IED STAFF REPORT

NIGERIA: FOUNDATIONS FOR

COUNTRY STRATEGIC PLANNING

November 4, 1980

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Brian D'Silva

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International Economics Division · Economics and Statistics Service · USDA

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Kevin Lanagan *
Brian D'Silva *
Africa and Middle East Branch
International Economics Division
Economics and Statistics Service
U.S. Department of Agriculture

500 12th Street S.W.
Room 390
Wash., D.C. 20250

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* Data collected and organized by Richard Sullivan

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ABSTRACT

Nigeria is simultaneously the largest food producer and the third largest food importer in Africa. A combination of factors has given rise to this contradictory state of affairs: productivity declines, population shifts, changing demand structures, and rising incomes from petroleum revenue. Given current high population growth rates and declining per capita food production, further income growth alone will not finance projected import levels without seriously disrupting Nigeria's economy. Market development efforts in Nigeria may backfire unless they take into account the unique technological needs of Nigeria's heavily traditional agricultural sector.

Key words: Nigeria, agriculture, food demand, market development.

INTRODUCTION

Nigeria is the largest food producer in Africa, yet also the third largest food importer in Africa.

A petroleum export boom has earned billions in revenue since 1973, yet has also lifted incomes and expectations of urban Nigerians above the production capacity of the nation's food system. In every year since 1974 Nigeria's burgeoning population--the largest in Africa--has demanded more food; and in every year per capita food production has fallen.

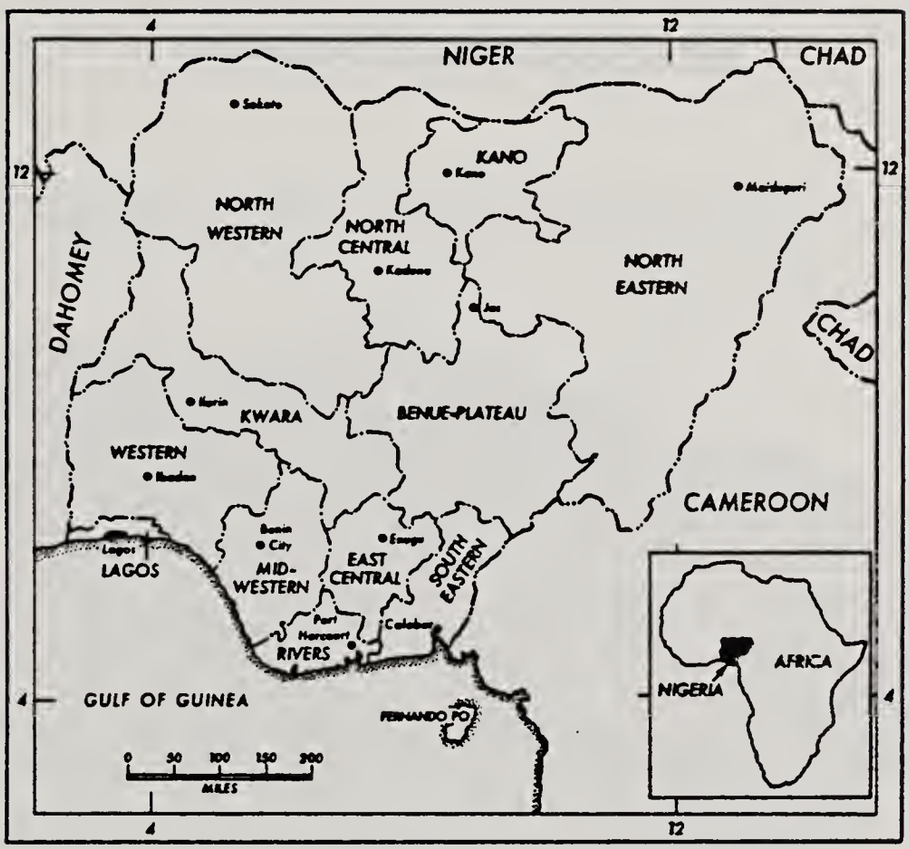
Millions have left the rural areas of Nigeria during the past two decades seeking the promise of better pay in industrial and service sectors. Peasants were left behind with fewer labor resources, higher costs, inflexible tenure systems, and little technology suited to their needs.

Generous federal and private pay raises have contributed to a structural shift in urban food demand, chiefly toward imported cereals--resulting in incessant import demand. This import demand, coupled with ambitious capital spending programs, has strained Nigeria's foreign exchange reserves.

Several estimates of African food supply and demand in 1990 (notably IFPRI, FAO, and USDA/ESS) have identified Nigeria as the largest food importer in Africa by that year. Oil revenues alone will not fill this need if higher incomes simply boost demand for imported products while domestic production lags. Inflation, market dislocations, and instability could result, ruining Nigeria's economy and the enormous market potential that it represents.

If they are to be workable and lasting, agricultural market development programs for Nigeria must be developed hand in hand with technological assistance that is suited to the unique needs of Nigeria's agricultural sector--a sector reaching into the modern world but steeped in traditional practices.

Developing the obviously fruitful market opportunities that exist in Nigeria through a combination of technical assistance and market information, without exacerbating the serious problems already apparent in an economy reaching beyond its productive means, will be among the greatest challenges facing the United States during the coming decade.



The Federal Republic of Nigeria

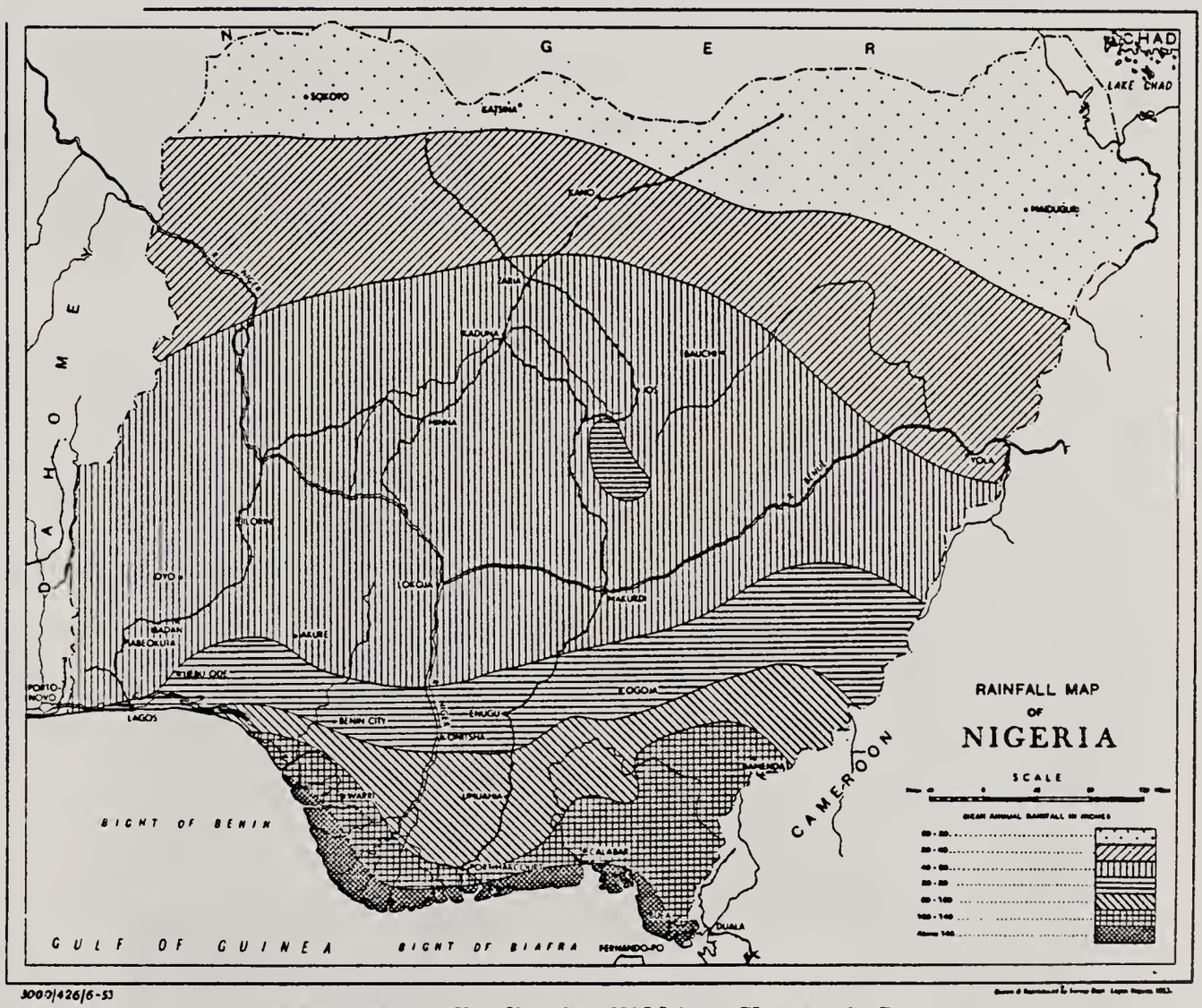
NIGERIA: FOUNDATIONS FOR COUNTRY STRATEGIC PLANNING

Geographic Information

Nigeria is located in West Africa between latitudes 4° and 14° North and longitudes 3° and 14° East. It is bordered by Republic of Benin to the West, Niger to the North, Cameroon to the East and the Atlantic Ocean (Gulf of Guines) to the South.

Nigeria has a total land area of 91,077,000 hectares. Approximately 26 percent of the total land area is estimated to be arable, 34 percent in forest, and 23 percent in permanent pasture. Nigeria's size is about equal to the combined area of Colorado, Wyoming, Nebraska and South Dakota.

Figure 1--Nigeria Rainfall Map



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Source: The Nigeria Handbook, William Clowes & Sons

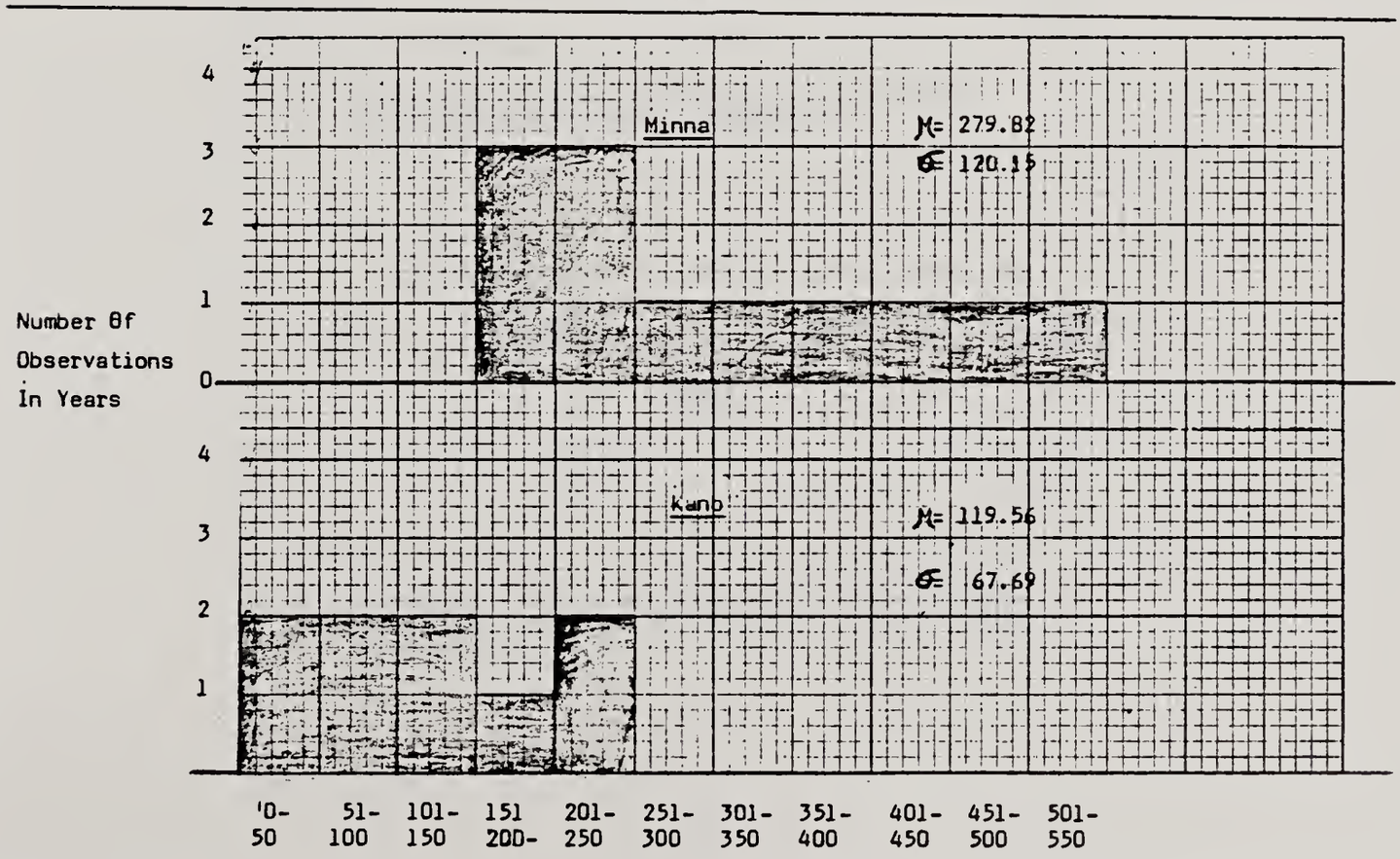
The climate varies from tropical near the coast to subtropical inland and semi-arid and sahelian in the far North. The coastal region is moist and humid. Temperatures average between 70^{o}-87^{o}, and rarely go above 90^{o}. The climate further north is drier and hotter. Temperatures average between 65^{o}-95^{o}, but can reach 110^{o}.

Nigeria is compoused of two main topographic zones: swamp and rain-forest zone in the South, and the savannah zone in the Central and the North. The southernmost fifth of Nigeria is swamp and rain-forest. Here permanent cropland is devoted to oil palm, rubber and cocoa. The Guinea or Tall-grass Savannah in the central region occupies over half of Nigeria's total land area. Corn and rootcrops predominate here. The rest of the country (except for a small stretch of Sahelian savannah in the Northeast) is Sudan savannah where sorghum, millet, groundnuts and cotton are grown as rainfed crops and rice and wheat as irrigated crops.

Rainfall is heavy in the Coastal areas with annual averages ranging from 70 inches in the West near Lagos to 170 inches in the East (see Figure 1). Annual averages fall rapidly moving inland, reaching 50 inches in the central areas and 20 inches in the North. The dry season generally lasts from November to March with the rainy season from April to October.

Fluctuation in weather account for much of variableity in local production. Annual rainfall is quite variable, reflecting differences in both the timing and intensity of the rainy season. Figure 2 displays frequency distributions of September rainfall levels for two cities between 1965-76. In Minna, for example, where the average September rainfall is 280 mm, September rainfall totalled between 151 and 200 millimeters in three out of the eleven years observed. In Kano, where the average September rainfall is 120 mm, September rainfall totals fell below 100 mm 4 of the 11 years. Note the large standard deviations of both distributions.

Figure 2--Frequency Distribution of September Rainfall in Nigeria
(Grouped Data) 1965-76



Source: U.S. Dept. of Commerce, Environmental Data Service, Monthly Climate Data for the World

Demographic Information

Accurate population estimates for Nigeria are hard to obtain. The last official census occurred in 1963. Results of subsequent censuses have not been officially accepted at the national and state level. State revenue shares are determined partly by population. The Okigbo Commission on revenue allocation suggested that population should be a primary criterion in allocating federal revenues. Consequently states may inflate their own population estimates in order to receive higher revenue allotments.

Tables 1 and 2 present three population estimates for Nigeria over the period 1968-79, and population projections to 1990. The population series use growth rates ranging from 2.8% to 3.7%. The Calabar series was calculated at the University of Calabar in Nigeria, the other two by international organizations. If the highest population series and projections are correct, future food demand in Nigeria may reach more critical levels than commonly assumed.

Table 1--Population Estimates for Nigeria, 1968-79

Year	UNESCO	IBRD	University of Calabar
	Millions		
1968			66.86
1969			69.35
1970	55.07	66.17	71.94
1971			74.62
1972			77.40
1973			80.29
1974			83.29
1975	63.93	75.02	86.39
1976		77.06	89.61
1977		78.98	93.01
1978			96.48
1979			100.08

Sources: ESS Population Indices; World Bank Economic Data Sheets; Dr. R. B. Davison, University of Calabar

Table 2--Population Projections for Nigeria, 1985 and 1990

Year	UNESCO (medium variant)	IBRD	University of Calabar
	Millions		
1985	84.40		124.67
1990	98.50	117.80	149.72

Sources: United Nations Selected World Demographic Indicators by Countries; IBRD, Nigeria Agricultural Section Review; Dr. R. B. Davison, University of Calabar

Table 3 displays a breakdown of population by state using the Calabar series. Though overall population density tends to be greater in the south, selected Northern states such as Kano and Kaduna exibit high localized population density.

