

INTERNATIONAL TRADE AND NATIONAL MANPOWER DEVELOPMENT:

POLICY CHANGES AND ECONOMIC REALITIES IN NIGERIA

BY

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It has long been recognized that it takes skilled humans to exploit natural resources, to develop technology, to produce goods and services, to mobilize capital and to trade effectively on the world market. But the links between manpower development and international trade are harder to define. Is manpower development responsive to the world market? This paper will explore the relationship between manpower development and international trade in post-independence Nigeria. By reviewing development plans, expenditures in manpower development, configuration of imports and exports, we will be able to examine what role manpower development has played in providing the skills needed to improve Nigeria's position in world trade. This paper will attempt to answer the question -- To what degree have Nigerian expenditures in manpower development contributed to supplying skills needed for production for international trade?

First, the rationale for developing human resources for economic development will be reviewed. Secondly, we will look at Nigeria at independence. What were the imports and exports of Nigeria in the early 1960s? What manpower development existed at that time? Thirdly, we will explore how the structure of Nigerian trade has changed over the last twenty years. Configurations of imports and exports will be outlined. What has been the focus of manpower development during that period? Is there a match between skills needed for international trade and those developed by public manpower expenditures? Are there empirical data to support the proposition that Nigeria's officially sponsored manpower development has provided skills necessary for export oriented economic development? Finally, the paper will consider other factors in order to provide more insight into the relationship of manpower and economic development.

A Rationale for Developing Human Resources

Economists have long been aware of the critical role of human resources in development. Adam Smith wrote of a society's acquired and innate skills as "fixed capital" in the Wealth of Nations:

The acquisition of such talents, by the maintenance of the acquirer during his education, study, or apprenticeship, always cost a real expense, which is a capital fixed and realized, as it were, in his person. Those talents, as they make a part of his fortune, so do they likewise of that of the society to which he belongs.¹

Alfred Marshall referred to education "as a national investment" and noted "the most valuable of all capital is that invested in human beings."² During the development decade of the 1960s much emphasis was placed on investments in human capital for economic development. Theodore W. Schultz wrote that investments in humans -- their education, health care, etc. -- paid higher dividends in economic development than did physical capital outlays -- dams, machinery, roads. Schultz studied the relationship between educational expenditures and subsequent wages and calculated returns on the "investment" (Schultz, 1961).

Human resources became the "ultimate basis for the wealth of nations" (Harbison, 1973, p. 3). The rationale for developing a country's human resources was to increase national income and ability to compete on the world market. These ideas offered promise to those involved in development. Planners, statesmen, politicians and international agencies became convinced education paid off in economic advancement. Newly independent nations began to "invest" in their human resources (Harbison, 1973, p. 78). Educational planning consisted largely of determining the needs of a country for persons possessing different types or levels of skills and then gearing the educational system to produce these people. Education was to be used as a tool for achieving economic development (Curle, 1973, pp. 174-175). By producing the trained manpower necessary for development, education was to be the basis for economic growth (Akinijele, 1972, p. 2).

Nigerian Trade and Education at Independence

Much has been written on the British system the Nigerians inherited in October, 1960 (Damachi, 1972; Ikejiani, 1964; Loken, 1969; Ukeje, 1966). At independence, trade was based on the export of cash crops and raw materials and the import of capital equipment and manufactured products (See Table 1). Formal education had served the manpower needs of the colonial administration. Colonial schools had prepared students for work in government and commerce. It was not an educational system designed to develop skills or leadership, but one based on the British curriculum which taught deference to British ideas (See Table 2 on curriculum) (Rodney, 1972, p. 264).

TABLE 1. EXPORTS AND IMPORTS, 1960-1962.

Export of Major Commodities Thousands of Pounds			
	1960	1961	1962
Grand total	169,392	173,293	166,921
Cocoa	36,722	33,744	33,358
Ground nuts	22,878	32,233	32,426
Ground nut oil	5,320	4,992	6,177
Palm kernels	26,062	19,889	16,890
Petroleum	4,408	11,545	16,466
Natural Rubber	14,235	11,021	11,359
Palm Oil	13,982	13,226	8,813
Tin* Metal	6,645	6,643	6,600
Raw Cotton	6,207	11,120	5,852
Other Commodities	33,483	28,880	29,971

Source: Central Bank of Nigeria: Economic and Financial Review, December, 1963, p. 41.

*Figures for 1960 and 1961 are for tin ore.

Imports by Commodity Sections
Thousands of Pounds

	1960	1961	1962
<u>Grand total</u>	212,946	218,922	200,648
<u>Food</u>	23,911	22,727	23,521
<u>Beverages & Tobacco (1)</u>	6,152	6,110	4,771
<u>Crude Materials (2)</u>	2,146	2,454	2,410
<u>Mineral Fuels (3)</u>	11,330	13,380	14,075
<u>Animal and Veg. Oils (4)</u>	65	63	83
<u>Chemicals (5)</u>	12,232	12,596	12,332
<u>Manufac- turers (6)</u>	81,134	87,622	73,070
<u>Machinery and Transport Equipment (7)</u>	51,640	49,681	48,269
<u>Misc. Manufac- tures (8)</u>	23,913	23,751	21,654
<u>Misc. Trans- actions (9)</u>	423	538	463

Source: Ibid., p. 40.

Source: Diejomoah, 1965, p. 15.

TABLE 2. STANDARD CURRICULUM, 1960.

- I. English Language (Compulsory)
- II. General Subjects: English Literature, Bible Knowledge, Islamic Religious Knowledge, History, Geography
- III. Languages: Latin, Greek, French, German, Ewe, Fante, Ga, Tiv, Efic, Hausa, Ibo, Yoruba, Arabic
- IV. Mathematical Subjects: Mathematics, Additional Mathematics
- V. Science Subjects: General Science, General Science (second subject), Physics, Chemistry, Biology, Agricultural Science, Botany
- VI. Arts and Crafts: Art, Music, Woodwork, Dressmaking, Cookery, General Housecraft
- VII. Technical and Commercial Subjects: Mechanical Engineering, Surveying, Technical-Drawing, Commercial Subjects, Commerce, Principles of Accounts, Health Science.

In practice, however, most grammar schools select from the following subjects: English Literature, History, Geography, Biology, Physics, Chemistry, General Science, Latin, Elementary Mathematics, Additional mathematics.

Source: Ukeje, 1966, p. 84.

The inculcation of Western attitudes and values had been the hidden agenda of the colonial schools, for clerks and messenger boys did not need technical skills (Damachi, 1972, p. 3). Schooling had become a rite of passage from farming to more lucrative occupations in the modern sector. This mission school heritage in the Nigerian educational infrastructure emphasized literature, arts, and social sciences as opposed to science or mathematics. The mission teachers were neither interested nor academically prepared to teach agriculture or technical subjects. Whether mission or government supported, this orientation permeated all colonial education and by 1960 had been accepted by generations of British-enculturated Nigerians (Loken, 1969, pp. 52-53).

Plantation schemes for commercial crops had done little to promote a link between education and agricultural development. The colonial mining industry had a similar effect. Farmers and miners learned skills from their families or on the job; schools were reserved for government or commercial workers who rose above manual labor, achieved higher status and a more Western standard of living (Ukeje, 1966, pp. 104-105). This dichotomy based on schooling had been institutionalized by 1960.

Another pattern which Nigeria inherited at independence was the differentiation of education by region (Ukeje, 1966, p. 62). Under the colonial government, the northern province of the Muslim Hausa and Fulani had been largely protected from the schools of Christian missionaries (Curle, 1973, pp. 88-89). Islamic schools provided literacy in Arabic and knowledge of the Koran. It was in the west and the east that the missionaries successfully taught and converted for school enrollment by region). Even though the north had a larger population at independence, it was the British-educated Ibo and Yoruba who had the administrative skills and experience needed to run the new government (Damachi, 1972, pp. 42-45). A Western educated elite had been instrumental in gaining independence and became the new political leadership (Damachi, 1972, p.

Table 3. School Enrollment by Region.

Year	SOUTHERN NIGERIA				NORTHERN NIGERIA			
	Schools		Pupils in Attendance		Schools		Pupils in Attendance	
	Primary	Secondary	Primary	Secondary	Primary	Secondary	Primary	Secondary
1906	126	1	11,872	20	1	0	nk	0
1912	150	10	35,716	67	34	0	954	0
1926	3,828	18	138,249	518	125	0	5,210	0
1937	3,533	26	218,610	4,285	539	1	20,269	65
1947	4,984	43	538,391	9,657	1,110	3	70,962	251
1957	13,473	176	2,343,317	28,208	2,208	18	185,484	3,643

nk = Figures not known

Sources: Annual Report, Colony of Southern Nigeria, 1906 (Lagos: Government Printer, 1906), p. 199 ff.
Annual Reports, Northern Nigeria 1900-1911 (Kaduna: Government Printer, 1900-11).
African Education (Oxford, Nuffield Foundation 1953) pp. 47-48, 1953.
Annual Report of the Department of Education for the periods 1955-1957 (Lagos, Federal Government Printer, 1957).

