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*This paper was prepared to provide background information on the issues and opportunities for economic assistance to the countries of Southern Africa thru and following the periods of transition in Zimbabwe and Namibia. It includes Social, Geographic, Economic, and Political information.*

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Prepared by:

Southern Africa Task Force

Office of Southern and
East African Affairs
Africa Bureau, USAID


# Transition in Southern Africa-----

# ZIMBABWE

# A FRAMEWORK FOR U.S. ASSISTANCE IN SOUTHERN AFRICA

## COUNTRY RESOURCE PAPER

## RHODESIA

Submitted by

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# I

## GENERAL BACKGROUND

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# I. GENERAL BACKGROUND

## A. Physical Features

Rhodesia covers a landlocked area of 150,820 square miles between 15 and 22 degrees south latitude in south-central Africa. Four-fifths of the country is a high plateau with elevations of 3,000 to 4,000 feet above sea level. A higher plateau, called the highveld, crosses the area from southwest to northeast at a height of 4,000 to 5,000 feet. In the east along the Mozambique border, a mountain range rises to 6,000 to 8,000 feet.

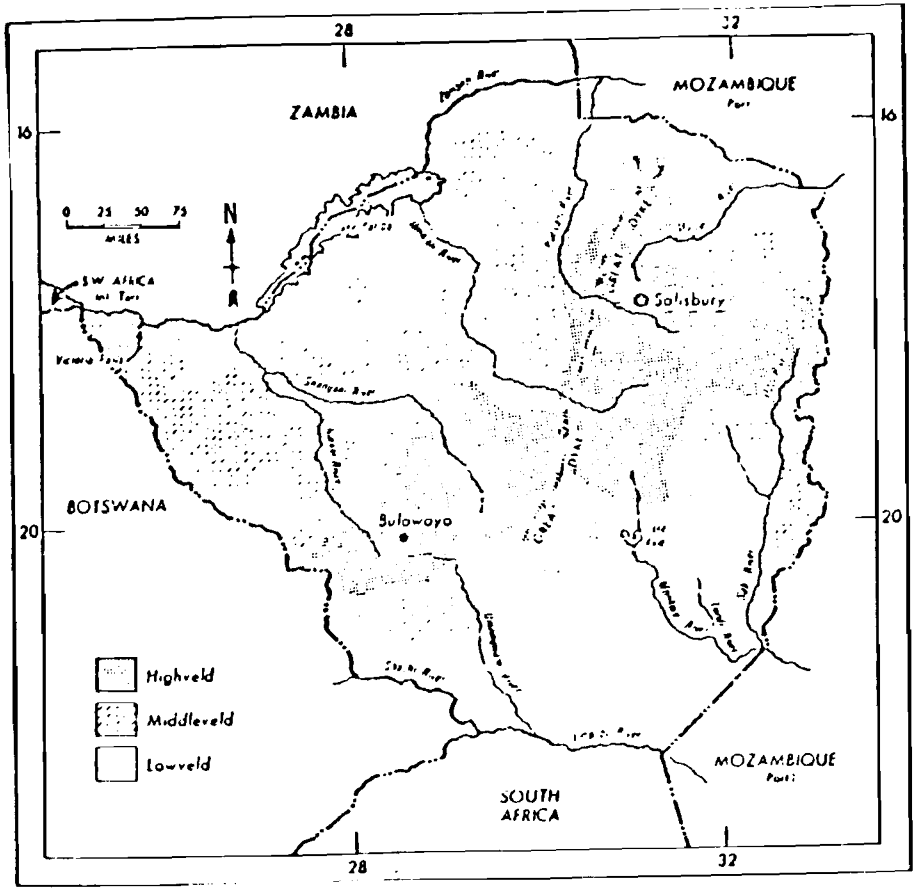
The land slopes down to the Zambezi River which forms the border with Zambia to the north, and to the Limpopo River which forms the border with Mozambique to the east. South Africa is Rhodesia's neighbor to the south and Botswana is its neighbor to the west. Although Rhodesia lies within the tropics, its climate is subtropical, with sharply varying temperatures. Temperatures range from a minimum of 37° F to 47° F in the winter season (May to August), to maximums of from 37° F to about 100° F from November to March.

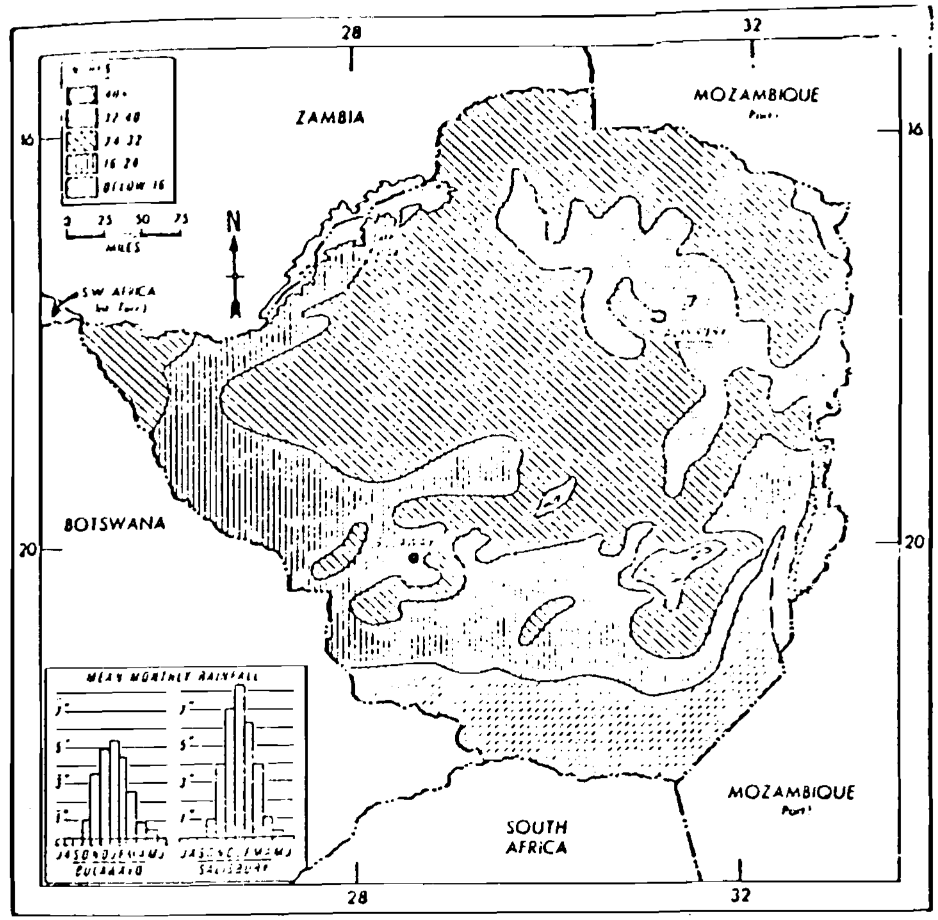
Only a limited area can be cultivated. More crucial for agricultural production than the amount of land, however, is the quantity of rainfall, which is roughly related to altitude. The highveld receives an average of 29 inches of rainfall a year, the surrounding middleveld less than 16 inches, and the arid low-lying regions very little or none at all. But even in the highveld which especially attracted foreigners, the more generous rainfall is limited to the summer season. (Figure I-1).

Land apportionment between the races was largely the spontaneous product of historical events and the operation of economic forces. In 1894 the first areas were set aside for exclusive African use, introducting the principle that land not specifically reserved was freely subject to acquisition by white settlers or mining companies. Since then the areas alloted to one or the other race have undergone varying changes. (Figure I-2). But whites managed to acquire most of the land along the railway and in proximity to urban markets, and a disproportionate share of the land most suitable for intensive cultivation. The mosaic of land apportionment between the races was legally locked into place by the Land Tenure Act of 1969. It divided the entire country into three classes of territory: African Areas -- 45 million acres (or 46 percent), European (white) Areas -- 45 million acres (or 46 percent) and National Land -- 6.6 million acres (6.8 percent). (Figure I-3).

FIGURE I-1

Annual Rainfall, Rhodesia




Source: Adapted from George Kay, Rhodesia: A Human Geography

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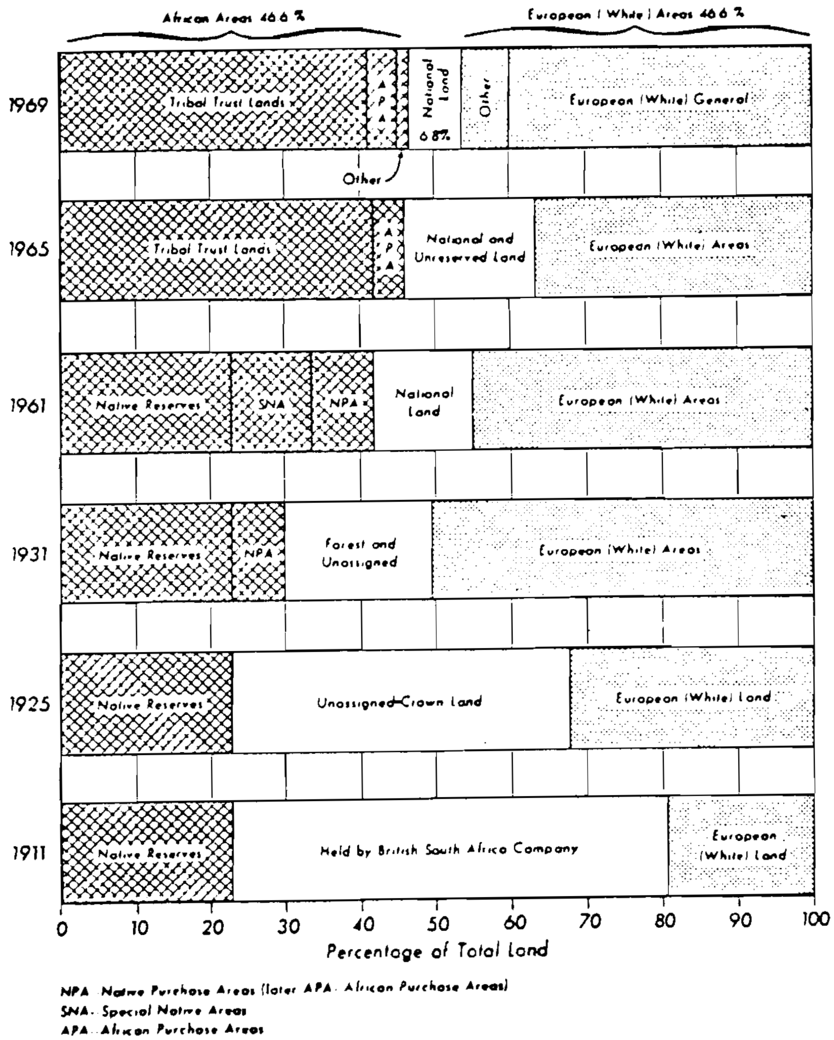
FIGURE I-2

<u>Land Apportionment, Rhodesia, 1911-69</u>

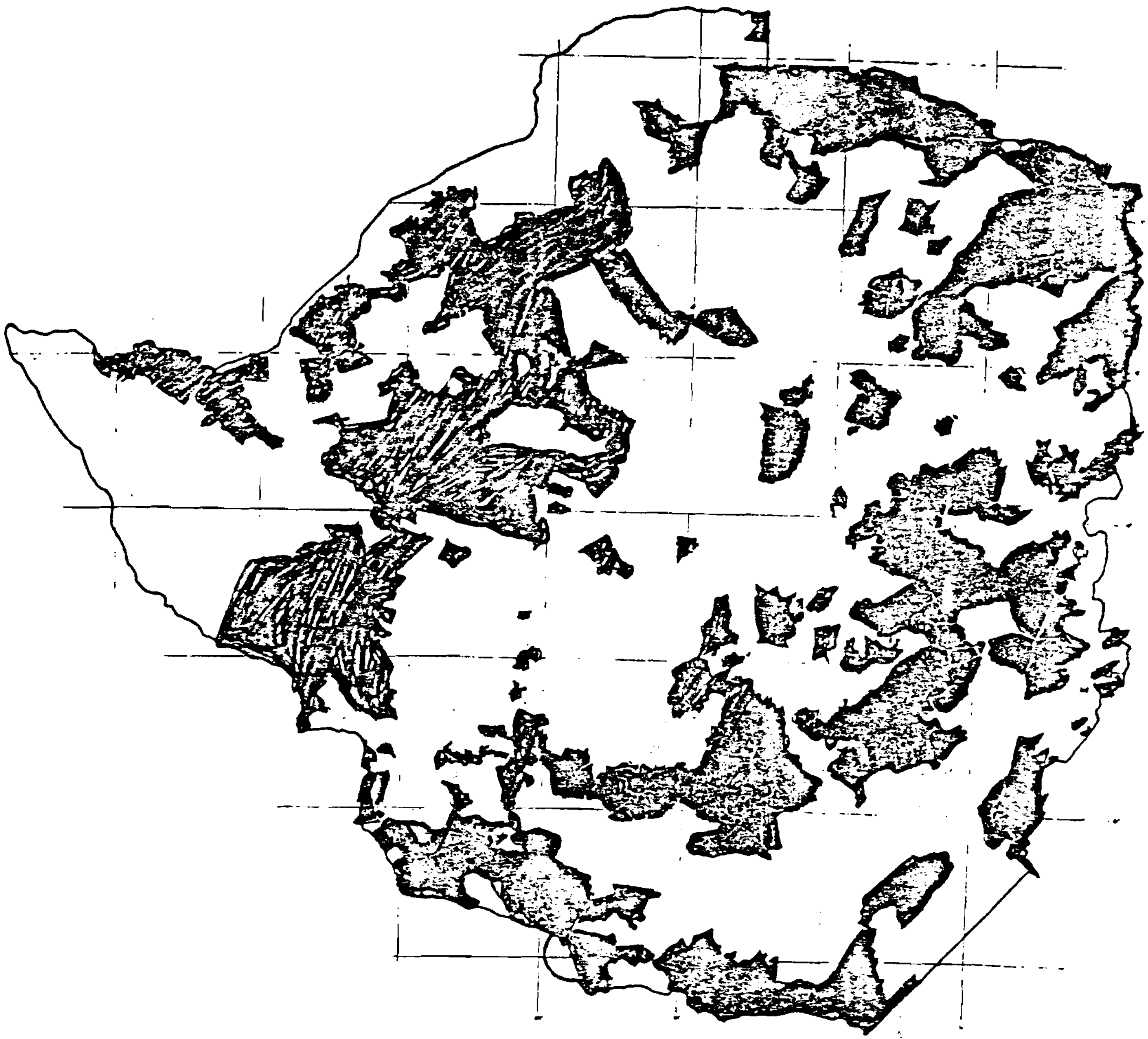



Source: Adapted from George Kay, <u>Rhodesia: A Human Geography</u>

FIGURE I-3

Distribution of African and European Areas

Shaded areas are African; remainder European and National Land.



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## B. Demography

On December 31, 1975, Rhodesia's total population was estimated at 6,420,000, a projection from the last official full-scale census taken in 1969. The breakdown among the four officially designated racial components was as follows:

| | |
|---|---|
| Africans | 6,110,000 (95 percent) |
| Europeans (local name for whites) | 278,000 (4.5 percent) |
| Asians/Coloureds | 30,900 (0.5 percent) |

The growth rate of the different groups varies considerably. The average number of live births per woman is 7.60 for Africans and 2.58 for Europeans. Although high infant mortality and high death rates for all ages of Africans partially negate the high fertility rate of African women, the African population is estimated to be growing at 3.6 percent annually, one of the highest in the world. The corresponding figure is 1.7 for Asians, 1.5 for Coloureds and 0.9 for Europeans. In the case of the latter, immigration and emigration have had a greater impact on population size than birth rates. (Table I-1).

TABLE I-1

Population by Race, 1901-1975

| Year | Africans | Europeans | Asians | Coloureds |
|---|---|---|---|---|
| 1901 | 500,000 | 11,000 | --- [a] | --- [a] |
| 1921 | 860,000 | 33,620 | 1,250 | n/a |
| 1941 | 1,400,000 | 68,950 | 2,550 | n/a |
| 1961 | 3,550,000 | 221,000 | 7,100 | 10,400 |
| 1969 | 4,880,000 | 230,000 | 9,000 | 15,300 |
| 1975 | 6,110,000 | 278,000 | 10,000 | 20,900 |

a Total of Asians and Coloureds less than 1,000
n/a - not available

Higher birthrates are reflected in the larger proportion of children in the different racial groups. Among Africans, children up to the age of 14 represented 47.8 percent of the population in 1969. (53.3 percent of those living in the Tribal Trust Lands). The corresponding figure for Europeans was 28.9 percent.

More than 18 percent of Rhodesia's total population is concentrated in the twelve largest towns, and an additional 1.9 percent in about seventy minor urban settlements. While Africans are mainly rural, Europeans, Asians and Coloureds are predominantly urban. While urban centers are generally regarded as the domain of Europeans, Africans constitute the majority in all of them. (Table I-2). For the vast numbers of Africans who can no longer subsist on farms, urban employment represents an alternative and by the mid-1970s city life was the only one known to a growing number of African children, although most urban adults had made the transition from country to town within their lifetime.

## C. Culture

Rhodesia's present political deadlock -- basically the juxtaposition of two nationalist and irreconcilable aspirations -- can only be understood by a look at its history:

° the arrival of white settlers in the 19th century spearheaded by Cecil Rhodes, an English-born adventurer and entrepreneur, and the setting up of his British South African Company;

° the settlers' refusal in 1923 to be incorporated into the Union of South Africa and the subsequent establishment of a separate British Crown Colony (and a separate consciousness on the part of the settlers);

° the building, after World War II, of a prosperous economy whose benefits, however, accrued predominantly to the European minority (5 percent of the population);

° the concurrent awakening of African resentment and political agitation.

In Rhodesia's plural society Europeans, Africans, Asians and Coloureds live in closed, largely endogamous societies whose members confine contact with other groups mainly to economic and administrative matters.