Table 3--Estimated Nigerian Population by State, 1979

State	Population	Percentage of Total Population
	Million	
Whole Country	100,075	100.0
Anambra	5,484	5.5
Imo	7,315	7.3
Bauchi	4,393	4.4
Borno	5,804	5.8
Gongola	4,824	4.8
Benue	3,302	3.3
Plateau	3,413	3.4
Niger	2,192	2.2
Sokoto	7,926	7.9
Ogun	3,383	3.4
Ondo	5,114	5.1
Oyo	9,537	9.5
Bendel	5,014	5.0
Cross River	5,154	5.2
Kaduna	7,215	7.2
Kano	10,918	10.9
Kwara	2,292	2.3
Lagos	3,823	3.8
Rivers	2,972	3.0

Sources: Dr. R. B. Davison, University of Calabar

Nigeria is undergoing rapid urbanization. (See item number 14 in Table 4). The urban population has risen from an estimated 10.4 percent of total population in 1950 to 18.1 percent in 1975 and could be nearly 25 percent in 1990. This trend affects food consumption patterns and Nigeria's ability to produce food locally, as well as the demand for urban services. Efforts are under way to slow urban migration by various rural development projects throughout the country.

There are over 200 tribes in Nigeria. However, major tribal distributions in Nigeria are as follows: The Hausa Fulani in the North, the Yoruba in the West (including Lagos) and the Ibo in the Southeast. About half of Nigeria is Muslim, one-quarter is Christian and the remainder follows traditional religious practices. Muslims predominate in the North, Christians in the South. Other areas are mixed.

Table 4

NIGERIA

SELECTED DEMOGRAPHIC INDICATORS, 1950-2000

MEDIUM VARIANT

	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000
1. POPULATION, TOTAL (IN 1000)....	34331	38241	42947	48676	55073	62925	72596	84400	98497	115258	134924
2. — . MALES (—).....	17322	19302	21685	24579	27686	31530	36288	42117	49094	57399	67153
3. — . FEMALES(—).....	17009	18939	21262	24097	27387	31395	36307	42283	49402	57859	67771
4. POP. AGES 0-4 TO TOTAL (0/0).	18.8	18.7	18.6	18.6	18.3	18.6	18.9	19.1	19.0	18.8	18.4
5. — 5-14 —	25.9	26.1	26.2	26.2	26.5	26.9	26.6	27.0	27.5	27.8	27.9
6. — 15-64 —	54.0	54.0	54.1	54.0	52.9	52.6	52.1	51.4	50.9	50.7	50.9
7. — 65+ —	1.4	1.2	1.2	1.2	2.2	2.3	2.4	2.5	2.6	2.7	2.8
8. — UNDER 20 —	54.9	55.1	55.2	55.2	55.1	55.3	55.7	56.2	56.7	57.0	56.9
9. WOMEN AGES 15-49 TO FEMALES(0/0)	45.0	45.2	45.4	45.4	45.5	45.4	45.1	44.6	44.3	44.2	44.5
10. DEPENDENCY RATIOS (PER 1000) ..	898.9	894.2	886.7	887.0	890.1	901.9	917.7	945.1	964.7	971.5	963.7
11. CHILD-WOMAN RATIOS (PER 1000) ..	843.6	834.2	825.4	827.0	810.6	821.1	836.3	853.6	854.3	845.7	823.5
12. SEX RATIOS (PER 100 FEMALES) ..	101.8	101.9	102.0	102.0	101.1	100.4	99.9	99.6	99.4	99.2	99.1
13. MEDIAN AGES (YEARS)	17.6	17.5	17.5	17.5	17.5	17.4	17.2	16.9	16.7	16.6	16.7
14. PROPORTION OF URBAN (0/0)	10.4	11.6	13.0	14.6	16.3	18.1	20.2	22.5	24.9	27.5	30.3
15. POPULATION DENSITY (PER SQ.KM.).	37	41	46	53	60	68	79	91	107	125	146
	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	95-2000	
16. RATES OF GROWTH (0/0).....	2.16	2.32	2.50	2.47	2.67	2.86	3.01	3.09	3.14	3.15	
17. NATURAL INCREASE RATES (0/00)...	21.6	23.2	25.0	25.6	26.6	28.5	30.1	30.8	31.4	31.4	
18. CRUDE BIRTH RATES (—)...	49.1	49.4	50.0	49.6	49.3	49.2	48.9	47.7	46.4	44.8	
19. CRUDE DEATH RATES (—)...	27.5	26.2	25.0	24.0	22.7	20.7	18.8	16.9	15.1	13.4	
20. GROSS REPRODUCTION RATES	—	—	—	—	3.30	3.30	3.30	3.25	3.16	3.01	
21. NET REPRODUCTION RATES	—	—	—	—	2.07	2.18	2.27	2.34	2.37	2.35	
22. TOTAL FERTILITY RATES (0/00)..	—	—	—	—	6699	6699	6699	6598	6421	6104	
23. GENERAL FERTILITY RATES (—)..	219.8	220.1	222.3	219.8	217.8	217.4	217.6	214.3	209.2	201.1	
24. LIFE EXPECTANCY. MALES (YEARS)	30.0	31.9	34.4	36.9	39.4	41.9	44.4	46.9	49.3	51.8	
25. — . FEMALES (—)	32.6	35.1	37.6	40.1	42.6	45.1	47.6	50.2	52.7	55.3	
26. — . TOTAL (—)	31.3	33.5	36.0	38.5	41.0	43.5	46.0	48.5	51.0	53.5	

Source: UNESCO, Selected World Demographic Indicators by Countries, 1950-2000.

Natural Resources

Petroleum is Nigeria's major natural resource. Oil deposits are concentrated in the South along the coast. (See Figure 3) Nigeria is the world's fourth largest exporter of crude oil and America's second largest supplier of oil after Saudi Arabia. In 1979, Nigeria's petroleum industry accounted for about 30% of GDP, 90% of total export earnings, and 90% of government revenues. With minor annual fluctuations, these figures represent the norm for the last six years. While petroleum earnings have surpassed agriculture's, 56% of the population is still employed in agriculture.

The government owned Nigerian National Petroleum Company (NNPC) controls roughly 55% of the oil industry and grants mining leases and prospecting licenses.

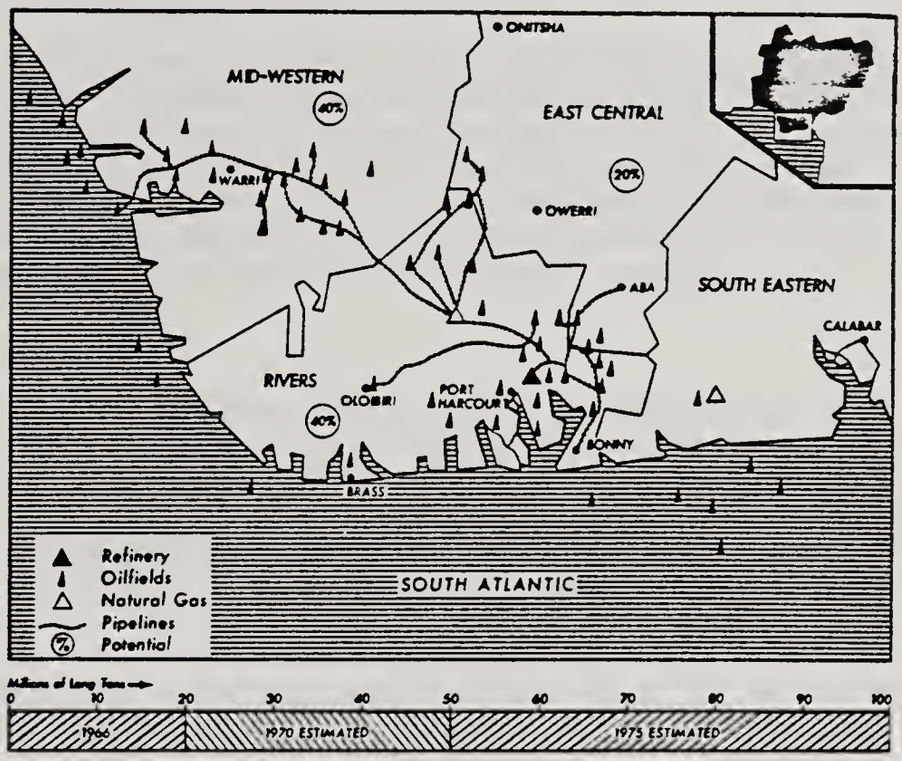
Nigerian oil revenues soared in 1974, reflecting oil price increases. Nigeria is a member of OPEC and is generally considered a price hawk. This policy has led to short-term complications. Early in 1978 Nigeria's petroleum exports met with serious competition from newer sources of oil in the North Sea and Alaska, primarily because Nigeria set a relatively high official export price in April of 1977. Petroleum revenues consequently dipped in 1978. The official price was lowered in April of 1978, restoring oil production, exports, and revenue by late 1978.

Table 5--OIL PRODUCTION, EXPORTS, & US SHARE
(1000 bbl/day)

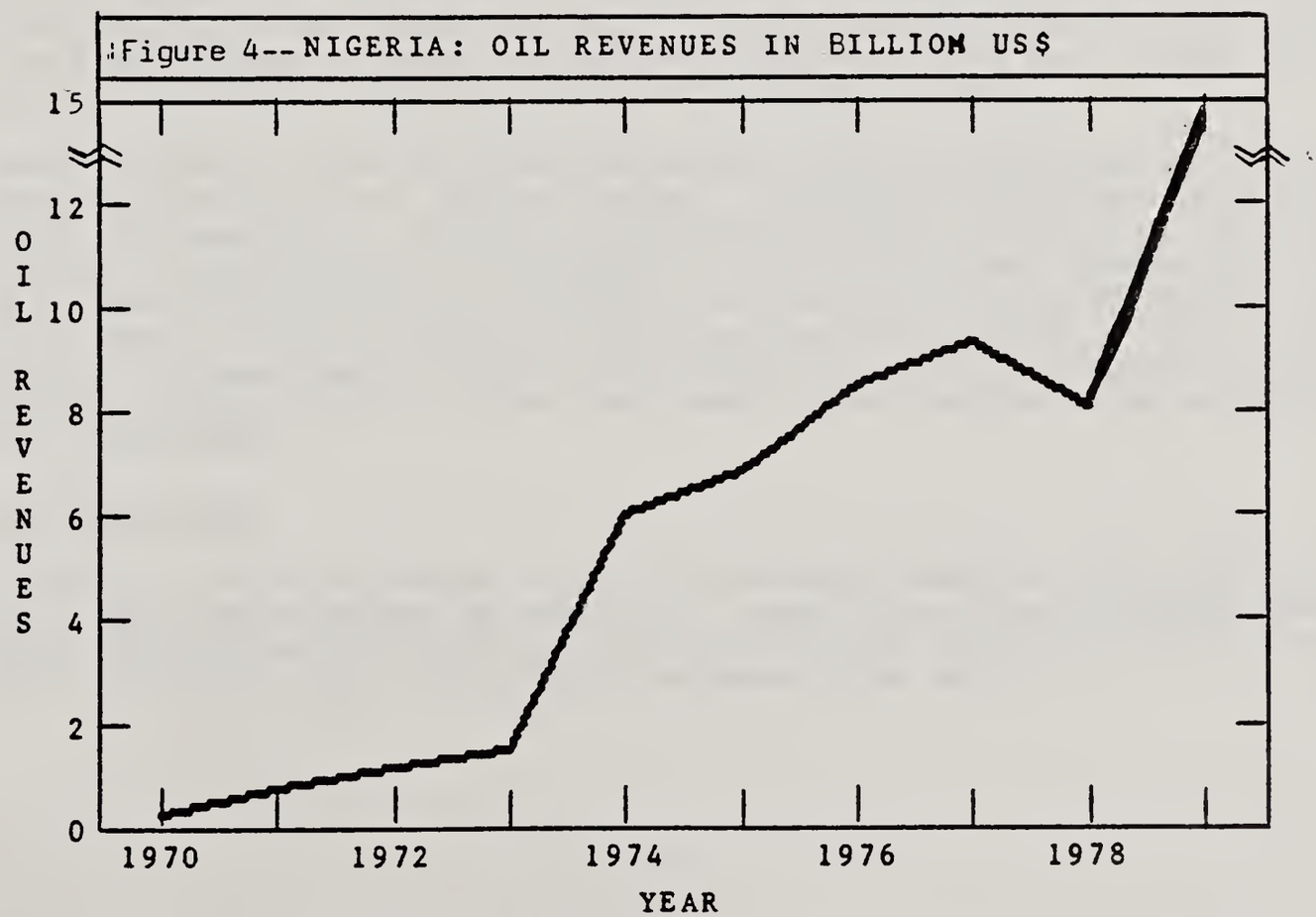
YEAR	TOTAL PRODUCTION	EXPORTS	EXPORTS TO US	% OF EXPORTS TO US	% OF US IMPORTS
1970	1083	1051	130	12.4	3.8
1971	1537	1486	294	19.8	7.5
1972	1816	1756	422	24	8.9
1973	2055	1978	458.8	23.2	7.3
1974	2255	2197	713.4	32.5	11.6
1975	1785	1720	761.8	44.3	12.6
1976	2070	2010	1024.7	51	14
1977	2100	2028	1143	56.4	13
1978	1910	1862	902.9	48.5	11
1979	2430	2444	1041.8	42.6	12.1

Source: Monthly Energy Review

Figure 3--Geographical Distribution of Major Oil Production Sites in Nigeria



Source: Area Handbook for Nigeria, American University



Source: Central Bank of Nigeria

The 1979 production decline was revised; the 1979 output exceeded 2.4 million barrels per day. Nearly all production was exported, about half to the U.S.--the primary reason why the U.S. Balance of payments deficit with Nigeria is the largest of all U.S. deficits totalling $8 billion in 1979.

Nigeria has large reserves of natural gas, which on an oil equivalent basis exceed petroleum reserves. Currently most of the gas is being flared. The natural gas industry is expected to become a major economic activity during the next decade. The United States is likely to be the principal customer and may assist in construction of natural gas plants and fertilizer factories. Nigeria produces coal, tin ore and columbite in appreciable amounts, but without noteworthy contribution to revenues. Uranium has also been discovered in Northeastern Nigeria.

Political Information

Nigeria is divided into nineteen states and a Federal Capital Territory, Abuja. (See Table 3). On October 1, 1979, fourteen years of military rule ended when Alhaji Shehu Shagari was installed as President of the new democratically-elected civilian government. The new constitution is modelled after that of the United States. There are two houses of Congress--a Senate and a House of Representatives. There is a Nigerian "Bill of Rights" that guarantees freedoms of speech and assembly.

The new government has stated its major objectives to be improvement of agriculture, education, health and industrialization and also the construction of a new national capital, Abuja.

As the wealthiest and most populous state in black Africa, Nigeria has emerged as a political leader. It was the main force behind the creation of Economic Community of West African States (ECOWAS) in 1975. The group was established to promote self-reliance and movement of goods, capital, and population among the 16 member countries. Nigeria has since contributed almost 40% of the ECOWAS budget.

As America's second largest oil supplier, Nigeria has become political and economically important to the U.S. Over the last decade, U.S.-Nigerian relations have been generally friendly and cooperative. The U.S. has expressed official concern over the increasing imbalance of trade between the two nations. Efforts to amicably address the issue have included a state visit by President Carter in March of 1978, bilateral economic talks in May of 1979, and exchange of trade delegations in Autumn of 1979. Further bilateral talks were held in July, 1980 in Lagos. Vice President Mondale led the delegation to these talks, at which time a memorandum of understanding was signed by both governments.

Economic Situation

The decline in petroleum exports in 1978 (see Natural Resources) precipitated a down-turn in the Nigerian economy the same year. Nominal Gross Domestic Product rose by roughly 2.9%, but real GDP fell by an estimated 17.2% due to high inflation, surging demand for overseas goods, and budgetary excesses. (See Table 6)

Table 6--Nigeria: Macroeconomic Data, 1975-79

Year	GDP (current)	GDP (constant)	Estimated Per Capita GDP (constant)	Consumer Price Index 1975=100	Exchange Rate $/NA	Foreign Exchange Reserves	Gross Domestic Investment (constant)	Minimum Commercial Lending Rate
	Million US$	Million US$	US $	Percent		Million US$	Million US$	%
1975	29,659	29,659	470.55	100.0	1.62	5,586	1887.6	5.0
1976	38,122	30,744	474.22	124.3	1.60	5,180	2847.2	6.0
1977	41,476	29,312	439.26	141.5	1.59	4,232	3543.1	6.0
1978	42,698	24,260	353.23	176.0	1.54	1,887	NA	7.0
1979	46,968	24,917	352.58	188.5	1.65	5,548	NA	8.0

Sources: Central Bank, Lagos; Federal Office of Statistics, Lagos; International Monetary Fund.