NB: The population of Northern Nigeria is greater than that of Southern Nigeria

Source: Adesina, 1977, p. 17.

The British system also influenced urbanization. The plantation system of agriculture had uprooted traditional landholdings. The colonial taxation system had propelled workers into the colonial monetary system. Cash had to be acquired to pay taxes. Cashcrop farming, mining and urban employment became the means (Tukur and Olagunju, 1972, p. 93). Wages from plantation workers and miners led to consumption of Western style goods found in the cities. Urban employment offered more money to workers than did rural work. Men who came as temporary workers to earn cash to take home often stayed in the urban web, unable to accumulate sufficient cash to retire to the village. Scorning rural employment, school leavers had turned to the urban areas for work in government or commerce (Damachi, 1972, pp. 6-7).

At independence, the new Nigerian state inherited an agricultural economy dependent on cash crops and mining for foreign exchange. Imports consisted of manufactured goods and machinery. Nigeria was almost self-sufficient in staple foodstuffs. Schooling was based on the British curriculum and prepared students for government or commercial jobs. Schools supplied the needed manpower development for the colonial administration. Education for the agricultural or mining sector was through apprenticeships or on-the-job training. The distribution of schools was heavily weighted to the eastern and western provinces leading to similar patterns in governmental administration and commerce in the modern sector. Traditional agriculture had been upset by plantations and the cash crop economy. Urbanization was already leading to problems of unemployment, overcrowding and dissatisfaction with rural lifestyles. This was the stage set for the new government of Nigeria on October 1, 1960.

Trade and Manpower Development, 1960-1980

In the twenty years following independence Nigeria has become the economic powerhouse of black Africa. Several trends in trade and manpower development are apparent. In the early 1960's Nigeria continued to expand the cash crop economy inherited from the British. Two overriding factors, the civil war of 1967-1971 and the oil boom, effectively changed the Nigerian economy by the early 1970's. Agricultural exports as foreign exchange earners have paled beside the oil revenues. Imports of foodstuffs and consumer goods have risen sharply due to low productivity and lack of incentives for growing staple foods. Consumption patterns have changed due to increasing urbanization, education, transportation and communication. Government emphasis on formal education has led to a massive expansion of schooling creating a generation with new expectations, awareness, and employment problems. What has been the relationship between the shifts in international trade and the manpower development of this period? First, let us look at the configuration of international trade in Table 4 below.

In the early 1960's, agriculture was by far the most important sector of the Nigerian economy. In 1962, agricultural products accounted for about 86.1% of the total export value of major

commodities. Approximately 71% of the total male working force was engaged in agriculture, forestry, animal husbandry, fishing and hunting (Diejomaoh, 1965, pp. 7-9). The majority of Nigerian farmers worked small scattered lots at a subsistence level. The major food crops of yams, cassava, guinea corn, millet, maize, rice, cocoyam, beans and cow peas were grown in such a manner. Some progress was being made in introducing modern methods, but the major benefits of mechanization were still in the hands of the foreign firms, government development corporations and a few private Nigerians who controlled the large plantations (Diejomoah, 1965, p. 8).

Table 4. Exports and Imports, 1960-1970..

Export Value of Nigeria's Important Exports
1960-1970, in £N'000 and in %

	1960		1965		1970	
	£N'000	%	£N'000	%	£N'000	%
Cocoa	36,772	22.2	42,691	16.2	66,537	15.2
Palmkernels	26,062	15.7	26,541	10.1	10,870	2.5
Palmoil	13,982	8.4	13,591	5.2	567	0.1
Groundnuts	22,878	13.8	37,805	14.4	21,729	5.0
Groundnut oil	5,320	3.2	10,013	3.8	11,647	2.7
Groundnut cake	1,557	0.9	5,251	2.0	5,519	1.3
Round timber	5,928	3.6	4,891	1.9	2,022	0.5
Sawwood	1,111	0.7	1,373	0.5	980	0.2
Plywood	1,097	0.7	1,207	0.5	930	0.2
Cotton	6,207	3.7	3,298	1.3	6,566	1.5
Rubber	14,239	8.6	10,988	4.2	8,784	2.0
Hides, skins	4,522	2.7	4,563	1.7	2,963	0.7
Crude oil	4,408	2.7	68,097	25.9	254,895	58.1
Tin Ore	6,045	3.6	7	-	2	-
Tin Metal	-	-	14,905	5.7	16,601	3.8
Columbite	2,121	1.3	1,161	0.4	975	0.2
Other Exports	13,370	8.1	16,864	6.4	26,943	6.1
Export of domestic goods	165,619	100.1	263,246	100.0	438,530	100.0
Reexport	4,095		5,023		4,153	
Total export	169,714		268,269		442,683	

Source: Federal Office of Statistics: Annual Abstracts of Statistics, Economic Indicators, Review of External Trade

Nigeria's Import Structure 1960-1971, in £N'000 and in %

Year	Consumer goods		Raw materials Intermediate goods		Capital goods		Total
	£N'000	%	£N'000	%	£N'000	%	
1960	122.4	56.9	42.3	19.6	50.6	23.5	215.3
1961	121.4	54.8	45.0	20.3	55.1	24.9	221.5
1962	105.0	51.9	44.2	21.8	53.2	26.3	202.4
1963	103.0	49.9	50.9	24.7	52.5	25.4	206.4
1964	109.5	43.2	63.9	25.2	80.1	31.6	253.5
1965	112.3	41.0	63.7	23.2	98.2	35.8	274.2
1966	98.4	38.5	51.0	20.0	106.2	41.5	255.6
1967	93.6	42.1	52.8	23.7	76.1	34.2	222.5
1968	65.5	24.8	56.3	29.9	66.6	35.3	188.4
1969	73.8	31.8	72.6	31.2	85.9	37.0	232.3
1970	108.9	29.5	104.6	28.3	155.6	42.2	369.1
1971	174.7	32.9	128.3	24.1	228.8	43.0	531.8

Source: International Bank for Reconstruction and Development, The Current Economic Position and Long Term Prospects of Nigeria, June 1972, Vol. II, Table 3.5.

Although manufacturing played a small role in Nigeria's economy (1-3/4% of GDP) in the early 1960's, it was increasing significantly. Nigerian-made products included beer, soft drinks, tobacco products, textiles, margarine, cement, asbestos, plastics and phonograph records. Some progress was being made in oil milling, rubber processing, saw milling. Mining contributed less than 2% to the Gross Domestic Product during the early 1960's. Petroleum, discovered in 1956, was still relatively unexploited. Limestone, columbite, tin, lead, zinc, coal, lignite and iron ore were being mined on a small scale (Diejomoah, 1965, p. 9).

The National Development Plan of 1962-1968 (see Table 5 below) emphasized investments in national infrastructure; transportation, communication systems, electrification schemes, education, and town and country planning led the list of proposed expenditures. Trade and industry received over twice the proposed expenditures that primary production was allowed. Over 80% of the capital investment of the First Development Plan was to come from foreign loans or grants. In the 1964 National Development Plan Progress Report the actual expenditures fell way below the plans (see excerpt, Table 6). Although Nigeria was dependent on its cash crops for foreign exchange, the government was moving toward increased manufacturing and industrialization. How did the new government's expansion of education match those skills needed to upgrade exports of primary commodities and increase manufactured goods?

Table 5. National Development Plan, 1962-1968.

NATIONAL DEVELOPMENT PLAN 1962-68					
Revised Cost of the Federal Government Programme					
Sector	Original cost of Projects million	Percentage of	Revised cost of Projects million	Percentage of	Increase (+) or Decrease (-) in Cost of Projects million
1. Economic					
Primary Production	20.5	5.0	20.9	4.0	+ 0.4
Trade and Industry	44.0	10.6	44.2	8.5	+ 0.2
Electricity	98.1	23.8	118.4	22.9	+20.3
Transport	104.0	25.2	137.5	26.6	+33.5
Communications	30.0	7.3	28.3	5.5	- 1.7
Sub-Total	296.6	71.9	349.3	67.5	+52.7
2. Social Overhead					
Water Supplies	1.8	0.4	2.0	0.4	+ 0.2
Education	29.2	7.1	32.4	6.3	+ 3.2
Health	10.3	2.5	11.2	2.1	+ 0.9
Town and Country Planning	23.2	5.6	50.0	9.7	+26.8
Social Welfare	2.7	0.7	2.8	0.5	+ 0.1
Information	2.3	0.6	3.5	0.7	+ 1.2
Sub-Total	69.5	16.9	101.9	19.7	+32.4
3. General Administration					
Judicial	0.3	0.1	0.5	0.1	+ 0.2
General	43.9	10.6	61.3	11.8	+17.4
Sub-Total	44.2	10.7	61.8	11.9	+17.2
4. Financial Obligations					
Financial Obligations	2.2	0.5	4.9	0.9	+ 2.7
GRAND TOTAL	412.5	100.0	517.9	100.0	+105.4

Source: Federal Ministry of Economic Development, 1964, p. 61.