Of nearly 9,000 Asians listed in the 1969 census, 67 percent had been born in Rhodesia. The majority are Indians, mostly from the Gujarat. Almost entirely urban, they are the country's middlemen, small traders and craftsmen whose economic importance is far greater than their numbers would indicate. In African townships they hold a monopoly in the retail trade. The Coloureds, of mixed African/European and occasionally Asian/African origin, have never exceeded 0.3 percent of the population. Their precise number are, however,

TABLE I-2

Population and Racial Composition of Major Urban Centers, Rhodesia, December, 1972

| City or Town | Africans | Europeans | Asians | Coloureds | Total |
|---|---|---|---|---|---|
| Salisbury | 360,000 | 119,900 | 4,350 | 6,030 | 490,280 |
| Bulawayo | 230,000 | 57,200 | 2,610 | 6,630 | 296,440 |
| Gwelo | 44,000 | 9,200 | 340 | 780 | 54,320 |
| Umtali | 42,000 | 9,400 | 540 | 500 | 52,440 |
| Que Que | 35,000 | 3,800 | 320 | 240 | 39,360 |
| Gatooma | 27,000 | 2,600 | 150 | 220 | 29,970 |
| Wanki | 20,000 | 2,700 | --- | 50 | 22,750 |
| Shabani | 15,000 | 1,800 | 40 | 70 | 16,910 |
| Sinoia | 14,000 | 1,900 | 220 | 40 | 16,160 |
| Fort Victoria | 11,000 | 2,800 | 170 | 230 | 14,200 |
| Marandellas | 10,000 | 2,400 | 20 | 20 | 12,440 |
| Redcliff | 9,000 | 1,700 | --- | --- | 10,700 |
| Total | 817,000 | 215,400 | 8,760 | 14,810 | 1,055,970 |
| Urban residents as percentage of racial group or total population | 14.9 | 80.7 | 91.2 | 83.2 | 18.2 |

difficult to ascertain because many pass as members of other racial groups. They hold mostly manufacturing, trade and service occupations. Both Asians and Coloureds tend to consider the political aspirations of the Africans as a threat to their own position and have aligned themselves to a considerable extent with white power.

The main division in the country is between the Africans and Europeans. The two groups differ profoundly in principles of land ownership, religious beliefs, social organization, technology, family life, and values concerning time and leisure. In African society the emphasis is on kinship, conformity, cohesion and communal values in contrast to the individualistic, achievement-oriented outlook of the Europeans. Partly to preserve these separate cultures and partly to minimize competition and conflict, the Europeans have established a two-strata society in which membership in a racial category regulates behavior and access to educational and economic opportunities -- a society marked by white supremacy and African subordination. Whites, who have a virtual monopoly on capital, modern skills and organizational talent, command the allocation of resources and benefits and have anchored their privileges in the political and legal system.

Whites are referred to as Europeans although by the end of the 1960s 68 percent had been born in Africa (41 percent in Rhodesia, 22 percent in South Africa, 4 percent in Zambia and 1 percent elsewhere in Africa.) Of the remaining 32 percent about two-thirds were born in Great Britain. Many, especially those from Great Britain or South Africa, have retained personal ties with other countries. In 1974 and 1975 about 20,000 Portuguese arrived from Angola and Mozambique.

Variances in origin, social class, occupation and religious affiliation have become inconsequential because of a common fear of the Africans who outnumber them twenty-one to one. A relatively egalitarian community has emerged whose members are bound by shared experience, outlook and the use of the English language, and who have been able to quickly assimilate Portuguese, German, Greek and Italian immigrants. The vast majority are urban -- 82.2 percent in 1975. Few are in lower status occupations and only a small percentage are farmers (about 6,500 in the mid-1970s). Most are professionals, urban employees or business owners. A fair number of those who came after UDI did so at government expense. Except for the owners of businesses and farmers it will be fairly easy for many whites to leave the country. This is indicated by the comparatively high exodus in 1975 and 1976 which included many young men fearing military demands.

Rhodesia's whites are avowedly independent capitalists, but have not been adverse to government intervention and supervision -- in their favor. The business community has tended to support a limited amount of liberalization whereas farmers who have had a disproportionate voice in the government have been most reticent to relinquish any of their privileges.

Although the general standard of living for Africans, and especially the standard of living of Tribal Trust Land inhabitants, is far from satisfactory, the African population in Rhodesia is, by the Continent's standards, reasonably well off in purely economic terms. The crude death rate (average 14.4 per 1,000 during the 1970-1975 period) is among the lowest, and life expectancy at birth (53) ranks among the highest in sub-Saharan Africa attesting to reasonable health conditions. Though the literacy rate is estimated at only 20 percent to 30 percent, which is close to the average of Sub-Saharan Africa, virtually all primary school children are now being educated.

Most Africans in Rhodesia belong to one of two major ethnic groups. The 1969 census listed nearly 71 percent as Shona speakers and nearly 16 percent as speakers of Ndebele (and related Nguni).

The Ndebele, who have a warrior and pastoral tradition, entered the area in the early middle 19th century, conquering the Shona and assimilating portions of the local population. Thus, half of the Ndebele speakers are of Shona tradition. The memory of this fairly recent warfare has been overshadowed by the confrontation with European society. It has survived, however, in attenuated form into the 1970s, occasionally influencing modern political alignments.

The rest of the indigenous Africans belong to six minor groups. A sizeable proportion are labor immigrants from neighboring countries. (The proportion was 7.8 percent in 1969, but it appears to have declined considerably since.)

Africans in Rhodesia are mostly rural. In 1972 61.5 percent were estimated to be living in the African rural areas (the majority as subsistance farmers) and 20.4 percent in the European rural areas (mostly as wage laborers). Only 18.1 percent were estimated to be living in urban areas. With very few exceptions they were not allowed to own property there, but were confined to African townships which had been established following a 1941 amendment to the Land Apportionment Act.

The African areas, with the exception of the African Purchase Lands, are subdivided into chiefdoms. Although often chosen among those who would traditionally have been chiefs, the present day chiefs are appointed government officials. Under each chief are from six to twelve ward headmen, and within each ward a varying number of kraal headmen who are in charge of several kraals numbering up to 200 people.

Chiefs and headmen form the lowest level of the government administration rather than an element of the traditional order. Many of their followers continue to regard them as holders of traditional powers although their real power is limited and diminishing. They have been courted by the white regime and most have generally cooperated and are therefore discredited, but several of them have been detained recently for their support of guerillas.

A small urban, modern educated African elite, holds mostly white collar jobs in transport, communication, banking, insurance, education and health. Few of them have incomes higher than those of poor whites. (On the average, whites earn more than ten times as much as Africans.) But, this modern elite has adopted western criteria for personal progress, and feels blocked and frustrated by the color bar.

African society is fragmented. There are fissures along ethnic lines, a gap between the generations, a different outlook for those living in the subsistence economy and those who have a stake in the modern white-controlled sector. Wage laborers, whether urban or rural, tend to circulate between the white labor markets and the rural homelands and are thus exposed to constantly varying influences.

Since its inception the African nationalist movement in Rhodesia has been characterized by discord and shifting alliances. The major division has in the past been between ZAPU (Zimbabwe African People's Union) identified to some extent with the Shona, and ZANU (Zimbabwe African National Union) with the Ndbele. There is also antagonism among various Shona subgroups. Because of easier access to modern education the Zezuru, Manyika and Ndau subgroups have hiterto played a political role out of proportion to their numbers. This has been resented by the Karanga who may, because of the size of their group, be the dominant force in an independent Zimbabwe.

# II. ECONOMIC OVERVIEW

# II

## ECONOMIC OVERVIEW

- GDP
- Balance of Payments
- Other

# II. ECONOMIC OVERVIEW

## A. Salient Features of the Economy

1. Gross National Product -- Rhodesia's Gross National Product, estimated in 1975 at Rhodesian $2 billion (US$ 2.8 billion) qualifies the country as a major economic power of sub-Saharan Africa. In 1973 the latest year for which comparable data could be obtained, only the South African Republic and Nigeria (a country less developed but much larger than Rhodesia) had a markedly higher GNP, while Angola, Ghana, the Ivory Coast, Zaire and Zambia had comparable GNPs. In 1973, with a GNP of US$ 430 per capita, Rhodesia ranked seventh among the sub-Saharan nations, and GNPs per capita were substantially higher only in the South African Republic and in Gabon. (Table II-1).

2. Structure of Production -- The economy of Rhodesia is more highly diversified and sophisticated than is typical for countries with a comparable GNP per capita. In virtually all such countries a primary sector (agriculture or mining) plays a key role, and frequently one or a few internationally traded crops or minerals are the mainstay of the economy. In 1973 in sub-Saharan Africa as a whole (excluding the South African Republic) agriculture generated 36 percent of the GNP, mining 16 percent and manufacturing and utilities only 12 percent. In Rhodesia manufacturing and utilities generated 27 percent of the GNP (the highest on the Continent including the South African Republic), agriculture 16 percent and mining 7 percent. And each of these sectors produced a variety of goods. (Table II-2).

Because of this high degree of diversification, Rhodesia's economy is inherently more stable than the economies of countries highly dependent on income derived from one or two internationally traded commodities. Rhodesia's ability to switch its production asssortment and to substitute for imported commodities explains why the economy was not more deeply hurt by the UN sanctions imposed after the Unilateral Declaration of Independence in 1965.

The products manufactured by the Rhodesian industry include consumer non-durables, as well as consumer durables and capital goods. In 1973 the gross output of all manufacturing enterprises equalled R$ 1,013 million (the value added R$ 333 million); metals and metal products accounted for 23 percent of the gross output, foodstuffs 22 percent, chemicals and petroleum products 13 percent and textiles 10 percent.

TABLE II-2

Rhodesia's Gross Domestic Product by Sector
(In millions of Rhodesian dollars)

| | 1966 R$ mn | 1966 Percent | 1975 R$ mn | 1975 Percent |
|---|---|---|---|---|
| Agriculture | | 19.6 | | 16.0 |
| European | 85.8 | (12.5) | 216.3 | (11.0) |
| African | 49.0 | ( 7.1) | 95.2 | ( 5.0) |
| Manufacturing | 122.9 | 17.9 | 474.5 | 24.8 |
| Distribution | 89.5 | 13.0 | 260.5 | 13.6 |
| Transport | 54.5 | 7.9 | 102.6 | 5.4 |
| Construction | 32.6 | 4.7 | 106.7 | 5.6 |
| Mining | 45.2 | 6.6 | 132.5 | 6.9 |
| Public Administration | 44.8 | 6.5 | 122.8 | 6.4 |
| Electricity, water | 24.2 | 3.5 | 49.1 | 2.6 |
| Other sectors | 140.0 | 20.3 | 349.3 | 18.2 |
| GDP at factor cost | 688.5 | 100.0 | 1,909.5 | 100.0 |
| less: net income paid abroad | -19.2 | | - 42.6 | |
| add: indirect taxes (net) | 48.8 | | 126.4 | |
| GNP at market prices | 718.0 | | 1,993.2 | |

Source: Annual Economic Survey, 1975

The 1973 mining output of Rhodesia was valued at R$ 136 million. In 1965 asbestos mining accounted for 27 percent of total value of output, gold mining for 22 percent, copper for 19 percent, coal for 12 percent and chrome ore for 8 percent. Detailed figures for subsequent years have not been published, but it is known that nickel and coal mining have become relatively more important, and that pyrite mining, yielding raw materials for iron smelting and sulfuric acid production has been developed on a substantial scale.

Agricultural production was valued in 1973 at R$ 311 million, of which R$ 42 million represented concumption by rural households, while R$ 269 million was marketed. Field crops account for about 60 percent of the gross marketed output, livestock for 37 percent, and forestry and miscellaneous products for the balance. Flue-cured Virginia tobacco, corn and cotton are the most important field crops.

3. Economic Duality -- Rhodesia's economy is "dual": the modern, wage sector generates 96 percent of the Gross National Product, but over 60 percent of the population lives on Tribal Trust Lands where the traditional mode of tribal ownership and subsistence agriculture prevail. However, at any time, about half the working age male members of the Tribal Trust Land families are away from their homes working in the wage sector. The traditional sector derives substantial support from their wage earnings.

The divided family pattern -- working age males in the wage sector and away from their families on Tribal Trust Lands -- is fostered by the demographic pressures on tribal lands, the area of which if fixed by law; by the work opportunities offered in the wage sector; and by impediments to family migration to non-Tribal Trust Land rural areas and to urban areas.

The division along racial lines is of even greater importance than the division into a wage sector and into a traditional sector. The Africans provide most of the unskilled labor, while a major part of the skilled and professional posts are occupied by members of other races (mostly people of European origin) who also own most of the nation's productive capital. The elimination of these racial disparities is the most pressing problem awaiting the majority rule government -- how to give the majority of the population a major share of the rewards of work and a major stake in the country's capital without seriously disrupting the economy.

## B. The Institutional Structure

Rhodesia has a well-articulated system of economic institutions, with the government playing an active role in development promotion and regulation, but with most of the means of production in private hands. It also has a complex and highly developed banking system. The sophistication of the institutions is well beyond that found in most countries of a comparable economic level. They should provide an excellent framework for further growth if they can be successfully re-oriented toward the majority of the people.

1. The Public Sector -- The Public Sector in Rhodesia generates approximately 27 percent of the Gross National Product and includes the central and local governments, public corporations, government financial institutions and central and local government enterprises. Central government expenditures amount to some 50 percent of the value added by the public sector. The 1974-1975 central budget account shows actual expenditures of R$ 415 million. Current expenditures amount to R$ 216 million, capital expenditures to R$ 58 million, and transfer payments to R$ 141 million, of which R$ 33 are payments to public corporations.

In recent years 25 percent of the current budget and 40 percent of the capital budget expenditures went for economic services, which include the infrastructure and the productive sectors. Outlays on transport and communications and on agriculture were of about the same magnitude. The two sub-sectors taken together account for 60 percent of the economic services total. Loans to Rhodesia Railways are the single largest item, over R$ 20 million per year -- 15 percent of the sector's total. (Tables II-3, II-4 and II-5).

The public corporations include two large transport companies, Rhodesia Railways (the largest single employer in the country) and Air Rhodesia, and the Electricity Supply Commission which distributes power outside areas served by municipal systems. They also include a number of bodies through which the government participates in sectoral planning and financing. These are: the Tribal Trust Land Development Corporation, the Agricultural Finance Corporation, the Industrial Development Corporation and the Mining Development Corporation.

The central government derives most of its revenue (80 percent in 1974-1975) from taxation. Income and profit taxes account for 66 percent of the total tax yield; the reliance on such direct taxes is yet another characteristic of highly developed economies. The income tax affects mainly the wealthier strata of society. The basic tax rate was augmented by a 10 percent surcharge in 1974. The corporate profit tax, which stood at 40 percent, was increased to 44 percent in April 1975.

Rhodesia's public debt amounted in December 1975 to R$ 695.5 million (36 percent of the GNP) and the 1975 interest payments

TABLE II-3

Economic Services Expenditures
of the Central Government - 1965, 1971-1974
(In R$ millions)

| | 1965 Expen-diture | Percent of Total | 1971 Expen-diture | Percent of Total | 1972 Expen-diture | Percent of Total | 1973 Expen-diture | Percent of Total | 1974 Expen-diture | Percent of Total |
|---|---|---|---|---|---|---|---|---|---|---|
| General Services | 11.4 | 29.8 | 16.1 | 17.9 | 17.9 | 16.8 | 20.9 | 17.3 | 26.3 | 16.6 |
| Current | 7.0 | 18.3 | 9.9 | 11.0 | 11.4 | 10.7 | 12.5 | 10.3 | 14.3 | 9.0 |
| Capital | 4.4 | 11.5 | 6.2 | 6.9 | 6.5 | 6.1 | 8.3 | 6.9 | 11.9 | 7.5 |
| Agriculture | 16.9 | 44.2 | 40.0 | 44.4 | 42.4 | 40.0 | 30.3 | 25.0 | 48.0 | 30.3 |
| Current | 9.6 | 25.1 | 30.9 | 34.3 | 33.1 | 31.1 | 22.4 | 18.5 | 37.3 | 23.5 |
| Capital | 7.3 | 19.1 | 9.0 | 10.0 | 9.3 | 8.7 | 7.9 | 6.5 | 10.7 | 6.8 |
| Transport & Communications | 3.2 | 8.4 | 24.4 | 27.1 | 28.4 | 26.7 | 44.0 | 36.4 | 48.0 | 30.3 |
| Current | 0.5 | 1.3 | 2.5 | 2.8 | 4.3 | 4.0 | 16.6 | 13.7 | 22.0 | 13.9 |
| Capital | 2.7 | 7.1 | 21.9 | 24.3 | 24.1 | 22.7 | 27.4 | 22.6 | 26.1 | 16.5 |
| Of which loans to the Rhodesian Railway | 2.1 | 5.5 | 19.8 | 22.0 | 23.8 | 22.4 | 26.7 | 22.1 | 24.3 | 15.3 |
| Other | 6.7 | 17.5 | 9.5 | 10.6 | 17.6 | 16.6 | 25.9 | 21.4 | 36.1 | 22.8 |
| Current | 1.7 | 4.5 | 3.0 | 3.3 | 8.3 | 7.8 | 9.2 | 7.6 | 23.5 | 14.8 |
| Capital | 5.0 | 13.0 | 6.6 | 7.3 | 9.4 | 8.8 | 16.7 | 13.8 | 12.6 | 8.0 |
| Total | 38.2 | 100.0 | 90.0 | 100.0 | 106.3 | 100.0 | 121.0 | 100.0 | 158.4 | 100.0 |
| Current | 18.9 | 49.5 | 46.3 | 51.4 | 57.1 | 53.7 | 60.8 | 50.2 | 97.1 | 61.3 |
| Capital | 19.3 | 50.5 | 43.7 | 48.6 | 49.2 | 46.3 | 60.2 | 49.8 | 61.3 | 38.7 |