The economy showed signs of revival late in 1978. Restoring oil prices to competitive levels reversed the downtrend in oil revenues. Import restrictions reigned in foreign purchases. Policies restricting budget expenditures for capital goods significantly curbed government spending. As a result, though real GDP increased only slightly from 1978 to 1979 (2.7%), key sectors of the economy improved markedly. Manufacturing rose 10.3% from 1977/78 to 1978/79 and by 10.6% to 1979/80; construction gained 13.0% and 10.5% over the same period. (See Table 7)

The GDP for agriculture did not experience such dramatic growth, increasing 3% from 1977/78 to 1978/79 and 3.3% in 1979/80. Modernization in Nigeria during the seventies focussed upon the petroleum and related manufacturing sectors, leaving agriculture relatively unaided. The present government's agricultural development plan, entitled "Green Revolution", is intended to boost agriculture's productivity and growth in the coming decade.

GON spent an estimated 600 million naira for agriculture and rural development in 1978/79, or 5.4% of all government expenditures. This percentage has remained in a 5%-7% range since 1975. The total amount spent on agriculture is divided roughly equally between state and federal agencies. The state budgets cover primarily recurrent expenditures, the federal budgets capital outlays for services such as irrigation. 30% of the total 1978/79 agriculture budget went to irrigation, 16% to extension services, 12% to livestock development, and the balance for subsidies, training, and credit. It is believed that 60% of the budget allocated to agriculture goes to activities yielding low rates of return, such as irrigation projects and fertilizer subsidies.

Estimates of Nigeria's labor force vary at least as widely as total population estimates. Based on the 1977 UNESCO estimate of working age Nigerians (52 percent of total population), people of working age in Nigeria (aged 15-64) numbered between 35 million and 48 million, depending upon what total population figures are used. Estimates of actual work force members range from 26-30 million for the 1975/76 period, or about 40 percent of the total population. (See Table 8)

Table 7--Gross Domestic Product by Sector, 1973/74 - 1979/80, and Projections to 1985, in Constant Prices

GROSS DOMESTIC PRODUCT AT 1973-74 FACTORY COST-

(N *Million*)

Activity Sector	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
1. Agriculture	2,183.3	2,203.8	2,143.1	2,251.9	2,336.6	2,406.7	2,486.6
2. Livestock	488.8	491.2	393.9	399.6	408.9	422.2	440.6
3. Forestry	215.0	302.7	328.8	355.1	383.5	412.2	443.2
4. Fishing	465.0	567.6	573.8	607.1	658.7	698.2	743.6
5. Crude Petroleum	2,771.6	2,797.6	2,345.3	2,676.8	2,715.7	2,480.6	2,866.5
6. Other Mining and Quarrying	198.8	247.8	310.5	372.6	436.0	492.7	544.4
7. Manufacturing	611.0	601.4	729.7	854.4	943.0	1,040.6	1,151.0
8. Utilities	45.2	51.8	59.7	74.4	95.2	117.3	136.6
9. Construction	884.1	1,108.4	1,411.4	1,693.6	1,981.8	2,239.7	2,474.7
10. Transport	429.6	403.1	468.2	636.8	764.1	878.7	966.9
11. Communication	33.2	38.9	47.7	54.9	60.3	65.2	71.7
12. Wholesale and Retail Trade	2,268.1	2,295.1	2,491.5	2,788.5	3,043.9	3,245.2	3,492.2
13. Hotels and Restaurants	32.4	35.6	39.1	43.0	47.5	52.0	57.2
14. Finance and Insurance	140.5	155.0	170.4	187.6	206.4	226.7	249.4
15. Real Estate and Business Services	61.1	67.3	74.0	81.4	89.5	98.5	108.3
16. Housing	625.9	688.2	756.6	832.4	915.6	1,006.4	1,107.?
17. Producer of Government Services	664.4	743.4	1,049.1	1,082.4	1,208.5	1,299.3	1,399.8
Total	12,118.0	12,798.9	13,392.8	14,992.5	16,285.2	17,182.2	18,740.4

GROSS DOMESTIC PRODUCT AT 1973-74 FACTOR COST

(N *Million*)

Activity Sector	1980	1981	1982	1983	1984	1985
1. Agriculture	2,583.9	2,687.3	2,821.7	2,976.9	3,140.6	3,290.8
2. Livestock	463.5	488.2	521.8	558.8	603.3	642.5
3. Forestry	496.4	512.2	550.5	591.9	636.6	684.6
4. Fishing	791.9	847.3	910.8	983.7	1,062.1	1,143.1
5. Crude Petroleum	2,988.6	3,222.5	3,183.5	3,114.1	3,079.6	3,105.2
6. Other Mining and Quarrying	588.9	637.4	698.5	770.7	862.0	948.2
7. Manufacturing	1,315.1	1,504.9	1,763.4	2,090.6	2,540.3	2,995.5
8. Utilities	175.7	220.9	272.9	299.0	329.2	385.9
9. Construction	2,676.7	2,897.2	3,174.8	3,503.2	3,918.1	4,310.0
10. Transport	1,063.2	1,169.5	1,286.5	1,415.1	1,556.7	1,712.4
11. Communication	78.9	86.7	95.4	104.4	115.4	126.9
12. Wholesale and Retail Trade	3,807.1	4,170.3	4,466.9	4,857.9	5,331.0	5,799.4
13. Hotels and Restaurants	64.1	71.8	80.8	90.8	102.3	114.8
14. Finance and Insurance	279.4	312.9	352.0	396.0	445.5	500.6
15. Real Estate and Business Services	121.3	135.9	132.9	171.9	193.5	217.5
16. Housing	1,240.9	1,389.6	1,563.3	1,758.3	1,978.4	2,223.1
17. Producer of Government Services	1,509.7	1,628.0	1,756.3	1,895.5	2,046.5	2,208.2
TOTAL	20,245.3	21,982.6	23,652.0	25,578.8	27,941.1	30,408.7

Source: Guidelines For 4th National Development Plan, Federal Ministry of National Planning, Nigeria.

Table 8--Labor Force Statistics

Year	Percentage of Population at Working Age	Percentage of Working Age Population In:		
		Agriculture	Industry	Services
1960	54	71	10	19
1977	52	56	18	26

Source: UNESCO, World Development Indicators, 1978

In 1977 an estimated 56% of the labor force was engaged in agriculture. This percentage has declined about 15% over the last two decades (See Table 8). Those leaving agriculture are estimated to have relocated about equally in the industrial and service sectors.

There are no reliable figures on unemployment. Unemployment is believed to be most serious for young people in urban areas. Increasing irrigation to urban areas (Table 4) suggests a growing problem. Many of the unemployed lack required skills. Indeed, lack of skilled manpower in Nigeria constitutes a major obstacle to economic progress. The Fourth National Development Plan stresses education and training to address this need.

Nigeria's 1979 per capita GDP ranges from $470--$665 in current dollars, depending upon the population numbers used for estimating. As Table 6 shows, estimates of real per capita income are much lower. Measured at constant dollars (1975=100) per capita GDP in 1979 was $353, lower than in 1977 when it was $439. Even though the economy improved in 1979, rising population numbers curtailed real gains in per capita income. While this per capita figure is higher than most African countries, the distribution of income is believed to be skewed.

Income distribution figures for African countries, if available, are generally outdated. But estimates ranging over the period of 1960-75 for similar African countries give indications of a common trend in the structure of income distribution.

Table 9--Comparative Income Distribution: Shares of Total Income Received by Indicated Income Percentiles in Nigeria, Gabon and Ivory Coast

Country & Income Percentile Year	Nigeria			Gabon			Ivory Coast		
	Lowest 20%	Lowest 40%	Highest 20%	Lowest 20%	Lowest 40%	Highest 20%	Lowest 20%	Lowest 40%	Highest 20%
1960	7.0	14.0	60.9	1.9	6.3	70.8	6.6	16.5	51.8
1970				3.2	8.5	67.5			
1973							9.0	20.0	50.0

Sources: Paukert, International Labor Rewiew; "Income Distribution at Different Levels of Development: A Survey of Evidence"; IBRD, Shail Jain, 1976.

Note: Shares of total income do not add to 100% because all population percentilea are not represented.

Note in Table 9 the increase in income shares among lowest percentiles. One implication of rising income shares in the lower income "bracket" (see Table 9) is a demand for upgraded diets. For Nigeria, this upgrading would imply consumption of preferred cereal grains (rice and wheat products) in order to complement traditional subsistence food items (sorghum and millet, cassava and yams) in low and middle income diets, and consumption of meat, poultry, and dairy products in higher income groups.

Foreign Aid

American foreign aid to Nigeria has slackened in recent years due to the country's growing petroleum wealth. The last PL480 shipment to Nigeria was in 1976. The U.S. AID Mission was withdrawn in the mid-1970's due to Nigeria's increasing per capita income. Under the terms of a current memorandum of understanding with the United States, Nigeria may be approved for limited agricultural shipments under Title III of P.L. 480. (Table 10/11)

Table 10--Nigeria: P.L. 480 History

	Titles (Metric Tons)			Components		
Year	I	III	II	PVO	MULTILAT	GOV
1971	0	0	48072	965	47107	0
1972	0	0	2730	316	2414	0
1973	0	0	2561	0	2561	0
1974	0	0	2830	0	2836	0
1975	0	0	7229	0	7229	0
1976	0	0	1251	0	1251	0
1977	0	0	0	0	0	0
1978	0	0	0	0	0	0
1979	0	0	0	0	0	0

Source: Dept. of State/AID/AFRRDA; Food Availabilities in Subsaharan Africa

Note: PVO = Private Volunteer Organizations (i.e. C.A.R.E.)
MULTILAT = Multilateral Organizations (I.E. UNICEF, World Food Program)
GOV = Government to Government Arrangements

Table 11--Nigeria: Title II Shipments by Commodity
(Thousand Pounds)

Commodities	1971	1972	1973	1974	1975	1976
	Thousand Pounds					
Wheat Flour	17,061	167	425	0	0	0
Bulgar	9,321	0	1,672	7,816	3,997	0
Corn Meal	40,786	166	2,188	6,464	2,430	2,757
N.F. Dry Milk	10,708	673	0	0	0	0
Corn Soy Milk (CSM)	22,170	867	1,197	6,821	0	0
Whey Soy Blend (WSB)	5,933	4,124	0	329	1,099	0
Rolled Oats	0	22	143	200	0	0
Vegetable Oil	0	0	22	0	0	0
Grain Sorghum	0	0	0	42	0	0
Soy Fortified Sorghum Grits	0	0	0	0	1,797	0
Corn	0	0	0	0	6,614	0

Source: USDA/FAS

The World Bank has committed over $1.2 billion (U.S.$) in loans to Nigeria since 1971, principally toward agricultural development projects. World Bank loans to Nigeria increased during the last half of 1970's. Total commitments, which averaged about U.S. $8 million during 1972-4 and 1975-7 jumped to an average of U.S. $130 million during 1978-80. The World Bank replaced USAID as the largest external tender to Nigeria in the mid 1970's.

Table 12--World Bank Operations in Nigeria, 1972-80

A. STATEMENT OF BANK GROUP OPERATIONS IN NIGERIA
(as of March 31, 1980)

Loan or Credit Number	Year	Borrower	Purpose	US$ million Amount (less cancellations) Bank	IDA	Undisbursed
Thirteen loans and two credits fully disbursed				331.3	35.3	
814	1972	Nigeria	Education	17.3		0.6
838	1972	NIGERIA	Roads	26.3		8.0
847	1972	NEPA	Power	76.0		0.8
922	1973	NPA	Port	55.0		2.2
929	1973	Nigeria	Education	54.0		42.0
1045	1974	Nigeria	Cocoa Dev.	20.0		5.8
1091	1975	Nigeria	Livestock	21.0		15.0
1092	1975	Nigeria	Agric. Dev. Funtua	29.0		1.1
1099	1975	Nigeria	Agric. Dev. Gusau	19.0		1.9
1103	1975	Nigeria	Rice Dev.	17.5		8.2
1164	1975	Nigeria	Agric. Dev. Gombe	21.0		1.5
1183	1975	Nigeria	M.W. State Oil Palm	29.5		25.0
1191	1976	Nigeria	E.C. State Oil Palm	19.0		14.8
1192	1976	Nigeria	W. State Oil Palm	17.0		13.3
1454	1977	Nigeria	Agric. Dev. Lafia	27.0		20.8
1455	1977	Nigeria	Agric. Dev. Ayangba	35.0		27.2
1591	1978	Nigeria	Nuc.Est. Smallholder Oil	30.0		27.1
1597	1978	NIDB	Industrial Dev.	60.0		59.5
1667	1979	Nigeria	Agric. Dev. Bida	23.0		23.0
1668	1979	Nigeria	Agric. Dev. Ilorin	27.0		27.0
* 1679	1979	Nigeria	Forestry	31.0		31.0
* 1711	1979	Nigeria	Water Supply - Kaduna	92.0		92.0
* 1719	1979	Nigeria	Agric. & Rural Mgmt. Inst.	9.0		9.0
* 1766	1980	NEPA	Power - Lagos	100.0		100.0
* 1767	1980	Nigeria	Urban Dev. - Bauchi	17.8		17.8
		Total		1,204.7	35.3	574.7
		Of which has been repaid		143.2	2.2	
		Total outstanding		1,061.5	33.1	
		Amount sold	16.8			
		Of which has been repaid	16.4	0.4		
	**	Total now held by Bank & IDA		1,061.1	33.1	
		Total undisbursed				574.7

B. STATEMENT OF IFC INVESTMENTS
(as of March 31, 1980)

Fiscal Year		Type of Business	Amount in US$ Million Loan	Equity	Total
1964, 1967, 1970	Areva Textiles Ltd.	Textile Mfg.	1.0	0.6	1.6
1964	Nigeria Industrial Development Bank Ltd.	Dev. Fin. Co.		1.4	1.4
1973	Funtua Cottonseed Crushing Ltd.	Veg. Oil Crushing	1.6		1.6
1973	Nigerian Aluminum Extrusion Ltd.	Aluminum Processing	1.0	0.3	1.3
1974	Lafiagi Sugar Estates	Sugar		0.1	0.1
1980	NTM	Textiles	6.2	0.7	6.9
	Total Gross Commitments		9.8	3.1	12.9
	Less cancellations		0.3		0.3
	Less sold or repaid		2.1	1.5	3.6
	Total Commitments now held by IFC		7.4	1.6	9.0
	Undisbursed		6.2	0.8	7.0

* Not yet effective.
** Prior to exchange rate adjustments.

Source: World Book

Financial Situation

Nigeria's banking system is built around the Central Bank of Nigeria and nineteen commercial banks. As oil revenues have increased, the number of commercial bank branches has expanded, reaching 618 in 1978.

In addition, five merchant banks and several specialized financial institutions operate in the country. The latter group--all established by the Federal government --includes: Nigerian Agriculture Credit Bank, Ltd; Nigerian Bank for Commerce and Industry; Nigerian Industrial Development Bank; Federal Savings Bank; and Federal Mortgage Bank. Some states maintain separate development corporations.

The Central Bank exerts appreciable control over commercial bank financing in the private sector, principally through establishment of credit guidelines. "Preferred" economic sectors are selected and guidelines are set by targeting percentages of total ccmmercial bank loans that must be made to those "preferred" sectors. (Table 13)

In the 1979/80 fiscal year (April-March) federal credit guidelines were prescribing that 70% of all commercial loans granted be directed toward preferred sectors, up from 58% in fiscal 1975/76 (see Table 13). Actual distribution to the "preferred" sector can exceed prescribed distribution. For example, credit guidelines for preferred sectors stood at 60% in 1978/79. Yet actual distribution reached 64% by December of 1978.

Manufacturing has greatest priority, as Table 13 shows. Manufacturing's share of loan prescriptions under credit guidelines has risen over the past two fiscal years from 30% to 36% while agriculture's share stagnated at 6%. Actual distribution to the agricultural sector fell short of prescribed shares in all years indicated.

In addition to credit guidelines, the Central Bank controls credit ceilings, the liquidity ratio cash reserve requirements, and interest rates.

Despite substantial borrowings over the last two years, Nigeria maintains a very low debt service ratio. During the recession of 1978, Nigeria was forced to borrow from the Eurodollar market to keep many of its development projects afloat. Two industrial project loans totalling U.S. $ 1.75 billion comprised over half of the total public guaranteed debt in 1978 of US $ 3.3 billion.