In 1960 the Ashby Commission, made up of British, Nigerian and American educational planners, forecasted Nigerian educational needs to 1980. The Ashby Report set goals for manpower development which heavily influenced educational expansion for the next two decades. Frederick Harbison of Princeton wrote the chapter on manpower development. He saw capital and high-level manpower as the limiting factors in Nigeria's future:

Of all the resources required for economic development high level manpower requires the longest lead-time for creation. Modern dams, power stations, textile factories or steel mills can be constructed within a few years. But it take between 10 and 15 years to develop managers, the administrators, and the engineers to operate them. Schools and buildings can be erected in a matter of months--but it requires decades to develop high-level teachers and professors.³

Table 6 Excerpt from 1964 National Development Plan Progress Report, p. 174.

Projects	Planned Expenditure	Actual Expenditure	Physical Target	Physical Achievements	How far target has been reached and reasons for failing to reach any of the target
Agricultural	66,000	---	To build three new circle experimental stations	None	In 1962-3 funds were not available hence none of the experimental stations was built. In 1963-4 also nothing was achieved. This time the reason was due to the fact that funds allocated to land acquisition was not spent due to delay in negotiation for land. It is hoped that progress will be made in 1964-5.
Agricultural Extensions (i) Tree Crops	461,530	73,954	1963-64 (i) To develop 6,500 acres of Cocoa. (ii) To establish 6,360 acres of oil palm (iii) (a) To establish 3,000 acres of rubber. (b) To rehabilitate 586 acres of rubber. (iv) To develop other tree crops such as Citrus, Coffee, peas, Bananas and plantain, Mangoes, Kola, Fibre Crops and Cashew	(i) Nothing was achieved (ii) 100 acres of oil palm were established (iii) 100 acres of rubber were established. (iv) Nurseries for Citrus were expanded and supply stations for bananas were expanded	Target was not fully achieved owing to lack of funds
(ii) Live-stock	358,210	261,383	1963-4 (i) To produce 720,000 day-old chicks (ii) To produce 600 tons of feed per month (iii) To purchase from overseas fifteen cows and two bulls, to supply supplementary feed and fifty rabbits. (iv) To import exotic beef cattle for cross breeding. (v) To establish piggery at Fashola Stock Farm	(i) only 318,000 day-old chicks were produced (ii) Average production of feed was only 336 tons per month	Target was only partially reached, due to lack of funds, inadequate equipment and materials.

The report concluded that intermediate education (secondary schools) should be a priority over higher education and that primary education should be expanded only as qualified teachers were trained. The elitist makeup of the Ashby Commission led to an emphasis on high-powered management goals instead of education for the realities of the major employment sector of the Nigerian economy--agriculture (Adesina, 1977, pp. 74-76). Outlined in the report were figures which were to be included in the First Development Plan (see Table 7, educational goals, below):

Table 7. Ashby Report Educational Goals

In the Eastern and Western Regions and in Lagos

- Of 1,000 children at age about 12
 - 1,000 complete primary school (according to the commitment of universal primary education)
- Of these, 70 should enter secondary grammar schools (7 per cent of the age group)
- Of these, 63 are likely to complete the School Certificate course
- Of these, 47 should seek posts (some of which will be apprenticeships or involve in-service training) and
 - 16 should go on to further full-time or 'sandwich' training
- Of these 16, 10-11 should take intermediate training and 5-6 should go to a university.

In the Northern Region

- Of 1,000 children at age about 12
 - 250 should complete senior primary school (25 per cent instead of the present 9 percent)
- Of these, 25 should enter secondary schools (2 1/2 per cent of age group; a first objective only)
- Of these, 22 are likely to complete the School Certificate course
- Of these, 15 should seek posts (some of which will be apprenticeships or involve in-service training) and
- Of these 7, 4-5 should take intermediate training and 2-3 should go to a university

Source: Investment in Education p. 7.

The Ashby Report became "Nigeria's education bible;" as late as the early 1970's educational developments still hinged on the Ashby proposals (Asiwaju, 1972, p. 2). In accordance with the Ashby Report, the First Development Plan advocated "an educational programme designed to increase as rapidly and as economically as possible the high-level manpower which is indispensable to accelerated development" (National Development Plan, 1962, p. 87). The three priorities set by

the federal government were (1) reinforcement of secondary education and teacher training, (2) improvement in the quality of primary education, and (3) assistance to regional universities (Adesina, 1977, p. 82). There were no revisions of the western-style curricula inherited from the British.

These development plans led to the following configurations of student enrollment:

Table 8. Student Enrollment.

EDUCATIONAL LEVEL	1960*		1964		1971		1973	
	Enroll- ment	%	Enroll- ment	%	Enroll- ment	%	Enroll- ment	%
Primary Schools	2,912.6	94.50	2,849.5	91.92	3,894.5	90.45	4,746.8	89.76
Secondary Schools	135.4	4.40	205.0	6.61	343.3	7.97	448.9	8.49
Secondary Technical and Vocational Schools	5.0	0.16	7.7	0.25	15.6	0.36	22.6	0.42
Teacher Training Colleges	27.9	.90	31.1	1.01	38.1	0.89	47.0	0.89
Universities	1.4	0.045	6.7	.21	14.4	0.33	23.2	0.44
TOTAL	3,082.3	100.	3,100.0	100.	4,305.9	100.	5,288.4	100.

*Enrollment in thousands

Source: Adesina, 1977, p. 55.

What was included in the curriculum of education in the 1960's? What subjects were going to prepare students to become the needed manpower for the new nation? The 1966 results of secondary school certificate examinations details what subject the students had mastered in their schooling:

Table 9. Results of Examinations, 1966.

Results in Individual Subjects -- Percentage of Candidates gaining Credit and above (School Candidates).

Subjects	Lagos			East			North			West			Mid-West			All Nigeria		
	Total	Tot.	%	Total	Tot.	%	Total	Tot.	%	Total	Tot.	%	Total	Tot.	%	Total	Tot.	%
	Entry	Credit		Entry	Credit		Entry	Credit		Entry	Credit		Entry	Credit		Entry	Credit	
English Language	1,044	187	17.9	5,899	1,019	17.3	1,827	257	14.1	4,817	646	13.4	1,455	269	18.5	15,042	2,378	15.8
Latin	129	40	31.0	772	347	44.9	125	42	33.6	542	211	38.9	311	99	31.8	1,879	739	39.3
Greek	...	..	...	...	...	...	...	..	...	1	1	100.0	...	...	...	1	1	100.0
French	128	51	39.8	457	105	23.0	225	75	33.3	280	64	22.9	86	20	23.3	1,176	315	26.8
Oral French	35	29	82.9	80	67	83.8	44	29	65.9	99	74	74.7	8	8	100.0	266	207	77.8
Efik	1	...	0.0	145	40	27.6	...	..	...	...	...	...	...	...	...	146	40	27.4
Hausa	...	..	...	...	...	...	466	246	52.8	2	...	0.0	...	...	...	468	246	52.6
Ibgo	25	10	40.0	2,037	981	48.2	2	..	0.0	1	...	0.0	83	16	19.3	2,148	1,007	46.9
Yoruba	435	151	34.7	1	...	0.0	162	84	51.9	3,752	1,654	44.3	12	...	0.0	4,342	1,889	43.4
Arabic	1	1	100.0	...	...	...	42	14	33.3	...	...	...	...	...	...	43	15	34.9
Oral English	202	133	65.8	1,347	394	29.3	404	179	44.3	873	201	23.0	236	107	45.3	3,062	1,014	33.1
English Literature	681	220	32.3	3,808	1,795	47.1	1,217	427	35.1	2,130	1,658	77.8	1,178	534	45.3	9,014	4,634	51.4
Religious Knowledge	828	512	61.8	5,030	3,478	69.1	978	725	74.1	4,198	2,962	70.6	1,336	854	63.9	12,370	8,531	69.0
Islamic Religious Knowledge	39	8	20.5	1	1	100.0	402	160	39.8	45	10	22.2	...	...	...	487	179	36.8
History	635	234	36.9	4,199	2,015	48.0	1,340	583	43.5	3,783	1,781	47.1	1,202	476	39.6	11,159	5,089	45.6
Geography	442	117	26.5	2,381	777	32.6	1,386	591	42.6	2,476	899	36.3	751	300	39.9	7,436	2,684	36.1
Mathematics	774	288	37.2	4,011	2,065	51.5	1,360	533	39.2	3,468	1,348	38.9	996	365	36.6	10,609	4,599	43.3
Additional Mathematics	132	51	38.6	833	448	53.8	150	65	43.3	880	314	35.7	172	71	41.3	2,167	949	43.8
General Science	22	13	59.1	869	496	57.1	31	9	29.0	98	45	45.9	79	32	40.5	1,099	595	54.1
Additional General Science	17	6	35.3	...	...	...	17	..	0.0	...	...	...	...	...	...	34	6	17.6
Physics	390	124	31.8	1,829	964	52.7	670	303	45.2	1,188	553	46.5	296	131	44.3	4,373	2,075	47.5
Chemistry	608	261	42.9	3,570	2,166	60.7	1,042	496	47.6	1,196	1,071	54.6	663	346	52.2	7,843	4,340	55.3
Biology	809	269	33.3	5,176	2,802	54.1	1,197	488	40.8	3,233	1,279	39.6	986	497	50.4	11,401	5,335	46.8
Agricultural Science	...	...	...	...	...	...	12	...	0.0	12	6	50.0	...	...	...	24	6	25.0
Art	116	46	39.7	241	114	47.3	96	34	35.4	240	75	31.3	135	33	24.4	828	302	36.5
Music	9	...	0.0	...	...	...	...	...	...	2	1	50.0	...	...	...	11	1	9.1
Woodwork	25	17	68.0	50	5	10.0	133	10	7.5	...	...	...	...	...	...	208	32	15.4
Metalwork	36	8	22.2	52	12	23.1	7	...	0.0	...	...	...	...	...	...	95	20	21.1
Needlework	44	1	2.3	15	1	6.7	54	10	18.5	31	3	9.7	13	7	53.8	157	22	14.0
Cookery	10	5	50.0	...	...	41.2	63	36	57.1	19	16	84.2	...	...	...	109	64	58.7
General Housecraft	...	...	...	8	...	0.0	17	...	0.0	...	...	...	...	...	...	25	...	0.0
Geometrical & Mechanical Drawing	46	29	63.0	84	42	50.0	6	1	16.7	...	...	...	5	...	0.0	141	72	51.1
Geometrical & Building Drawing	...	...	...	34	9	26.5	...	...	...	...	...	...	...	...	...	34	9	26.5
Commercial Studies	31	3	9.7	394	141	35.8	2	...	0.0	145	42	29.0	96	36	37.5	668	222	33.2
Principles of Accounts	30	20	66.7	333	190	57.1	1	...	0.0	115	37	32.2	89	46	51.7	426	293	68.8
Health Science	215	50	23.3	3,912	1,952	49.9	695	181	26.0	1,660	502	30.2	950	359	37.8	7,432	3,044	41.0

