utilize the skills gained from education. The other determinant is the level of industrial experience possessed by the labor force. This study indicated a significant positive relation between investments in fixed capital and economic growth in Nigeria. Incidents of unemployment, especially among the new labor market entrants, are on the increase (Table 7), and these seem to be occurring during a period of slump in oil prices. Since the study indicates a significant positive relation between economic growth and value of crude oil produced during the period, it may be correct to conclude that most of the investments in fixed capital are in oil and related activities which presently account for more than 80 percent of Nigeria's foreign earnings.

Although it is accepted that education is a long-term investment whose benefits are not expected to follow immediately, proper planning and carefully managed implementation of policy will probably achieve a different result. If the study findings can be blamed on one or more

TABLE 7
UNEMPLOYMENT BY WORK EXPERIENCE

| Year | With Previous Job Experience | Seeking First Job |
|------|------------------------------|-------------------|
| 1974 | 14,987 | 6,840 |
| 1975 | 13,011 | 6,056 |
| 1976 | 14,931 | 4,039 |
| 1977 | 12,080 | 3,768 |
| 1978 | 12,022 | 4,640 |
| 1979 | 11,690 | 4,347 |
| 1980 | 12,365 | 4,514 |
| 1981 | 11,544 | 4,159 |
| 1982 | 11,593 | 4,748 |
| 1983 | 18,882 | 12,071 |
| 1984 | 21,168 | 13,161 |
| 1985 | 14,087 | 14,231 |
| 1986 | 14,424 | 17,119 |
| 1987 | 16,783 | 40,539 |

Source: ILO Yearbook of Labor Statistics.

of the factors listed in this discussion rather than on the long gestation period associated with educational investments, then the aim of Nigerian leaders to use education as a means of attaining social development and economic growth may be a longer process than anticipated.

Hypothesis 2 involves testing the effect of economic growth on school enrollments. The results showed that GDP per capita had no significant influence on school enrollment trends in Nigeria. This finding is contrary to many other studies dealing with the relationship between economic growth and education which almost always claim a significant positive relation between the two variables in developing economies (Henry J. Steadman, 1971,⁵ Sica and Prechel, 1981).⁶ It is also important to note that many of the studies draw their conclusions from studies of groups of countries which make it difficult to identify situations peculiar to individual developing countries. Further case studies may be necessary if, in fact, these findings hold true for other countries.

Regional governments in Nigeria (West and East) introduced free primary education even before Nigeria became an exporter of crude petroleum. The great response by the population reflected by the rapid increase in enrollment

⁵Steadman, "Questions in Educational Investment and Economic Growth," pp. 55-59.

⁶Sica and Prechel, "Dependency in the Global Economy and Educational Development," pp. 384-402.

between 1955 and 1960 (Table 1) may be interpreted as being indicative of the impact of simple government encouragement on enrollments. The same effect was demonstrated when the Federal government declared its intention to make free primary education a national government affair (and also compulsory) in 1974. Primary school enrollments rose by about 132 percent between 1975 and 1980.

The big rise in enrollments between 1975 and 1984 cannot, however, be attributed entirely to increased revenues accruing from the sale of oil. This argument is strengthened by the non-significance of the relationship between values of crude oil production in Nigeria and school enrollments indicated in this study (Table 4).

Although government expenditures on education and health were not found to be significantly associated with enrollments, the important role played by population growth in influencing increases in enrollments as reported cannot be underestimated. The outcome seems, therefore, to indicate that Nigeria may attain the goal of making education available to its people even in the face of a declining GDP. What is needed is some form of government support which makes education accessible to all citizens who may want it. On the goal of attaining economic growth through education, time alone may determine its accomplishment.

Conclusions

1. It is concluded that increases in school enrollments in Nigeria have, to some extent, not translated into economic growth.

2. Continuous economic growth is not a necessary prerequisite for attainment of increased school enrollments at the three education levels.

3. Investment in fixed capital contributed to a significant extent to economic growth in Nigeria.

4. Discovery and subsequent increases in the price of crude petroleum contributed to economic growth in Nigeria.

5. Government expenditures on education and health do not seem to have any significant direct impact on the economy of Nigeria.

6. The impact of population growth on increases in school enrollments was confirmed using the Nigerian data as a case study.