TABLE II-4

Current Expenditures
of the Central Government - 1965, 1971-1974
by Type of Service
(In R$ millions)

| Type of Service | 1965 Expen-diture | Percent of Total | 1971 Expen-diture | Percent of Total | 1972 Expen-diture | Percent of Total | 1973 Expen-diture | Percent of Total | 1974 Expen-diture | Percent of Total |
|---|---|---|---|---|---|---|---|---|---|---|
| General Administration and Defense | 40.0 | 33.0 | 65.3 | 31.9 | 67.9 | 30.6 | 88.6 | 34.5 | 108.6 | 32.8 |
| Education | 23.7 | 19.6 | 37.1 | 18.2 | 42.4 | 19.1 | 46.1 | 18.0 | 53.1 | 16.0 |
| Health | 8.9 | 7.3 | 15.4 | 7.5 | 16.6 | 7.5 | 17.9 | 7.0 | 21.2 | 6.4 |
| Social, Cultural and Recreational Services | 5.5 | 4.5 | 2.3 | 3.6 | 7.1 | 3.2 | 9.2 | 3.6 | 10.7 | 3.2 |
| Housing and townships | 1.4 | 1.2 | 1.6 | 0.8 | 2.2 | 1.0 | 1.8 | 0.7 | 1.9 | 0.6 |
| Economic services | 18.9 | 15.6 | 46.3 | 22.7 | 57.1 | 25.7 | 60.8 | 23.7 | 97.1 | 29.3 |
| Contributory pensions | 4.3 | 3.6 | 7.8 | 3.8 | 9.8 | 4.4 | 10.9 | 4.2 | 13.2 | 4.0 |
| Public debt service | 19.5 | 16.1 | 25.4 | 12.4 | 23.7 | 10.8 | 25.4 | 9.9 | 27.5 | 8.3 |
| Other | -1.1 | -0.9 | -1.8 | -0.9 | -5.0 | -2.3 | -4.0 | -1.6 | -2.3 | -0.7 |
| Total | 121.1 | 100.0 | 204.4 | 100.0 | 221.8 | 100.0 | 256.7 | 100.0 | 331.0 | 100.0 |

TABLE II-5

Capital Expenditures
of the Central Government - 1965, 1971-1974
by Type of Service
(In R$ millions)

| Type of Service | 1965 Expen-diture | Percent of Total | 1971 Expen-diture | Percent of Total | 1972 Expen-diture | Percent of Total | 1973 Expen-diture | Percent of Total | 1974 Expen-diture | Percent of Total |
|---|---|---|---|---|---|---|---|---|---|---|
| General Administration and Defense | 2.6 | 4.9 | 4.0 | 4.1 | 5.8 | 5.3 | 7.8 | 5.3 | 14.2 | 8.6 |
| Education | 0.5 | 0.9 | 2.5 | 2.6 | 2.8 | 2.5 | 3.8 | 2.6 | 5.1 | 3.1 |
| Health | 0.5 | 0.9 | 1.0 | 1.0 | 2.4 | 2.2 | 4.4 | 3.0 | 4.1 | 2.5 |
| Social, Cultural and Recreational services | 0.2 | 0.4 | 2.7 | 2.8 | 3.3 | 3.0 | 2.3 | 1.6 | 5.0 | 3.0 |
| Housing and townships | 6.9 | 13.0 | 4.7 | 4.9 | 8.3 | 7.5 | 9.2 | 6.3 | 10.5 | 6.4 |
| Economic services | 19.3 | 36.2 | 43.7 | 45.2 | 49.2 | 44.6 | 60.2 | 41.0 | 61.3 | 37.2 |
| Contributory pensions | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Public debt service | 22.7 | 42.7 | 36.2 | 37.5 | 35.4 | 32.1 | 56.1 | 38.2 | 59.2 | 36.0 |
| Other | 0.5 | 0.9 | 1.8 | 1.9 | 3.0 | 2.7 | 3.2 | 2.2 | 5.2 | 3.2 |
| Total | 53.2 | 100.0 | 96.6 | 100.0 | 110.2 | 100.0 | 147.0 | 100.0 | 164.6 | 100.0 |

to R$ 31.5 million, that is to only 8 percent of the budget expenditures. At the time of UDI, public debt stood at R$ 431.6 million, of which R$ 1.75 million was in external obligations. At UDI the government suspended payments on its obligations toward the United Kingdom and the World Bank. The UK Government, a co-guarantor (with the Rhodesian Government) of the World Bank loan assumed responsibility toward the Bank. The 37 percent increase in the Rhodesian Government's indebtedness which occurred since 1965 represents internal borrowing.

The Rhodesian Government has been pursuing a policy of fiscal restraint, moderate increase of the money mass, and low interest rates. In the 1971-1975 period, deficits have been kept down to 4 percent of the budget or less, except for 1974 when the deficit surpassed 10 percent. Between December 1965 and December 1974 currency in circulation and demand deposits rose by 106 percent, i.e., only slightly more than the GNP at constant prices which increased by 86 percent. The bank rate has been kept at 4.50 percent since 1963. The yield of tax-free Rhodesian Savings Certificates was held at 4.50 percent until 1972, when it was increased to 4.75 percent. The fiscal and monetary conservatism has contributed to the relative price and foreign exchange stability.

Though Rhodesia is basically a free enterprise country, the government has, over the years, increased its controls over the private sector. African agriculture is subject to certain crop restrictions and marketing controls. In recent years, European agriculture has been subject to acreage controls for tobacco. To cope with increasing foreign exchange scarcity, the government has imposed investment licensing (any investment requiring foreign exchange or involving construction costing R$ 100,000 or more is subject to license) and price controls. Certain scarce inputs (petroleum and fertilizers) are rationed. Most of these measures are emergency in character, but their removal is likely to cause temporary perturbances.

2. <u>The Banking System</u> -- Rhodesia has a fully autonomous banking system with the issuing authority in the hands of the Reserve Bank of Rhodesia, which took over the central banking functions from the Bank of Rhodesia and Nyassaland in 1965. The Reserve Bank's gold and foreign currency assets stood at R$ 44 million in November 1965; some of the assets were subsequently frozen by the British Government. Reserve figures for later years are not available.

The commercial banking sector includes four large commercial banks (Standard Bank, Barclay's Bank International, Rhobank and Grindlay's) accepting houses, discount houses, building societies, and the Agricultural Finance Corporation and the Post Office Savings Bank (both government institutions). In December 1973 the total assets of the commercial banking sector stood at R$ 1,212 million of which R$ 17 million was in gold and foreign reserves. The system provides a full range of services including re-discount facilities. There is also an active stock exchange.

The private and public financial institutions play a key role in the financing of Rhodesia's development, as reflected in the consolidated appropriation account of non-financial companies. In 1973 the financial companies received 80 percent of the R$ 34.3 million paid as interest by the non-financial companies, 12 percent of the R$ 154 million dividend disbursements and 75 percent of the R$ 4 million in rent payments.

3. Ownership Pattern of the Private Means of Production -- Most of the productive capital in Rhodesia is in private hands. In 1973 the gross operating profit of all productive ventures (including own consumption and capital formation of African agriculture) amounted to R$ 613.5. The profits of private non-financial companies equalled R$ 395.5 million, or 64 percent of the total. Profits of unincorporated enterprises (including African agriculture) were R$ 162.3 million (27 percent of the total). Profits of private financial institutions were R$ 1.4 million (0.2 percent of total). Public non-financial corporations showed a gross operating profit of R$ 24.0 million (3.9 percent of the total); local government enterprises R$ 26.7 million (4.4 percent of the total) while public financial institutions show a gross operating loss of R$ 2.3 million.

Foreign capital plays an important role, especially in finance, mining and large-scale industry. In 1973 44 percent of the dividends distributed by financial institutions and 26 percent of the dividends distributed by non-financial companies were transferred abroad. Roughly a third of the corporate sector is foreign-owned -- about 25 percent of all productive assets, excluding African agriculture.

Apart from land Africans hold only a very small share of productive assets. In 1973 only R$ 4.6 million (or 4 percent) of the R$ 99.3 million profits of unincorporated enterprises accrued to Africans. The African-owned unincorporated enterprises were, moreover, almost exclusively concentrated into two sectors: construction (gross operating profits R$ 1.8 million) and retail (R$ 1.6 million). There are no figures on African share holding, but one may surmise that the extent of participation in share capital is negligible.

The holdings of Europeans include some 6,000 farming estates, small mines (the large mines belonging mainly to multinationals) and incorporated and unincorporated industrial, commercial and service enterprises. There is also some Asian and mixed origin ownership, especially in the latter two categories. Except for the farm sector, consisting entirely of large-scale enterprises, it is difficult to estimate the degree of ownership concentration. In 1972 there were as many as 1,283 manufacturing enterprises. Many of the 100 largest, which employed 53 percent of the industrial workers and generated 60 percent of the value added by manufacturing, had important foreign participation. Many of the samller ones, however, appear to be closely-held family concerns, and there also appears to be considerable dispersion of ownership in commerce and in the services.

4. Incomes and Wages -- In 1973 total Personal Income amounted to R$ 1,088 million and Disposable Personal Income (Personal Income less direct taxes and Workmen's Compensation contributions by unincorporated enterprises) to R$ 1,026 million. About 40 percent of the income accrued to the African population, and the balance to people of other origins.

The average per capita income of the population of Rhodesia amounts to R$ 185 per year. The average annual income of the non-Africans is about R$ 2,300 per year, and that of the African population at R$ 73 per year. The per capita income of the inhabitants of the Tribal Trust Lands is about one-third of the above figure.

The gap separating the average African and non-African incomes is reflected in the income distribution: according to 1968 estimates (the latest available) the poorest 20 percent of the population received only 3.2 percent of the income, while the wealthiest 5 percent received 47.8 percent. The Gini coefficient (a widely used measure of inequality giving a value of 0 for completely equal distribution and 1 for complete inequality -- with all the income accruing to the wealthiest person) has a value of .6627, the highest for any African country. The Kuznets index, another widely used measure, is calculated at .5179, and also points out that inequality is greater in Rhodesia than elsewhere in Africa. (Table II-6).

A part of the income inequality is explained by the disparity between the property holdings of Africans and of other Rhodesians. In 1973 about one fourth of personal income (Tribal Trust Land income excepted) was derived from property holdings, and no more than 8 percent or at the most 10 percent of that income accrued to Africans. Wage differentials are a more important factor: In 1975 the non-Africans earned R$ 606 million in wages and the Africans R$ 462 million, and the average annual wage earnings of a non-African

TABLE II-6

Income Distribution Inquality

| Country | Year | Gini Co-Efficient | Kuznets Index |
|---|---|---|---|
| Botswana | 1971-72 | .5740 | .4453 |
| Gabon | 1968 | .6439 | .5000 |
| Ivory Coast | 1970 | .5342 | .4200 |
| Kenya | 1969 | .6368 | .4937 |
| Malawi | 1969 | .4696 | .3516 |
| Rhodesia | 1968 | .6627 | .5179 |
| South African Republic | 1965 | .5813 | .4695 |
| Tanzania | 1969 | .5973 | .4663 |
| Uganda | 1970 | .4007 | .3032 |
| Zambia | 1959 | .5226 | .4063 |

Source: Shal Jain Size Distribution of Income, the World Bank, 1975

were almost eleven times as high as the annual average earnings of an African.

## C. Foreign Trade

1. The Pattern and Terms of Merchandise Trade -- The Rhodesian economy is heavily dependent on foreign trade. In 1965, the year prior to the imposition of UN sanctions, Rhodesia's merchandise imports amounted to R$ 240 million and merchandise exports (including re-exports) to R$ 309 million. Thus exports amounted to 44 percent of the Gross Domestic Product. United Nations sanctions restricted Rhodesia's foreign trade, yet in 1972, the last year for which export and import statistics are available, merchandise imports were valued at R$ 274 million and merchandise exports at R$ 328 million, i.e., at 25 percent of GDP.

Tobacco, which is Rhodesia's principal export commodity, accounted in 1965 for 33 percent of the value of merchandise exports; other exports were, however, well diversified and included minerals, foodstuffs as well as manufactured products. Although tobacco exports declined sharply under sanctions, they have since recovered and acreage controls were recently removed. Machinery and equipment constitute over 30 percent of Rhodesia's 1965 imports, and imported investment goods accounted for over 47 percent of gross capital formations. Rhodesia was also a heavy importer of intermediate goods, but also of consumer goods including foodstuffs. (Table II-7).

Thanks to industrialization and diversification, Rhodesia's economy was more closely integrated with the region's system in 1965 than is true of the majority of African nations. The primary goods producing nations typically export to the industrialized West which is also their principal and almost exclusive supplier. Only 8 percent of exports of African nations were destined to other African countries during the 1960s. By contrast, 38 percent of Rhodesia's 1965 exports were to Africa. Zambia was Rhodesia's single most important export market, and the Republic of South Africa was one of the major suppliers of imports. (Table II-8).

The United Nations sanctions affected the composition as well as the direction of Rhodesia's trade. Tobacco exports declined as well as a switch of land use to food crops resulted in a radical decline of food imports. (Tobacco exports have since recovered and acreage controls were recently removed.) A major expansion of chrome and nickel exports also seems to have occurred, and, on the import side, there was a relative diminution of the importance of consumer goods and a concomitant increase in the relative importance of capital and intermediate goods. With the closing of the Zambia and Mozambique borders, there has been a shift of the direction of trade, with the South African Republic becoming almost the only regional customer, supplier and transshipper. The extent of unreported trade, such as coking coal to Zaire, is not known.

Rhodesia's terms of trade deteriorated radically as a consequence of the imposition of United Nations sanctions. The terms of trade index (unit value of exports divided by the unit value of imports) fell from 100 in 1964 and 1965 to 82 in 1966, and stayed at essentially this level through 1973. The terms deteriorated in 1974 and 1975, reflecting increases in the price of imported fuel, and a further tightening of sanctions. Since Mozambique joined the UN boycott, Rhodesia is forced to rely exclusively on the more expensive South African transport route, which increases the cost of its imports and depresses the net export receipts. (Table II-9).

2. Balance of Payments -- During the post-UDI decade Rhodesia has run a surplus on its merchandise balance, except for 1968 and 1971 when moderate deficits were registered. The merchandise balance surplus reached a peak of R$ 83 million in 1973; in 1975 it stood at R$ 33 million. (Table II-10).

The current balance on invisible transactions has been negative throughout the entire period. The deficit rose from R$ 31 million

TABLE II-7

Foreign Trade of Rhodesia
(In millions of US$)

| | 1964 | 1965 |
|---|---|---|
| Domestic Exports, f.o.b. | | |
| Meat and products | 14.26 | 18.84 |
| Tobacco | 94.13 | 112.73 |
| Asbestos | 24.02 | 25.82 |
| Chrome ore | 6.00 | 9.14 |
| Pig iron and ferro-alloys | 10.32 | 9.98 |
| Copper | 10.85 | 15.65 |
| Other items | 124.39 | 149.74 |
| Total | 283.97 | 341.90 |
| Re-exports | 36.36 | 37.06 |
| Imports, f.o.b. | | |
| Food | 23.28 | 22.42 |
| Drink and tobacco | 8.98 | 8.35 |
| Crude materials | 13.13 | 11.74 |
| Mineral fuels and lubricants | 14.86 | 14.18 |
| Chemicals | 27.65 | 32.28 |
| Manufactures | 67.34 | 74.57 |
| Machinery and transport equipment | 74.98 | 91.22 |
| Other | 29.56 | 32.74 |
| Total | 259.78 | 287.50 |

TABLE II-8

Rhodesia's Principal Trading Partners
(In millions US$)

| | 1964 | 1965 |
|---|---|---|
| Main Markets | | |
| United Kingdom | 73.06 | 74.76 |
| South Africa | 20.47 | 30.72 |
| Zambia | 72.55 | 86.62 |
| Malawi | 13.25 | 17.62 |
| United States | 9.53 | 8.38 |
| Europe (excluding UK) | 46.46 | 63.38 |
| Japan | 3.58 | 4.15 |
| Iran | 13.34 | 17.76 |
| Other | 31.73 | 38.51 |
| Total | 283.97 | 341.90 |
| Main Suppliers | | |
| United Kingdom | 78.74 | 87.26 |
| South Africa | 63.26 | 65.90 |
| Australia | 5.71 | 6.26 |
| Zambia | 12.46 | 10.37 |
| Malawi | 3.67 | 3.36 |
| Canada | 3.77 | 4.73 |
| United States | 17.66 | 19.68 |
| Europe (excluding UK) | 34.10 | 43.82 |
| Japan | 10.54 | 15.86 |
| Other | 29.87 | 30.26 |
| Total | 259.78 | 287.50 |

TABLE II-9

External Trade - Terms of Trade
(Excluding net gold sales)

| Year | Unit Value Indices Imports | Exports | Terms of Trade |
|---|---|---|---|
| 1964 | 100,0 | 100,0 | 100.0 |
| 1965 | 103,5 | 104,3 | 100.8 |
| 1966 | 114,0 | 93,8 | 82.3 |
| 1967 | 113,8 | 90,8 | 79.8 |
| 1968 | 112,0 | 92,7 | 82.8 |
| 1969 | 114,1 | 98,2 | 86.1 |
| 1970 | 119,2 | 102,0 | 85.6 |
| 1971 | 127,1 | 103,2 | 81.2 |
| 1971 | 124,4 | 102,5 | 82.4 |
| 1973 | 129,6 | 110,3 | 85.1 |
| 1974 | 176,6 | 144,6 | 81.8 |
| 1975 | 195,1 | 155,9 | 79,9 |

TABLE II-10

Balance of Payments - Current and Capital Transactions
(In R$ millions)

| | | Invisible Transactions (net) | | | | R$ Million | |
|---|---|---|---|---|---|---|---|
| Year | Merchandise (net) | Services | Investment Income | Transfers | - Net Balance on Current Account | Capital Transactions (net) | Net Inflow on Current and Capital Accounts |
| 1966 | 27,0 | - 8,0 | -19,2 | - 4,1 | - 4,3 | - 4,6 | - 8,9 |
| 1967 | 12,3 | -15,5 | -13,4 | - 0,1 | - 16,7 | - 23,7 | - 7,0 |
| 1968 | -26,0 | - 8,2 | -14,9 | - 1,0 | - 50,1 | - 39,5 | -10,5 |
| 1969 | 27,7 | - 2,0 | -17,8 | - 4,3 | - 3,6 | - 9,9 | -13,4 |
| 1970 | 23,1 | -13,5 | -21,0 | - 2,6 | - 14,0 | 26,3 | 12,3 |
| 1971 | - 1,6 | -22,1 | -30,4 | - 3,3 | - 57,4 | - 30,5 | -26,9 |
| 1972 | 58,2 | -19,5 | -35,1 | - 2,8 | - 0,7 | - 2,3 | - 1,6 |
| 1973 | 83,0 | -55,1 | -38,5 | - 6,9 | - 17,4 | - 51,6 | 34,2 |
| 1974 | 50,8 | -74,8 | -52,7 | -18,8 | - 95,7 | - 62,6 | -33,1 |
| 1975 | 33,1 | -89,3 | -42,7 | -29,1 | -127,9 | -101,3 | -26,6 |

in 1966 to R$ 161 million in 1975. The rise of net payments for services, from R$ 8 million in 1966 to R$ 89 million in 1975 accounts for the greatest share of the increase in the deficit, and it undoubtedly reflects the increasing transport cost. There has also been an increase in net investment income outflow and in unilateral transfers. As a result, the net balance on current account has been negative during most of the period. However, there have been strong capital inflows which indicate that until 1974 there was little, if any, loss in foreign reserves and in gold. The overall negative balance of R$ 33 million in 1974 and of R$ 27 million in 1975 signals a deterioration of the situation and suggests a reason for the recent tightening of exchange controls.