-16-

The subjects for which most students sat exams were English Language, Religious Knowledge, Biology, History, Additional Mathematics, and English Literature. Only 24 students sat exams in Agricultural Science compared to 15,042 in English Language. More students sat the Latin exam than the total of the students taking woodwork, metalwork, geometrical and mechanical drawing, and commercial studies exams. The configuration of students by region demonstrates that the north continued to be underrepresented. It takes quite a stretch in one's imagination to believe this type of education matches the skills needed to improve Nigeria's position in world trade. Neither the agricultural or manufacturing sectors would appear to benefit from the majority of school passes. Let us turn to the universities. What skills were being developed there?

Table 10. 1966 University Graduates.

Major	Number
1. Humanities	311
2. Fine Arts	109
3. Law	401
4. Languages	161
5. Social Sciences	1,228
6. Education	600
7. Natural Sciences	424
8. Engineering and Technology	573
9. Medical Sciences	321
10. Agriculture	376
11. Unspecified	28
	<u>4,532</u>

Source: Nigeria Project Task Force, 1967, p. 65.

Although the majority of the university graduates are in the social sciences, humanities or education, there is a sizable proportion of majors in science, engineering, medicine and agriculture. Only when we compare these numbers to a population of 55 million do we understand the derth of trained manpower.

In 1967 Nigeria became embroiled in a bloody civil war which disrupted the economy as well as general progress towards development. This paper is not focusing on political events, but there are some links between international trade, economic development, education and the secession of Biafra. Some Nigeria watchers believe the breaking out of civil strife between the Ibos of the east and the Hausa-Fulani of the north was a result of the inequality in education, and therefore positions in government, since colonial times (Rothchild and Curry, 1978, p. 45; Damachi, 1972, pp. 107-115). We have seen that the east had a much higher level of formal education and the Ibos did have a higher proportion of government jobs than the northerners.

Significant exploitation of petroleum resources in the east happen to coincide with the civil war. Speculation sought external causes for secession related to the oil wealth; the federal government

certainly fought hard to retain the east because of the oil. In 1967, the east was the center of the oil palm industry. By the end of the war in 1971 the oil palm plantations were virtually devastated. It was during the late 1960's and early 1970's that the Nigerian economy went through the metamorphosis from an agricultural base to one supported by petro-dollars.

The 1970's have seen Nigeria move into the OPEC cartel and assume political leadership in Africa. Articles such as "West African Oil -- at Last an Alternative to the Middle East," "Nigeria on Course," "The Most African Country," "Nigeria: Oil Rich and Nervous," "Nigeria: Africa's New Power," "Nigeria: A Black Power," "Nigeria Struggles with Boom Times," point to Nigeria in the world view as rich, powerful and somewhat unstable. Compared with its status in 1960, Nigeria has come a long way. Let us look at how the manpower development of the 1970's fits the needs of Nigeria's international trade. An overview of gross domestic product from 1960 to 1975 demonstrates the significant shift in the economy.

Table 11. GNP, 1960-1975.

NIGERIA: Major Components of GNP (₦ million)

Year	Agriculture	Mining and Quarrying	Manufacturing	Electricity and Water	Building and Construction	Distribution	Transport and Communication
1960	1423.8	19.8	80.6	7.5	67.4	203.2	97.8
61	1465.2	34.0	88.2	8.2	77.8	231.8	109.0
62	1609.6	44.6	93.4	9.8	90.0	252.6	112.4
63	1675.0	58.8	151.8	10.1	115.0	322.2	121.8
64	1678.0	73.8	157.8	13.0	122.8	382.0	139.6
65	1691.8	81.6	164.8	15.2	126.4	416.4	143.2
66	1784.4	148.6	192.8	16.0	161.2	432.8	135.6
67	1713.0	163.4	196.0	16.8	165.4	432.2	131.0
68	1726.6	81.6	231.2	18.2	148.4	419.2	122.4
69	1743.8	111.2	270.4	21.0	146.8	382.0	115.2
70	1787.4	136.8	311.0	22.4	152.6	380.0	117.0
71	3399.4	3127.9	475.1	29.6	326.0	854.5	172.0
72	3575.3	4392.7	460.3	35.7	460.2	907.1	209.5
73	3351.8	5202.9	570.1	42.4	567.1	882.5	257.6
74	3246.5	5927.6	626.5	52.0	710.8	910.6	278.2
75	3372.7	6552.3	683.9	58.7	821.4	971.2	325.0

- Source: 1. F.O.S. Annual Abstracts of Statistics, Lagos, Nigeria.
 2. Federal Ministry of Information, Second National Development Plan, 1970-74, Lagos, Nigeria, 1970.
 3. Central Planning Office, Third National Development Plan, 1975-80, FMEDR, Lagos, Nigeria, 1975.

Table 11 Continued.

NIGERIA: Growth Rates of Major Components of GNP (Percentages)

Year	Total GNP	Agriculture	Mining and Quarrying	Manufacturing	Electricity and Water	Building and Construction	Distribution	Transport and Communication
1960	---	---	---	---	---	---	---	---
61	5.7	2.9	71.7	9.4	9.3	15.4	14.0	11.5
62	10.8	9.9	31.2	5.9	19.3	15.7	9.0	3.1
63	6.7	4.1	31.8	62.5	3.1	27.8	27.6	8.4
64	3.8	1.8	25.5	4.0	28.7	6.8	18.6	14.6
65	5.7	0.8	10.6	4.4	16.9	2.8	9.0	2.6
66	4.2	5.5	82.1	17.0	5.3	27.5	3.9	- 5.3
67	- 4.9	- 4.0	10.00	1.7	5.0	2.6	- 0.0002	- 3.4
68	2.9	0.8	- 50.1	18.0	8.3	- 10.3	- 3.0	- 6.6
69	4.4	1.0	36.3	17.0	15.4	- 1.1	- 8.9	- 5.9
70	6.3	2.5	23.0	15.0	6.7	4.0	- 0.5	1.6
71	170.9	90.2	2186.5	52.8	32.1	113.6	124.9	47.0
72	18.4	5.2	40.4	- 3.1	20.6	41.2	6.2	21.8
73	7.3	- 6.3	18.4	23.9	18.8	23.2	- 2.7	23.0
74	9.5	- 3.1	13.9	9.9	22.6	25.3	3.2	8.0
75	9.7	3.9	10.5	9.2	12.9	15.6	6.7	16.8
Mean	16.3	7.2	158.9	15.5	14.1	19.4	13.0	8.6