Dept in 1978 comprised 8% of GDP. The debt service ratio (total interest and principal payments divided by total outstanding debt) fell from 15.3% in 1975 to 3.9% in 1978. This has enhanced Nigeria's creditworthiness in the international capital markets. (See Table 14)

Table 13 Nigeria: Credit Guidelines, 1975/76-1979/80, and Actual Sectoral Distribution of Commercial Bank Loans and Advances, March 1975-December 1978

(In per cent of total)

	Credit guidelines 1/					Actual distribution				
	1975/76	1976/77	1977/78	1978/79	1979/80	1975 March	1976 March	1977 March	1978 March	1978 Dec.
Preferred sectors	58.0	58.0	58.0	60.0	70.0	52.3	53.9	63.1	63.9	64.0
Production	48.0	48.0	48.0	50.0	53.0	43.3	46.3	53.2	54.7	55.6
Agriculture	6.0	6.0	6.0	6.0	6.0	2.7	3.3	3.9	4.6	5.5
Mining and quarrying	2.0	2.0	2.0	2.0	2.0	1.4	1.4	0.8	1.2	1.0
Manufacturing	30.0	30.0	30.0	32.0	36.0	27.7	27.7	28.1	27.7	27.7
Construction	10.0	10.0	10.0	10.0 2/	9.0 2/	11.5	13.9	20.4	21.2	21.4
Services	10.0	10.0	10.0	10.0	11.0	9.0	7.6	9.9	9.2	8.4
Public utilities	2.0	2.0	2.0	2.0	2.0	1.1	1.2	1.0	1.6	1.5
Transport and communications	8.0	8.0	8.0	8.0	9.0	7.9	6.4	8.9	7.6	6.9
Exports	--	--	--	--	6.0 3/	--	--	--	--	--
Less preferred sectors	42.0	42.0	42.0	40.0	30.0	47.7	46.1	36.9	36.1	36.0
General commerce	32.0	30.0	30.0	28.0	18.0	28.4	30.5	23.5	21.6	21.1
Exports	8.0	6.0	6.0	6.0	-- 3/	7.3	4.9	3.5	2.4	2.0
Imports	10.0	10.0	10.0	8.0	5.0	8.9	12.9	9.0	9.3	8.3
Domestic trade	12.0	12.0	12.0	12.0	11.0	10.6	10.7	10.0	9.3	9.9
Bills discounted	2.0	2.0	2.0	2.0	2.0	1.6	2.0	1.0	0.6	0.9
Other	10.0	12.0	12.0	12.0	12.0	19.3	15.6	13.4	14.5	14.9
Financial institutions	3.0	3.0	3.0	3.0	3.0	1.8	3.0	2.8	3.1	3.7
State and local governments	2.0	2.0	2.0	2.0	2.0	3.8	1.5	2.4	3.4	3.2
Personal and professional loans	4.0	4.0	4.0	4.0	4.0	6.5	6.1	4.8	4.9	5.0
Miscellaneous	1.0	3.0	3.0	3.0	3.0	7.2	5.0	3.4	3.1	3.0

1/ Fiscal years April-March. The percentage shares represent minima for the preferred sectors and maxima for the less preferred sectors.
2/ Of which 5 per cent must be allocated to residential construction.
3/ Effective April 1979, the export subsector was transferred to the preferred category.

Source: Recent Economic Development, October 17, 1979

Table 14--Nigerian: EXTERNAL PUBLIC DEBT BY TYPE OF CREDITOR 1972-1978

(IN THOUSANDS OF U.S. DOLLARS)

TYPE OF CREDITOR	1972	1973	1974	1975	1976	1977	1978
TOTAL ALL LENDERS							
OUTSTANDING(DISBURSED ONLY)	678962	1155875	1218460	1085221	837283	891406	2180486
OUTSTANDING(INCL UNDISBURSED)	1066283	1620240	1669415	1606114	1298799	1338826	3328166
NET BORROWING	110046	-50155	-41086	-101021	-244212	26323	1252457
COMMITMENTS	210611	140503	99489	190447	36000	62000	1984082
DISBURSEMENTS	148222	67820	92186	104346	91363	88636	1305406
TOTAL DEBT SERVICE	64502	150547	168915	246458	374439	106614	128307
PRINCIPAL PAYMENTS	38176	117975	133272	205367	335575	62313	52949
INTEREST PAYMENTS	26326	32572	35643	41091	38864	44301	75358
CANCELLATIONS	185	582	24405	7919	604	430	623
ADJUSTMENTS	-11028	532011	107363	-40462	-7136	40770	58830
TOTAL OFFICIAL LENDERS							
OUTSTANDING(DISBURSED ONLY)	569262	621308	691081	733715	779966	841001	940435
OUTSTANDING(INCL UNDISBURSED)	932942	1064564	1121618	1217866	1226261	1288421	1511037
NET BORROWING	99632	38956	59943	64906	47092	35748	64712
COMMITMENTS	178561	133841	94273	160333	36000	62000	209387
DISBURSEMENTS	117890	57884	86509	94186	73758	73771	105406
TOTAL DEBT SERVICE	40774	45787	57165	65932	61587	79977	87324
PRINCIPAL PAYMENTS	18258	18928	26566	29280	26666	38023	40694
INTEREST PAYMENTS	22516	26859	30599	36652	34921	41954	46630
GOVERNMENT LENDERS							
OUTSTANDING(DISBURSED ONLY)	286767	319447	355411	368971	373746	390392	448334
OUTSTANDING(INCL UNDISBURSED)	465976	492781	536128	512227	499512	519023	636059
NET BORROWING	34606	22491	26186	35687	5600	-8515	23481
COMMITMENTS	53533	24841	68560	23323	..	..	87427
DISBURSEMENTS	46121	33140	41772	52538	17571	9761	45327
TOTAL DEBT SERVICE	20078	19410	25321	28851	20817	29944	34217
PRINCIPAL PAYMENTS	11515	10649	15586	16851	11971	18276	21846
INTEREST PAYMENTS	8563	8761	9735	12000	8846	11668	12371
INTERNATIONAL ORGANIZATIONS							
OUTSTANDING(DISBURSED ONLY)	282495	301861	335670	364744	406220	450609	492101
OUTSTANDING(INCL UNDISBURSED)	466966	570783	585490	705639	726749	769398	874978
NET BORROWING	65026	16465	33757	29219	41492	44263	41231
COMMITMENTS	125028	109000	25713	137000	36000	62000	121960
DISBURSEMENTS	71769	24744	44737	41648	56187	64010	60079
TOTAL DEBT SERVICE	20656	26377	31844	37081	40770	50033	53107
PRINCIPAL PAYMENTS	6743	8279	10980	12429	14695	19747	18848
INTEREST PAYMENTS	13953	18098	20864	24652	26075	30286	34259
TOTAL PRIVATE LENDERS							
OUTSTANDING(DISBURSED ONLY)	109700	534567	527379	351506	57317	50405	1240051
OUTSTANDING(INCL UNDISBURSED)	133341	555676	547797	388248	72538	50405	1817129
NET BORROWING	10414	-89111	-101029	-165927	-291304	-9425	1187745
COMMITMENTS	32050	6662	5216	30114	..	..	1774695
DISBURSEMENTS	30332	9936	5677	10160	17605	14865	1200000
TOTAL DEBT SERVICE	23728	104760	111750	180526	312852	26637	40983
PRINCIPAL PAYMENTS	19918	99047	106706	176087	308909	24290	12255
INTEREST PAYMENTS	3810	5713	5044	4439	3943	2347	28728

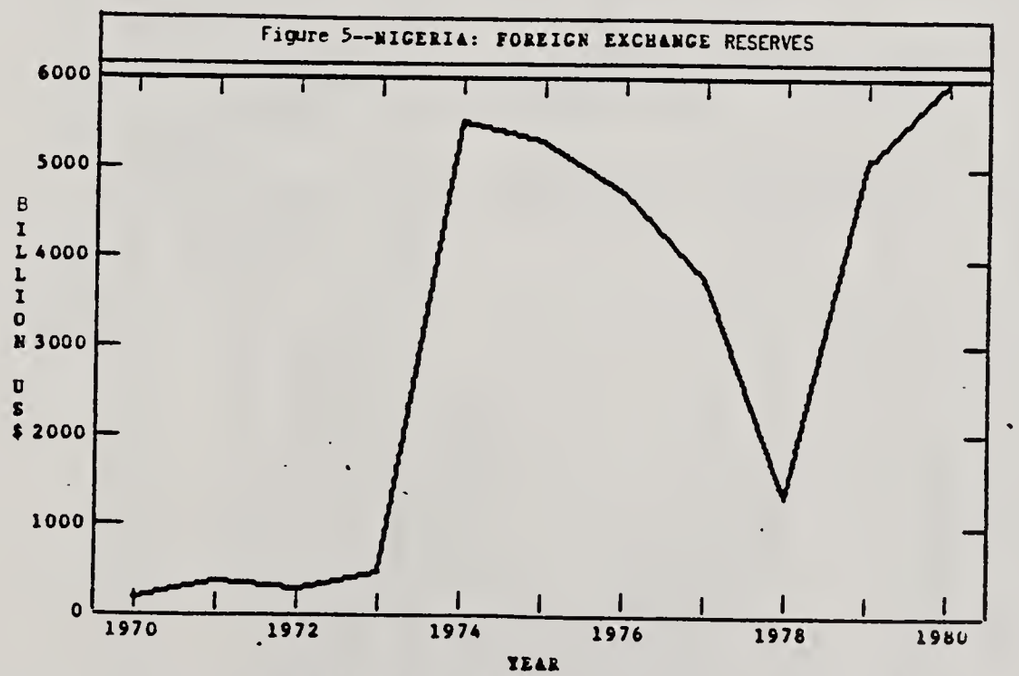
Source: World Bank, World Debt Table, Vol. II, Dec. 28, 1979.

Nigeria's balance of payments position has over the last six years been largely a function of developments in the oil sector. When oil revenues fell in 1978, Nigeria registered a deficit (See Table 15) of nearly U.S. $3.7 billion (Naira 2.38 billion). The economic upturn in 1979, led by increases in oil prices and revenue, coupled with a small drop in imports, restored Nigeria's balance of payments in 1979 to an estimated U.S. $ 3.0 billion surplus.

In 1974 Nigeria's foreign exchange reserves leaped over tenfold from U.S. $464 million to U.S. $5.6 billion, declined to a low of U.S. $1.9 billion in 1978 before rebounding in 1979. (Figure 5)

Despite a healthy influx of oil revenues during this decade, heavy capital expenditures by the government from 1974-78 cut severely into foreign exchange reserves accounting for the steep decline in Figure 5. The expenditures were primarily directed toward building infrastructure. The government also instituted new education programs and a pay raise for federal workers. Hence, the Nigerian federal budget was in serious deficit as early as the 1975/76 fiscal year. In addition, rural-to-urban flow of workers, rising wages, and power shortages all contributed to an etiolation of the competitiveness of domestic agriculture and domestic manufactured goods relative to foreign goods. Imports consequently rose, further cutting into foreign exchange.

This economic malaise in the face of rising petroleum revenues forced the government to introduce several economic measures to forestall further foreign exchange loss. These included restoring the oil price to a competitive level, curbing outlay for capital-intensive projects, and raising the Euro-currency loans mentioned earlier in this section. These measures were largely successful in reversing outflow of foreign exchange. Reserves jumped from the 1978 level of U.S. $ 1.9 billion to U.S. $ 5.5 billion in 1979, and are expected to be significantly higher in 1980.



Note: 1980 figure is partial-year estimate. All other figures are end-of-year.
Source: International Monetary Fund

Table 15--Nigerian **BALANCE OF PAYMENTS**

(N million)

Item	1973		1974		1975		1976		1977		1978	
	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit
Goods and services	2,483.2	2,395.1	6,341.3	3,396.7	5,762.3	5,471.6	6,870.8	7,032.3	8,202.7	8,740.7	7,023.8	9,233.6
1. Merchandise (exports f.o.b., imports c.i.f.)	2,369.5	1,202.6	6,105.7	1,666.4	5,246.1	3,629.0	6,343.4	5,049.9	7,583.1	6,955.0	6,396.5	7,569.3
2. Non-monetary gold	--	--	--	--	--	--	--	--	--	--	--	--
(Balance on merchandise)	1,166.9	--	4,439.3	--	1,617.1	--	1,293.5	--	628.0	--	--	1,172.8
3. Freight and insurance on international shipments	27.1	14.5	30.4	20.0	42.9	45.0	50.8	55.7	60.5	57.2	40.3	64.6
4. Other transportation	37.0	38.8	43.4	69.6	61.4	115.0	76.4	201.2	102.3	174.1	78.1	180.3
5. Travel	7.6	39.5	8.0	78.3	18.4	163.7	20.6	251.8	63.0	257.2	51.3	221.5
6. Investment income	*16.2*	*586.8*	*97.5*	*473.4*	*309.6*	*483.3*	*277.6*	*458.9*	*226.4*	*379.0*	*314.8*	*359.1*
6.1 Direct	(--)	(576.2)	(--)	(461.8)	(--)	(468.8)	(--)	(415.7)	(--)	(362.1)	(--)	(330.8)
6.2 Other	(16.2)	(10.6)	(97.6)	(11.6)	(309.6)	(14.5)	(277.6)	(13.2)	(226.4)	(16.9)	(314.8)	(28.3)
7. Government transactions	18.3	37.4	24.8	296.9	35.3	311.9	47.0	341.2	65.0	241.2	48.5	176.4
8. Other services	12.9	475.5	31.4	612.1	48.6	723.7	55.0	673.6	102.6	676.9	94.3	662.4
(Balance on services)	--	1,078.8	--	1,314.7	--	1,326.4	--	1,455.0	--	1,165.8	--	1,037.0
Balance on goods and services	88.1	--	3,124.6	--	209.7	--	--	161.5	--	537.8	--	2,029.8
Unrequited transfers	21.1	56.5	6.2	68.3	12.4	87.8	23.3	121.1	26.3	145.0	7.4	178.0
9. Private	13.7	49.9	4.0	61.3	6.1	72.0	10.8	105.6	12.6	128.2	2.2	160.7
10. Official	7.4	6.6	2.2	7.0	6.3	15.8	12.5	15.5	13.7	16.8	5.2	17.3
Balance on unrequited transfers	--	35.4	--	62.1	--	75.4	--	97.8	--	118.7	--	170.6
Balance on items 1 through 10	52.7	--	3,062.5	--	215.3	--	--	259.3	--	656.5	--	2,380.4

Source: Nigerian Central Bank Economic and Financial Review, December, 1978.

Table 16 displays changes in important interest rates during the period 1968-78. Limited figures available for 1979 are as follows: minimum and maximum lending rates, 8%-12%; one-year treasury certificates, 4.5%.

Table 16— Nigeria: Selected Interest Rates, 1968-79

(In per cent)

	June 1, 1968- March 31, 1975	April 1, 1975- Feb. 28, 1976	March 1, 1976- March 31, 1977	April 1, 1977- March 31, 1978	April 1, 1978- Dec. 31, 1978
Minimum rediscount rate 1/	4.5	3.5	3.5	4.0	5.0
Treasury bill rate	4.0	3.0	2.5	3.0	4.0
Treasury certificates of one-year maturity	4.5	4.5	3.0	3.5	4.5
Treasury certificates of two-year maturity	4.4	4.4	3.125	3.625	4.625
Produce bill rate	6.0	4.5	4.5	5.0	5.0
Lending rates					
Minimum	7.0	6.0	6.0	6.0	7.0
Maximum	12.0	9.0	10.0	10.0	11.0
Deposit rates 2/					
Savings deposits (minimum)	3.0	4.0	4.0	4.0	5.0
Time deposits (minimum)	6.0	... 3/	... 3/	3.0	4.0
Federal Savings Bank	4.0	5.0	5.0	5.0	5.0

1/ Most rates are linked to the minimum rediscount rate by margins specified by the Central Bank.
2/ Since April 1975 the rates indicated are the officially prescribed ones, and no maximum is fixed.
3/ Rates were negotiable.

Source: Central Bank of Nigeria.

Agricultural Situation

Nigeria occupies a total area of 91.1 million hectares. The portion of that total area devoted to temporary crops, pastures and temporary fallow is estimated to be about 23 million hectares in 1977, up 4.0% from the estimated 1967 level of 22 million hectares. (Comparable increases for other countries in Africa are: Zimbabwe +12.8%; Tanzania +8.2%; Zaire +6.0%; Mali +3.7%; and Senegal -1.0%).

Growth in arable land by itself is only partially indicative of the extent to which a country employs its land resources for agricultural production. Zaire, for example, increased arable land during 1967-77 at a much faster rate (+6.0%) than Senegal (-1.0%) yet Senegal's total arable land is 12.3% of total land area, compared to only 2.6% for Zaire. In the case of Nigeria, the contrast is even greater.

In terms of total arable land, Nigeria stacks up well against all African countries. Table 17 lists African countries which have the highest percentage of arable land in relation to total land area. It will be observed that, discounting islands, only three countries in Africa--Sierra Leone, Burundi, and Togo--maintain appreciably higher usage of land for agricultural purposes than Nigeria. Meanwhile, Nigeria is far ahead of the African average and world average. Clearly Nigeria cannot be faulted for inferior use of land resources from an aggregate perspective.

From a microeconomic perspective most of Nigeria is still farmed under a rotational fallow system. Plots of land are used for cultivating one year, then allowed to fallow for several years before being used again. Under this system, it is estimated that in Africa one square mile of arable land effectively supports 250 people. 1/ Nigeria's 90,000 square miles of arable land should therefore be supporting only 22.5 million people. Yet Nigeria's population (Table 1) currently ranges between 70-100 million.