## D. The Dynamics of Rhodesia's Economy

1. Recent Growth Trends -- Ever since World War II Rhodesia's economy has been growing at a rapid, albeit uneven pace. During the post-war boom (1946-1953) constant price GNP growth surpassed 10 percent per year. Rapid growth (over 8 percent per year) continued during the early years of the Federation of Rhodesia and Nyassaland (1953-1957), during which Rhodesia benefited from the enlargement of a protected market for its industrial products. During the politically turbulent 1957-1963 period real growth slowed down to average only 2.5 percent per year. Between 1963 and 1968 Rhodesia's economy had to adjust to a series of shocks: the dissolution of the Federation (1963), the UDI (1965) and the imposition of UN sanctions (1966). During this period real growth averaged 2.8 percent per year. Between 1965 and 1966 the GNP actually suffered a 2.5 percent decline. Per capita GNP which reached R$ 169 in 1961 (at 1965 prices) declined to R$ 168 in 1963 and to R$ 165 in 1968 and did not surpass the 1961 level until 1969.

Between 1968 and 1974 the economy of Rhodesia resumed its rapid growth, averaging 8.3 percent per annum in real terms. Since 1974, however, the economy has been virtually stagnant. The real national product is estimated to be 0.7 percent lower in 1975 than in 1974, and preliminary estimates for 1976 indicate a further decline of the same order of magnitude. The decline reflects the world depression, but the closing of railway access to Mozambique harbors and the inability of South African railways to handle the Rhodesian traffic also appears to have resulted in serious hardship to Rhodesia. Economic disruption due to intensifying guerilla warfare and the general uncertainty concerning the future position of Rhodesia's European population are also factors.

2. Investment -- Prior to the Unilateral Declaration of

Independence foreign investment played a key role in the development of Rhodesia's economy. Between 1947 and 1953 foreign capital inflows amounted to almost 70 percent of the total investment, and another 11 percent was brought in by new immigrants. During this period the ratio of investment to GNP never fell below 3 percent and in one year (1953) it reached 60 percent. Foreign investment, including government borrowing from the United Kingdom and from international lending agencies also played an important role during the boom of 1954-1958.

Since the UDI investment has shifted to a large extent to domestic sources. During the period of stagnation immediately following UDI the total investment volume was low, amounting to 12 percent of GDP in 1966, but the volume rose rapidly reaching a peak of 21.8 percent of GDP in 1973. In the latter year companies accounted for 52.7 percent of the gross savings, central and local government for 25.7 percent and households for 21.5 percent. (Table II-11). These figures indicate the overwhelming importance of retained corporate earnings as a source of investment.

3. Population and Employment -- Fluctuations in the rate of European settlers reflect the vicissitudes of the economy. Largely because of immigration the European population increased by 90 percent between 1946-1953 to reach 158,000 in the latter year. Net immigration averaged 9,000 per year from 1954 to 1957, but during the last three years of the Federation there was a net outflow of 17,000. Since UDI net white immigration grew again, to reach a peak of 9,000 in 1971; after 1972 it declined and during every month since October 1975 there has been a net outflow, totalling close to 5,400 for the October 1975-October 1976 period.

Europeans control the modern sectors of Rhodesia's economy and supply the major part of skilled labor, a limiting factor in the economy's growth. Fluctuations in job creation closely parallel fluctuations in the European immigration rate. During the period of stagnation preceding and immediately following UDI the number of African wage employees was virtually constant: in 1958 it equalled 652,000 and 1967 658,000 dipping as low as 636,000 in the intervening years. There was a rapid job formation in the following years, with a peak of 944,000 in 1975 jobs. Latest available data indicate 929,000 jobs in March 1976, 15,000 fewer than during the same month of 1975.

4. Structural Changes -- Rhodesia, at first a mining country, evolved into an agricultural, and then into a balanced economy with an important manufacturing component. The growth of the manufacturing sector was given an important impetus by the formation of the Federation of Rhodesia and Nyassaland. Rhodesian manufacturing,

TABLE II-11

Gross Savings, by Source, 1973

| | Millions of R$ | Percent |
|---|---|---|
| Personal (excluding African rural households) | 63.7 | 19.5 |
| African rural households | 6.6 | 2.0 |
| Total Personal | 70.3 | 21.5 |
| Non-financial companies | 142.2 | 43.6 |
| Financial companies | 29.9 | 9.2 |
| Total Companies | 172.1 | 52.8 |
| Current Account Surplus | 43.5 | 13.3 |
| Public corporations | 23.3 | 7.1 |
| Local government enterprises | 17.2 | 5.3 |
| Total Government | 84.0 | 12.4 |
| Total | 326.4 | 100.0 |

Source: Rhodesia, Financial Accounts and Balance of Payments, 1973 the most developed of the Federation members enjoyed an enlarged market and external tariff protection. Rhodesia's industry proved, however, sufficiently vigorous to survive and to retain its export markets even after the dissolution of the Federation.

The increasing obstacles to trade which followed UDI fostered import substitution. In agriculture a switch occurred from tobacco to domestically needed food crops and to cotton, and then tobacco acreage increased again. In industry there was a rapid increase in the assortment of goods produced. It is difficult to appraise to what extent the new goods required specific tooling, and also what proportion of the goods would be competitive once the trade barriers are lowered. There is indication, however, that textiles, one of the largest and fastest growing branches of industry, as well as shoes, can successfully compete on the South African market.

There is strong, albeit qualitative information, that the United Nations sanctions have put a strain on the productive equipment of Rhodesia. Much of the machinery is said to be outdated, and, for lack of spare parts, undermaintained. Transport equipment is also said to be in disrepair. The restoration of the capital stock may be one of the major tasks facing the economy of Zimbabwe upon achievement of majority rule and upon removal of UN sanctions.

5. <u>The Current Situation</u> -- Rhodesia's economy is suffering from the effects of the UN blockade, from the effects of guerilla warfare, and perhaps most of all from the effects of uncertainty concerning the future. The blockade forces Rhodesia to rely on the South African Republic's transport facilities for its exports and imports. The facilities are inadequate (there are frequent bottlenecks) and the user cost is high. To counter the guerilla activity the government deflects resources from civilian to military uses. The 1976/1977 defense budget is 40 percent higher, and the police budget is 25 percent higher than the previous year's. Moreover, numerous defense expenditures are included in the budgets of the Ministry of Internal Affairs, the Ministry of Roads, the Treasury and the Prime Minister.

The uncertainty concerning Rhodesia's future is reflected in the 30 percent decline in the value of construction plans approved during the first three quarters of 1976 as compared with the corresponding period in 1975. As could be expected the net emigration of Europeans led to a sharp decline in the value of industrial and a 45 percent decline in the value of commercial building plans approved.

Most of the branches of economic activity suffered a decline in 1976. The January-September 1976 volume of manufacturing was

7 percent below the level of the previous year. Price increases accounted for a 3.2 percent rise in the value of European production; the volume of output appears to have fallen off by a few percentage points. The decreases in production are reflected in retail sales which rose by less than the cost of living. However electric power generation increased by 9.1 percent and power distribution by 6.4 percent (production and distribution figures do not match because of foreign sales of electricity).

Mining, led by foreign demand, was the most buoyant sector of the Rhodesian economy. Reflecting international price movements, the unit value of output of Rhodesian mines rose by 32 percent between 1975 and 1976 (January-September figures); the volume of output rose by 4.6 percent and the value of output by 6.4 percent. The current volume of output and total value surpasses the previous (1973) peak.

On the balance, however, Rhodesia's current economic situation is markedly worse than that of the previous year's. The deterioration is reflected in often-heard complaints about shortages of qualified personnel, the rundown condition of productive equipment and general lack of economic buoyancy.

## E. Problems of Transition to Majority Rule

Upon achieving majority rule the Government of Zimbabwe will have to repair the economic fabric strained by the effects of UN sanctions, it will have to face the issue of redressing racial economic inequities, and it will be confronted by long-term development problems. Of the three sets of issues, the first is by far the easiest. The benefits which Rhodesia will reap from reintegration in the world economy should readily cover the cost of capital renewal and the cost of adjustment of production to the new international pattern.

The redress of economic inequities poses subtle and difficult problems. The economy of Rhodesia is more complex than the economy of any of the African countries which in recent decades have become independent, and the pressure to Africanize at least as great. Though many African Rhodesians are highly educated, few have practical administrative and managerial experience, and there is very little native entrepreneurship. Even if the transition to majority rule is accomplished amicably and without violence, a rapid replacement of Europeans in a substantial proportion of posts is bound to take place and, during a transition period of several years, economic efficiency is likely to decrease. The government is certain to repeal the Land Tenure Act and permit settlement of lands now reserved for European agriculture; and to remove barriers to rural-urban migration. It is also likely to improve minimum wages designed to raise the pay of the poorest workers.

The imposition of minimum wages is likely to reduce the profit and investment rate and also to create urban unemployment in the short run. Rapid promotion will open avenues for advancement and reduce the relative wage of the upper echelons, but in all likelihood, it will also reduce productive efficiency.

With the transition to majority rule the Africans will demand a greater share in the ownership of the means of production. The demand is not likely to cause major difficulty to the multinationals. In virtually all the world's countries mineral rights are in the public sector, and mining companies pay royalties to the State. In the case of multinational manufacturing companies it is also common practice to share ownership with local public or private interests. More serious problems are likely to arise, however, in the case of owner-managed farming estates and in the case of the smaller, locally-owned manufacturing and mining concerns and trading concerns. While many of the white owners are likely to be willing to sell their interests, there will be problems of financing the purchase by public authorities or private African interests, and of management in the interim period during which the Africans acquire the appropriate expertise.

In summary, action to restructure society is bound to entail short-run economic costs. It is likely that the output of European farms will decline during the transition period, hence exports will suffer. Experience elsewhere shows that mining, utilities, and large-scale manufacturing will not be greatly affected, but that the efficiency of smaller-scale manufacturing and distribution is likely to suffer and that plantation agriculture will decline. A fall in corporate profits and a levelling of incomes will cause, at first, a decline in government revenues. Since much of Rhodesia's output caters to the needs of the wealthy white population, some branches of the economy might suffer for lack of demand as the European community shrinks. Though in the long-run the African majority will benefit from the introduction of a more equalitarian system, in the short-run it, too, can suffer.

## F. A Simulation Exercise

The likely magnitude of the economic perturbances, and the extent to which such perturbances could be mitigated through foreign aid were appraised by means of a simulation model. The crucial questions to which the simulation model was addresses included:

- What will be the probable trend of balance of payments after the transition to independence?

- What will be the impacts on the economy of alterations in the distribution of land uses from large European-owned farms to small African-owned farms and an increase in wages at the expense of profits, both distributed and undistributed?

- What will be the likely impact if a large number of Europeans leave Rhodesia?

The structure of the model will be described in a separate report, but in summary:

- The model is a simulation of the Rhodesian economy; 1971 was used as the base year, and 1972 data were used to provide inputs to the different equations to start the model. Published and estimated data from 1973 through 1975 were used for calibration.

- From 1976 through 1985, the model was run using population growth trends of the past few years.

- The model contains four major areas of activity: an input-output model, a disaggregated consumption sector, a capital formation process, and a government sector. The capital formation process increases the capacity of the system and has multiplier effects. Government acts to generate revenue both domestically and by external borrowing; it also disburses funds through investment, government consumption and transfer payments.

- The policy levers are government expenditures, foreign investment, relative prices of factor inputs, population growth and urban migration, and emigration from the country.

A variety of disturbances were simulated in the Rhodesian economy from 1977 (which stands for the year of attainment of majority rule) onwards. The numbers are, of course, conjectural; the orders of magnitude were roughly determined on the basis of other countries' experience of peaceful transition to African rule. A summary of these changes follows:

- Two cases, one labelled mild and one severe were investigated. The former represented a situation in which the majority government would content itself with a set of conservative measures, the latter, somewhat more radical. In both cases, it was assumed that donors would be ready to cover the entire balance of payments defecit caused by cutbacks in production and real wage increases. A third "constrained severe" case was then investigated to reflect a situation where the government took measures to keep the balance of payments deficits within reasonable bounds.

Agricultural exports in the mild case would decline in 1977 to 5 percent below the trend which would be observed in the absence of transition of power. In 1978 the exports would be 25 percent below the trend; the discrepancy would be preserved until 1981, after which year there would be gradual narrowing of the gap to 20 percent in 1982, and to 10 percent in the subsequent years. Such catching up is built into the model to reflect the perfecting of new institutional structures. The severe case postulates a 10 percent decline the first year, a 35 percent decline between actual performance and trend until 1981, and a gradual reduction of the gap to 20 percent in 1985.

- Two changes were made to portray the increased importance of traditional agriculture. First, it was assumed that traditional agriculture, which is now virtually self-financing, will benefit from an average annual investment of R$ 6 million per year. Secondly, it was assumed that in 1977 5 percent of the internal demand, now satisfied by modern agriculture, would shift to traditional agriculture, and that this shift will increase to 10 percent for the 1978-1982 period. After that it narrows to 5 percent, reflecting the renewed vigor of the modern sector. No distinction was drawn here between the mild and the severe cases.

- The urban population currently grows at 6 percent per year, mostly through immigration from rural areas. To reflect the probable effect of easing restrictions on urban living, it is assumed, in the mild case, that urban population would grow at 7 percent in 1977, at 10 percent in 1978, but that growth rate would decline thereafter back to 6 percent. The decline is a likely consequence of increasing urban overcrowding and joblessness. In the severe case the decline from the 10 percent was assumed to be slower (8 percent in 1979, 7 percent in 1980, 6 percent in the following years).

- To stimulate the departure of Europeans from Rhodesia, the upper income classes were reduced by 10 percent in 1977 and 15 percent in 1978 to reflect the mild case, and 15 percent in 1977 and 10 percent in 1978 to reflect the severe case. The model quickly recruits lower income households to fill the vacancies, but for about a two-year period, the impact of emigration can be measured.

- The probable change in wage rate was simulated by increases in real wages of 10 percent in 1977 and another 10 percent in 1978.

- The marginal efficiency of investment was adjusted to reflect the likely reduction in capital efficiency. This induced the economy to require the import of consumption goods when the capacity of the productive system was not equal to demand in certain years. The effects of this constraint are, of course, cumulative, so the impact is greater in later years of the simulation.

The purpose of the simulation was to determine how much Rhodesia's economy would suffer if it had to bear the entire burden of the various shocks, as compared with a situation in which donors would ease the transition through balance of payments aid and budget support. The support was calculated to show amounts lost through net decline in merchandise trade and net decline of government revenues, i.e., the amount of support is meant to substitute for losses caused by the disruptions, and not to pump up the economy.

Even with foreign donor balance of payments and budgetary support the Rhodesian economy is likely to go through a difficult period. In the mild case the GNP in 1979 is likely to be virtually the same as in 1976, and some 8 percent lower than the 1979 GNP in the disturbance-free case. The severe run shows a 4 percent real GNP decline between 1976 and 1979. (Table II-12). Since the population (and the labor force) continue to grow at 3.6 percent per year, such a hiatus in GNP growth has quite dramatic repercussions. Even in the undisturbed case the 1976-1979 job creation is expected to lag behind labor force growth. The disturbances would create a serious lag in employment and a dramatic rise in the number of urban poor. (Table II-13). GNP is lower and employment higher in the constrained case.

The undisturbed base run points to long-run possibilities of vigorous growth for Rhodesia. Even if disturbances are introduced within the system, a catching-up process is expected to occur. Assuming that in the absence of disturbances the 1984 GNP would surpass the 1976 GNP by 35 percent, the mild disturbance case would exhibit a 16 percent, the severe case a 12 percent and the constrained case a 6 percent growth over the whole period. Once again, the lag of job creation (especially in the severe and constrained cases) is a serious issue.

In the above runs it was assumed that foreign donors would be willing to make up for the export losses and government revenue losses resulting from the transition situation; in the absence of such aid

TABLE II-12

GNP Growth Under Four Alternate Assumptions
(1976 = 100)

| | 1979 | 1984 |
|---|---|---|
| No disturbances | 108 | 135 |
| "Mild" disturbances | 100 | 116 |
| "Severe" disturbances | 96 | 112 |
| "Severe" disturbances with Balance of Payments constraints | 94 | 106 |

TABLE II-13

Job Formation Deficiency
Resulting From
Transition Period Disturbances

| | 1979 | 1984 |
|---|---|---|
| "Mild" disturbances | 125,000 | 250,000 |
| "Severe" disturbances | 180,000 | 300,000 |
| "Severe" disturbances with Balance of Payments constraints | 185,000 | 310,000 |

the GNP decline would be deeper, and the recovery would be slower. The simulation run indicates that in the severe case real GNP would equal 92 in 1979 (with 1969 GNP = 100) and 104 in 1984.

It would be exceedingly rash to predict specific foreign aid needs. The balance of payments and the budgetary gap shown in the simulation exercise do not and cannot reflect the countless imponderables inherent in the situation. It appears, however, that the requirements, though large, are not beyond the possible scope of aid. They are of the magnitude of $150 to $450 million per year. This sum does not take into account the export of capital on the part of out-migrating Europeans. (Table II-14).

TABLE II-14

Balance of Payments Deficit
Under Four Alternate Assumptions
(In R$ million at 1976 prices)

| | 1979 | 1984 |
|---|---|---|
| No disturbance | 110 | 130 |
| "Mild" disturbance | 100 | 350 |
| "Severe" disturbance | 100 | 350 |
| "Severe" disturbance with Balance of Payments constraints | 80 | 250 |

SOME LONG-RUN CONSIDERATIONS

In the course of the decades to come Rhodesia will have to come to grips with the problem of duality. If the present trend continues (and, even more so, if growth is disturbed) the expansion of the modern sector will not keep up with the population growth. The problem is common to much of sub-Saharan Africa. In Rhodesia it is less urgent than in many other parts of the Continent. In terms of immediate importance, the problem of duality is clearly overshadowed by the issues connected with the transfer to majority rule. Nevertheless, once transition is achieved and the balance is righted the question of the increasing number (and even of the increasing proportion) of the population living at the margin of the modern economy will have to be faced.