NIGERIA: Major Components of GNP (Percentages)

Year	Total GNP N mill.	Agriculture	Mining and Quarrying	Manufacturing	Electricity and Water	Building and Construction	Distribution	Transport and Communication
1960	2,244.6	63.4	0.9	3.6	0.3	3.0	9.1	4.4
61	2,373.4	61.7	1.4	3.7	0.3	3.3	9.8	4.6
62	2,630.8	61.2	1.7	3.6	0.4	3.4	9.6	4.3
63	2,806.4	59.7	2.1	5.8	0.5	4.4	12.2	4.6
64	2,914.0	57.6	2.0	5.6	0.5	4.4	13.6	5.0
65	3,080.6	54.9	2.8	5.6	0.6	4.3	14.3	4.9
66	3,210.0	55.6	4.8	6.2	0.6	5.2	14.0	4.4
67	3,051.8	56.1	5.1	6.1	0.6	5.1	13.5	4.0
68	3,140.8	55.0	2.7	7.6	0.6	4.9	13.7	3.9
69	3,278.2	53.2	2.9	8.6	0.6	4.9	13.5	3.9
70	3,485.8	51.3	3.7	9.5	0.6	5.0	13.2	3.7
71	9,442.1	36.0	33.1	5.0	0.3	3.5	9.1	1.8
72	11,177.9	32.0	39.3	4.1	0.3	4.1	8.1	1.9
73	11,993.1	27.9	43.4	4.8	0.4	4.7	7.4	2.1
74	13,135.5	24.7	45.1	4.8	0.4	5.4	6.9	2.1
75	14,410.7	23.4	45.5	4.7	0.4	5.7	6.7	2.3

Source: Olayide, 1976, pp. 12-13.

In 1972, oil production surpassed agriculture; the trends of increasing importance of oil and decreasing importance of primary commodities for export have continued into the 1980's. See Table 12 on exports and imports in the 1970's.

Table 12. Exports and Imports, 1973-1976.

Exports of Major Commodities 1973-76					N million
Commodity	1973	1974	1975	1976	Index of Change, 1973-76 1973 = 100
Cocoa	112	159	1976	218	195
Cotton (raw)	5	--	--	--	--
Groundnuts	46	7	--	--	--
Groundnut cake	18	5	1	3	17
Groundnut oil	24	11	--	--	--
Hides and skins	13	11	7	6	46
Palm kernels	19	44	18	26	137
Palm oil	--	--	4	--	--
Petroleum (crude)	1,894	5,366	4,630	6,196	327
Rubber (natural)	19	33	15	14	74
Timber (logs and sawn)	12	11	5	1	8
Tin Metal	15	26	17	15	100
Other Commodities	102	122	53	144	141
Total	2,277	5,794	4,925	6,623	291
Petroleum as % total	83	93	94	94	--

Source: Nigeria Trade Summary

Exports by Type of Merchandise (Current Prices) 1974-80						N million
	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
Non-oil:						
Cocoa	140.5	145.8	152.4	158.4	164.6	171.0
Groundnuts	10.0	34.4	36.4	38.0	41.9	45.7
Groundnut oil	35.0	36.2	37.8	39.4	39.2	40.3
Rubber	17.5	16.9	15.0	14.6	14.4	14.2
Palm kernels	20.7	22.7	23.0	23.2	23.5	23.8
Timber logs and plywood	7.6	8.0	8.6	8.6	8.4	8.0
Benniseed and Soya beans	2.2	2.4	2.4	2.4	2.6	2.6
Hides and Skins	4.0	6.2	6.4	6.6	6.3	6.0
Other Commodities	46.5	49.2	53.6	54.4	64.1	64.4
Tin Ore and Metals	20.3	25.0	20.0	23.0	22.0	22.0
Total (Non-oil)	304.3	346.8	355.6	368.6	387.0	396.0
Oil	6,458.1	7,120.3	7,913.0	8,665.1	9,603.8	10,633.2
Total	6,762.4	7,467.1	8,268.6	9,033.7	9,990.8	11,029.2

Source: Third Development Plan

Table 12. (continued)

IMPORTS BY TYPE OF PRODUCT 1973-76

by Value		N million			
SITC Sections		1973	1974	1975	1976
0	Food	126.0	155.0	299.0	442.0
1	Beverages and Tobacco	5.2	9.1	48.0	64.0
2	Crude materials	27.0	64.0	74.0	79.0
3	Mineral fuels	14.0	55.0	100.0	181.0
4	Animal and Vegetable oils	1.4	3.6	8.9	25.0
5	Chemicals	133.0	191.0	333.0	398.0
6	Manufactured goods	324.0	523.0	1,007.0	1,136.0
7	Machinery and Transport equipment	491.0	612.0	1,561.0	2,448.0
8	Miscellaneous manufactured goods	94.0	114.0	279.0	351.0
9	Miscellaneous transactions	8.6	10.6	10.7	10.5
	Total	1,225.0	1,737.0	3,722.0	5,135.0

INDEX OF GROWTH

0	Food	100	123	237	351
1	Beverages and Tobacco	100	175	923	1,231
2	Crude materials	100	237	274	293
3	Mineral fuels	100	393	714	1,293
4	Animal and Vegetable oils	100	257	636	1,786
5	Chemicals	100	144	250	299
6	Manufactured goods	100	161	311	351
7	Machinery and Transport equipment	100	125	318	499
8	Miscellaneous manufactured goods	100	121	297	373
9	Miscellaneous transactions	100	123	124	122
	Total	100	142	304	419

Source: Nigeria Trade Summary

IMPORTS BY END USE 1974-80

Table 84.1 Current Prices

	N million					
	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
Consumer Goods (total)	609.1	830.9	1,096.1	1,419.1	1,840.7	2,253.0
Non-durable	401.2	526.7	685.8	872.1	1,093.4	1,282.4
Food	204.7	272.4	355.2	462.1	593.4	729.8
Textiles	39.3	45.4	55.1	62.4	65.9	42.5
Others	157.2	208.9	275.5	347.6	434.1	510.0
Durable (other than cars)	96.6	140.7	196.0	282.2	412.0	559.7
Passenger cars	111.3	163.5	214.3	265.8	335.3	410.9
Capital Goods (total)	584.5	819.5	1,117.6	1,517.2	2,098.9	2,834.0
Capital equipment	433.8	608.4	826.7	1,116.5	1,538.5	2,054.6
Transport equipment	150.6	211.1	290.9	400.7	560.4	779.4
Intermediate goods	443.8	619.7	848.1	1,153.3	1,554.9	1,998.1
Raw materials	414.3	590.2	817.5	1,112.4	1,521.9	1,976.7
Fuel	29.5	29.5	30.6	40.9	33.0	21.4
TOTAL	1,637.4	2,270.1	3,061.8	4,089.6	5,494.5	7,085.1

Table 12. (continued)

IMPORTS BY END USE 1974-80 (continued)

Table 84.2 Percentage Distribution

	1974-75	1975-76	1976-77	1977-78	1978-79	per cent 1979-80
Consumer Goods (total)	37.2	36.6	35.8	34.7	33.5	31.8
Non-durable	24.5	23.2	22.4	21.3	19.9	18.1
Food	12.5	12.0	11.6	11.3	10.8	10.3
Textiles	2.4	2.0	1.8	1.5	1.2	0.6
Others	9.6	9.2	9.0	8.5	7.9	7.2
Durable	5.9	6.2	6.4	6.9	7.5	7.9
Passenger cars	6.8	7.2	7.0	6.5	6.1	5.8
Capital Goods (total)	35.7	36.1	36.5	37.1	38.2	40.0
Capital equipment	26.5	26.8	27.0	27.3	28.0	29.0
Transport equipment	9.2	9.3	9.5	9.8	10.2	11.0
Intermediate Goods	27.1	27.3	27.7	28.2	28.3	28.2
Raw materials	25.3	26.0	26.7	27.2	27.7	27.9
Fuels	1.8	1.3	1.0	1.0	0.6	0.3
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Third Development Plan

Source: Maclean and Arnold, 1978, pp. 77-79

By 1980 oil accounted for 96.4% of export revenues. Cocoa, the second largest export, accounted for only 1.5% of export revenues. The oil boom has radically altered Nigeria's configuration of exports. Imports tell another important story.

Compared with the import configuration of the 1960's, imports of capital goods and consumer goods are proportionally less in the 1970's. The import of intermediate goods, especially raw materials, rose from a 24.3% average of total imports in the 1960's to 27.8% in the 1970's. Although imports of consumer goods and capital goods continue to rise, several noticeable differences exist in the Nigerian market and economic policies of the 1970's.