Table 17--Comparative Land Usage in the World and in Selected African Countries, 1977
(Excludes Islands)

Region or Country	Arable Land as a Percentage of Total Land Area
	Percentage
World	10.5
Africa	6.5
Sierra Leone	55.2
Burundi	42.3
Togo	41.5
Rwanda	28.2
Benin	26.5
Gambia	26.5
Ivory Coast	25.3
Nigeria	25.3

Total Land Area is total area in region or country excluding area under water bodies. Arable area is all land under temporary crops, pastures and temporary fallow.

Source: Data for calculations taken from FAO Production Yearbook, 1979.

Table 18--Estimated Number of Tractors or Harvestors in use Per 1,000 Hectares Arable Land, 1977

Country	Number Per 1,000 HA
South Africa	15.8
Swaziland	15.3
Tunisia	10.6
Egypt	9.1
Algeria	8.6
Zimbabwe	8.1
(29) Nigeria	.34

Source: Data for calculations taken from FAO Production Yearbook, 1979.

1/ A.T. Grove and F.M.G. Klein, Rural Africa

It appears that some of the most troublesome constraints to accelerated food production in Nigeria are related more to the ways in which land has been exploited rather than in the amount of land exploited: ways characterized by slow technological innovation, inhibitive land tenure system, and poor extension performance.

Table 18 gives one relative measure of Nigeria's pace in mechanization. The estimated number of tractors and harvestors in use for the countries indicated is expressed as a ratio per 1,000 hectares of arable land. Nigeria ranks far down the list.

Yet among African countries Nigeria has relatively more arable land per farm worker to be cultivated. As people move to urban areas, those remaining on farms have more acreage to tend with low levels of technology to aid them.

Increasing productivity of labor would be one solution to this problem. But the best means toward achieving such an increase are not easily identified. It should be noted that approximately 90-95% of Nigera's agricultural output originates on holdings averaging 1.2 hectares in size. Technologies designed for increasing returns to scale might not be appropriate.

Food production growth is also inhibited by traditions governing land tenure in Nigeria. The land tenure system is based on a tradition of communal rights, which were developed in order to systematically resolve conflicts over rights of ownership. Adherence to this tradition has resulted in most land being owned jointly by a family, tribe, or village. Land is actually regarded in Nigeria as the property of communities. Farmers are generally entitled to work the land by virtue of their membership in one of these communities.

Individuals generally do not hold title to land. Instead, small holders and their families are regarded as tenants with certain rights of use subject to the disposition of the community. They cannot sell the land. They therefore are denied the one crucial incentive for bettering the condition, productivity, and long-term desirability of the land--betterment which is necessary to spur technological improvements to the food production effort in Nigeria.

Land tenure imposes yet another disincentive upon producers. It is customarily assumed that improvements in production volume result automatically in profit for growers, in proportion to their production gains. But according to tenure traditions in many areas, surplus profits must be shared directly with villages and familes. Smallholders therefore lack the incentive of raising their personal incomes directly by engendering gains in food production.

The Nigerian government has made attempts to stimulate alternative forms of land organization since 1960, notable among them a program entitled "Farm Settlement Scheme". By organizing production efforts through cooperatives, it was hoped that smallholders would be enticed by examples of what large modern farms could accomplish. Based on the current status of farm structure in Nigeria, it can only be concluded that the settlement schemes have had little impact on smallholders.

The Land Use Decree established by the government in 1978 attempted to change tenure practices gradually by placing responsibility of land allocation in the hands of state governors. In practice this has not worked well, due in part to governors' aversion to the potential political dissention caused by overstepping authority of local leaders.

The traditional system of land tenure continues in Nigeria, carrying important implications for agricultural development. Young rural peasants, noticing the growing opportunities for income in cities, will continue to become frustrated over the inalienability of land and lost opportunities for gaining wealth. Urban population influx will continue.

Perhaps more important, the traditional tenure system maintains the scattered character of agricultural land ownership in Nigeria, discouraging application of simple forms of technological improvement best used on farms of large dimensions. Table 19 A & B offers insight into why Nigeria is simultaneously the largest food producer in Africa and one of the three largest food importers in Africa.

Table 19A--Ranking of Total Production and Per Capita Production of Cereals, Roots, Tubers and Pulses for African Countries, 1978

TOTAL PRODUCTION (1978)					
Cereals		Roots & Tubers		Pulses	
Country	'000 MT	Country	'000 MT	Country	'000 MT
South Africa	12467	Nigeria	28465	Nigeria	838
Nigeria	9011	Zaire	13122	Ethiopia	560
Egypt	8269	Tanzania	4515	Kenya	317
Ethiopia	4266	Burundi	2131	Egypt	316
Kenya	2928	Kenya	1310	Niger	261
Tanzania	1737	Egypt	1101	Tanzania	228
Niger	1495	CAR	1003	Burundi	199
Upper Volta	1178	Ethiopia	995	Upper Volta	180

Source: FAO Production Yearbook, 1978

Table 19B--Ranking of Per Capita Production of Selected Cereal, Roots, Tubers and Pulses for African Countries, 1978

PER CAPITA PRODUCTION (1978)									
Rice		Corn		Millet		Roots & Tubers		Pulses	
Country	KG/Capita	Country	KG/Capita	Country	KG/Capita	Country	KG/Capita	Country	KG/Capita
Madagascar	225.7	South Africa	369.1	Niger	218.0	CAR	524.6	Niger	52.1
Sierra Leone	167.3	Malawi	264.3	Mali	168.4	Burundi	523.8	Rwanda	51.0
Liberia	157.4	Zimbabwe	201.1	Senegal	148.2	Zaire	496.2	Burundi	48.9
Guinea	84.0	Kenya	160.3	Chad	139.4	Gabon	473.9	Upper Volta	30.1
Egypt	61.5	Zambia	154.3	Upper Volta	67.5	Nigeria	414.2	Uganda	22.2
Ivory Coast	59.3	Egypt	84.1	Cameroon	54.0	Ivory Coast	411.1	Kenya	21.6
				Togo	47.8	Congo	397.8		
*Nigeria (10)	8.4	*Nigeria (21)	21.1	Nigeria	45.1	Togo	384.6	Nigeria (10)	12.2

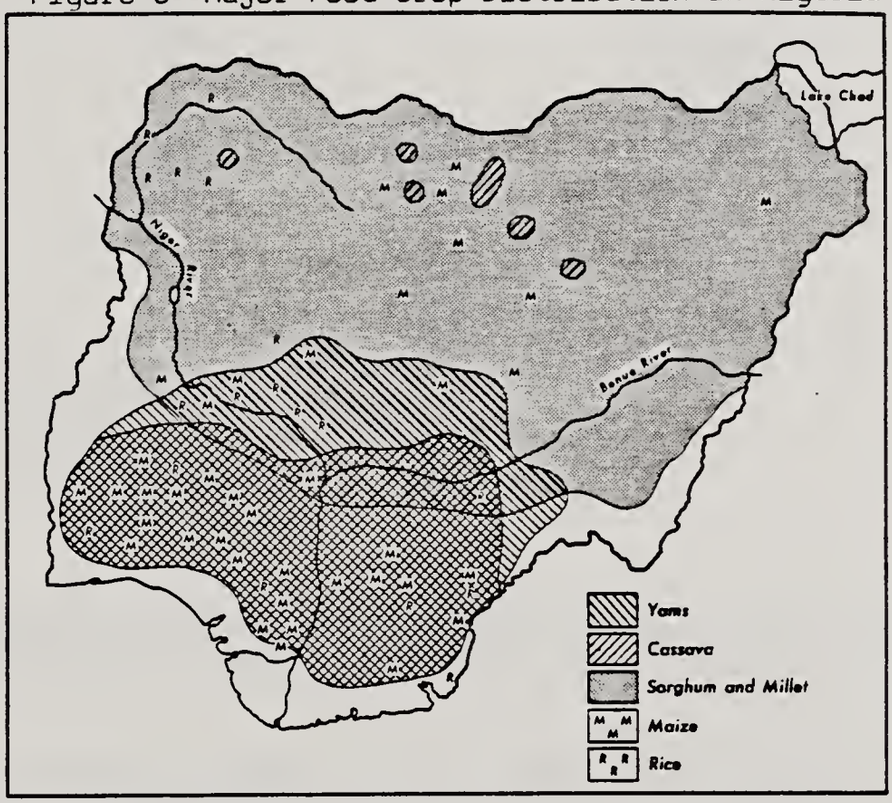
* Indicates ranking for Nigeria is not strictly sequential. Actual Nigeria rank is indicated in parentheses.

Source: FAO Production Yearbook, 1978

In three major food categories (cereals, roots & tubers, and pulses) Nigeria ranks first or second among African producers in terms of total volume produced. But in terms of per capita production, Nigeria trails noticeably in all categories except roots and tubers. Nigeria's burgeoning population has outpaced its capacity to produce food, as growing numbers of Nigerians flock to cities while an inflexible land tenure structure discourages those who stay behind from making investment and productivity improvements on rural land.

Nigeria displays a marked regional specialization in crop production. Groundnuts, cotton, cowpeas, millet and sorghum are grown in the arid North, roots and tree crops in the moist South. The center of the country--known as the Middle Belt--produces corn and upland rice. Swampland and river-irrigated rice are grown in the North and South. (Figure 6)

Figure 6--Major Food Crop Distribution in Nigeria



Source: Area Handbook for Nigera, American University

The bulk of food produced in Nigeria is consumed near production areas. Root crops, pulses, and cereals move into small market networks extending only limited distances from production areas. Input constraints and poor market information and infrastructure limit the capacity of smallholders to generate and market surplus production.

Table 20--Planting Seasons for Major Nigerian Foodcrops

Commodity	Type	Region	Planting Season	Harvesting Season
Corn		North	May/June	August
	Early	South	March/April	June/Aug.
	Late	South	Early Sept.	Dec/Jan.
Sorghum		North	May/June	Nov/Dec.
Millet	Gero	North	Mid April-Late May	July/Aug.
	Dauro/Maiwa	North	(Seedbed) May/June (Transplanting) August	Aug/Sept.
	Acha	North	May/July	Sept/Oct.
	Tamba	North	May/July	Oct/Nov.
Rice	Upland		April/May	Aug/Sept.
	Swamp		(Seedbed) May/June (Transplanting) July/Aug.	Aug/Sept. Oct/Jan.
Peanuts		North	Mid May/Mid July	Oct/Nov.
		South	Mid Mar/Mid April	August
Cassava	Manioc	North	June/Sept.	As Required 1/
		South	Mar/Oct.	As Required 1/
Cocoyams			May/June	Dec/Jan.
Cowpeas		North/Middle Belt	July/Aug.	Nov/Dec.
		South	Sept.	Dec/Jan.

1/ Matures from 12-18 months after planting.

Sources: USDA/FAS; FAS-M-90

Table 21 indicates volume of production for individual agricultural products, total food and agriculture production in constant value, and indices of total and per capita production.

It will be noted that the index for total food production (61-65 base) advanced modestly from 1976 to 1979 (124 to 128) while per capita food production fell (88 to 84).

Table 21

PRODUCTION BY COMMODITY, VALUE AND INDICES OF TOTAL AGRICULTURAL AND FOOD PRODUCTION, AVERAGE 1961-65, ANNUAL 1970-79

COMMODITY	PRICE WEIGHT	AVERAGE 1961-65	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
	DOLLARS	-1,000 METRIC TONS-										
RICE, PADDY	103	356	427	462	466	514	523	600	611	620	826	900
CORN	53	1,016	1,310	1,042	1,182	1,287	1,350	1,400	1,440	1,500	1,640	1,670
MILLET	53	2,615	3,284	2,688	3,048	2,150	2,800	2,865	2,865	2,950	3,100	3,140
SORGHUM	70	4,204	4,080	3,140	3,561	2,968	3,500	3,590	3,680	3,750	3,770	3,785
PULSES	90	442	536	542	540	480	525	540	555	365	450	480
CASSAVA	29	9,656	11,410	12,396	12,700	13,000	13,300	13,600	13,900	14,000	14,150	14,600
YAMS	61	11,611	14,682	16,104	16,257	16,800	17,220	17,600	18,000	18,000	18,100	18,100
COCOYAMS	50	1,312	1,341	1,479	1,524	1,565	1,600	1,640	1,680	1,700	1,710	1,710
TOBACCO	300	13	14	15	13	12	12	18	10	8	8	11
COTTON	309	45	39	38	49	30	52	58	81	36	37	41
COTTONSEED	60	90	80	77	95	64	105	106	130	70	80	95
SOYBEANS	66	18	11	1	4	1	1	1	1	3	3	3
PEANUTS, IN SHELL	114	1,419	780	845	1,125	340	530	332	350	643	469	596
SESAME SEED	145	22	6	3	7	3	5	6	6	6	6	6
BANANAS AND PLANTAINS	38	1,603	1,270	1,300	1,330	1,360	1,390	1,420	1,450	1,400	1,425	1,425
OTHER FRUIT	20	39	46	47	48	50	51	52	53	53	65	65
COFFEE	328	2	5	4	4	2	2	4	3	3	3	3
COCOA BEANS	269	215	323	265	264	218	213	218	167	206	139	175
RUBBER	463	65	65	62	57	66	78	68	56	60	65	65
KOLA NUTS	150	138	132	136	139	143	146	150	154	152	160	160
SUGAR, RAW	75	3	43	34	40	40	60	50	40	36	34	29
PALM OIL	110	521	457	432	457	432	491	500	500	510	515	505
PALM KERNELS	70	419	270	307	295	244	310	295	321	340	350	335
MEATS	425	369	539	555	555	565	555	575	590	545	550	550
MILK	65	349	371	381	381	360	355	360	370	370	370	380
AGGREGATES OF PRODUCTION		-MILLION DOLLARS AT CONSTANT PRICES-										
CROPS		2,064.0	2,286.5	2,290.9	2,405.6	2,253.9	2,418.6	2,454.6	2,492.0	2,520.2	2,545.7	2,598.5
LIVESTOCK		179.5	253.2	260.7	260.7	263.5	259.0	267.8	274.9	255.7	257.9	258.5
TOTAL AGRICULTURE		2,243.5	2,539.7	2,551.6	2,666.3	2,517.4	2,677.6	2,722.4	2,766.9	2,775.9	2,803.6	2,857.0
TOTAL FOOD		2,195.1	2,491.7	2,505.4	2,619.6	2,473.2	2,621.1	2,666.3	2,712.0	2,733.6	2,758.7	2,809.9
INDICES OF PRODUCTION		(1961-65 = 100)										
CROPS		100	111	111	117	109	117	119	121	122	123	126
TOTAL AGRICULTURE		100	113	114	119	112	119	121	123	124	125	127
TOTAL FOOD		100	114	114	119	113	119	121	124	125	126	128
PER CAPITA AGRICULTURE		100	95	93	95	87	90	89	88	86	84	84
PER CAPITA FOOD		100	96	94	95	88	90	89	88	86	85	84

Source: USDA, ESS Indices of Agriculture Production: Africa and the Near East, 1969-78

A critical factor underlying Nigeria's inability to boost food production--despite considerable budget outlays for agricultural inputs and research--is the slow pace with which Nigerian producers have introduced improved varieties for staple crop cultivation. There are several important reasons for slow adaptation of new varieties:

1. Soils are often low in fertility. Under rotation or bush fallow cultivation--the form of cultivation commonly followed in Nigeria--the most fertile soils are generally small plots closest to lodgings, where farm families can apply manure most regularly. These plots grow vegetables and staple items for family consumption. Crops intended for sale are grown further from lodgings where manure is less frequently applied and soil condition less carefully protected.

2. Relative to local varieties, new varieties require fertilizer supplies not always readily available or affordable. Fertilizer is frequently not available due to shipping delays or supply shortfalls. When available, it may be unaffordable if farmers have low cash reserves at the time of availability.

3. Non-irrigated areas often lack optimum soil moisture for new varieties.

4. New varieties may require additional labor input. Proper care of new varieties often requires more cultivation than local varieties. Varieties with low resistance to weeds have exacerbated labor shortage problems on test sites because of the extra weeding required. (Weeding is generally done by hand hoe in Nigeria).

5. Proper cultivation of new varieties requires instruction from trained extension agents regarding watering, depth of seeding, and fertilizing. This is difficult to accomplish in many areas of Nigeria where the ratio of extension agents to farmers is estimated to be 1:2000.

6. Nigerian farmers are risk averse. Because smallholder families consume from their own production, their crops represent more than income. They are therefore concerned primarily with achieving consistent results, even if results are less than optimal. Low yield in every year privides more security than several excellent years followed by one failure.

7. By-products of new varieties may be inferior to those of local varieties. Products from new varieties may not store well. Stalks of new varieties are occasionally shorter or structurally less sound, limiting their usefulness to farmers who utilize them for construction purposes.