Recommendations

1. It is recommended that Nigeria develop an effective strategy for educational reform which must, at least, be based on an identification of problems and solutions that Nigerians perceive as their own. As argued by Thomas Owen Eisemon, it is not sufficient to point out problems or solutions for Africans to work on, no matter how

these may be substantiated in research carried out by, or for, foreign donors.⁷

2. Primary and secondary schools should be expanded to meet social demand because:

a. Primary education (and to a much lesser degree secondary education) is terminal for most Nigerians.

b. Primary and secondary education each cost much less per student than college education.

3. Present policy whereby the government bears all the financial burden of public education should be reviewed. Official tolerance of non-government suppliers of educational services and placement of higher proportion of the financial burden on beneficiaries and their families is recommended.

4. Restoration of an efficient mix of inputs in education requires a minimum package of textbooks and other learning materials.

5. Greater investment in the operation and maintenance of physical plant and equipment and greater expenditure on other input that would increase the utilization of these assets--for example, books for libraries and equipment for laboratories.

⁷Thomas Owen Eisemon, commenting on the report by the World Bank sponsored Symposium, Comparative Education Review (May 1989): 111.

6. Training for those who have entered the labor market to ensure that individuals acquire the necessary job-related skills and renew these skills during their working lifetime in response to changing market conditions.

7. A renewed commitment to academic standards, primarily by strengthening examination systems.⁸

8. Policy on educational expansion be accompanied by other policies aimed at providing employment opportunities to graduates of the education program.

9. Research, development, and post-graduate education to help the development of materials suitable for use under Nigerian political and economic environment.

10. Diversification of investments in fixed capital to avoid too much dependence of the economy on the oil industry.

⁸Items 3 through 7 were listed by the World Bank Symposium for Sub-Saharan Africa and were found to be aptly applicable to the Nigerian situation. Comparative Education Review, February 1989, pp. 93-104.

APPENDIX
RECOMMENDATIONS OF THE 1969 NATIONAL
CURRICULUM CONFERENCE

Decision Area I

National Philosophy of Education

What should be the role and function of public education in the development of the individual for national progress and national reconstruction?

What educational values and attitudes are worth developing?

Recommendation 1

The content of Nigerian education must reflect the past, present, and future of the dynamic Nigerian society, in terms of the role the individual is expected to play in the present modernization process.

Recommendation 2

The broad objectives of Nigerian education should emphasize:

- (i) the inculcation of the right type of values and attitudes for the survival of individuals and society;

- (ii) the training of the mind in building valuable concept generalizations, and understandings of the world around;
- (iii) the acquisition of appropriate skills, abilities, and competencies of both mental and physical nature as an equipment for the individual to live in his society;
- (iv) the acquisition of a relevant and balanced knowledge of facts about local and world phenomena.

Recommendation 3

In the light of the above (2i and ii), Nigerian education should be geared towards self-realization; better human relationships; self- and national economic efficiency; effective citizenship; national consciousness; national unity; social and political progress; scientific and technological progress; national reconstruction.

Recommendation 4

The implication of the foregoing recommendations suggests equality of educational opportunity for all Nigerian children so that each can develop according to his own ability, aptitude, and interests.

Recommendation 5

Nigerian education at all levels should recognize and positively emphasize the following educational values:

- (i) respect for the worth and dignity of the individual;
- (ii) faith in man's ability to make rational decisions;
- (iii) guarantee of fundamental human freedoms in the social, economic, and political spheres;
- (iv) moral and spiritual values in interpersonal and human relations;
- (v) shared responsibility for the common good of society;
- (vi) promotion of the emotional, physical and psychological health of all children.

Decision Area II

Goals of Primary Education

What are the specific objectives of primary education?

At what age should it begin?

What should be its duration?

Should primary education be consciously geared towards occupational goals?

Recommendation 6

Primary education will continue to prepare most children for life while a few talented ones must be given the opportunity to proceed to secondary schools for the development of the future intermediate and high-level manpower needs of the country. The primary school

curriculum must be weighted more heavily on the first order of preparing the majority of children for life since primary education may turn out to be terminal education for this category of children.

Recommendation 7

Primary education should serve to help the child towards self-realization and to relate to others through mutual understanding. It should promote self- and national economic efficiency; effective citizenship through civic responsibility; and social and political awakening. Ultimately, it should facilitate national consciousness in cultural diversity and towards national unity and should create scientific as well as technological awareness.