# III. FOREIGN DONOR ASSISTANCE

# III

# FOREIGN DONOR ASSISTANCE

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Foreign donor assistance to Rhodesia since UDI has been negligible. In the couple of years immediately prior to UDI, gross official flows from Great Britain totalled about $23 million, 47 percent of which were loans. In the same period, the United States provided less than $2 million in economic assistance, and multilateral agencies about $5 million. The international donor community has largely avoided Rhodesia since that time.

# IV. SECTORAL ANALYSES

Page

IV. SECTORAL ANALYSES

# IV. SECTOR ANALYSES - AGRICULTURE

## A. Overview

Agriculture is a major contributor to the Rhodesian economy. It provides approximately 17 percent of the GDP and employs 36 percent of the national wage earning workforce. In addition, subsistence agriculture serves as the residual sector of some 3.5 million Africans (nearly two-thirds of total population) living on communally owned Tribal Trust Lands.

Conditions for agriculture vary widely, primarily due to variations in rainfall amounts and distribution. A small area in the eastern mountains (1.6 percent of total land area) has high rainfall and a cool growing season for permanent tree crops, vegetables and dairying. The north central region (about 19 percent of the total land area) has more than 20 inches of annual rainfall, with distribution appropriate for intensive mixed crops -- livestock production. Another 17 percent of the area, located in the central areas of the country has an annual rainfall appropriate for semi-intensive mixed farming involving draught-resistant crops such as sorghum and millet. An additional one-third of the country is marginal for crop production with 14 to 18 inches of annual rainfall, but suitable for semi-extensive livestock production. The remainder of the country is of limited agricultural potential under dryland conditions, except for extensive livestock production. In some areas where water supplies have been or can be developed, irrigated agriculture is possible. (Figure IV-1).

The general pattern of land-use is determined not only by climate and soil conditions, but by legal restrictions on land occupation and ownership. European farmers represent less than 1 percent of the total farming population but they own nearly half of the farm land, which tends to be of better quality and more easily accessible to markets than lands reserved for Africans. (Table IV-1).

In areas set aside for Europeans, Africans cannot own land. They are restricted to communally held Tribal Trust Lands (about 42 percent of the total land area) and to a relatively small area (3.8 percent of the total area) set aside for ownership by Africans who meet certain qualifications.

FIGURE IV-1

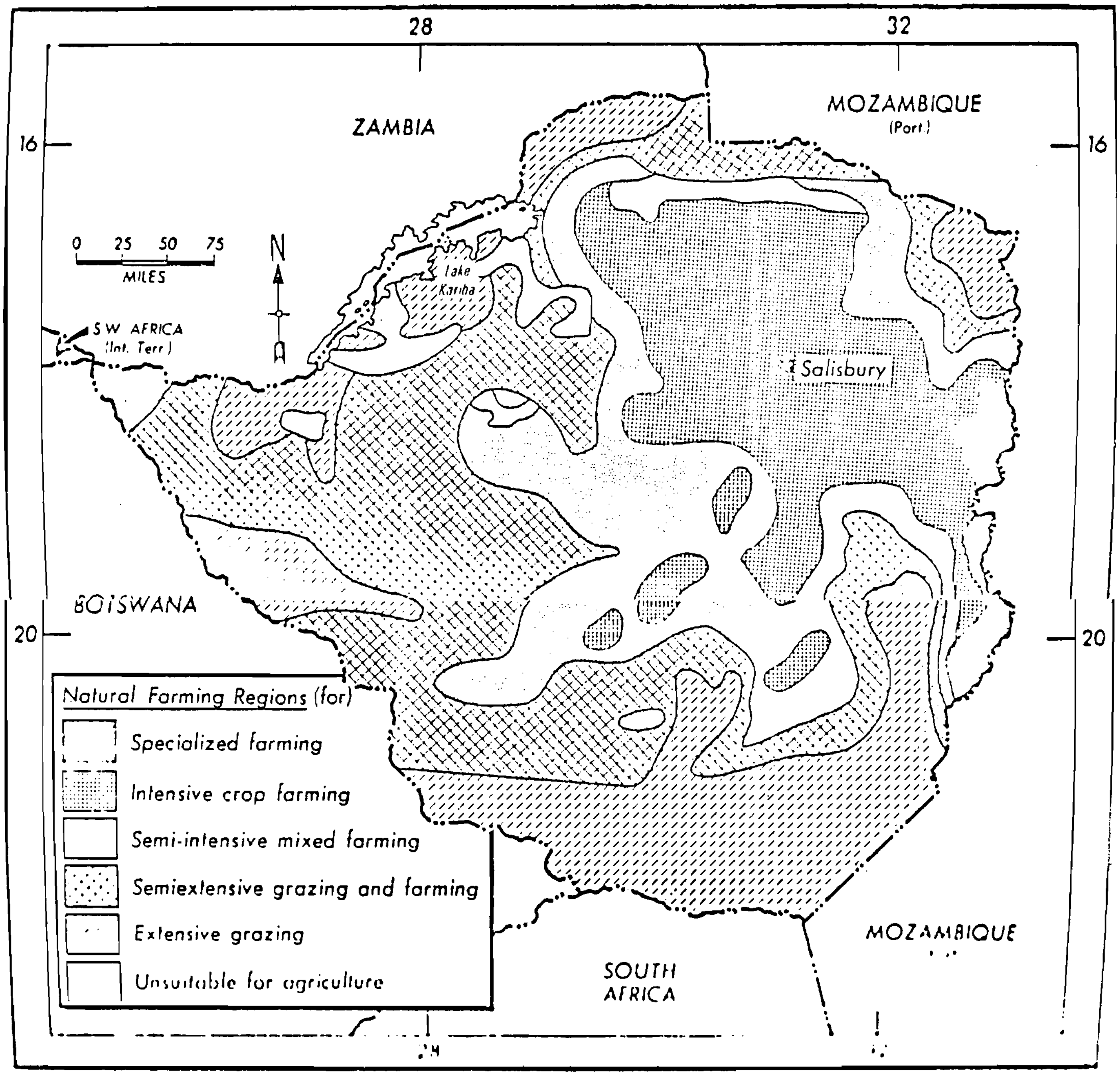
28
32
16
16
20
20
ZAMBIA
MOZAMBIQUE
(Port.)
0 25 50 75
MILES
N
Lake
Kariba
S.W. AFRICA
(Int. Terr.)
Salisbury
BOTSWANA
Natural Farming Regions (for)
Specialized farming
Intensive crop farming
Semi-intensive mixed farming
Semiextensive grazing and farming
Extensive grazing
Unsuitable for agriculture
MOZAMBIQUE
SOUTH
AFRICA

TABLE IV-1

Farming Potential by Racially Allocated Areas,
Rhodesia, 1962
(percent total)

| Natural Farming Region (suitable for) | European Area | Tribal Trust Land | African Purchase-land | National & Unreserved Land |
|---|---|---|---|---|
| I-Intensive specialized & diversified farming | 71% | 13% | --- | 16% |
| II-Intensive crop farming with subsidiary livestock | 69 | 21 | 4 | 6 |
| III-Semi-intensive mixed farming with livestock dominant | 45 | 39 | 4 | 12 |
| IV-Semi-extensive farming based | 28 | 50 | 4 | 18 |
| V-Extensive livestock grazing | 26 | 49 | 2 | 23 |
| X-Unsuitable for agriculture | 2 | 48 | 2 | 48 |

Note: Some changes have occured in land allocation since this survey was undertaken. In 1964 the unreserved land was opened to occupation by either race. This was abolished by the Rhodesian Front Government in 1969 and 93 percent of the disposable area allocated to white use.

## B. Agricultural Production

Official agricultural production data for recent years are sketchy. Estimates of 1975/76 crop production indicate that corn is the chief staple reaching a production of an estimated 1.75 million tons in 1975 (Table IV-2). African farmers produced about 30 percent of this corn but sold less than 5 percent through commercial channels. Other major crops are tobacco, groundnuts (peanuts) and cotton. In addition, sugar cane and wheat are grown in limited areas under irrigation; citrus, tea and some coffee are produced in a limited area in the east where climatic conditions are appropriate; and sorghum and millet are grown in drought prone areas primarily for local consumption. More recently, soybean production has been increasing.

On European farms, corn occupies more than 50 percent of the total cultivated area of 1.3 million acres, with cotton next at 17 percent, followed by tobacco at 11 percent. In the case of Tribal Trust Land agriculture, nearly 40 percent of the cultivated area of 4.9 million acres is dedicated to corn production. An additional 12 percent is in sorghum and millet, 27 percent in edible beans and about 16 percent to peanuts. Over 90 percent of the bean production is mung bean, an annual, high protein (24 percent), drought resistant pulse, often grown as a second crop after cash crops. Thus, some acreage here may be double-counted. The only significant cash crop for trust lands agriculture is cotton, grown on only 2 percent of the total cultivated area, although peanuts regularly are grown for cash sales as well as subsistence.

African farmers in purchase areas cultivate about 370,000 acres, of which 35 percent is dedicated to foodgrains, and about 10 percent each to cotton and peanuts.

## C. Characteristics of European Agriculture

There are some 6,000 white farms which range in size from 20 to 20,000 acres, with an average size of 5,300 acres. (Table IV-3). Regional specialties, determined by adaptation to local conditions, are dairy farming, beef production and crop production (tobacco, maize and cotton).

Farmers, particularly tobacco growers, were severely affected by the sanctions imposed under UDI. The number of white farmers decreased from 7,717 in 1965 to 5,773 in 1969. By 1973 their number rose again to 6,418 in response to overseas recruitment drives and perhaps due to improved economic conditions in agriculture. Meanwhile the government had instituted programs imposing quotas

TABLE IV-2

Estimate of Volume of Production and Acres Devoted to Various Crops in Rhodesia, 1975/76 Crop Year

| Production Activity | Volume of Production (tons): European Lands | African Purchase Lands | Tribal Trust Lands | Total | Area Devoted to Activity (000's of Acres): European Lands | African Purchase Lands | Tribal Trust Lands | Total |
|---|---|---|---|---|---|---|---|---|
| Tobacco | | | | 90,000 | | | | |
| Flue-cured | n/a | n/a | n/a | --- | 136.1 | nil | nil | 136.1 |
| Other | n/a | n/a | n/a | --- | 8.7 | 1.0 | 1.6 | 11.3 |
| Corn | 1,260,000 | 53,480 | 435,000 | 1,748,480 | 690.4 | 78.1 | 1,893.8 | 2,662.3 |
| Wheat | 125,567 | 325 | nil | 125,892 | 16.1 | 17.3 | nil | 33.4 |
| Sorghum, millet, barley, etc. | n/a | n/a | n/a | 270,000 | 3.7 | 23.2 | 582.4 | 609.3 |
| Soybeans | n/a | n/a | n/a | n/a | 28.2 | nil | 4.5 | 32.7 |
| Peanuts | 5,783 | 6,286 | 110,000 | 122,069 | 12.4 | 36.8 | 801.5 | 850.7 |
| Sunflower | n/a | n/a | n/a | n/a | 6.4 | 3.5 | 11.9 | 21.8 |
| Cotton | n/a | n/a | n/a | 105,000 | 218.4 | 38.3 | 95.6 | 352.3 |
| Coffee | n/a | n/a | n/a | n/a | 9.9 | nil | nil | 9.9 |
| Edible beans & pulses | n/a | n/a | n/a | n/a | 19.0 | 4.7 | 1,314.4 | 1,338.1 |
| Fruits | n/a | n/a | n/a | n/a | 14.8 | 0.7 | nil | 15.5 |
| Other crops | n/a | n/a | n/a | n/a | 138.6 | 166.1 | 222.4 | 527.1 |
| Sub Total | | | | | (1,302.7) | (369.7) | (4,940.0) | (6,612.4) |
| Fodder | | | | | 41.7 | nil | nil | 41.7 |
| Pasture | | | | | 165.5 | nil | nil | 165.5 |
| Green manure | | | | | 7.2 | 0.3 | nil | 7.5 |
| Rangeland | | | | | 35,318.4) | 2,470.0) | 30,193.3) | 72,921.7 |
| Wasteland | | | | | ) | ) | 4,940.0) | |
| Sub Total | | | | | (35,532.8) | (2,470.3) | (35,133.3) | (73,136.4) |
| Unsettled | | | | | 1,770.6 | 783.5 | nil | 2,554.1 |
| Grand Total | | | | | 38,606.1 | 3,623.5 | 40,073.3 | 82,302.9 |
| Beef | 90,000 | nil | 62,000 | 152,000 | | | | |
| Milk | 139,617 | nil | 50,400 | 190,017 | | | | |

TABLE IV-3

Size Distribution of European Farms, 1973

| Size Class | Number | Percentage of Total Acreage |
| --- | --- | --- |
| Under 1,000 acres | 1,450 | 2.0 |
| 1,000-2,500 acres | 1,850 | 9.7 |
| 2,500-5,000 acres | 1,550 | 16.1 |
| 5,000-10,000 acres | 750 | 15.1 |
| 10,000+ acres | 600 | 57.1 |
| Total | 6,200 | 100.0 |

on tobacco production and providing a guaranteed market for tobacco and alternative crops. In 1970 about 16 percent of the national budget was allocated to assist European farmers. In that year, the tobacco support program alone cost R$ 22.8 million and the subsidies for maize, cotton and soybeans another R$ 3.6 million.

Until UDI (Unilateral Declaration of Independence) in 1965, agriculture had been the leading sector of the economy, contributing 19.6 percent to GDP and one-third of exports. Ten years later it was outpaced by manufacturing, but the agricultural sector, in spite of sanctions, was still exporting half of its marketed output. Moreover, the sector had diversified sufficiently to make the country largely independent of basic food imports. The output of soybeans had increased sixty times, that of wheat twenty-six times. Comparable figures for other crops were: cotton, ten; maize, six; groundnuts (peanuts), four; tea, three; and sugar, cattle and milk production, two times. The production of tobacco, however, which previously accounted for one-third of exports, was curtailed by 25 percent because of sanctions.

The gross value of agricultural output increased R$ 183.7 million between 1968 and 1974. In 1974 it was R$ 439,800,000, of which European agriculture produced R$ 320,200,000, and African agriculture R$ 119,600,000. Roughly 25 percent of the African output was marketed in contrast to the 80 percent of European agriculture output which was sold commercially. Crops account for about two-thirds of total output and livestock for the remainder.

Heavy government investment spurred rapid progress on the Sabi-Limpopo irrigation project in the southeastern lowveld, where 70,000 acres were under irrigation in 1968. Sugar cane was the main crop, grown mainly on three large tracts (some 130,000 irrigated acres) in the White Areas.

A dramatic increase in wheat production was due partly to development of a high yielding variety and partly to a government-guaranteed price 23 percent above import parity. In 1964, locally grown wheat supplied only 1.5 percent of consumption needs. In 1975 it provided 75 percent, mostly through expansion in the Sabi-Limpopo region where wheat, which can be grown in winter, helps spread the overhead costs of irrigation.

European agriculture employs an important portion of the wage-earning labor force. Currently, approximtely 380,000 African workers (or nearly 36 percent of the total employed workforce) are employed by European farmers. Wages appear to be significantly lower than in unskilled urban employment. European farmers complain of a labor shortage which in 1975 was estimated to be as high as 50,000. Yet no significant rise in wages resulted.

An important factor in the development of European farming has been the provision by government of a highly effective research and extension service. European areas are divided into over 100 Intensive Conservation Areas, served by research and extension personnel. The Department of Conservation and Extension (CONEX) has 152 field specialists to serve European farmers, a ratio of nearly one to forty. A number of organizations dealing with marketing, research, credit and development, including the Agricultural Marketing Authority, the Agricultural Research Council, the Agricultural Finance Corporation and the Agricultural Development Authority were all established between 1967 and 1971, to provide services mainly to European agriculture.

In 1965 the total acreage under cultivation on European farms in the better rainfall areas constituted only about one-sixth of the estimated 7 million acres of arable land. There are indications that many farms are too large to be fully exploited by the owners or have developed to the limits imposed by managerial ability and entrepreneurial willingness.

Between 1969 and the mid-1970s there was a significant increase in acreage under crops. Published estimates of the percentage increase vary, ranging from 35 to 62 percent. Experts agree, however, that similar further increases are agronomically sound. Grazing potential on European lands also has not been fully utilized. Estimates indicate that the livestock population could be expanded 25 to 30 percent based on optimum grazing levels.

## D. Characteristics of African Agriculture

African agriculture is carried on in two regions: the nearly 41.3 million acres of the Tribal Trust Lands and the 3.7 million acres of the African Purchase Lands. About 75 percent of African production is consumed at home or is sold in the local area. Only burley tobacco, cotton, groundnuts and a little tea reach export markets. Attempts to create commercial agriculture in African areas showed some results in the 1960s when cotton became profitable, credit was made available, and greater emphasis given to extension services. However, African farmers are prohibited from growing flue-cured tobacco, one of the more profitable cash crops.

1. Tribal Trust Lands -- Overcrowding, overcropping and diminishing productivity are characteristic of the 164 separately designated Tribal Trust Lands which account for some 42 percent of Rhodesia's total land area. Most is considered marginal or submarginal for crop production with light sandy soils and uncertain rainfall. Although nearly equal in area to European lands, they comprised only 13 percent of class I land, and 21 percent of class II land, as compared to European ratios of 71 percent and 69 percent, respectively.

The 1969 census listed more than 600,000 Africans (out of a total Trust Land population of 2,900,000) as farmers. The term may be misleading, however, since the most important activity for the majority of men in their active years appears to be working elsewhere for wages, leaving much of the farm work to women, children and elderly men. Women represent 17.1 percent of the heads of farming units. Land in Tribal Trust Lands belongs to tribal communities whose members have inalienable rights to use a portion of it, but not to own it outright. Chiefs traditionally have had the right of allocation.

Under the Land Tenure Act of 1969 control of land allocation and some judicial powers were vested in what were named Tribal Land Authorities, i.e., the Chief and "such other tribesmen ... as the Chief nominated in accordance with tribal custom". The government reserved the right to dissolve a Tribal Land Authority if it failed to carry out its duties and to replace it with a body made up of its own nominees. Chiefs were asked to take courses at agricultural training centers and to find out from extension officials whether land they wanted to allocate was suitable for annual cropping and to control its use. Councils continued to perform some functions of local government and in some cases took over maintenance of roads and schools and supervision of cattle dipping.