Manufacturing received a big boost in the 1970's due to a combination of import substitution regulations and heavy capital outlays. The Second (1970-1974) and Third (1975-1980) National Development Plans (see Table 13 for overview) set objectives for indigenization of manpower and ownership, promotion of import substitution regulation and expansion and diversification of manufacturing and industrial development (Second Development Plan quoted by Berger, 1975, pp. 1-3).

The first stage of indigenization was enacted in 1972 with two schedules covering enterprises which were to be totally Nigerian owned and those in which not less than 60 percent of the equity should be owned by Nigerians (Maclean and Arnold, 1978, pp. 15-16). Later phases in 1976 and 1977 established a third schedule in which Nigerians must hold a minimum of 40 percent equity. The 1977 Nigerian Enterprises Promotion Decree set forth all the indigenization categories and conditions (see Appendix A).

Although the indigenization policies were unpopular with foreign investors, clearly defined sectors for foreign investment have been officially designated (Teriba and Kayode, 1977, p. 28; Schatz, 1977, p. 23). Industries reserved for effective direct public-sector control are iron and steel production, petro-chemicals, fertilizer and petroleum products. Mixed ventures include production of cash crops, food processing, forest industries and construction. Indigenization also meant the promotion of indigenous manpower development in the industrial sector. Quota systems were set on the acceptable percentage of expatriates per Nigerians employed (Berger, 1975, p. 186). Depending on the industry, quotas and the observance of quotas have varied greatly (see Berger, 1975, p. 186-195 for a thorough discussion of the problems and possibilities of the quota system).

Table 13. Second National Development Plan, 1970-1975, and Third National Development Plan, 1975-1980.

SUMMARY OF SECOND NATIONAL DEVELOPMENT PLAN PUBLIC SECTOR INVESTMENT PROGRAM, 1970/71 - 1973/74						
	Total		Federal Government		State Governments	
	Amount (L N Mill.)	Share %	Amount (L N Mill.)	Share %	Amount (L N Mill.)	Share %
Economic						
Agriculture	107.7	10.5	30.8	5.5	76.8	16.3
Livestock, Forestry and fishing	25.0	2.4	3.2	0.6	21.8	4.6
Mining	2.6	0.3	2.6	0.5	--	--
Industry	86.0	8.4	40.8	7.3	45.3	9.6
Commerce and finance	18.9	8.4	11.0	2.0	7.9	1.7
Fuel and power	45.3	4.4	45.3	8.2	--	--
Transport	242.6	23.7	167.1	30.1	75.5	16.1
Communications	42.6	4.2	42.5	7.7	--	--
Resettlement and Rehabilitation	10.0	1.0	10.0	1.8	--	--
Sub-total	580.8	56.7	353.5	63.7	227.3	48.3
Social						
Education	148.9	13.5	49.1	8.8	89.8	19.1
Health	53.8	5.2	10.1	1.8	43.7	9.3
Information	10.9	1.1	4.8	0.9	6.1	1.3
Labor and social Welfare	10.0	1.2	3.0	0.5	9.0	1.9
Town and country Planning	19.1	1.9	5.3	1.0	13.8	2.9
Water and sewerage	51.7	5.0	--	--	51.7	11.0
Sub-total	286.4	27.9	72.3	13.0	214.1	45.5
Administration						
General Adminis- tration	52.4	5.1	23.4	4.2	28.9	6.2
Defense and Security	96.4	9.4	96.4	17.4	--	--
Sub-total	148.7	14.5	119.8	21.6	28.9	6.2
Financial Obligation	9.5	0.9	9.5	1.7	--	--
Nominal Total	1,025.4	100.0	555.1	100.0	470.3	100.0
Less underspending	184.2	17.9	72.9	18.2	111.3	23.7
Less transfers	37.2	3.6	37.2	6.7	--	--
Net total	804.0	78.4	445.0	75.1	359.0	76.3

Source: Second National Development Plan 1970-74, Chapter 27.

Table 13. (Continued)

PUBLIC SECTOR CAPITAL PROGRAMME BY SECTOR 1975-80									
Sector	Original Plan			Revised Plan			% Increase		
	Federal	State	Total	Federal	State	Total	Federal	State	Total
<u>Economic:</u>									
Agriculture	751	895	1,646	765	916	1,681	73	14	41
Irrigation*	...	...	...	535	104	639	...	...	...
Livestock	173	171	344	284	203	487	64	19	42
Forestry	30	80	110	36	100	136	20	25	24
Fishery	59	43	102	55	45	100	- 7	5	- 2
Manufacturing and Craft	4,907	409	5,316	5,055	431	5,486	3	5	3
Mining and Quarrying	2,680	...	2,680	2,646	...	2,646	- 1	...	- 1
Commerce and Finance	323	236	559	499	277	776	54	17	39
Co-operative and Supply **	...	...	...	112	97	209	...	...	...
Power	932	143	1,075	1,057	228	1,285	13	59	20
Transport	6,274	1,029	7,303	8,065	1,613	9,678	29	57	33
Communications	1,339	...	1,339	3,529	...	3,529	64	...	64
Total Economic	17,469	3,005	20,474	22,638	4,014	26,652	30	34	30
<u>Social Service:</u>									
Education	1,656	808	2,464	1,894	1,328	3,222	14	64	31
Health	314	446	760	593	580	1,173	89	30	54
Information	234	146	380	253	134	387	8	- 8	2
Labour	43	...	43	27	...	27	- 37	...	- 37
Social Development and Sports	25	115	140	47	156	203	88	36	45
Total Social Service	2,273	1,514	3,787	2,914	2,098	5,012	28	39	33
<u>Regional Development:</u>									
Water	317	613	930	500	1,049	1,549	58	71	67
Sewerage and Drainage	154	274	428	154	308	462	0	12	8
Housing	1,650	188	1,838	2,001	256	2,257	21	36	23
Town and Country Planning	251	504	755	744	845	1,589	196	68	110
Community Development and Cooperative **	16	177	193	...	177	177	...	0	- 8
Total Regional Development	2,388	1,756	4,144	3,399	2,635	6,034	42	50	46
<u>Administration</u>									
Defence and Security	3,326	...	3,326	4,350	...	4,350	31	...	31
General Administration	709	415	1,124	620	646	1,266	- 13	56	13
Total Administration	4,035	425	4,450	4,970	646	5,616	23	56	26
GRAND TOTAL	26,165	6,690	32,855	33,921	9,393	43,314	30	40	32

*Irrigation included with Agriculture in Original Plan. The % increase is for both.

**Co-operatives shifted from Regional Development to Economic Sector in Revised Plan.

Source: Third Development Plan

Import substitution has had an impact in both encouraging the growth of domestic industry and increasing the import of raw materials and intermediate goods (Berger, 1975, pp. 46-55). In 1975 approximately 60% of Nigeria's industrial output was consumed domestically. It is hoped the production of more intermediate goods at home will reduce the import dependence of local industry, increase the value added and reduce the foreign exchange depletion (Second National Development Plan, 1970, p. 282). When the balance of payments dropped into a deficit in 1977, stricter import regulations were imposed to control the importation of consumer goods, especially luxury items (Africa, South of the Sahara, 1980-81, p. 767).

The rapid expansion of manufacturing has altered the structure of imports. Increased demand for imported raw materials and capital equipment reflect the growth of enterprise. Another change has been in the direction of international trade. No longer does Great Britain dominate Nigerian trade. Huge exports of petroleum to the United States and an increase in trade with the E.E.C. countries have replaced dependency on Britain for imports and markets (Africa, South of the Sahara, 1980-81, p. 767).

These changes in the configuration of imports and exports demand an increase in both the quantity and quality of skilled manpower. How can indigenization policies work without qualified Nigerians? Although finance has not been a restraint on Nigerian development in the 1970's, trained manpower certainly has been. The shortage of trained manpower affects not only who benefits from capital investment schemes (expatriates or Nigerians) but also which sectors, industries or businesses are developed (Maclean and Arnold, 1978, p. 27). Lack of skilled and motivated manpower in agriculture continues to drag upon the economy with continued costs of imported foodstuffs (Shaw and Fasehun, 1980, pp. 561-562). Let us look at the projected manpower demand and supply under the Third Development Plan (see Table 14).

Table 14. Projected Manpower Demand and Supply, 1975-80.