Recommendation 8

Specifically, the primary school curriculum must aim at functional permanent literacy to ensure better producers and consumers of goods. It should provide a sound basis for scientific and reflective thinking; inculcate citizenship education and a sound moral character and attitude development; help individuals to adapt and adjust to the changing society; give physical, emotional, and intellectual growth; enhance an individual's sense of willpower, creativity, and innovativeness; develop their mechanical, vocational, and manipulative skills and competencies; enable them to communicate freely and effectively through any media; imbibe in them a spirit of self-discipline.

Recommendation 9

The age of six is considered suitable for admission into the primary school. However, where and when the need is felt, younger children between three and five years old may be enrolled in nursery and kindergarten classes to prepare them for the lower primary classes. For some time to come, the majority of children from both urban and non-urban centres will enter the primary school at six.

Recommendation 10

A six-year primary school course is recommended throughout the federation to make transfers from one state school system to another more convenient. With the right kind of atmosphere (competent teachers, better school surroundings and buildings, more and better teaching facilities, and an improved as well as efficient administrative and supervisory structure at school and class levels) a six-year primary school course is feasible from the psychological point of view.

Recommendation 11

Primary education should not be consciously geared towards a specific occupational goal. The end of the primary school course, at 11 or 12 years of age, is hardly the right time to take on a life occupation, labour codes notwithstanding. Nonetheless, primary education must have sufficiently oriented the child to enable him to make useful decisions (with some guidance) about future

occupational/vocational/professional interests. The primary school should have sufficiently exposed the child to get him ready to take on future occupational/vocational training after the course.

Recommendation 12

The Nigerian primary school child should be well-grounded in his/her mother-tongue apart from learning English and/or any other language as a second or third language of instruction.

Decision Area III

Objectives of Secondary Education

What are the objectives of secondary education?

What should be the relationship between the secondary school and the primary school on the one hand, and the secondary school and the university on the other?

Should secondary schools prepare youths for jobs?

Recommendation 13

Secondary schools will play a dual role of preparing the majority of students for a terminal education that equips them for living in society while, for the minority group of well-motivated youngsters, the secondary school will provide facilities for them to go into higher education.

Recommendation 14

Recommendation (7) is reiterated; at this level, these goals should be more consciously introduced in depth and quality.

Recommendation 15

The secondary school should afford a larger number of primary school-leavers the opportunity of education of a high quality, irrespective of social, religious, political, and ethnic backgrounds.

Recommendation 16

The secondary school curriculum should be so diversified as to provide useful experiences for the differences in talents, opportunities, and roles that students may possess or be called upon to display later in life.

Recommendation 17

Secondary schools should be the nation's ground for inculcation of a spirit of self-discipline among the youths, while it should be also incumbent on the schools to equip them to be able to live effectively in our ever-changing world.

Recommendation 18

The youths must learn their privileges and responsibilities in society. The schools should start developing and projecting the Nigerian/African culture, arts, and language, as well as the world cultural heritage.

Students should be able to think reflectively about Nigerian common national problems, for example, Nigerian unity in diversity. All schools must fire students with a desire for achievement and excellence and for continuous self-education and self-improvement.

Recommendation 19

There ought to be greater articulation among the different levels of education instead of treating each part as discrete and separate with no tangible relationship. Care must be taken not to make secondary education merely academic in orientation.

Recommendation 20

Technical, commercial, or comprehensive schools should, in co-operation with business, industry, and government (as the case may be), tailor their curricula to the available or projected job markets.

What is desirable is that every Nigerian secondary school-leaver should be equipped with those skills and understandings, values, and concepts necessary to sustain him on whichever job/career he may ultimately choose.

Recommendation 21

All secondary school pupils should be exposed to a core curriculum of basic learnings and specialized offerings.

Decision Area IV

Purposes of Tertiary Education

What role should the universities and other tertiary institutions serve in the development of the nation?

How shall the different functions be balanced to produce the appropriate educated Nigerian for high-level manpower development?

What is the role of research in nation-building?

Recommendation 22

Whether in the short or long run, the role of the Nigerian university should be:

- (i) teaching--imparting knowledge;
- (ii) research--discovering knowledge;
- (iii) dissemination--contributing to national and international dialogue and criticism;
- (iv) service orientation--through community service and professional training for the development of the national high-level and intermediate manpower needs.