The practice of land allocation is not uniform for all Trust Lands. In some cases, Chiefs have refused to grant new use rights and kept land in reserve toward future demands. Some have allowed cropping of grazing land, thereby contributing to erosion and depletion of soils. Fields which belong to absent workers often are left totally or partially unused. Retiring tribal members who have spent their entire working lives in European areas, and who have not maintained their land rights by having relatives work it or by other means, usually are given a small plot large enough for a home and a small garden.

By 1976 the population on Trust Lands had increased to 3.5 million (or 60.1 percent of the total African population) so that a significant proportion of holdings were too small to be viable under local conditions of soil and rainfall. The area's capacity to feed its own population appears to have diminished to a critical level. Apparently, the majority of cultivators fail to produce saleable surplus even in a good crop year. In less than a normal year, up to 75 percent of the families do not produce enough for their own food requirements.

In 1970, the chairman of the Agricultural Marketing Board reported that roughly half of all rural African families were still using traditional farming techniques and had not adopted any of the recommendations of the agricultural extension services. He estimated that average agricultural incomes for such families were about R$ 80 per year, including all production valued at market prices. Since rewards are low and uncertain, producers tend to secure subsistence rather than maximize returns.

One of the most significant differences between African and European agriculture regards the role of cattle. Europeans think of their herds as producing beef or dairy products. For traditional-minded Africans, cattle are an integral part of their subsistence economy and social structure, and the income from sales is not the only objective in owning cattle. Cattle provide draft power, a most important role in regions of little rainfall where early planting has a crucial bearing on yields. Cattle also provide manure for fertilizer and protein for the diet. Cattle are also used in marriage payment.

In 1975, of the national herd of 6,100,000 cattle, Africans owned 3,170,000. They also owned 500,000 head of sheep and 200,000 head of goats. A little more than half of African farmers owned livestock with many of these having only a few head. Some 120,000 head of cattle are estimated to die yearly because of starvation, malnutrition and disease -- a loss to the economy of some R$ 5.2 million.

Over the past fifteen years, the values of Trust Land crop sales have remained static at around $R 8 million per annum, although the population has doubled. Studies indicate that marketed output is derived from a very small proportion of the producers.

Organized marketing facilities for African farmers were first introduced in the early 1940s. Cultivators sell either directly to the Grain Marketing Board, or its agent (often a local store), through co-ops, or, most commonly, to neighbors. The Grain Marketing Board provides marketing facilities for maize, sorghum, soybeans, cotton, and groundnuts at controlled prices. Trust Land producers are subject to a 10 percent levy on sales. This levy was introduced with the expectation that cultivators would grow more in order to take care of their cash needs. When a producer buys grain from the Board (or its agent) as his supplies become exhausted, he must pay considerably higher prices than he had received earlier in the year.

Farmers in Trust Lands depend on three sources for labor: their family, hired labor, and work parties organized among neighbors and kinfolk. Having sufficient labor at crucial times for important agricultural tasks is essential for good crop yields. Thus, people with large families or with means to hire help have an advantage. Work parties, composed of neighbors or relatives who gather to help each other in rotation, often do not get the work done in time. Almost all weeding and about a third of the harvesting is done by work parties. Demand for labor is most intense during plowing, planting and weeding in November, December and January, and during the harvest in April and May.

Irrigation has been one government response to the overcrowding of Tribal Trust Lands and to rising unemployment. After UDI, it earmarked some R$ 1.6 million annually for irrigation schemes in Trust Lands. In 1972, 14,000 acres were under irrigation in Trust Lands farmed by some 4,000 farm families. In addition to some small privately built and gravity-fed irrigation schemes, fifty-four government schemes were scattered throughout Trust Lands, with most of the newer schemes located in South Matabele Province. They range in size from 10 acres to 1,200 acres, most being under 125 acres.

Individual plots average three acres. They are thus small enough so that one family with an occasional hired laborer can do all the work. No cattle are allowed on irrigation schemes resulting often in overgrazing of nearby areas. Since two crops a year can be grown on most of the schemes, farmers have no time nor need to work as laborers elsewhere. Their total income derives from farming.

Experience has shown that plot holders who are comparatively young, have had a few years of schooling and have previously held jobs above the unskilled level, are more willing to accept modern principles and do better than those who are old and without any kind of specialized knowledge.

In 1969, responsibility of providing agricultural extension services to farmers in Trust Lands was vested in the Ministry of Internal Affairs. Field staff in Trust Lands are attached to this Ministry, but specialist staff are in the Department of Conservation and Extension, of the Ministry of Agriculture serving Europeans and African Purchase Land farmers. Some services rendered by the Ministry of Agriculture's Veterinary Services and the Department of Research and Specialist Services provide assistance to all areas.

The total staff of Trust Lands agricultural extension workers numbered 1,390 in the mid-1970s. They are trained on the job and they are responsible for 600 to 1,000 farmers each. Many senior posts are vacant and some areas have no services at all.

The Ministry of Internal Affairs also provides non-agricultural community extension services to people in the Trust Lands. In fiscal year 1973/74, there were 202 male community advisors and ten female community development assistants who helped existing African councils and assisted in forming new ones.

The Department of Community Development Training within the Ministry of Education has training offices, each with a small training staff, in various parts of the African areas. The total strength of the department is 132, including twenty-seven training officers. They meet with members of the Tribal Land Authorities and discuss possibilities for development within their areas.

The Tribal Trust Lands Development Corporation (TILCOR) was set up in 1968, to promote development in Trust Lands. It has designated growth points and is carrying out programs to attract private enterprise, stimulate production and increase the internal market for consumer goods. The corporation has been responsible for several irrigation schemes.

A revolving credit fund set up in 1954 and known since 1964 as the Agricultural Loan Fund was established to grant loans to Trust Lands farmers. Comparatively few take advantage of this facility since the government loan authorities require a joint lien on crops and, since 1969, collateral security in the form of branded cattle.

Examples of successful innovations in the Tribal Trust Lands do exist. They include acceptance of the practice of contour ridging and of planting crops in rows, the increasing use of manure and fertilizer and, since the early 1960s, the production of cotton and groundnuts as cash crops. Production of groundnuts almost doubled between 1967 and 1974, largely because of favorable prices. Cotton, a non-traditional and non-food crop, also showed substantial growth. African producers increased their share of the market from 23 percent in 1970 to over 50 percent in 1974. The production is largely confined to favorable areas in the north, but acceptance of this crop is credited to a comprehensive extension program, the use of pesticides and, perhaps most important, profitable prices.

Another successful innovation has been community -- in contrast to communal -- grazing management. Traditionally, cattle are allowed uncontrolled continuous nibbling. Under veld management, a group of people becomes responsible for a defined area where cattle are grazed in rotation in specific pastures allowing the unused portion of the land to recuperate. The practice leads to the emergence of non-traditional organization, the veld management committee. The powers granted to this committee are sanctioned by the chief's council since veld management is a variance from traditional land rights.

The most successful farmers in the Trust Lands are the thousands who have taken part in the Master Farmer's Training Scheme and received the Master Farmer's Certificate. This means that they know the proper rotation of crops and practice contour ridging and other forms of land conservation. In good years their average income is double that of other farmers and they often do as well or even better than farmers in the Purchase Lands. The most successful among them have usually had several years schooling, and a fair number have other ways of earning money in their locality -- as teachers, traders or craftsmen -- which they invest to buy fertilizers and improved seeds. They also are able to hire labor when needed and to buy farm implements which improve labor productivity. Their performance proves that lack of freehold tenure need not be a fatal constraint.

2. African Purchase Lands -- The African Purchase Lands, where African farmers can hold registered title to individual holdings, presently comprises 3.7 million acres, or about 8 percent of the total African land area. In the mid-1970s there were nearly 9,000 farmers in sixty-six Purchase Lands areas. They have considerably larger holdings of arable and grazing land than do most farmers in the Tribal Trust Lands. Although most Purchase farmers use non-motorized, labor-intensive techniques, as do Trust Land counterparts, they tend to use hired labor in addition to family members and they use more purchased inputs. They have better access to education, transport and communication, and have some access to credit.

Purchase Lands are administered by the Purchase Land Administration and the Rural Land Board which, since February 1974, has been part of the Ministry of Internal Affairs. Persons wishing to buy a farm apply to the Rural Land Board for a new farm or for one that has reverted to the Board because of a canceled lease.

Since 1953 an applicant must have capital assets equivalent to at least US$ 840 and a Master Farmer's Certificate (certificate based on merit which is assessed by the Ministry of Internal Affairs agricultural officers and the Ministry of Agriculture's Department of Conservation and Extension. An Agreement of Lease is granted for twenty years with the purchase price being paid in twenty annual installments without interest on the unpaid balance. During this time the farmer must "beneficially occupy" the holding.

Farms range in size from fifty to 1,000 acres, depending on local rainfall, with an average size of 300 acres. The average output sold annually was R$ 270 in 1973. Farmers are prohibited from subdividing their farms. Sons therefore cannot be given a homestead on their father's land as they do in the Trust Lands, and inspectors evict anyone they consider to be a squatter. Consequently, farmers often complain about labor shortage. Since they live somewhat isolated from their neighbors in the center of their farms it is more difficult to exchange labor. However, they are able to keep larger herds of cattle and thus have manure for fertilizer and adequate draft power.

Prices for farms range at present from R$ 250 to R$ 1,200 which includes a 20 percent survey surcharge. Once a farm is paid for, the farmer can sell to others with no restrictions. There are indications that some farms are informally subdivided once the purchase is complete. Purchase farmers tend to be fairly old, with the median age ranging from 51 to 64 depending on the location, with the arithmetic mean being close to 60. At least one study suggests that these older farmers refuse to turn over effective management control of the farms to their sons or other younger persons and that this causes considerable problems. Several references indicate that farmers tend to make an effort to secure good formal education for their children. These factors would suggest that a significant pool of educated and experienced farmers or potential farmers exist in the Purchase Lands who are presently working under the management of older, less educated farm owners or leaseholders.

There are thirty-four African councils in Purchase Land areas with varying responsibilities for provision of local services. Where there are no councils, the local branch of the Farmer's Association or the Intensive Conservation Area Committee, or both, become the forum for public discussion of matters of interest. There are no traditional chiefs in African Purchase Areas. Extension officials (resident or non-resident with an average ratio of one to fifty farmers) belong to the Department of Conservation and Extension of the Department of Agriculture, which also serves European areas.

Part of the farmers' produce is sold through cooperatives to repay loans, but the other part can be sold wherever a farmer wishes. On the average, Purchase farmers derive 70 to 80 percent of their incomes from farming. In 1975 the Ministry of Agriculture's Department of Conservation and Extension concluded that about 1,000 Purchase Land farmers had achieved productivity levels equivalent to those of European farmers, that about 5,500 were about midway between these and subsistence farmers and the remaining 2,000 were no better than average farmers in Trust Lands.

In 1973 Purchase Land farmers accounted for about one-fourth of the estimated total cash production by African (Table IV-4). These sales may in fact be somewhat lower because some items produced in the Trust Lands may have been sold through Purchase Lands in order to avoid marketing levies. (These levies do not apply to African Purchase Area farmers.)

TABLE IV-4

Sales of African Grown Crops
Through Official Marketing Agency 1973, R$

| 1973 Sales | Tribal Trust Lands | African Purchase Lands | Total African Crop Sales |
|---|---|---|---|
| Crops | | | |
| Maize | 172,640 | 242,360 | 415,000 |
| Groundnuts | 2,481,510 | 260,490 | 2,742,000 |
| Cotton | 5,469,724 | 2,148,276 | 7,618,000 |
| Sorghum | 72,000 | 28,000 | 100,000 |
| Wheat | 133,688 | 2,312 | 136,000 |
| Soya beans | 17,514 | 486 | 18,000 |
| Tobacco | | | |
| Burley | 293,590 | 80,410 | 374,000 |
| Oriental | 16,900 | 9,100 | 26,000 |
| Other | 86,267 | 113,733 | 200,000 |
| Total | 8,743,833 | 2,885,167 | 11,629,000 |

## E. Transition Issues

The land tenure restrictions described earlier probably are the most important constraints in the short run to improving the position of rural African families in Rhodesia. Access by rural Africans to lands outside Tribal Trust Lands (including lands presently in European farms, unsettled lands in African Purchase Lands and government reserve lands) can be expected to be a major policy matter in Rhodesia under transition.

Some 600,000 rural African families live on Tribal Trust Lands, with only an average 6-8 acres of arable land each and common grazing rights adequate for only 5-6 head of cattle. There appears to be some seven or more million acres of uncultivated arable land, as well as potential for increased grazing on rangeland outside Tribal Trust areas. It is likely that many families will want to move from TTL's to other areas and settle as soon as restrictions are removed. Since existing pressures on Tribal Trust Lands are resulting in serious overgrazing and overcropping, it is also likely that a majority government will pursue a positive policy of emigration from tribal lands to underutilized lands elsewhere.

The 1.5 million acres of presently cropped land in the 6,000 European farms probably cannot be expected to absorb many families out-migrating from Tribal Trust Lands. It already supports some 380,000 agricultural workers, most of whom probably are the principal breadwinners for families housed either in European areas or living in tribal areas. Any transfer or access scheme for presently cultivated lands must first accommodate these existing workers and their families. It is unlikely that it could efficiently absorb significant amounts of additional labor, at least in the short run. First, uncertainties and changes in management under transition can be expected to lead to temporary dislocations and drops in efficiency that will tend to impact negatively on labor demand. Second, there is likely to be considerable pressure from the existing work force for wage increases, changing factor cost relationships to impact negatively upon more labor intensive land use. Further, even though the cultivated lands were to be broken up into smallholdings, 1.5 million acres, divided among 380,000 workers would permit an average allocation of only about four acres per worker, making it unlikely that more families beyond the existing workforce could be accommodated.

Out-migration of families on Tribal Trust Lands can be expected to relieve somewhat the pressure on land resources there. Nevertheless, lack of soil and water conservation practices, presence of considerable amounts of eroded and degraded land, and low incomes from available lands all are constraints to improved living standards within tribal lands. To deal with these problems, the transition government will need to dedicate resources to the design and implementation of long-run programs to assist Tribal Trust Lands farmers, to improve in-kind and cash incomes, and rehabilitate presently degraded lands and bring them back into production. A program for rehabilitation of once arable lands now degraded and abandoned due to overcropping and erosion could perhaps eventually bring as much as 2.0 million acres back into production.

Settlement programs, expanded services and market infrastructure, and maintenance of existing services and production will all require additional manpower, technically trained and experienced. This is true in the short run, and will be even more critical in the longer run as staffing demands are made for agricultural improvement programs for new settlers on European lands, as well as for existing farmers on the Trust Lands and African Purchase Lands.

In the case of cropped lands on European farms, as ownership is transferred to Africans, provision must be made for management transfer as well. In the event that the transfer of cropped lands is done in a way that maintains the production units intact, e.g., as production cooperatives, state-owned farms or to individually owned large farms, some 6,000 farm managers capable of managing relatively large commercial units will be required. Some of these may be available from among the ranks of existing European employees who work as managers. Others can perhaps be recruited from among African foremen working on European farms, and some could be recruited from among the technical and professional ranks of the extension service and other government agricultural institutions. The shortfall from these sources will depend upon the rate of transfer of European farms.

One estimate puts total government professional and technical staff serving agriculture at approximately 4,500 persons. If the ratio of Europeans to Africans in the Ministry of Internal Affairs Extension Service of one European professional to ten African specialists holds true for other institutions serving agriculture, there are some 400 European positions that could potentially become vacant. Greatly expanded staffing of professional and technical positions would be required for handling income improvement, land rehabilitation and settlement programs. The availability of qualified manpower immediately looms as a very serious constraint to ability to achieve these objectives.

Available information indicates that not more than sixty agricultural specialists are graduated from the existing African agricultural schools each year, and a government training center turns out an undetermined number of intermediate level agriculturalists.

It is not likely that a pool of African agricultural specialists of any significance exists in the private sector. At the most, one might hope to recruit 100-200 trained Africans from the private sector in the short run.

The situation described suggests the need for the following:

- In-service training programs and technical advisory assistance to up-grade African professional/technical personnel.

- Considerably expanded training facilities for mid- and upper-level African agricultural specialists.

- Settlement programs designed for implementation as much as possible on a self-executing basis in order to minimize the impact of the manpower constraint on program progress.

The components of a possible model for resettlement on European lands are:

- A policy framework which encourages European farmers to sell, but at the same time assures orderly transition of management.

- Cultivated lands maintained as commercial units under new tenure, with the African buyer being a production cooperative or company; or, as an alternative, state ownership with a leasehold interest taken by a production cooperative or company. In some cases, smaller commercial farms for African farmers of demonstrated capability and experience might be possible.

- Uncultivated, potentially arable lands utilized to settle smallholders out-migrating from the Tribal Trust Lands. The size of smallholding would be based on family subsistence plus production for sale, with the latter potential being sufficient to allow the farmer to develop a commercial outlook on his farming operation. The equivalent of about 20 cultivated acres of Natural Region II lands (or equivalent) would be sufficient for a commercially-oriented smallholding. A proportionate share of rangelands would be made available to the purchaser of the presently cropped lands.

- Smallholder settlement on a self-help basis. The administering agency would identify arable lands available for settlement on farms being offered for sale and lay out and survey boundaries of smallholdings. It would certify applicants and execute necessary documentation to put them in possession of their smallholdings. The smallholder would be responsible for relocating his family, erecting his housing and putting land into production. He would be required to beneficially occupy his holding within a given period of time or forfeit his claim to it.

- Input supply, extension advice, credit and marketing services initially made available only to the extent these services were provided in the area previously.

It is evident that a target of 75,000 new settlers annually will be difficult to achieve. To achieve it, some 1,500 average European farms must become available for transfer each year. They must be acquired, surveyed and laid out in main farm and smallholdings, applicants must be screened, and initial documentation completed for settlers to take possession.

The administering agency staffing level would need to be from 1,000 to 1,500 to even approach this level of settlement. Direct administering agency costs per family settled could be expected to be $300 or more, a program total of at least US$ 25 million annually. Additionally, as estimated elsewhere, purchase costs of US$ 40/acre for uncultivated, potentially arable land and US$ 300/acre for cropped land, plus US$ 10/acre for rangeland, suggests substantial capital investment for financing transfers. Again, as an illustration of magnitude, to finance the transfer of 1,500 average European farms as described earlier would involve a total annual outlay in the order of US$ 250 million, if the average value per acre estimates shown above are reasonably accurate.