Finally, the agricultural extension service is occasionally a constraint to increased production in Nigeria. The performance of individual agents is hampered by burdensome responsibilities, including distributing fertilizer, encouraging its use, recording credit disbursements, collecting payments, distributing machinery, supplying spare parts, scheduling and arranging repairs, providing a whold range of technical advice, teaching operation of machinery, and arranging for veterinary services, perhaps for one hundred farms or more. Furthermore, responsibilities are sometimes contradictory in nature. Agents may be asked to repossess equipment when smallholders are in arrears, yet also remain on good terms with the same farmers to encourage greater use of imputs.

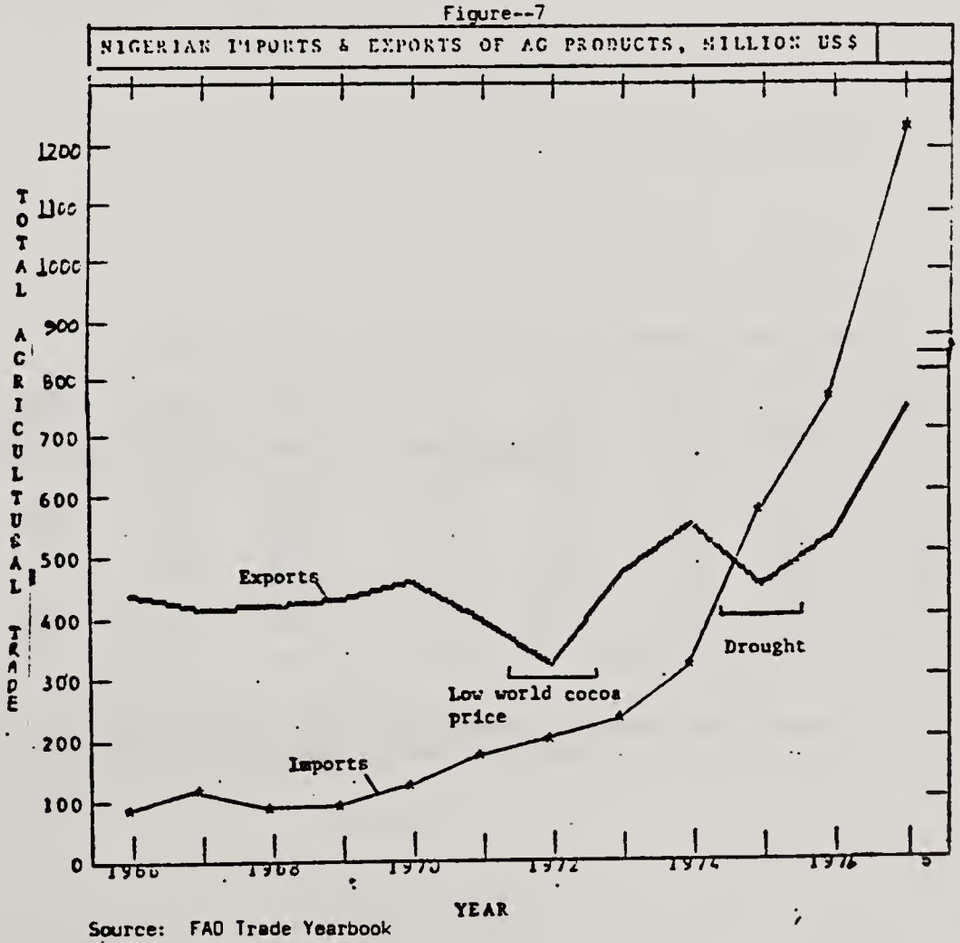
Trade Situation

Agricultural imports have outpaced agricultural exports in recent years. (See Figure 7). Depressed world cocoa prices cut into export revenue in 1971 and 1972; the drought of 1974-76 severely reduced export availabilities and revenues.

Furthermore, export crop producers have been diversifying production toward subsistence crops. The Biafran conflict of 1968-70 and the jumbled transportation networks that remained in its wake partially isolated areas specializing in export-oriented tree crop production (oil palm, rubber, cocoa). Temporarily cut off from traditional food supply lines, cash crop farmers were forced to shift resources to subsistence farming of root crops in order to assure adequate food supplies for themselves.

Meanwhile agricultural import bills have soared, driven by higher incomes and urban demand for imported goods. The result has been greater pressure on foreign exchange reserves toward the end of the decade. (Refer to Figure 5).

Figure--7



Source: FAO Trade Yearbook

Table 22 presents value of Nigerian merchandise imports by indicated categories. Aggregated agricultural imports (including food and live animals, beverage and tobacco and animal/vegetable oil and fats) increased faster than all other categories over the period, rising in value from U.S. $ 130 million in 1971 (8.6% of the total) to U.S. $ 1,794 million in 1978 (14.2% of the total).

In order to more carefully examine major causes of the increase in Nigerian agricultural imports, Table 23 focusses upon the largest agricultural import component in Table 22--Food and Live Animals. "Cereals and Preparations" is the largest subcomponent, soaring 859% over the 1971-77 period, with sugar and dairy products also prominent.

Table 22--Nigerian Imports by Standard International Trade Code Categories

Categories	1971	1972	1973	1974	1975	1976	1977	1978 1/
	(Million U.S. Dollars)							
Food & Live Animals	123.1	144.6	192.0	246.1	482.6	705.4	1170.9	1571.9
Beverage & Tobacco	6.1	6.7	7.9	14.5	77.8	102.4	212.1	108.9
Crude Materials	28.8	31.5	41.0	101.3	119.4	126.2	124.8	166.9
Mineral Fuels	12.6	14.9	20.5	88.1	162.3	280.0	204.5	268.9
Animal/Veg. Oils & Fats	1.0	1.7	2.1	5.7	14.4	39.5	74.7	112.9
Chemicals	170.8	156.0	202.8	303.7	539.8	635.2	792.5	997.8
Manufactured Goods	447.2	407.2	492.3	832.0	1633.0	1817.9	2488.5	2849.5
Machinery & Transport Equipment	600.3	605.7	746.9	972.8	2530.3	3911.5	5385.3	5524.8
Miscellaneous Manufactured Goods	99.1	126.3	143.2	181.3	450.7	594.9	811.4	1023.3
Other	21.6	10.5	13.1	16.9	18.6	24.5	14.3	21.3
Total	1510.5	1505.0	1861.7	2762.3	6028.8	8237.6	11,279.0	12,646.0

1/ Provisional Note: US dollar figures may not add due to rounding

Source: Central Bank of Nigeria

Table 23--Nigerian Imports of Food and Live Animals by Sub Category

Year	Live Animals	Meat & Meat Preparation	Dairy Products & Eggs	Cereals & Preparation	Fruit & Vegetables	Sugar & Honey	Coffee Tea & Cocoa	Feed Stuffs	Miscellaneous Food	Total Food & Live Animals
	(Million $)									
1971	35.1	Neg.	31.6	51.8	52.2	28.0	3.9	1.0	3.8	160.4
1972	36.3	Neg.	39.1	54.2	5.3	34.5	3.0	1.9	5.3	179.6
1973	34.7	Neg.	35.3	78.0	7.1	48.2	3.5	2.3	9.2	218.4
1974	28.3	1.3	46.5	116.0	8.7	44.2	4.4	1.6	15.2	266.0
1975	22.8	9.2	92.4	141.9	15.0	123.0	7.6	1.8	30.8	444.3
1976	28.1	26.0	105.3	241.9	19.2	127.8	9.0	2.7	47.0	607.0
1977	37.0	66.6	154.5	444.8	17.9	200.7	8.2	9.3	50.4	989.3

Total FAO figure for "Food & Live Animals" differs from Nigerian Central Bank total in Table 22, due to reporting discrepencies and exchange rates used for calculation.

Source: FAO Trade Yearbook

Table 24 breaks our "Cereals and Preparations" into its main components.

Table 24--Cereal and Preparations Imports

Year	Wheat & Wheat Flour	Rice	Corn	Other	Total Cereals & Preparations
		(Million US$)			
1971	33.6	.1	.5	17.6	51.8
1972	35.4	1.7	.6	16.5	54.2
1973	59.4	.4	.3	17.9	78.0
1974	81.7	1.0	1.0	30.9	116.0
1975	89.4	.4	1.0	51.1	141.9
1976	156.8	32.1	2.3	50.7	241.9
1977	160.3	218.0	11.8	54.7	444.8

Source: FAO Trade Yearbook, 1978

"Other" in Table 24 is comprised primarily of malt.

Table 25 displays the other two major Food and Live Animal sub-categories: "Dairy Products and Eggs" and "Sugar and Honey".

Table 25--Imports of "Dairy Products and Eggs" and "Sugar & Honey" Categories

Year	Milk 1/	Dairy Products & Eggs	Sugar	Sugar & Honey
		(Million US$)		
1971	30.5	31.6	25.6	28.0
1972	37.6	39.1	2/ 35.7	2/ 34.5
1973	33.8	35.3	44.1	48.2
1974	44.8	46.5	39.1	44.2
1975	89.2	92.4	115.4	123.0
1976	96.5	105.3	99.5	127.8
1977	144.6	154.5	165.5	200.7

1/ Includes dry and condensed.
2/ Discrepancy due to revised FAO Sugar and Honey total and unrevised Sugar figure.

Source: FAO Trade Yearbook, 1978

Milk and Sugar constitute, respectively, most of the total for both sub-categories in Table 25.

The U.S. and EC are Nigeria's most important trading partners for both petroleum and non-petroleum products. The U.S. imports the largest share of Nigerian petroleum exports, taking 46% in 1978 (See Table 26). The Netherlands and France are the next largest purchasers of Nigerian petroleum. The EC purchased 82% of total non-petroleum exports in 1978 compared with less than 10% for the U.S., almost all cocoa.

The EC has supplied about 60% of Nigeria's nonpetroleum imports in recent years, the United States just over 10%. These shares did not change markedly between 1976 and 1978.

Table 27 demonstrates the growing U.S. balance of trade of deficit with Nigeria. The value of U.S. imports of non-agricultural commodities catapulted in 1974 due to higher petroleum prices, and has trended upward since then.

The following table presents in chronological order the major trade policies regarding grains that were enacted by the Nigerian government from 1968 to the present. Import duties on corn and rice currently stand at the 1978 level of 10% ad valorem. Unmilled wheat enters duty-free, but wheat flour is taxed at 40% ad valorem.

The two most recurrent themes recited by Nigerian officials in explaining their rationale for instituting import controls or barriers have been (1) to fight inflation; and (2) to stem the loss of foreign exchange. In light of this, the foreign exchange figures in Table 6--particularly the decline in 1978--helps explain the spate of tariff and non-tariff barriers erected during 1978-79. The advent of more careful budget review and continued growth in petroleum revenues makes a repeat of the 1978 foreign exchange debacle unlikely. However, the Nigerian government had demonstrated willingness to respond quickly to short-term market or financial emergencies with trade policy reactions.

Chronology of Major Trade Policies on Grains

1968	January 7	:	FMC Places Ban on Rice Imports.
1972	April 1	:	Import License Required for Corn.
			Rice Ban Reduced to Licensing Requirement.
1974	April 1	:	Tariff Duty on Corn Imports Reduced from 40 to 20%
			Removal of License Requirements for Corn Imports
			5% Surcharge on Imports Lifted. Tariff Duty on Rice.
			Lowered from 66 2/3% to 20%. License Requirement
			Dropped. 5% Surcharge Dropped.
1975	April 1	:	Import Duty on Corn Further Reduced to 10%.
			Import Duty on Rice Reduced to 10%.
1976	April 1	:	Total Ban on Exports of Corn or Rice (among others)
1978	April/May	:	Corn Duty up to 40%, then back again to 10%.
			Rice Duty up to 20%, then back to 10%.
1978	October 1	:	Rice Restrictions Imposed. No Bags Smaller than 50 Kg.
	June	:	Phytosanitary Restrictions on U.S. Corn--Equivalent of
			a Ban.
1979	January 1	:	Comprehensive Import Supervision Scheme Implemented.
	September 26	:	All Imports of Rice Prohibited.
	October	:	Corn Restrictions Lifted.
	November	:	Restrictions on Rice Rescinded.
1980	April 1	:	License Requirements for Wheat.

Table 26-- Nigeria: Direction of Trade, 1976-78

(In per cent)

	Petroleum Exports			Nonpetroleum Exports			Nonpetroleum Imports		
	1976	1977 1/	1978 2/	1976	1977 1/	1978 2/	1976	1977 1/	1978 2/
European Community	35.7	30.9	27.2	66.8	78.7	81.5	62.5	59.6	59.6
Belgium-Luxembourg	0.5	0.1	0.1	1.9	1.7	1.3	2.8	2.4	2.3
Denmark	0.2	0.1	--	0.7	0.8	0.7	1.1	1.2	1.2
France	9.1	7.8	7.2	2.0	2.9	3.2	7.2	6.9	7.3
Germany	6.3	5.2	4.3	10.8	16.0	17.2	16.2	15.7	15.6
Ireland	--	--	--	0.5	--	0.1	0.3	0.3	0.3
Italy	0.8	1.2	0.7	2.7	2.5	2.4	7.2	7.0	7.0
Netherlands	9.7	10.2	10.6	18.4	24.1	25.5	4.5	4.2	4.3
United Kingdom	9.1	6.3	4.3	29.8	30.7	31.1	23.3	21.9	21.6
Eastern Europe	--	--	--	7.3	3.3	2.0	1.8	2.5	2.8
United States	36.1	41.8	46.1	17.7	10.9	9.4	10.7	11.1	11.2
Japan	0.4	--	--	1.6	1.4	0.9	9.3	10.8	11.0
Other	27.8	27.3	26.7	6.6	5.7	6.2	15.7	16.0	15.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

1/ Revised
2/ Provicional

Source: Data from Central Bank of Nigeria, Annual Reports and Statements of Accounts. Table from IMF, Nigeria Recent Economic Developments, October 17, 1979

Table 27--U.S. Trade Balance with Nigeria

Year	Exports			Imports			Trade Balance		
	Agricultural	Non-Agricultural	Total	Agricultural	Non-Agricultural	Total	Agricultural	Non-Agricultural	Total
	(Million US$)								
1972	23	92	115	15	255	270	8	- 164	- 156
1973	41	170	161	49	601	650	- 8	- 481	- 489
1974	82	203	285	54	3237	3291	28	-3034	-3005
1975	97	439	536	31	3249	3280	66	-2810	-2745
1976	151	618	769	66	4864	4930	85	-4246	-4162
1977	212	746	958	65	6031	6096	147	-5285	-5148
1978	301	682	983	112	4602	4714	189	-3920	-3731
1979	212	417	629	70	8081	8150	142	-7664	-7521

Source: USDA U.S. Foreign Agricultural Trade Statistical Report

* * * * * * * * * *

Wheat Summary

Despite marked efforts by the Government to expand domestic wheat production, production has fallen far short of targeted levels, (and domestic presently accounting) for less than 1% of total wheat consumption.

Wheat must be grown during the Winter months in Nigeria--the only time that is cool enough to permit flowering. These months occur during the dry season. Wheat therefore must be irrigated, driving up costs of production. About one-fifth of the federal agricultural budget for financed irrigated wheat projects in the North (Lake Chad, Sokoto-Rima, and Hadeija-Jaima areas. The Nigerian government had targeted wheat area for 1980 at 250,000 hectares as a result of these projects. At present only about 25,000 hectares are planted to wheat.

Consumption of wheat is widespread in Nigeria. Bread has become a normal part of many Nigerian's daily rations. Consumption of wheat has more than doubled since 1975 due to higher income, consumer preferences, and domestic price policies.

Income

Nigerian petroleum revenues jumped dramatically in 1974. To equitably distribute this income, the Nigerian government initiated education and transportation projects which created jobs in the public and private sectors. The government also granted the Udoji awards in 1974: across-the-board pay increases and retro-active grants for federal workers. Additional pay increases have occurred since 1974, followed by comparable pay boosts in the private sector. The result has been a dramatic rise in disposable income available for food purchases. Because the pay increases have primarily benefitted urban workers, income boosts have had more impact upon urban wheat consumption.

Preferences

Consumption of wheat is not new to Nigeria, but its scale has increased in recent years. Urban residents prefer foods requiring less preparation time and longer shelf life. For example, very little wheat flour exists either in urban homes or in stores; consumers prefer purchasing baked products such as bread, crackers and cookies.

Prices

Because bread prices are fixed, inflation has an important impact on demand. Since early in this decade the Nigerian government has fixed the consumer price for bread and the ex-mill price of flour. Only the government can change the official market bread and flour price. It has done so during the last few years only when wheat millers complained loudly enough about revenue losses due to a profit squeeze between rising world wheat prices and fixed domestic wheat product prices.

Consumers who purchase much bread benefit in the shortrun by the fixed price policy, because as the general consumer price level rises, real bread prices fall while other prices respond to market forces. Real bread prices, computed by dividing the official price by the consumer price index, are summarized in Table 28.