Manpower Budget 1975-80

Senior-Level Manpower

	Source	No
	Demand	
(i) 1975 opening stock in large and medium size establishments		91,500
(ii) 1980 employment level (projected)		126,750
(iii) Additional requirements (large and medium size establishments (ii-i))		35,250
(iv) Cumulative wastage over the 1975-80 period		7,700
(v) Total requirements in large and medium scale establishments (iii + iv)		42,950
(vi) 1975 opening stock in small size establishments		19,500
(vii) 1980 employment level (projected)		24,700
(viii) Additional requirements (small scale establishments)(vii-vi)		5,200
(ix) Cumulative wastage over the 1975-80 period		1,060
(x) Total requirements in small scale establishments (viii + ix)		6,260
(xi) Total requirements in all establishments (v + x)		49,210
	Supply	
(xii) 1975-80 graduate out-turn from local universities		28,800
(xiii) Supply from local non-university institutions		4,000
(xiv) Supply of graduates from overseas institutions		1,600
(xv) Other external supplies of qualified Nigerians		3,000
(xvi) Supply through upgrading from intermediate category		6,150
Total		43,550

Intermediate-Level Personnel

	Source	No
	Demand	
(i) 1975 opening stock in large and medium size establishments		252,000
(ii) 1980 employment level (projected)		339,300
(iii) Additional requirements (large and medium size establishments (ii-i))		87,300
(iv) Cumulative wastage over the 1975-80 period		20,900
(v) Total requirements in large and medium scale establishments (iii + iv)		108,200
(vi) 1975 opening stock in small size establishments		80,500
(vii) 1980 employment level (projected)		101,300
(viii) Additional requirements (small size establishments)(vii-vi)		20,800
(ix) Cumulative wastage over the 1975-80		4,360
(x) Total requirements in small scale establishments (viii + ix)		25,160
(xi) Total requirements in all establishments (v + x)		133,360
(xii) Loss due to upgrading to senior category		6,150
Net Balance (xi + Xii)		139,510

Table 14. (continued)

Supply	
(xiii) Out-turn from local technical colleges/colleges of technology	29,030
(xiv) Supply from other post-secondary institutions	22,500
(xv) Entrants from overseas	5,000
(xvi) Supply through upgrading from lower level	69,760
Total	126,290

Source: Third Development Plan.

It appears that expansion of industry and manufacturing is largely dependent upon secondary school and university graduates. It is interesting to note the role technical education is projected to play in fulfilling intermediate level needs. Obviously these plans do not include the unskilled factory workers or subsistence farmers who make up the majority of Nigerians. With these projections in mind, let us examine the educational system of Nigeria in the 1970's. How has formal education evolved? What informal training programs exist? To what degree have expenditures in manpower development contributed to supplying skills needed for production for international trade or import substitution?

Since independence, education has continued to be a development priority. Formal education has expanded at a phenomenal rate. Introduced in 1976 in the Third Development Plan, the universal primary education (UPE) program has considerably increased educational opportunities and functional literacy. However, with a population growth of 2.5 to 3.5%, universal education creates a constant demand for continued capital investment. The statistics for enrollments in the 1970's and into the 1980's are quite impressive quantitatively in the rates of expansion:

Table 15. School Enrollments (in thousands).

	1971 ^a	1973 ^a	1976 ^b	1980 ^c
Primary	3,894.5	4,746.8	8,300.	11,457.7
Secondary	343.3	448.9	507.29	1,650.3
Technical and vocational secondary schools	15.6	22.6	N.A. ^d	118.
Teacher training including technical training colleges	38.1	47.0	N.A. ^d	235 ^e
University	14.4	23.2	32.3	53

(a) 1971 and 1973 figures from Adesina, 1977, p. 55. (b) 1976 figures from Africa Research Bulletin, February 28, 1981, pp. 5821. (c) 1980 figures from Asante, "Nigeria on Course," in The New African, October, 1980, pp. 118-120. (d) N.A. = not available. (e) A cautionary note: these figures are self-reported data; the 1980 figures are remarkably similar to the Third Development Plan's projected enrollment.

The quality of Nigeria's educational system cannot be easily evaluated (see Yesufu, 1974, pp. 58-60 for comments on the lack of quality in Nigeria's educational expansion). Certainly teaching materials and qualified teachers have not been able to expand as rapidly as have enrollments. Although the majority of primary and secondary school students continue to choose the classical curriculum, Nigeria's efforts in technical education are quite remarkable. Twenty-four polytechnics, two federal technical teacher colleges, 260 teacher colleges and 35 institutions offering the National Certificate of Education provide coursework for technical careers. (See Table 16 for Enrollment and Out-Turn of the Technical Colleges.) Nigeria now has 13 universities with three more in the planning stages. In 1982 the Open University began offering courses to part-time students who are older or who cannot leave their jobs for full-time studies (Asante, 1980, p. 120).

Table 16. Enrollment and Out-Turn of the Technical Colleges.

Projected Enrollment of Colleges of Technology and Polytechnics
1975-76 and 1979-80

Courses	Projected Enrollment	
	1975-76	1979-80
Engineering	4,210	11,485
Commerce/Management/Secretaryship/Accountancy, Insurance, etc.	2,810	5,465
Environmental Technology (Town Planning, Architecture, Surveying, etc.)	2,100	7,290
Laboratory Technology	1,400	3,645
Textile Technology	420	545
Basic studies	700	1,825
Technical education (NCE Technical)	1,400	2,735
Catering and Food Technology	280	730
Others	700	2,735
TOTAL	14,020	36,455

Projected Out-Turn of All Colleges of Technology and Polytechnics
1975-76 and 1979-80

Field of Study	1975-76	1979-80	Out-turn
			Total 1975-76 to 1979-80
Engineering	920	3,120	9,570
Commerce/Management/Secretaryship/ Accountancy, Insurance, etc.	545	1,095	3,975
Environmental Technology (Town Planning, Architecture, Surveying, etc.)	660	2,075	6,515
Laboratory Technology	310	985	3,060
Textile Technology	40	90	315
Basic studies	165	365	1,305
Technical education (NCE)	220	745	2,275
Catering and Food Technology	65	145	520
Others	130	495	1,495
TOTAL	3,055	9,115	29,030

Source: Third Development Plan.

University enrollments reflect the continuing dominance of arts and social sciences as well as growth in the sciences, medicine and technical fields (see actual and projected university enrollments, Table 17). The spectacular development of universities may be a source of future strength but for the present it distorts manpower development. A common criticism of Nigerian education is that it is top-heavy, structurally imbalanced, and inadequately geared to the needs of the economy (Okoyunrotifa in Oguntoyimbo *et al.*, 1978, pp. 195-197; Diejomoah, 1978, pp. 62-68; Adesina, 1977, pp. 220-224). The costs per student for university education exceed costs for British or American institutions. The relatively heavy emphasis on college degrees tends to mold primary and secondary education into the college prep syndrome (Nigeria Project Task Force, 1967, p. 130). It is still the university degree that the brighter students seek, not a technical education (Adesina, 1977, p. 219).

Table 17. University Enrollments, 1971-1981 (actual and projected).

	Actual 1971/72	Actual 1972/73	Actual 1973/74	Actual 1974/75	NUC RECOMMENDATIONS			PROJECTED		
					1975/76	1976/77	1977/78	1978/79	1979/80	1980/81
1. Arts & Social Sciences:										
Students	5,192	6,181	6,844	6,768	8,169	9,700	10,300	11,000	11,900	12,800
Teachers	629	700	810	815	892	970	980	990	1,000	1,067
Ratio	6.4	8.8	8.4	8.3	9.2	10.0	10.5	11.1	11.9	12.0
2. Sciences:										
Students	2,896	3,361	4,144	4,269	5,942	7,000	7,800	8,400	9,500	11,000
Teachers	456	491	669	746	865	1,014	1,066	1,080	1,100	1,220
Ratio	6.4	6.8	6.2	5.7	6.9	6.9	7.3	7.8	8.6	9.0
3. Agriculture:										
Students	1,324	1,418	1,704	1,997	3,320	2,600	2,875	3,250	3,500	3,800
Teachers	204	255	283	333	382	400	412	416	420	447
Ratio	6.5	5.6	6.0	6.0	6.1	6.5	7.0	7.8	8.3	8.3
4. Medicine:										
Students	1,904	2,382	2,706	3,251	4,092	4,720	5,500	6,400	7,500	9,000
Teachers	400	576	598	690	967	1,065	1,196	1,320	1,480	1,636
Ratio	4.8	4.1	4.5	4.7	4.2	4.4	4.6	4.8	5.1	5.5
5. Education:										
Students	2,171	2,424	2,969	4,094	5,139	6,600	7,200	7,800	8,400	9,000
Teachers	142	174	217	243	359	382	440	472	509	545
Ratio	15.3	13.9	13.6	16.8	14.3	17.3	16.4	16.5	16.5	16.5
6. Engineering and Technology:										
Students	1,375	1,814	2,016	2,414	2,886	3,000	3,420	3,900	4,400	4,900
Teachers	187	213	173	310	389	400	450	500	560	598
Ratio	7.4	8.5	7.4	7.8	7.4	7.5	7.6	7.8	7.9	8.2
7. Environmental Design:										
Students	119	183	508	657	758	1,000	1,250	1,500	1,800	2,100
Teachers	13	21	59	62	85	112	134	155	180	210
Ratio	9.2	8.7	8.6	10.6	8.9	8.9	9.3	9.7	10.0	10.0
8. Administration:										
Students	492	800	1,251	1,485	1,555	2,000	2,500	3,000	3,500	4,000
Teachers	87	105	129	152	159	165	192	222	250	267
Ratio	5.7	7.6	9.7	11.3	9.8	12.1	13.0	13.5	14.0	15.0
9. Law:										
Students	842	785	1,271	1,196	1,343	1,600	1,850	2,150	2,450	2,450
Teachers	70	78	83	85	99	106	120	134	153	153
Ratio	12.0	10.1	15.3	14.1	13.6	15.1	15.4	16.0	16.0	16.0