# IV. SECTOR ANALYSES - MINERALS AND MINING

## A. Overview

Mineral deposits provided the original lure for white settlers in the 19th century, and until the Second World War, contributed the greatest portion to the GDP. Thereafter, mining was overtaken by other sectors, first agriculture and later industry, but it continued to represent an important element in the economy.

In 1975 mining provided 7 percent of the GDP and an increasing share of its exports (in 1964 it had been 23 percent) and employed 6.6 percent of the labor force. Exact figures have not been available since the 1965 Declaration of Independence, but the value of mineral output was estimated to be more than US$ 271.7 million in 1975 at current prices, for which about 94 percent was exported.

The fall in world mineral prices and demand resulted in a reduction in the value of mineral production for the second half of 1974 and first half of 1975. Mining production, however, recovered during the second half of 1975 and increased by 36 percent in the first two months of 1976.

Minerals provided the easiest product to sell in the face of sanctions and after UDI new development was greatly stimulated by the freeze on repatriation of assets by foreign companies. The sector grew 83 percent in the following decade.

The Byrd Amendment passed by the U.S. Senate in late 1971 ended the ban on American imports of certain strategic minerals from Rhodesia, giving a substantial boost to mineral sales and exploitation in 1972. In 1973 alone, fifty new mining and quarrying companies were registered and the sharp increase in gold and copper prices, higher nickel prices and greater chrome production more than negated the adverse effects of the U.S. dollar evaluation.

A record inflow of foreign capital in 1975 is presumed to have resulted in increased production in 1976, the main growth being in nickel and copper.

Many of Rhodesia's important minerals are found close to the Great Dyke, a 300 mile igneous extrusion which runs almost due north and south throughout the country. The major revenue producing minerals are chrome, asbestos, coal, copper, gold and nickel. (Table IV-5).

TABLE IV-5

Major Mineral Production in Rhodesia

| Major Commodities | 1974 Production (in 1,000 metric tons | Estimated Share Production Exported ( % ) | Share World Output | Reserves (in 1,000 metric tons | Share Total World Resources ( % ) |
|---|---|---|---|---|---|
| Chromite | 650 | 95 | 9 | 560,000 | 20 |
| Asbestos | 150 | 90 | 4 | 5,000 | 10 |
| Coal | 3,100 | 45 | * | 2,000,000 | * |
| Copper | 41 | 90 | 1 | 600 | * |
| Gold (thousand troy oz.) | 800 | 95 | 2 | 20,000 | * |
| Nickel | 18 | 95 | 2 | 700 | * |

* less than 1 percent

Source: US Bureau of Mines, Mineral Industries of Africa, 1976.

## B. Major Minerals

Rhodesia is thought to have the world's largest reserves of chrome ore, about half of it of high grade and particularly suited for the production of high-carbon ferrochrome which has been in mounting world demand for stainless steel. Chrome ore production increased by 36 percent in the year 1970 alone, even before the Byrd Amendment of 1971. Chrome is produced primarily by Rhodesian subsidiaries of the American firms Foote Minerals, Union Carbide Company and Vanadium Corporation of America, and the British mining firm Rio Tinto.

Rhodesia ranks fourth among the world's asbestos producers. Chrysotile asbestos, a long fiber variety and the principal commercial form in use today, is found also in South Africa and Swaziland, but very few other places in the world. The industry is dominated by one large producer, the Rhodesian and General Asbestos Corporation (Pvt) Ltd., a subsidiary of Turner and Newall Ltd. of England. But there are also a number of small producers. Large rich deposits occur mainly in the Shabanie area of south central Rhodesia in hilly country which facilitates the preliminary working of the mines. Most exports go to Japan, West Germany, Spain and Yugoslavia.

Of Rhodesia's large reserves of coal those at Wankie alone are estimated to be close to 1,000 million short tons. The Wankie operations contributed to the development of Zambia's copper belt despite the closing of the border. Wankie coal apparently continues to flow to Zaire and possibly Zambia.

The building of an oil-from-coal plant was discussed at an energy symposium held at Bulawayo in 1975. Representatives from Rio Tinto (Rhodesia) Ltd. said the plant could be developed over a period of ten years at the cost of US$ 384 million complete with mine, town, rail and road services and that financing would be no problem.

The expansion of copper production was one of the major developments in the mining industry in the late 1960s. A growing proportion of output feeds the local copper processing industry.

Gold had been Rhodesia's principal mineral product throughout the 1940s. It was overtaken by asbestos and rivaled by chrome for the first time in 1952. In 1965 Rhodesia ranked seventh among the gold producing countries of the world. As a result of rationalization to improve cost structure, there has been a long-term reduction in the number of mining operations from 1,548 in 1938 to 256 in 1958. Afterwards the trend was reversed and the number of mines increased again to 530 in 1973, partly because of the phenomenal rise in prices and partly because of government support. In the first half of 1973 alone the rising free market gold price brought fifty-five new mines into operation. More than two-thirds of the gold production is derived from mines owned by large corporations.

Nickel production has developed mostly since UDI. By 1973 there were four nickel mines in production. The London-based Rio Tinto zinc group was operating the Empress nickel mine at Gatooma in the Midlands and in March 1973 opened their new Perseverence mine. The Rhodesian Nickel Corporation operated the Trojan and Madzima mines near Bindura northwest of Salisbury. Nickel is considered the most certain prospect for expected future mining expansion. There were nickel refineries at Buchwa and Redcliff.

## C. Outlook

The mining industry should prove a stabilizing factor in the economy, because of the size of reserves, the growing world demand for minerals like nickel, and Rhodesia's strong position in regard to strategically important minerals like chrome and asbestos. The sector has been growing and should continue to grow once sanctions are lifted and transportation bottlenecks removed.

Experience in other countries has shown that large international mining concerns are comparatively impervious to political changes. This may not be true in the case of small privately owned mining operations whose owners may elect to leave even in case of a peaceful transfer of power. No statistics are available which show the exact percentage of mineral output derived from such small-scale operations. Figures on employment in the mining industry, however, are an indication. In 1973, out of a total labor force of 61,690, roughly one-third, were working in small mines.

## IV. SECTOR ANALYSES - TRANSPORTATION

Rhodesia has a relatively well developed transportation infrastructure, although by the mid-1970s it was said to be in need of investment for maintenance and expansion and its capacity was reportedly heavily overtaxed by the existing volume of traffic.

Road construction has expanded enormously for security reasons, especially in the eastern part of the country. There are at present 49,000 miles of roads of which about one-third have regularly maintained gravel or more permanent surfaces. About 5,200 miles are maintained by the central government and another 14,000 by local roads councils. The government also exercises some direct control over private roads through its Road Services Board. Generally, the government policy has been to favor rail over road transport.

Roads largely duplicate rail facilities, except for rural feeder roads to railroads. Except for main roads linking major population centers and outlets towards the coast, the road system is best developed in the central highveld.

There are 1,568 miles of rail line within the country with a 3'6" South African gauge. Rhodesia Railways, operated for three years under joint control with Zambia, was divided on June 30, 1967 into two autonomous systems with Rhodesia falling heir to most of the rolling stock. It is a government enterprise, suffering from obsolete equipment, rising costs, heavy debt servicing charges and considerable labor unrest. Rhodesia Railways handles most freight, including operating its own fleet of trucks for road transport, but as the volume grew very rapidly in the early 1970s, private road haulers have benefited from the inadequate capacity of the railways.

Air Rhodesia offers scheduled flights inside Rhodesia and to South Africa with seven Vickers Viscounts and one DC-3 as well as three 14-year old Boeing 720s which were imported from Switzerland via Portugal.

Almost all of the rail lines and most of the main roads are in the areas reserved for white occupation, and it is not uncommon for a surfaced road to turn abruptly into a dirt road when entering an African area. Most Tribal Trust Lands have poor access to urban markets, and high transport is sometimes cited as a factor deterring better food supply to African areas. They are served by a network of gravel roads with regular bus service, but the frequency and conditions of roads and bridges are strikingly inferior, and many roads become impassable in the rainy season. There also exists a very limited rail service in the African areas.

Rhodesia is a landlocked country and must rely for its international outlets on transit through neighboring countries. The nearest access to the sea is through Mozambique. There are two lines, one from Salisbury via Umtali to the Port of Beira and another, more recently built one, from Gwela via the southwestern lowveld to the port of Maputo. Until the closing of the border with Mozambique in 1976 the two lines handled 60 percent of Rhodesia's foreign trade. The closing has meant not only the loss of one-sixth of Rhodesia Railways' rolling stock, valued at some R$ 26 million, but total dependency on South Africa and,increased import costs and reduced export earnings.

Freight from the Umtali region particularly must now travel more than twice the previous distance.

There are two lines to South Africa. One goes from Bulawayo south to Gaborone in Botswana and then joins the South African Railways tracks at Mafekind. The stretch through Botswana is owned and operated by Rhodesia Railways, but will eventually be taken over by Botswana. Since this sector is highly profitable this will mean a considerable loss of revenue. From May 1974 to April 1975 the Botswana link carried 2,006,000 tons. However, southbound traffic constituted only 37 percent of northbound traffic, so that there is a potential for increasing the northbound traffic by about 546,000 tons.

The other line goes from Rutenga to the South African border at Beit Bridge and south through northern Transvaal. It was hastily completed in October 1974 to make sure that Rhodesia would continue to receive oil supplies which it customarily received from Mozambique. To replace the Mozambique connections the Rutenga line must carry between 1.5 and 2 million tons a year, and a further 500,000 tons if the Botswana link is lost. The eventual capacity of this line has been estimated at 7 million tons a year which would be adequate for all foreseeable needs for the next ten years.

Nor has it been easy for South African Railways to handle the extra load of Rhodesia's exports, most of which is in bulk because of rail and port congestion. The difficult hilly terrain in parts of northern Transvaal slows down traffic unless diesel locomotives are used. Moreover, some difficulties have occurred for Rhodesia's chrome exports. Special storage facilities, needed to avoid contamination, are not available at Durban or Port Elizabeth. Shipments have been delayed sometimes as much as 30 percent behind schedule. South Africa exports its chrome through Maputo and it is assumed that it will export Rhodesian chrome as its own.

The railway connection to Zambia reaches northwestward from Bulawayo to the huge coal mines at Wankie and then connects with Zambian rail services at Livingstone via a bridge at Victoria Falls. Up to 1973 over 50 percent of Zambia's external trade passed through Rhodesia. The loss of its most lucrative traffic -- Zambian copper -- since the border closure in 1973, was the main cause of the railroad's R$ 19.1 million loss in 1974. By 1976 the reported deficit, which is borne by the Rhodesian treasury, had grown to R$ 29.1 million.

Lifting sanctions will mean a resumption of former international transportation links, reopening of air traffic, an easing of road transport and a return of profitability to Rhodesia Railways.

Zambia and to a lesser extent Zaire, could again use the Mozambique ports for the export of copper and Rhodesia will earn foreign exchange from the Zambian use of her railroad. Internally, the lack of adequate transportation will continue to be one factor inhibiting development in the Tribal Trust Lands.

IV. SECTOR ANALYSES - ENERGY

Because fuel imports were a prime target of sanctions policy, data on energy utilization have been unavailable since 1965. The data for that year reveal, however, that the colony's dependence on oil was relatively limited. (Table IV-6). Present unofficial estimates of oil consumption are 17,000 barrels a day.

TABLE IV-6

Sources of Energy, Rhodesia, 1965
(in percent of total energy requirements)

| Sector of Utilization | Petroleum Products | Coal or Thermal Power | Hydroelectric Power |
|---|---|---|---|
| Mining | * | 75 | 25 |
| Agriculture | 70 | 0 | 30 |
| Road transport | 100 | 0 | 0 |
| Rail transport | 7 | 93 | 0 |
| Other | 8 | 50 | 42 |

* less than 1 percent

Source: Adapted from Lenard Kapungu, The United Nations and Economic Sanctions Against Rhodesia, 1973.

The Kariba Dam hydroelectric system supplies over 80 percent of the country's electricity. The Central African Power Corporation (CAPCO) controls the dam and the Rhodesian power station. Through 1973 the Kariba capacity also provided power to the Zambian copper belt. But in 1974 the generating facility on the north bank was completed, making Zambia self-sufficient and releasing the south bank capacity for the sole use of Rhodesia.

In 1975 Rhodesia supplied 5,978.6 million kw hrs to CAPCO from the Kariba dam and from interconnected thermal stations within the country and withdrew for its own use 5,930.5 million kw. Added to this were 151.8 million kw from public and private non-interconnected stations and 146.1 million kw net imports which brought Rhodesia's total electrical energy consumption to 6,228.4 million kw in 1975.

## IV. SECTOR ANALYSES - HEALTH

Rhodesia's medical facilities are segregated by race, resulting not only in a waste of money and manpower, but in generally reserving more highly qualified personnel and superior facilities to Europeans.

Ignorance of basic hygienic rules, poor housing, contaminated water, a prevalence of disease carrying insects, and inadequate medical care contribute to the generally poor health of many rural Africans. In the towns and cities, however, water supplies are treated and medical facilities and welfare services are more readily available although these advantages for urban Africans are partly offset by the continuing influx of rural Africans which result in the creation of overcrowded and unsanitary slums.

Overall supervision for medical services is the responsibility of the Minister of Health. The Ministry of Health handles the administration of public health legislation; the establishment and maintenance of medical care facilities; the training, registration and licensing of medical and paramedical personnel. The Ministry, advised and assisted by a number of boards and councils, is also in close contact with various religious and private associations, in many instances subsidizing their operations. Medical care, in some instances excellent, has also been provided by the large mining and other industrial enterprises for employees and their dependents.

Five provincial health offices under the Ministry of Health supervise a network of district health offices. Responsibilities of these provincial and district authorities include supervision of routine laboratory services, mother and child care, disease control, school health, environment sanitation, dental service, rural health immunization programs and district and rural health centers and hospitals. Local authorities, especially those in the large municipalities, retain a degree of autonomy. Some of the larger towns are responsibile for public health within their area and, to this end, maintain municipal health departments under the control of medical officers as part of their administration. Local authorities provide outpatient clinics and mother and child welfare services. The major cities employ health inspectors, but the smaller municipalities depend on the staff of the Ministry of Health.

In 1971 the number of hospital beds was 18,046 and the number of registered physicians 875. Because of the imbalance in health services between rural and urban areas, the ratio of physicians to people is probably as low as one for 100,000 people or more in the rural areas.

Rhodesia has no dental, pharmacy or veterinary training facilities. A multiracial medical school was established in 1963 in association with Great Britain's Birmingham University. In 1970 the British withdrew their sponsorship because of Rhodesia's racially discriminatory practices and since then the Rhodesian medical degree has become acceptable for registration by the South African Medical and Dental Council. The annual intake of students of the Medical School of the University of Rhodesia was originally twenty-five, had nearly doubled in the mid-1970s and was expected to eventually reach eighty. (By November 1975 thirty-nine Africans had graduated from medical school.) The Ministry of Health provides clinical teaching facilities. There also exist paramedical training facilities for midwives, nursing personnel and health assistants.

Africans, both urban and rural, are especially vulnerable to communicable diseases which are mainly malaria (the incidence is high despite eradication measures), parasitic infections (particularly schistosomiasis and helminthiasis), tuberculosis and venereal diseases. Four hundred sixty-six cases of leprosy were reported in 1971. The main causes of death are pneumonia, various infant diseases, gastroenteritis, colitis, and tuberculosis.

Not only country dwellers, but many townsmen, including Christians, are inclined to consult the diviner before seeing a modern doctor, since ailments are commonly attributed to witchcraft or disturbed ancestral spirits who must be dealt with by magical acts or sacrifice. The reliance on diviners for diagnosis and medical treatment has been blamed for contributing to high morbidity and mortality rates. The average life expectancy at birth for all Rhodesians was estimated to be 52 years. The life expectancy of Africans must therefore be slightly lower since the recorded date for whites who constitute 4.5 percent of the population, is 66.9 for men and 74 for women.

The main problem in the health sector is the disparity between urban and rural areas. Needed measures would include the establishment of additional health centers, training greater numbers of health officials, efforts to introduce better nutritional and hygienic habits, and a greater emphasis on environmental sanitation and preventive medicine.

# IV. SECTOR ANALYSES - EDUCATION

## A. Overview

Two separate systems of primary and secondary education exist for Africans and non-Africans with training at the University of Rhodesia available to all races. Fairly significant gains have been made in African education since UDI. However, non-Africans still enjoy a great advantage by almost any measure. (Table IV-7).

TABLE IV-7

African and non-African Education Comparison

| | African | non-African |
|---|---|---|
| Primary enrollment (% of age group in school - 1975) | 66.5% | 90-100% |
| Secondary enrollment (% of age group in school - 1975) | 7.7% | 90-100% |
| Expenditure per student - 1975 | R$ 39 | R$ 411 |
| Students per teacher - primary | 37.7 | 28.4 |
| Students per teacher - secondary | 20.5 | 17.0 |
| Percentage of age group enrolled in last year of primary (Grade 7) | 45.4% | ±90% |
| Percentage of age group enrolled in last year of secondary (Form IV) | 4.3% | ±90% |
| Literacy (adult) | 30.0% | +95% |

## B. Primary and Secondary Schools

The bulk of the schools are managed and financed by the central government, although mission and other private schools play a significant role. Currently 12 percent of non-African primary schools and 41 percent of secondary schools are private. Between 20 percent and 30 percent of African schools are private, although in recent years the government through regulations and financing plays an increasing role.

In 1975 the non-African system served 59,108 European students and 9,464 Asians and Coloureds. There are usually different schools for different racial groups but all appear to follow a similar format and a curriculum which compares to that offered in the United States.

The African system covered 868,689 students in programs that appear to combine education and training.

Primary schools have seven grades, the first five designated as Lower Primary, the Sixth and Seventh, as Upper Primary. The Upper Primary grades place greater emphasis on academic courses mainly for those students who are interested in higher education. At this Upper Primary level, there are also Farm Schools whose curriculum combines vocational and academic courses designed to prepare students for lower-level positions in the labor force.

In 1975, about 20 percent of those leaving the Upper Primary schools went on to secondary school, 16 percent to senior schools, 4 percent to junior.

Junior secondary schools have two grades (8 and 9) and were originally intended to provide a comprehensive curriculum. However, they have developed into vocational type schools and are considered by African students and their parents as inferior to senior secondary schools.