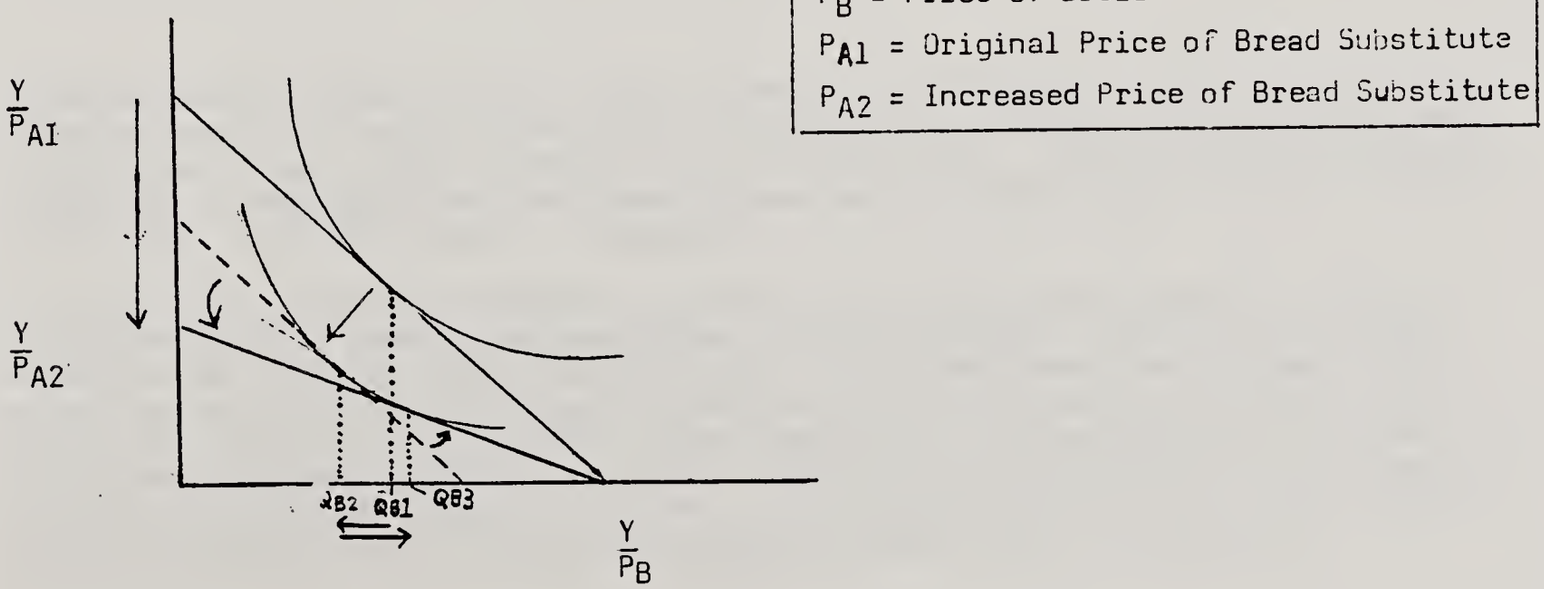
Table 28--Real Bread Prices, 1973-78

Year	Average Annual Bread Price, (expressed in kobo per 113.2 gram loaf)	Consumer Price Index	Real Bread Price (P_B/CPI)
1973	3.00	189	.016
1974	4.75	215	.022
1975	5.00	287	.017
1976	5.00	348	.014
1977	5.00	423	.012
1978	7.75	550	.014

Source: Data for calculations from USDA/FAS

From 1975-77 the CPI increased while the bread price remained fixed, resulting in a steadily declining real price for bread during these years. (Lack of data limits observations to the 1973-78 period).

Figure 8--Substitution and Income Effects for Bread in Nigeria



Even with no increase in real income, this pricing policy will increase demand for bread, as Figure 8 shows. Prices of substitute goods rise with the CPI. The relative price of pread declines ($P_B/P_{A1} \rightarrow P_B/P_{A2}$) stimulating a slightly negative income effect (Q_{B1} to Q_{B2}) which is more than offset by the strongly negative substitution effect (Q_{B2} to Q_{B3}), This results in a net increase in quantity demanded of bread (Q_{B1} to Q_{B3}).

Table 29 compares estimated changes in real bread prices and wheat consumption.

Table 29--Wheat Consumption and Relative Bread Prices in Nigeria, 1973-78

Year	Wheat Consumption		Real Bread Prices	
	Million MT	% Change	Index	% Change
1973	335	-	.016	-
1974	343	+ .02	.022	+37.50
1975	506	+47.52	.017	-22.73
1976	802	+58.50	.014	-17.65
1977	1,015	+26.56	.012	-14.29
1978	1,256	+23.74	.014	+16.67

Source: Consumption figures from USDA/FAS.

In 1974 a relative price increase in bread occurred; growth in wheat consumption was negligible. As real bread prices fell (1975-77) wheat increased significantly. Part of this gain was undoubtedly due to income increases. The marked increase in wheat consumption in 1978 in the face of a real price increase may be explained by increases in income and growing preferences for baked goods.

* * * * * * * * * * *

Nigerian consumers have turned virtually completely to imported wheat and wheat flour. Domestic production lags because domestic irrigated wheat costs more to produce than imported wheat (see section treating costs of production). Flour refined from domestic production is negligible and is offset by occasional illegal shipment of domestically-milled flour into Chad, Niger and Cameroon.

Imported wheat originates primarily from the United States (See Table 30). Wheat imported unmilled is usually hard red Winter. Wheat imported as flour is of the soft wheat variety used for cookies and biscuits. The International Wheat Council (IWC) estimates that Nigerian flour imports comprised 2% of total wheat purchases in 1976/77, 21% in 1977/76, and 12% in 1978/79. These figures give little evidence of a steady trend toward preference for imported flour. Yet the sizeable growth in flour purchases cannot be ignored, particularly in light of Nigeria's import tax system which imposes a 40% ad valorem duty on flour while allowing unmilled wheat to enter free.

Wheat flour is imported chiefly from the EC (France and West Germany) and the U.S. Estimates of the percentage shares held by each vary with data source and year observed. Trade sources indicate that Nigeria imported 224,000 metric tons of flour in calendar year 1978, of which about 25% originated in the U.S. UN trade data shows calendar year 1977 wheat imports of 65,000 metric tons, of which about 20% originated in the U.S., 40% in France and 40% in West Germany. (Table 30)

Table 30--Major Nigerian Grains Imports: Total and U.S. Shares

Year	Total Wheat Imports	Imports from U.S.	U.S. Share (%)	Total Rice Imports	Imports from U.S.	U.S. Share (%)	Total Corn Imports	Imports from U.S.	U.S. Share (%)
1/	2/			(1,000 MT)					
1966	170	161	95	1	1	100	-	-	-
1967	130	83	64	1	1	100	-	-	-
1968	144	138	96	1	1	100	1	1	100
1969	244	244	100	1	1	100	1	1	100
1970	385	376	98	2	NA	NA	10	10	100
1971	350	280	80	5	NA	NA	2	1	50
1972	397	239	60	6	NA	NA	2	2	100
1973	326	322	99	6	5	83	2	2	100
1974	342	312	91	8	3	38	3	3	100
1975	519	497	96	42	6	14	1	1	100
1976	815	694	85	103	46	45	25	24	96
1977	1020	842	83	413	158	38	75	74	99
1978	1300	916	70	564	256	45	40	40	100
1979	1200	1000	83	250	43	17	75	75	100
1980	1280	1000	78	500	200	40	3/ 150	150	100

1/ Imports are on July/June basis, with periods beginning in July of calendar year indicated

2/ Includes Wheat Flour

3/ ESS Estimate

Source: USDA/FAS except as indicated

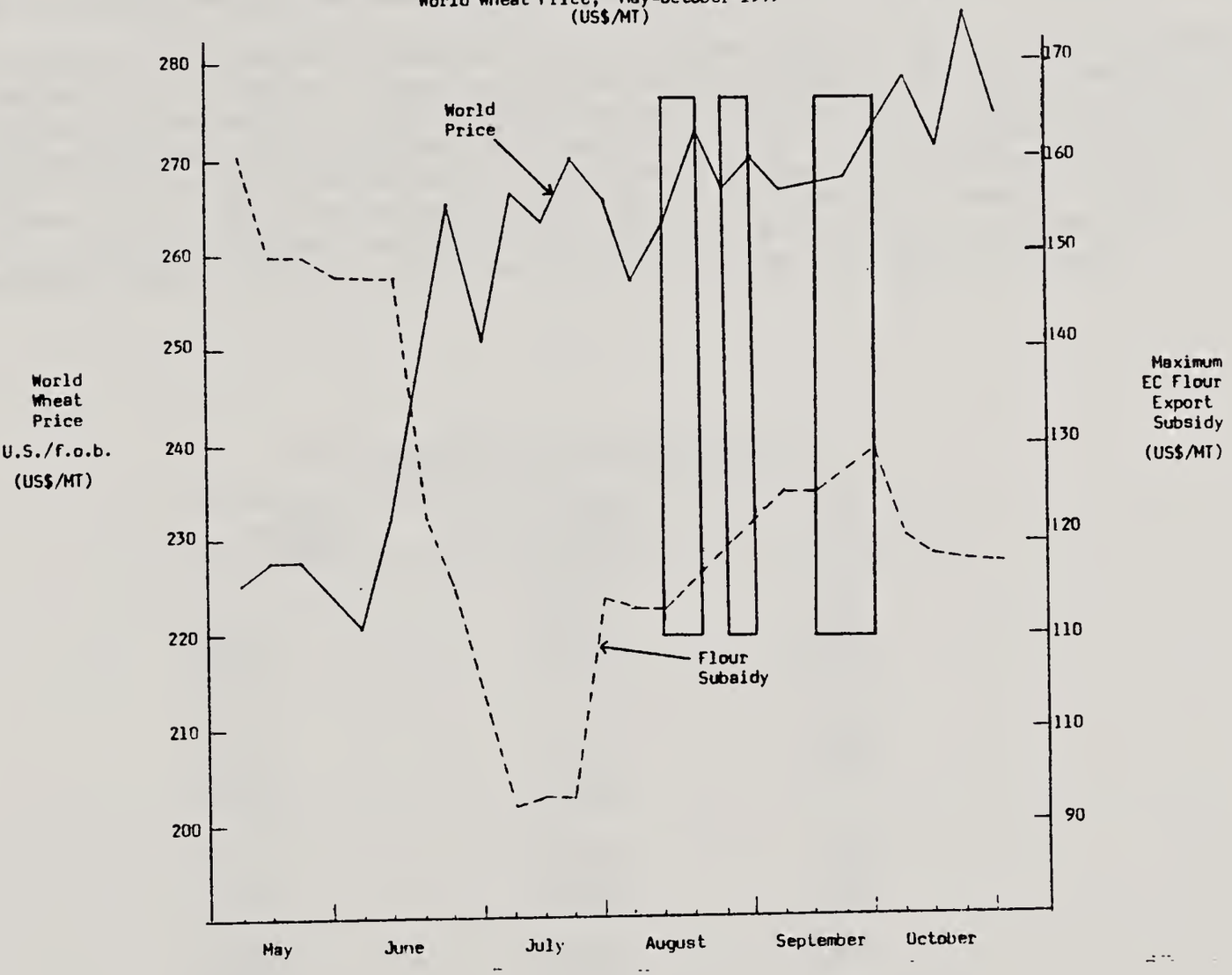
Government subsidies paid to EC flour exporters may have contributed substantially toward the recent increase in Nigerian flour imports. Figures for subsidy refunds actually paid on EC exports are not available. But movement in the maximum subsidy level amply demonstrates the flexibility and potential competitive uses of the EC subsidy scheme

Table 31 compares weekly changes in the maximum EC wheat flour subsidy refund level to the world wheat price (U.S. f.o.b. price is used) for the period 5/79 to 10/79. (The actual subsidy paid can vary by shipment due to competitive bidding). The two indicators should normally move inversely to each other. The subsidy refund theoretically acts as an equalizer between world price and EC producer/miller costs, rising whenever world prices fall in order to maintain export competitiveness of EC flour

On July 6 the world price stood at $266.10 per metric ton and the subsidy at $93.74. By September 7 the world price had risen slightly to $268.30. The subsidy--which should theoretically have fallen (assuming no change in EC costs)-- had risen 35% to $126.09, and continued to rise during September in the face of an increasing world price--presumably to stimulate exports of growing flour stocks resulting from the newly-harvested Fall wheat crop.

Figure 9 graphically demonstrates this comparison. The vertical rectangles highlight periods when the subsidy increases simultaneously with an increasing world price instead of moving inversely as expected. These periods are in late August and September.

Figure 9 --Differential Between Maximum EC Flour Export Subsidy and World Wheat Price, May-October 1979
(US$/MT)



Trade sources report suspicion of additional EC assistance for flour exports to Nigeria in the form of transportation subsidies and generous credit arrangements.

The drop in flour imports in 1978/79 referred to earlier has been attributed to increases in local milling capacities. There are currently five flour mills operating in Nigeria , two in Lagos and one each in Port Harcourt, Sapele and Calabar--with combined estimated capacity of 1.1 million metric tons per year. However, mills often have difficulty operating at a profit due to temporary squeezes millers face between rising world wheat prices and fixed domestic ex-mill flour prices. The government does not subsidize milling operations. It is conceivable that milling capacity was

off enough in 1978 to require bakers to import flour directly. The easing of flour imports in 1978/79 would be due in part to the government-granted increases in ex-mill flour prices during 1978.

Another cause for fluctuation in demand for flour imports may be the temporary inability of bakers to obtain domestically milled flour, due to low supplies of imported wheat at critical times. The Nigerian government imposed requirements for comprehensive import inspections in 1979, which resulted in delays in passing shipments through to Lagos. One of the wheat mills closed down early in 1979 for lack of wheat. This may have contributed to the continuing strong import demand for flour in 1978/79, estimated by IWC at 114,000 metric tons out of total wheat equivalent imports of 976,000 metric tons.

One unresolved question involves the types of wheat Nigeria imports. Unmilled wheat imports are the hard red winter variety, while flour imports are soft wheat used for cookies and crackers. If flour imports are only filling "gaps" created by domestic milling problems, flour imports should be of the same variety as normal unmilled wheat (i.e. hard red) unless bakers have found that they can alternate in their receipes between the two varieties without affecting consumer demand for their products. On the contrary, rising flour imports may indicate an increasing consumer demand for non-bread wheat products, and a possible future surge in EC flour purchases.

Table 31--Comparison of Maximum Export Subsidy Refund for EC Wheat Flour with World Wheat Price

Date (Week ending 1979)	U.S. Wheat Export Price f.o.b. (11%)	Subsidy
	US$/MT	US$/MT
May 4	225.09	160.27
May 11	227.74	150.73
May 18	227.74	150.73
May 25	-	148.72
June 1	220.46	148.72
June 8	233.75	148.72
June 15	-	122.63
June 22	265.21	117.41
June 29	251.32	-
July 6	266.10	93.74
July 13	263.45	94.70
July 20	270.06	94.70
July 27	264.33	114.16
August 3	257.94	113.14
August 10	262.35	113.14
August 17	272.49	-
August 24	268.80	122.68
August 31	270.06	-
September 7	268.30	126.09
September 14	-	126.09
September 21	269.40	-
September 28	272.05	129.29
October 5	278.15	121.03
October 12	271.16	119.14
October 19	283.95	116.29
October 26	272.27	116.29

Source: International Wheat Council Weekly Market Reports

Rice Summary

Nigeria produces most of the rice it consumes. In 1979 nearly 80% of rice consumption came from domestic production, while virtually all wheat consumed was imported.

The government assists rice producers in many ways. In the Spring of 1979 the government launched rice production efforts in six states (Niger, Sokoto, Kano, Kwara, Plateau and Imo) which increased total area planted to rice. In March of 1980 the Ministry of Finance announced that increased self-reliance in agricultural production would be one of the three highest priorities in the Nigerian 1980 budget, a commitment that translated into concrete federal assistance to rice producers in the form of (1) improved rice seed; (2) rice threshers and irrigation pumps; (3) fertilizer; (4) tractors for hire; and (5) assistance in land clearing.

The government also provides a support price mechanism for rice. But because market prices have stayed consistently above support levels, support prices have not helped increase production. In 1979 the rice support price, paddy equivalent, stood at ₦191.50, while market prices ranged from ₦250-300.

Despite domestic production gains due to subsidized inputs, Nigerian imports of rice have risen dramatically, due to income gains (described in the wheat section) coupled with growing consumer preference for rice. In addition, domestic rice is red-grained, while consumers in Nigeria prefer white-grained varieties supplied by the United States and Thailand. Hence, consumer preference is boosting demand not only for rice, but also for the particular varieties of rice available from foreign suppliers.

The United States has held a significant though erratic share of the rice market in Nigeria (see Table 30). Two reasons have been advanced for this consumer resistance to rice originating from the other major supplier--Thailand. The unpleasant characteristics of Thai rice cited by Nigerian consumers have been attributed to the parboiling that Thai rice undergoes, though this consumer reaction conflicts with the popularity of Thai rice in other African countries such as Senegal. Secondly, locally-based traders claim that Thai suppliers are undependable. Some scheduled deliveries never arrive, and it is hypothesized that these shipments are resold in transit to other buyers.