Table 17. (continued)

-32-

	Actual 1971/72	Actual 1972/73	Actual 1973/74	Actual 1974/75	NUC RECOMMENDATIONS			PROJECTED		
					1975/76	1976/77	1977/78	1978/79	1979/80	1980/81
10. Basic Studies:										
Students	426	856	1,085	894	1,000	1,000	1,000	1,000	1,000	1,000
Teachers	26	45	69	74	78	80	80	80	80	80
Ratio	16.4	19.0	15.7	12.1	12.8	12.5	12.5	12.5	12.5	12.5
11. All Disciplines:										
Students	16,957	20,204	24,498	27,025	33,204	39,220	43,695	48,400	53,950	60,050
Teachers	2,336	2,658	3,235	3,529	4,275	4,694	5,070	5,369	5,752	6,223
Ratio	7.3	7.6	7.6	7.7	7.8	8.4	8.6	9.0	9.4	9.6

Source: National Universities Commission

Source: Oguntoyimbo et al., 1978, p. 200.

Nigeria has also established training programs under the Industrial Training Fund in 1971. Every employer having 25 or more persons in his establishment was to contribute to a fund which subsidized training programs. Although employers criticized the fund, it had by 1973 collected 4 million pounds and operated various skill training programs (Berger, 1975, pp. 194-195). Other training programs have been organized through the Nigerian Council for Management Education and the Nigerian Institute of Management. On a small scale these programs have offered courses to aid in the indigenization of industry (Berger, 1975, pp. 197-198).

We have seen considerable changes in Nigerian manpower development since independence in 1960. An incredible expansion of education has taken place. Universal primary education, technical schools, 13 universities, millions spent--to what result? Although progress is certainly being made, has the money "invested" in Nigeria's human capital really paid dividends in domestic production for export or import-substitution industries which require some imported inputs?

Since petroleum exports take up the bulk of exports, let us first look there. By the mid-1970's, Nigerians made up approximately 80-90% of those employed in the oil industry. Expatriates still held high level technical and management positions (Thomas, 1976, pp. 160-162). The indigenization policies have helped secure positions for qualified Nigerians; however, there is still an acute shortage of high-level manpower in the petroleum industry. Looking at other exports, Nigeria's push for manpower development and vast expansion for education has practically ignored the ailing rural agricultural sector (Africa, South of the Sahara, 1981, p. 764; Loken, 1969, p. 92; McDowell, 1971; Abernathy, 1972; World Bank, 1981, p. 90). Although the development plans have funded some agricultural research and several large-scale projects, no significant effort has focused on educating the vast majority of Nigerians who are subsistence farmers. "Operation Feed the Nation" has fallen well below demand. The scattering of a few extension agents cannot modernize Nigerian agriculture. In a country with high population growth there needs to be a corresponding growth in food production (Zook, 1962, pp. 22-23). The "Green Revolution" currently underway under Shagari will hopefully produce this growth (Bolsover, 1982, pp. 17-19). Until the low productivity of the agriculture sector is attacked, rural youth will continue to seek opportunity elsewhere (Ajaegbu, 1976; Roberts, 1972). Functional literacy and agricultural extension along with adequate

farm credit and incentives could transform the rural sector and therefore the lives of the majority of Nigerians (Eicher and Liedholm, 1970, pp. 399-407).

On the import side, the increase in manufacturing and construction industries has provided considerable employment for Nigerians. Here again expatriates still control highly technical and managerial positions, but not in the huge numbers of the 1960's (Okeyide, 1976, pp. 101-102). The new technical emphasis in education will continue the indigenization of these vital industries (note projections in Tables 14 and 16).

Trends in employment call for increased manpower in manufacturing, construction and agriculture (See Table 18 for employment configuration, 1975-1980). Comparing these projections with current graduates of both secondary schools and universities, overwhelming discrepancies exist in filling manpower needs in agriculture and to a lesser degree in skills needed for manufacturing and construction. Nigeria's education has expanded, but the emphasis is still on the classical Western-style curriculum, heavy on the social sciences and humanities skills already in abundance in Nigeria (Adesina, 1977, p. 115; Eicher and Liedholm, 1970, p. 396). A large percentage of unemployed, urban Nigerians have such a background (Fapohunda, 1974; Diejomaoh, 1965, pp. 88-89). This misuse of formal education is the basic problem in manpower development in Nigeria. The priorities in education need to be agriculture, technical skills and engineering, health, business and administrative skills. Reform from primary schools upward is needed. The colonial legacy of a classical education leading to government job security must be put aside (Yesufu, 1974, pp. 56-57). In order to cope with the increasing manpower needs, the government needs to foster a new breed of Nigerians, skilled and motivated to work with their hands in field or factory. It will not be easy to change Nigerian society's attitudes towards farmers, to alter ambitions parents hold for their children, to provide new models for success. The mandate for these changes is fundamental to development but unrecognized by the vast majority of Nigerians.

Table 18. Employment in Nigeria, 1975-80

Sectoral Distribution of Total Gainful Occupation, Nigeria, 1975-80 ^a						
Industry Group	Employment ^a					
	Number 1975 (millions)	Share (percent)	Number 1980 (millions)	Share (percent)	Additional 1975-80 (millions) (percent)	
Agriculture	17.86	64.00	19.44	61.20	1.58	41.10
Mining and Quarrying	0.11	0.40	0.13	0.40	0.02	0.50
Manufacturing & Crafts	4.69	16.80	6.03	19.00	1.34	34.80
Building & Construction	0.25	0.90	0.51	1.60	0.26	6.80
Electricity, gas, and water	0.03	0.10	0.03	0.01	---	---
Distribution	3.41	12.20	3.75	11.80	0.34	8.80
Transport and Communication	0.71	0.60	0.19	0.60	0.02	0.50
Services	1.39	5.00	1.68	5.30	0.29	7.50
TOTAL	27.91	100.00	31.76	100.00 ^b	3.85	100.00

^a Estimated.

^b Column total is approximated to 100.00

Source: Federal Republic of Nigeria, Third National Development Plan 1975-80 (Lagos: Federal Ministry of Economic Development, 1975).

Sectoral Distribution of Modern Sector Employment, Nigeria, 1975-80 ^a						
Sector	Employment ^a					
	Number 1975 (thousands)	Share (percent)	Number 1980 (thousands)	Share (percent)	Additional ^b 1975-80 (thousands) (percent)	
Agriculture	105.0	7.0	113.0	5.7	8.0	1.7
Mining and Quarrying	90.0	6.0	97.5	4.9	7.8	1.6
Manufacturing & Processing	324.0	21.6	425.0	21.5	101.5	21.0
Building & Construction	210.0	14.0	450.0	22.7	240.0	50.0
Electricity, gas, and water	30.0	2.0	35.0	1.8	5.0	1.0
Distribution	99.0	6.6	117.0	5.9	18.0	3.7
Transport and Communication	91.5	6.1	99.5	5.0	8.0	1.7
Services	550.5	36.7	643.0	32.5	92.5	19.3
TOTAL	1,500.0	100.0	1,980.0	100.0	480.0	100.0

^a Estimated.

^b "Additional" refers to employment or jobs to be created during the 1975-80 period.

Source: Federal Republic of Nigeria, Third National Development Plan 1975-80 (Lagos: Federal Ministry of Economic Development, 1975).

Source: Damachi and Diejomoah, 1978, pp. 38-39.

As the whole philosophy and content of education change, the mass of the population can widen their horizons to more progressive and productive systems, methods of agriculture, organization, and agri-based industries. Based on ascertained manpower needs, education, formal and non-formal, can offer a new balance between literacy and the university degree. The National Manpower Board has existed since the early 1960's. If revitalized, it could provide leadership in formulating educational strategies to meet manpower needs. It is up to Nigerian policymakers and planners to restructure manpower development to meet the skills needed for success in the arena of international trade as well as improve the lives of the majority of Nigerians.

FOOTNOTES

1. Adam Smith, An Inquiry into the Nature and Causes of the Wealth of Nations, Cannan, ed., Random House, Inc., 1937, pp. 265-266.
2. Principles of Economics, Macmillan and Co., Ltd., London, 1930, pp. 216 and 564.
3. Harbison quoted in Ashby's Investment in Education, London: St. Clement Press, 1960, p. 50.

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