Recommendation 23

Universities must strengthen the primary objectives of education at all levels, in addition to being actively involved in the process of nation-building. They must develop, transmit, and reform our national and world heritage, provide intellectual life, develop national

consciousness and loyalty to truth and principles, provoke and promote enlightenment and informed public opinion, co-ordinate national research activities, become instruments of change, develop and encourage Nigerian human-resource talents, foster international relations through scholarships, and disseminate knowledge.

Recommendation 24

The service role of our universities should be geared towards continuing adult education for the masses through evening, weekend, vacation, and refresher courses. The universities should relate more to other levels of education and education agencies.

Recommendation 25

The Nigerian university should be of the multi-lateral type with opportunities to teach, research, disseminate knowledge, and serve the community. Not only the traditional 'academic' subjects should be taught, but the more pragmatic (professional/vocational/technical) courses should also form part of the university curriculum.

Recommendation 26

Our university undergraduates should be exposed to both general and specialized education to enable them to function effectively in society.

Decision Area V

The Role of Teacher-Education

What is the role of teachers in the education process of Nigeria?

How can the status of the Nigerian teacher be improved?

Should there be a uniform requirement for teacher certification throughout the federation?

Who is the qualified Nigerian teacher?

How should we recruit individuals into the teacher-training colleges?

Is a probationary period in schools necessary before certification of teachers?

What should constitute both the duration and content of teacher education?

How can a reasonable balance be maintained in the general, professional, and academic preparation of the Nigerian teacher?

Recommendation 27

The objectives of Nigerian teacher-education should emphasize the training of highly motivated, conscientious, and successful classroom teachers for all education levels; encourage in potential teachers a spirit of inquiry, creativity, nationalism, and belongingness; help the prospective teachers to fit into the social life of home and community; provide teachers with intellectual and

professional backgrounds adequate for their assignment;
produce teachers who by their training and discipline will
be adaptable to the changing roles of education in society;
and produce knowledgeable, progressive, and effective
teachers who can inspire children to learn.

Recommendation 28

There should be a uniform basic requirement for
teacher certification throughout the federation within which
each teacher-training college will be able to select its own
programs as suitable to the background and conditions of its
students.

Recommendation 29

If teaching is to become a respectable profession like
other learned professions, the Nigerian qualified teacher
should possess the minimum of an N.C.E. certificate to enter
the teaching profession at the lowest level. The ultimate
goal should be in the direction of well-qualified graduate
teachers with specialized training for any level of
education, or in the secondary schools, in certain subject
areas. In the interim period, three classifications of
teachers should replace the present multi-classificatory
system; that is, qualified teachers (graduates and N.C.E.
holders); intermediate cadet teachers (graduates with no
teaching qualification, and grades II and I teachers); and
unqualified teachers (all others).

Recommendation 30

All teachers must be well-grounded in their academic subject just as they are prepared adequately to understand the child and help him to learn through a well-integrated general education, professional training, and academic orientation. The period of training will vary depending upon certification. A minimum of three years is required after secondary school for the N.C.E. teacher and four years for the graduate teacher. Within the course, a minimum of 12 weeks practical teaching period will be required for introducing the prospective teacher to schools and children. In the interim, student teachers with less than secondary school education should spend at least five or six years to get academic and professional training.

Recommendation 31

The Bachelor of Arts/Bachelor of Science (Education) or the Bachelor of Education degree structure is recommended as the most effective way for preparing Nigerian graduate teachers. Candidates with a liberal arts degree in arts or science can be encouraged to take diploma courses in education to qualify as graduate teachers with teaching qualifications.

Recommendation 32

In-service training and re-training of teachers at all levels must be embarked upon on a continuous basis to improve teacher/classroom effectiveness and to encourage him

through further incentives for additional experience gained. Prospects of further training should be built into the teacher-education program, and this should be adequately compensated for or remunerated as an additional incentive.

Recommendation 33

There is need for a continuous assessment of the teacher-trainees and teachers on the job on the effectiveness of their work to challenge pupils to learn more and better. This calls for more and better supervisory systems to ensure the professional competence and growth of the teacher.

Decision Area VI

Functions of Science and Technical Education

What is the significance of science and technology in the individual and corporate life of Nigerians?