In 1974 the government lowered the import duty on rice from 66 2/3% to 20%, and again in 1975 to 10%. Nigerian imports leaped from 8,000 metric tons in 1974 to 42,000 metric tons in 1975 and 103,000 metric tons in 1976. (Table 30). But rice exporters' efforts to penetrate the Nigerian market have on occasion been frustrated by government policies. In October of 1978 the government restricted rice imports to shipments of 50-kilo bags or larger. Then the government halted all rice imports in Autumn of 1979. Total Nigerian rice imports plummeted from the 1978 level of 564,000 metric tons to 250,000 tons in 1979. The stated reason for the import curb was to achieve control over foreign exchange losses.

Despite problems with government policy, rice exporters look to the Nigerian market with considerable hope. Despite federal subsidies for inputs, domestic production has not kept pace with demand. Rice production is not officially targeted like wheat. In addition, rice mills lack spare parts and suffer from soaring labor costs and production complications due to mixing of varieties. These problems enhance the

desirability of milled rice from foreign suppliers, which already enjoys favor among Nigerian consumers because of its long-grain feature.

Secondly, incomes and population are projected to grow, providing further upward pressure on demand for rice. Finally, foreign rice reportedly enjoys a considerable price advantage over Nigerian-produced rice. World Bank data has simulated the level at which domestic rice would have to be priced at farm level in order to compete directly with imports. 2/ Paddy prices at the time of their survey were about ₦85-115 higher than the derived farmgate price basis imports--the difference resulting in higher margins for imported rice.

Corn Summary

Corn has traditionally been produced in the Southern and Western regions of Nigeria, where two corn crops are harvested: one in July/August and a second in December/January. The rainfall levels in these regions are high enough to cause considerable post-harvest losses and storage complications.

The savannah regions of Central and Northern Nigeria offer excellent potential for expanded corn area. More moderate rainfall levels reduce storage and loss problems, and yields are generally higher. But low consumer preference for corn in these areas has stymied growth in savannah corn production. Corn production in other areas has not kept pace with the combined demand of human consumption and the growing animal feed sector.

Almost all domestically produced corn is consumed at the local level. Very little is left for feed manufacturing. The feed industry has been competing for corn supplies since the early 1970's, putting pressure on domestic corn prices and occasionally prompting government policy responses. Domestic supplies dwindled early in 1976, driving up retail prices in Lagos 30% over their level the year before. The government placed an official ban on exports of corn. (Since Nigeria does not normally export corn, this move was presumably intended to stave off illegal shipments into neighboring countries).

Meanwhile feed mill operators resorted to importing corn in 1976 helped by 1974-75 tariff reductions, Nigerian imports of corn in 1976 rose to 25,000 metric tons from negligible levels the year before, and have subsequently trended upward. The U.S. has supplied virtually all of Nigeria's corn.

Government trade policies have occasionally disrupted the flow of U.S. corn into Nigeria. Phytosanitary requirements on U.S. corn limited growth of U.S. corn exports into Nigeria during 1979. In mid-1978 the Nigerian Federal Ministry of Agriculture alerted plant quarantine officials in Lagos to alleged objectionable bacteria strains in U.S. corn arriving in Nigeria. Restrictions on entry of U.S. corn were imposed on January 1 of 1979 and were maintained over U.S. objections until October of the same year. The precise quantitative effect of the ban on corn imports is not yet known. U.S. exports of yellow corn to Nigeria for the January/August period of 1980 (immediately following the ban) jumped to 95,000 metric tons from 19,000 metric tons during the comparable period last year when the ban was in effect--suggesting that Nigerian corn imports would have been higher in 1979 without the ban.

2/ Nigeria Agriculture Sector Review, June 29, 1979. Vol. I, End Table 9.

Cautionary Remarks on Projecting Grain Demand for Nigeria

Table 32--Variation Among Income Elasticities for Nigeria

Crop	Income Elasticity by Source			
	FAO	Olayide (1973)	Simmons	IBRD Estimate
Maize			.99	.4
Millet			.21	.4
Sorghum			.15	.4
Rice	.9	.6	.85	.5
Wheat	1.5	1.1		1.5

Source: World Bank, Nigeria Agriculture Sector Review, June, 1979.

Income elasticities are important for projecting future demands for foodgrains in Nigeria. The above table represents elasticities that have been calculated and estimated by various bodies and researchers. These elasticities are for the major food grains in the country.

While elasticities may be utilized to project demand, their use must be treated with caution. A majority of producers cum consumers live in the rural areas. Since most of the production from these farmers is produced partly for subsistence, the ratio of subsistence production should be incorporated into the model while estimating the elasticities. Furthermore the studies cited are time-specific (e.g. Simmons study was conducted in 1971-72, nearly 10 years ago). Hence use of the study data may not reflect changes in tastes and preferences.

Simmons study shows an elasticity of .99 for maize. At the time of the study maize grown in the area was for local consumption and also a local variety. Since then, two development projects have introduced improved varieties of maize which play the role of cash crops.

The elasticities for wheat suggest that wheat is a luxury good. However, bread today is increasingly found in rural areas suggesting that its elasticity could be lower. The difference in elasticities estimated by Simmons and IBRD show the effect of using different assumptions to arrive at different projections of food demand.

Let us assume that the following equation is being utilized to project demand for sorghum.

$$D = \alpha + CY$$

Where D is the demand, α is an intercept, C is the elasticity, and Y is the income level. If we let α = 10 and Y = 100, then using Simmon's elasticity we arrive at a demand level of 11.5, while use of the IBRD elasticity gives us 14--a considerable difference.

A methodology for estimating rural demand elasticities is presently being applied to Nigerian data by the African and Middle East Branch, ESS. When this work is completed it will give a clearer picture of the structure of rural food demand in Nigeria.

However, increasing numbers of Nigerians are moving to urban areas, acquiring new tastes and possibly higher cash incomes. The impact of these changes on the structure of food demand needs to be investigated on a broader scale by a) a consumer preference study and by (b)an indepth research project on the topic which would include the collection of data from the field. 3/ Urban consumer studies have been conducted in the past in major urban centers like Ibadan. However, the data could be outdated due to the various changes taking place in consumer tastes. For example, Uncle Ben's rice is probably more popular than local varieties in urban centers. This change in taste exists also for poultry, dairy and beef products.

World Bank projections of food production and demand for major staples and grains are summarized in Table 33.

Marketing Situation

The basic marketing structure of Nigeria is a complex network of small producers linked by small local markets. Marketing in Nigeria is almost completely private and highly competitive, with margins uncontrolled. Outside of the primary channels, monopsony or oligopsony occurs due to poor competition among middle-men. Occasionally entire sets of crop loads are reserved for one or two buying agents. Such "thin" markets evidence significant seasonal price fluctuation. The markets along major marketing channels show more consistent pricing.

Government-controlled commodity boards in Nigeria have authority to acquire crops offered to them for sale at a fixed price. Because the commodity boards do not have exclusive control over purchasing and because market prices are well above official board prices, the board price is in effect a minimum support price. The government, through the Grain National Production Company, does purchase grain at support price for storage purposes. But because the market price far exceeds the official price for grains only negligible amounts of grain are acquired for storage. Virtually all storage is handled by the farmer and his household.

Poor market information is one of the key problems of Nigeria's market structure. This includes lack of standard grades and measures, which would allow more sale by description and eliminate some intermediate hauling. Poor information also aggravates the effect of large institutional buyers on the market. Military and other government institutions, schools, and hospitals buy food in bulk, removing large quantities from the market at one time and creating short-term supply disruptions and price gyrations.

Conditions in the major ports have improved relative to 1978-79, when sudden heavy importation caused severe port unloading delays, in some cases up to one year in duration. The improvement in port congestion is due in large part to reduced frequency of deliveries into Nigerian ports brought about by a comprehensive import surveillance program begun by the government early in 1979. Under this program a private Swiss firm--Societe General de Surveillance--clears every shipment into Nigeria

3/ These studies could be conducted under the auspices of the JACC which came about due to the memorandum of Understanding on Agriculture signed between the U.S. and Nigeria

Table 33-Projected Food Production, Demand, and Deficit in Nigeria

	Production				Domestic Demand				Deficit		
COMMODITY	GROWTH RATE 1975-1990	1975	1985	1990	GROWTH RATE 1975-1990	1975	1985	1990	1975	1985	1990
	%		1000 MT		%		1000 MT			1000 MT	
YAMS	-1.0	7453	6762	6468	3.8	7454	10849	13088	1	4087	6620
CASSAVA	2.3	6412	8088	9084	3.4	6412	8970	10608	-	882	1524
COCOYAM	-0.7	1601	1493	1442	3.8	1601	2331	2811	-	838	1369
MILLET	1.2	2349	2647	2809	3.8	2349	3419	4125	-	772	1316
SORGHUM	-0.8	2579	2372	2275	3.8	2579	3753	4527	-	1381	2252
MAIZE	-	1244	1246	1248	3.8	1254	1826	2202	10	580	954
COWPEAS	1.1	800	890	938	4.0	800	1188	1446	-	298	508
RICE	4.6	878	1371	1714	4.6	923	1454	1824	45	83	110
WHEAT	11.9	7	20	38	6.1	740	1337	1796	733	1317	1758
GROUNDNUT	-0.04	683	675	678	3.8	683	994	1199	-	319	521
BEEF	1.0	138	152	160	5.3	156	265	346	18	113	186
SHEEP	1.8	33	39	43	4.6	33	51	65	-	12	22
GOATS	0.9	86	94	98	4.6	86	136	171	-	42	73
POULTRY	1.0	25	27	32	5.4	25	41	52	-	14	20
PALM OIL	1.9	550	664	729	3.4	533	746	882	17	82	153

Source: World Bank

and the Central Bank issues a form stating the clearance is approved, before shipment can be made. In this way the Central Bank has maintained direct control over type of items and quantity of goods entering the country, and control over outflow of foreign exchange.

But port facilities themselves have also improved. The government recently issued permission to firms desiring additional berths at major ports to establish higher port receiving capacity. Furthermore, companies with processing facilities in Nigeria have been making greater use of the smaller inland ports such as Sapele by using ships with width specifications more suitable for the arrow, sharp-turning inland waterways leading to such ports.

The transportation network inland from ports is still badly in need of improvement, perhaps the most critical factor being roads. Roads in Nigeria are inadequate in number and general condition. Though no standard and comprehensive measure of road availability by type and condition has been made, measures of road density on agricultural development project sites give some indication of the situation. The World Bank estimates minimum road density desirable for a smallholder environmentment to be approximately 120 meters/km^2. Estimates of all-season road density among several project sites in Nigeria average 53 meters/km^2, with no appreciable variation. This relative paucity of roads makes distribution of crops difficult.

Poor road systems also force farmers to depend for sales upon a few traditional primary marketing channels characterized by few buyers and inflexible purchasing schedules. Private merchants usually arrive at distant purchasing locations with a fixed amount of naira. They buy what they can with the currency they can carry. If more grain exists than they can purchase, they cannot offer cashiers' checks or wire back to Lagos for negotiable letters of credit. Farmers owning the surplus grain incur additional costs in retransporting the grain home or to other markets. Farmers furthest from roads incur even greater transport costs and are more vulnerable to loss and damage. These factors reduce the effectiveness of pricing policy mechanisms.

Costs of Production

Cost of production is an important factor in the setting of producer prices. However, no comprehensive survey has yet determined costs of production on a national basis. A recent unpublished study attempted estimates for crop production in the Northern States.

Any findings must be viewed with caution because: a) mixed cropping is prevalent and hence it is difficult to approximate costs per crop in the mixture; b) costs have been calculated assuming medium and high levels of technology, while a majority of farmers work at a low level of technology; c) it is difficult to approximate wage rates.

Sorghum: Crop budgets constructed for Kaduna State show a per hectare range of 188 naira to 281 naira ($348-$520, based on 1.85 $/₦) depending upon the technology level used, the lower level assuming use of workbull, and the higher level using manual labor with advanced practices such as improved seeds and recommended levels of fertilizer. There are wide variations in yield and profit levels.

Regional and seasonal variation in consumer prices complicates determination of break-even prices. At the end of 1978, sorghum was selling at ₦220/metric ton ($407) in rural markets and ₦275/metric ton ($509) in the urban markets.

Millet: Millet is grown chiefly in mixtures. It is very difficult to construct a representative crop budget; budgets vary depending upon the crop mixture.

Maize: Maize is a relatively new crop in the Northern part of the country. Costs vary by level of technology from ₦88/metric ton ($163) for tractor level to ₦225/metric ton ($416) for manual.

At harvest time in 1979 market prices varied from ₦180/metric ton ($297) in a rural market to ₦250/metric ton ($413) in an urban market.

Rice: Estimates for farmgate rice prices are presented in the rice summary section. Market prices in the rural and urban areas showed steep increases in the latter half of 1979 and 1980. Near the end of 1979, rice was selling for ₦650-₦750/metric ton ($1073-1238 based on 1.65$/₦) in both markets. In some of the rural markets, rice was selling at a higher price than in the urban markets, reflecting the import situation and the marketing problems faced by traders.

Nigerian Agricultural Policy

A major government development policy initiated in May of 1976 aimed at boosting food self-sufficiency in the country. Called "Operation Feed the Nation" the policy provided the following incentives to agricultural producers and processors:

(1) A five-year tax relief offered to agricultural projects or concerns using locally-produced raw materials;

(2) Exemption for the livestock feed industry from paying import duty on agricultural machinery and raw materials;

(3) Establishment of subsidies for fertilizer;

(4) Establishment of the Agricultural Credit Guarantee Scheme, which involves commercial banks in agricultural development by directing them to divert a determined percentage of their portfolio to farmers in the form of loans. (See Table 13).

It should be noted here that credit is available to farmers through both non-institutional and institutional sources. Surveys have shown that most Nigerians smallholders' credit (perhaps 75%) comes from non-institutional sources: family and friends, private lenders, and merchants. Interest rates range as high as 90% on non-institutional loans. The expense imposed by these usurious rates must be weighed against the timeliness, convenience, and minimum of legal formality offered by such loans. One of the reasons some small farmers have been unwilling to join cooperatives is the unavailability of just such timely and convenient credit through many co-op organizations. Farmers receive credit through traditional private marketing intermediaries, and reciprocate by continuing to sell their crops directly to the intermediaries.

With regard to the fertilizer subsidy in item (3) above, the Nigerian government assumes control of procurement and distribution of fertilizer, and provides a subsidy as an incentive for farmers to utilize fertilizer.

There are problems with fertilizer distribution. Frequently fertilizer arrives too late for timely application, if it arrives at all. Farmers furthest from extention centers often receive no fertilizer. This is because extension agents receive straight commissions according to the number of bags sold, and therefore concentrate efforts near their headquarters, having no incentive to penetrate into smallholder areas farther away. Such travel would incur greater transportation expenses while earning no additional commission.

The initiatives begun in May of 1976 were continued and augmented in the 1978/79 budget where farmers and processors were provided the following additional incentives:

(1) Tax allowances to carry net losses forward indefinitely until written off against net profits;

(2) Tax exemptions on loans for agricultural investments;

(3) Transfer of agriculture from Schedule Z to Schedule 3 of the Indigenization Decree; this transfer allows foreign investors to have majority interest in ownership of agriculture-related companies and concerns.

The statements of the GON Minister of Finance in March of 1980 regarding budget priorities strengthened what had been emphasized in earlier official policies: that agriculture is at the forefront of Nigerian policy concerns. Launching a program called "Green Revolution", the GON set three budget priorities for 1980; (1) increased self-reliance in agricultural production; (2) a strengthened Nigerian currency; and (3) more balanced income distribution.

Government programs are a result of specific government policies. With the 4th Development plan period about to begin (1981-85) and the budget allowances under the Green Revolution plan fully carried out, there may appear finally to be a genuine reorientation toward agriculture in Nigerian policy--policies aimed chiefly at increasing domestic agricultural production and decreasing agricultural imports. The key questions that need to be raised now are:

a) Will government expenditures in agriculture increase in line with stated public pronouncements?

b) Will government policy assure that projects related to agriculture are sustained after their investment phase is over?

The approach of the Nigerian government to agriculture is to try a combination of projects, both in size and emphasis. It appears that World Bank financed Rural Development projects and River Basin Developmental Authorities will be the cornerstone of the current planning and survey.

The World Bank Projects (ADP's) are generally intended to focus upon the small-holder, although preferential treatment is known to be given to large scale and progressive farmers in at least one of the pilot projects. Part of the Green Revolution Strategy has been to initiate modified versions of the ADP's, known as ADA's (Accelerated Development Areas).

The estimated expenditure on agriculture during the 1981-85 plan period is ₦4.365 billion, of which ₦916.8 million would be on input subsidies. These estimated projections of expenditures on agriculture cannot be confirmed until the budget for 1981 is released and passed.