How can science and technical concepts be built into the education programme without destroying the fundamental values we live for?

Recommendation 34

Science and technical education require more than teaching facts and imparting information. It is a process of changing people's attitudes. The science curriculum and teaching in Nigerian schools should be flexible enough to permit students to inculcate a healthy scientific attitude to work and life.

Recommendation 35

Science and technical education should not be restricted to school children alone but provided on a mass basis to adults who have little or no advantage of formal education.

Recommendation 36

Government labour code and service conditions should not only pay lip-service to the concept of dignity of labour. Nigerians with practical and technical training should be encouraged and their status in society raised through a better wage structure and a change in attitude between the so-called white-collar jobs and the blue-collar jobs.

Recommendation 37

Industry and business should be called upon to invest more in technical training of Nigerian youths through a co-operative program of after-school experience between schools and these concerns wherever practicable.

Recommendation 38

We must consciously encourage freedom of experimentation and research through generous grants, flexible curriculum, and continuous evaluation of the curriculum at all levels of our education system.

Recommendation 39

We must ensure a balanced school programme between the humanizing disciplines and the sciences to allow for the

development of abiding values and attitudes that sustain society.

Decision Area VII

The Place of Women's Education

Why is women's education lagging behind?

What can be done to rectify the imbalance?

How can Nigerian women contribute to national development?

Should there be separate boys' and girls' schools with separate curricula?

How do we combat discrimination of women based on sex grounds?

Recommendation 40

Education at all levels should be geared to the development of the total personality of the individual in our society. It should be used as a positive step in building a Nigerian nation. It is the duty of the state to provide diversified curricula in the schools to meet the needs of both men and women who will play their role in our modernization process. Basic education should therefore be an inalienable right of every Nigerian child and adult.

Recommendation 41

All children should have equal access to the same type of formal education, at all levels, irrespective of sex; for male or female each constitutes half of the human race, and

discrimination on the grounds of sex thus deprives a nation of the full contribution of its citizens. Therefore, the main objectives of education at any level will suffice for the education of women in Nigerian society.

Recommendation 42

There is need to intensify propoganda by all available means on girl and women education in the country. Societal attitudes regarding the value of women's education must be changed positively to enable parents to invest in girls as a profitable human resource development.

Recommendation 43

Remedial training through evening classes or adult education should be provided for girls who drop out of schools as a result of early marriage or for whatever reasons. Widows of our fighting men and others should be rehabilitated.

Recommendation 44

The laws and the constitution of the land should guarantee certain basic legal, political, social, and economic freedoms for Nigerian women as equal partners in nation-building. We should encourage, through scholarships and other incentives, rather than discourage through discriminative attitudes and work regulations, educated women in our society.

Recommendation 45

Co-educational institutions are to be preferred at all levels, although it is recognized that social and religious attitudes in some quarters do not make this universally practicable at present.

Recommendation 46

Women organizations should be encouraged in urban and non-urban areas to propagate the idea of women's education.

Decision Area VIII**Education for Living**

What does education for living mean?

How can the concept be translated into the Nigerian philosophy of education?

Recommendation 47

Education for living requires a strong and positive identification with the societal values and ways of life within a dynamic society; in a gradual process of change, such education must equip the child to improve upon that social life and make it better than he finds it. Thus, there ought to be a tripartite co-operation among the school, the home, and the community agencies to ensure that the left hand knows what the right is doing.

Recommendation 48

Education for living must make children and adults ready to be leaders and followers in the task of

nation-building. Although it is not specifically job-oriented, the school should aim at giving children the basic concepts, understanding, values, attitudes, abilities, and skills that they will require to enter into the world and establish themselves in it. Such education must therefore release the springs of personality development, be concerned with the individual child's needs, emotions, wants, fears, intellectual, spiritual, and physical growth into a mature adult capable of self-direction through self-discipline. It must be geared towards national unity, national reconstruction, and social, as well as economic, progress.

Recommendation 49

Schools must be less rigid and more flexible. We must stress the spirit of adventure and challenge youths to question time-honoured beliefs and customs. Education must train youths to use their head, heart, and hands well in a co-ordinated way. It must train them towards self-discipline and independent self-reassurance.

Recommendation 50

All schools must be community schools in which both the school and the community have the same goals and both work together for the realization of personal and collective purposes of life.

Decision Area IX

Control of Public Education

What are the implications of the foregoing recommendations?

Who controls the nation's schools?

Who pays for education?

How best can administrative and supervisory structures help in achieving these goals?

Recommendation 51

Control of Nigerian education should be a shared business among local authorities, state governments, and the federal government to be able to attain the nation's philosophy and goals of education within the shortest possible time, with the least cost in human and physical resources, and much more effectively and efficiently. Within a state control of education, it should be possible for private educational institutions to serve community needs provided they satisfy minimum educational requirements as laid down by law and also if they are not supported by and from public taxation.

Recommendation 52

All education should be provided free to all children in the federation in order to make equality of educational opportunity meaningful as well as to reduce the imbalance in educational development within the federation. To this end, the governments of the federation (local, state, federal)

should pay for primary, secondary, and tertiary education through a system of revenue allocation to be decided by the people.

Recommendation 53

The existing administrative and supervisory system of public school education (primary and secondary) should be reviewed with a view to modernizing the structure to permit the schools to fulfill their roles in a more significant way than they have hitherto done.

Recommendation 54

In addition to the need for better trained teachers in the nation's schools, there is need for the provision of more and better instructional facilities, teaching aids, audio-visual materials and textbooks for the realization of the national educational goals.

Recommendation 55

In the event of the state control of education, all schools should become community schools serving as the intellectual, aesthetic, and social centres of the community, therefore avoiding duplication of facilities, waste, and inefficient use of scarce human, natural, and physical resources.

Recommendation 56

As a first step towards implementing these recommendations, there should be a free and compulsory primary education for all children now. Within the next

five-year educational plan, it should be possible to extend the policy of free and compulsory education to children up to the age of 15, while within the next 10 years, education should be free up to the full secondary school stage.

Similarly, consideration should be given to the problem of financing university education in the country to enable the nation to tap its manpower potentials to the full. Thus, university education can be free or partially free as at present by augmenting government subsidies with a revolving student loan system repayable after graduation.

Recommendation 57

Teachers must be better prepared and given better recognition and incentives to play their roles more significantly.

Recommendation 58

The existing curriculum should de-emphasize examination consciousness and emphasize other more useful indices of good education; viz., inculcation of sound moral values and attitudes, training in skills and competencies, and acquisition of concepts and understandings.

Recommendation 59

A six-year primary school course followed by a six-year secondary school course broken into a three-year junior secondary and a three-year senior secondary course, and lastly a four-year university education is recommended for the attainment of the nation's educational objectives, that

is, a 6-3-3-4 plan. The entire purpose and place of the sixth form should be reviewed within this context. Existing sixth form centres could become the nuclei of two-year junior colleges providing intermediate and terminal (professional, commercial, technical, and academic) education for post-secondary students as part of a unified four-year university education for intermediate manpower development.

Recommendation 60

Multilateral or comprehensive schools should be preferred to the existing small unviable schools in order to be able to provide a diversified curriculum to meet the challenges and needs of all children within our concept of equality of educational opportunity. Comprehensiveness in this sense is not only in numbers of students but also in the variety of course offerings--academic (arts and science), technical, professional, commercial, etc.

Recommendation 61

School buildings and the school environment must enhance the attainment of the national educational goals. To this end, there is need to appraise the present structures with a view to improving and reforming them.

Recommendation 62

To avoid unnecessary duplication and waste of resources, it is advisable to locate centrally certain types of common university courses/departments/faculties. There

is equal need to maximize the use of the very scarce and limited human, physical, and financial resources of our universities.

Recommendation 63

To be able to enjoy its traditional academic freedom, control and administration of the Nigerian university should be vested in a governing council composed of respectable and honest citizens, university lecturers, and students who are recipients of the university service.

Recommendation 64

While the most basic fundamental research should be actively supported as part of the fulfillment of the university's role, the more relevant applied research that will contribute to national development should not be lost sight of. The government should encourage, through necessary funds, this type of applied research.

Recommendation 65

Each Ministry of Education should revive the adult or continuing education scheme in its area of jurisdiction. Adult education plans should be integrated into the education, social, and economic plans of each state. The federal government should support the states in meeting the demands of educating the adults of this nation towards better productivity and good citizenship.

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