The senior secondary schools attempt to give the African child an education identical to that given the non-African child. These schools are the overwhelming preference of the Africans. Senior secondary schools have five forms (I-IV and VI). The curriculum in these schools is primarily academic although some give courses in commercial studies, needlework, cooking, woodwork, metalwork and technical drawing. A 1972 study found that 24 percent of those leaving Form IV and 55 percent of those leaving Form VI were continuing their education. Those leaving Form IV tended to attend training schools; those from Form VI, academic schools.

In the late 1960s, the government announced plans to expand the African secondary school system to accommodate 37.5 percent of the primary school leavers in junior secondary schools and 12.5 percent in senior secondary schools. However, the government also limited the total expenditure on African schools to 2 percent of GNP and this has impeded the planned expansion. However, although enrollment as a percentage of age group in primary schools has remained fairly constant, between 1964 and 1975 secondary enrollment has almost doubled.

TABLE IV-8

African School Enrollment, 1964-1975

| | 1964 | 1966 | 1969 | 1975 |
|---|---|---|---|---|
| Primary | 64.3% | 64.8% | 63.0% | 66.5% |
| Secondary | 4.0 | 3.8 | 4.9 | 7.6 |
| Total | 48.4 | 49.0 | 47.9 | 49.3 |

During this period, average expenditures per African student increased 95 percent from R$ 20 to R$ 39. This compares with a 148 percent increase for non-African students from R$ 166 to R$ 411.

Finally, there appears to have been an effort to improve teacher quality and quantity in African schools. In 1971, over 60 percent of the teachers in African schools had only a Permanent Teaching License obtained through completion of Standard Grade 6 plus two years of combined training and student teaching. By that year, attempts at upgrading the teachers led to introduction of a Primary Teachers' Higher Certificate which requires completion of two years of senior secondary school plus two years of teacher education. In 1975, about 2,500 were enrolled in teacher training, half of these training for the primary level, half for the secondary.

In the early 1970s, most, if not all, teachers in the African primary schools were African. About 60 percent of the teachers in the secondary schools were African.

In the 1970s, primary school enrollment increased at about 6 percent per year; secondary enrollment at 10 percent. To maintain a pupil/teacher ratio of 37.7:1 in the primary schools and of 20.5:1 in the secondary schools about 1,300 new primary teachers and 190 new secondary teachers would be required per year. Teacher training is presently producing a total of about 1,300 new teachers annually.

## C. Vocational Training and Higher Education

Currently, the post-secondary institutions operating in Rhodesia are as shown in Table IV-9. Except for African agricultural schools, these institutions are integrated with close to half the University's enrollment being African. This is the only part of the entire education system where such close interaction exists.

TABLE IV-9

Rhodesian Post-secondary Institutions

| Name | Emphasis | Enrollment | Annual Output |
|---|---|---|---|
| Bulawayo Teaohers College | Teacher training | 455 | 145 |
| Bulawayo Polytechnic College | Engineering, technical and commercial | 1,973 | 650 * |
| Salisbury Polytechnic College | as above | 2,499 | 800 * |
| Umtali Polytechnic College | Commercial, hairdressing | - | - |
| Gwelo Polytechnic College | as above | - | - |
| QueQue Polytechnic College | as above | - | - |
| Chibero Agricultural College | Agriculture | 82 | 27 |
| Kukwanisa Agricultural College | as above | 130 | 42 |
| University of Rhodesia | Education, general curriculum | 1,506 | 350 * |
| Total | | 6,645 | 2,014 |

* estimate

Since UDI both vocational training institutions and the University of Rhodesia have expanded capacity and expenditure per student. These trends reflect government concern over upgrading formal preparation for skilled employment in Rhodesia.

TABLE IV-10

University and Trade School Growth, 1965-1975

| | Trade and Agricultural Schools | University of Rhodesia |
|---|---|---|
| 1965 enrollment | 3,775 | 679 |
| 1975 enrollment | 4,630 | 1,355 |
| Percentage change | 23% | 100% |
| 1965 expenditure/student | n/a | R$ 1,620 |
| 1971 expenditure/student | R$ 403 | R$ 3,122 |
| 1975 expenditure/student | R$ 648 | R$ 3,953 |

## D. Problems and Opportunities with Transition

The Rhodesian education system will undoubtedly undergo considerable change upon transition to majority rule. Problems relating to the current structure will require solution as well as those caused by transition. A majority government is likely to demand a change in the present system. Of annual fees for students in both public and private primary and secondary schools, these fees are proportionately a much greater burden on Africans for whom they represent a significant portion of annual earnings.

Next, the great differential between African and non-African per student expenditures, which in 1975 was greater than 10:1, will have to be narrowed. This will likewise result in revenue problems and probably a major shift of funds as the African and non-African school systems are consolidated.

Less than half the African school age children are actually enrolled in school. Most Africans see the expansion of educational facilities as a key to their advancement. There will probably be widespread pressure for expansion of both facilities and instructors. Any major expansion such as this will place more stress on an already strained budget.

Due to skilled manpower needs created by economic growth, white migration and decreased immigration, the new government will have considerable pressure to increase university and vocational training. It is likely that this will be a priority item and may receive external financial support.

Finally, the Europeans of Rhodesia will want to be assured that their children will continue to receive a quality education. It has been reported that this is a major concern for those who are considering emigration. Assurance of continued quality education could be a strong incentive to stay and continue contributing to the economy.

Racism and discrimination probably stand out more starkly in education than any other area of Rhodesian life. Africans suffer from much lower expenditure per student, pay a higher relative cost for what schooling they get and have lower paid teachers. They have less than half of their children in schools and less than 10 percent finish secondary schools. Still, it should be noted that some gains have been made in African education and against the 3.6 percent population growth rate, even holding the present level will have been an achievement.

# IV. SECTOR ANALYSES - INDUSTRY

## A. Overview

Rhodesia's manufacturing output commands a greater percentage of GDP than any other country on the African Continent, including South African (based on the most recent figures available). It has led the rapid economic growth Rhodesia has enjoyed since 1967, and, next to agriculture, it employs more Rhodesians than any other sector. 1974 gross output totaled R$ 1,164.6 million, gross operating profits equaled R$ 215.6 million (27.0 percent of total profit) and fixed capital formation totaled R$ 97.8 million (27.2 percent of the total). Manufacturing contributed 24.6 percent of GDP in 1974, well above the contribution of agriculture (17.7 percent).

A strong manufacturing sector is a fairly recent phenomenon for Rhodesia. The country was originally settled by Europeans to develop gold and mineral deposits. For years, the colonial administration saw no value in encouraging manufacturing, relying instead on a resource-export economy. As late as 1953, the official approach could be described as one where industry must be a voluntary and not a forced growth and the government therefore looked upon industry to establish itself.

During the 1950s, however, heavy capital investments were made to develop a sound power and transport infrastructure. At the same time, government policies were modified to begin to encourage growth in manufacturing. These consisted chiefly of low and stable tax rates, some tax concessions, and selective tariff protection. The formation of the Central African Federation furthered the stimulus by providing access to larger markets. Finally, British and South African investors felt growing confidence in both the country and the region and moved to get in on the ground floor. As a result, manufacturing grew from around 14 percent of GDP in 1950 to 17 percent in 1960.

By 1965, manufacturing contributed 19.7 percent of GDP. It was still not strongly supported by government and locally produced goods faced strong foreign competition. Food products were the major sub-sector with a gross output of R$ 94.3 million (24 percent). Chemical and petroleum products came next with R$ 61.4 million. Transport equipment, drink and tobacco, cotton and textiles, metal products and machinery, basic metal industries, clothing and footwear, and paper and printing produced a total of from R$ 20.0 to R$ 38.0 million annually.

Thus, by UDI, Rhodesia had developed a strong, viable, and highly diversified manufacturing sector. More than 22 percent of gross output was exported in 1965. Annual growth rates in the sector, albeit on a relatively small base, ran well over 10 percent annually. Finally, this development was largely without strong government support or involvement.

With UDI, the character of Rhodesian manufacturing changed. In 1966, the volume of production fell by 9.3 percent and manufacturing fell behind agriculture as the major contributor to GDP. Chemicals and petroleum, transport equipment, and drink and tobacco were hardest hit due to the impact of sanctions upon raw material supplies and, in the case of tobacco, exports.

Government also changed its role. Import controls were granted for selected industries, greater use of customs tariffs began, individual producers were sometimes granted essentially monopoly control of domestic markets in order to assure larger scale production economies, export payment guarantees were established, and an industrial development corporation was established. The previously laissez-faire approach was further supplanted by government controls on:

° site location (to discourage concentration around Salisbury);

° approval for expansion or establishment of any industrial project requiring foreign exchange or costing more than $100,000; and

° export of profit or dividends.

Beginning in 1967, manufacturing began to lead the economy out of the post-UDI slump. From 1966 to 1975, the sector averaged 16 percent growth and was consistently the fastest growing sector. The strongest performer within manufacturing was the metals and metal products group which doubled its share of gross output and nearly tripled 1966 production by 1975. Textiles and non-metallic mineral production grew almost as rapidly. (Tables IV-11 and IV-12).

While production volume doubled since UDI, several internal changes in the manufacturing sector also appeared. Profits grew more rapidly than production, increasing from 14.0 percent of gross output in 1965-1967 to 18.3 percent in 1973-74. The increases in profits appeared closely correlated to increased fixed capital formation. Manufacturing investment as a percent of manufacturing net output nearly doubled from 1965-66 to 1974-75.

TABLE IV-11

Percentage of Gross Output by Manufacturing Group, 1955-1975

| | 1955 | 1960 | 1965 | 1970 | 1975 |
|---|---|---|---|---|---|
| Foodstuffs | 26.9 | 27.4 | 24.0 | 22.4 | 18.7 |
| Drink & Tobacco | 8.3 | 8.9 | 8.3 | 6.8 | 5.9 |
| Textiles & cotton | 7.8 | 7.3 | 6.9 | 8.9 | 9.3 |
| Clothing & footwear | 6.9 | 6.4 | 6.4 | 7.0 | 6.1 |
| Wood & furniture | 5.4 | 4.8 | 3.6 | 3.7 | 3.2 |
| Paper & printing | 4.8 | 5.9 | 5.1 | 5.3 | 5.1 |
| Chemical & petroleum products | 6.5 | 10.5 | 16.6 | 13.7 | 15.5 |
| Non-metallic mineral products | 6.7 | 5.5 | 2.3 | 3.8 | 3.7 |
| Metals & metal products | 13.6 | 15.2 | 15.4 | 22.0 | 25.8 |
| Transport equipment | 11.1 | 7.2 | 9.9 | 5.5 | 5.6 |
| Other, n.e.s. | 2.0 | 0.9 | 1.9 | 0.9 | 1.1 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Value of Gross Output (in R$ million) | $154.1 | $256.4 | $430.6 | $649.4 | $1,388.9 |

TABLE IV-12

Value of Gross Output by Manufacturing Group

| Group | Gross Output (R$ mil) | % of Total | Gross Output (R$ mil) | % of Total |
|---|---|---|---|---|
| Foodstuffs | $103.4 | 24.0% | $259.1 | 18.7% |
| Drink & tobacco | 35.8 | 8.3 | 82.5 | 5.9 |
| Textiles & cotton ginning | 29.9 | 6.9 | 129.3 | 9.3 |
| Clothing & footwear | 27.7 | 6.4 | 84.9 | 6.1 |
| Wood & furniture | 15.5 | 3.6 | 44.3 | 3.2 |
| Paper & printing | 21.9 | 5.1 | 71.3 | 5.1 |
| Chemical & petroleum products | 71.3 | 16.6 | 215.4 | 15.5 |
| Non-metallic mineral products | 10.1 | 2.3 | 51.2 | 3.7 |
| Metals & metal products | 66.4 | 15.4 | 358.4 | 25.8 |
| Transport equipment | 42.7 | 9.9 | 77.8 | 5.6 |
| Other n.e.s. | 6.0 | 1.4 | 14.7 | 1.1 |
| Total | $430.6 | 100.0 | $1,388.9 | 100.0 |

Source: Monthly Digest of Statistics

## B. Current Structure

Rhodesian manufacturing exhibits a fairly high degree of concentration. In 1972, 8.9 percent of the 1,300 firms employed 54 percent of all employees and 7.6 percent of the firms produced 60.4 percent of gross output. About 75 percent of gross output was produced by firms with more than $1,000,000 annual sales.

In spite of the high concentration, most firms are still quite small. The constraint of small market size has not justified large-scale production. The lack of scale economies encourages production of goods with a high transportation or labor cost -- cement, building materials, bulk chemicals and other raw material processing.

Although no data are available on the degree of foreign ownership, it is clear that British, South African and American multinationals play a major role. Lever Brothers, Dunlop, Shell Chemical, Schweppes, Union Carbide, Pfizer and Parker Pen all have investments in Rhodesia. In 1973, 26 percent of dividends and profits of non-financial companies were sent abroad even though repatriation restrictions existed.

Due to the small accessible market, monopoly structure is a very common occurrence -- 65 percent of all manufactured goods were produced by only one firm each. Without strong government price and quality control, this structure could lead to incompetitive products. Data are insufficient to determine exactly what the situation is; however, it does appear that government exercises considerable control over prices.

## C. Sub-Sector Comparison

Table IV-13 illustrates the major manufacturing sub-sectors with their 1975 production by dollar and percentage and index of volume of production. These figures demonstrate that metals and metal products, food products and chemicals, and petroleum products dominate manufacturing, collectively producing 60 percent of the total output.

The three clearly consumer good sectors (food products, drink and tobacco, and clothing) have declined in relative importance from 39 percent of total output in 1965 to less than 31 percent in 1975. Moreover, all consumer good sectors have lower than average growth rates. In short, it appears that the bulk of manufacturing output is in intermediate and capital goods.

TABLE IV-13

1975 Manufacturing Output by Sub-Sector

| Sector | 1975 Gross Output | % of Total 1975 Production | 1975 Index of Production 1964=100 |
|---|---|---|---|
| Food products | $ 259.1 | 18.7 | 207.1 |
| Drink & tobacco | 82.5 | 5.9 | 159.4 |
| Textiles & cotton | 129.3 | 9.3 | 282.3 |
| Clothing | 84.9 | 6.1 | 149.6 |
| Wood & furniture | 44.3 | 3.2 | 183.7 |
| Paper & printing | 71.3 | 5.1 | 179.1 |
| Chemical & petroleum products | 215.4 | 15.5 | 214.0 |
| Non-metalic mineral products | 51.2 | 3.7 | 276.2 |
| Metals & metal products | 358.4 | 25.8 | 294.3 |
| Transport equipment | 77.8 | 5.6 | 104.2 |
| Other | 14.7 | 1.0 | 161.2 |
| Total | $1,388.9 | 100.0 | 204.3 |

Since 1964 metals and metal products, textiles, and non-metallic minerals have all nearly tripled 1964 production. At the same time, transport equipment has barely maintained 1964 levels. Clothing, drink and tobacco, paper and printing, and wood and furniture also performed well below the average.

It is encouraging to note that much of the growth has occurred among the basic industries. Of the nine fastest growing categories of industry, six were among those usually considered essential to economic growth. They included infrastructure industries such as steel, as well as construction-related industries. It appears that a basic shift has occurred. Where pre-UDI was dominated by consumer goods and raw material processing, now capital and intermediate goods are of much greater importance. It may be that this change, not a shift to import substitution or anything else, is the most important occurrance for manufacturing since UDI.

## D. Viability

There is considerable debate over the long term viability of Rhodesian manufacturing. There are many who argue that it is composed of "tariff babies" -- inefficient and uncompetitive firms which grew up behind the protection of sanctions and tariffs. These firms, so the argument runs, will not be able to compete when sanctions are lifted and their products are exposed to stiff international competition.

Although some of the firms and products developed under sanctions undoubtedly fall into the above category, there is reason to believe many do not. First, sanctions were not effective in isolating Rhodesia. This means locally produced goods have had limited competition and were not produced and priced in a vacuum. Next, evidence from neighboring countries indicates at least some Rhodesian goods are highly competitive. The Republic of South Africa's government has forced Rhodesia to curtail exports of textiles, shoes and radios as a result of local manufacturers' complaints. The U.S. Senate Foreign Relations Committee estimates it will cost Mozambique between 25 percent and 50 percent more to go elsewhere for the $20.0 million in exports it formerly received from Rhodesia. These goods included iron, maize, tobacco, gypsum, paper, fertilizer and chemicals. Zambia reported similar losses earlier. Finally, most of the post-UDI expansion has occurred in areas that are at least locally competitive: textiles, metal products and chemicals.

It has been said that equipment is badly in need of repair and machines have been used far beyond their normal life; the railroads are an often used example. It is probably true that some critical parts and machines were irreplaceable due to sanctions and now are in need of replacement. On the other hand, fixed capital formation in manufacturing as a percent of manufacturing's contribution to GDP has almost doubled from 11.6 percent in 1965-67 to 20.6 percent in 1973-75. The type of fixed capital has also shifted to a higher percentage in plant, machinery and equipment.

Finally, the possibility of continued tariff protection for inefficient or under-capitalized firms makes the whole question of viability somewhat academic, at least in the short term.

## E. Problems

There are two problems with which the manufacturing sector has always faced. Rhodesia is a landlocked country and its local and easily accessible foreign market is small. Having no access to ports makes export of bulk items expensive and logistically difficult -- any freight shipped over rail or highway costs considerably more than sea shipment. The small market poses even more serious constraints. Products with cost structures impacted by scale (most manufactured goods) can often be made less expensively in large foreign plants and then shipped to Rhodesia. Market size not only creates scale economies but creates advantages in research and development marketability.

Economic reports from Rhodesia in late 1976 indicate that the lack of access to ports in Mozambique and the overloading strains placed on the South African rail system are also combining to damage manufacturing performance. These transport problems not only result in a shortage of inputs (25 percent of which are imported) but also delivery problems for exports which are critical to foreign exchange position. Petroleum shortages are a further result of the transport problem.

A final problem which is difficult to isolate is that of investment capital. Fixed capital formation figures for 1976 are not yet available. However, it seems likely that foreign and possibly domestic investors are hesitant to commit capital to a country with such a high degree of political uncertainty.

## F. Transition Problems

Transition will eliminate some of the current problems but some will be exacerbated and new ones created. The transport tie up should loosen up with renewed access to ports in Mozambique. At the same time, investment capital will start to flow in once political stability is achieved and foreign donor money is committed. Private capital, however, will be constrained until the new government and its economic policies are well established.

The skilled manpower problem is likely to remain serious and if the transition results in a major exodus, it would be critical. Donor agencies and large multinational firms could possibly provide some of the managerial and technical personnel needed to maintain basic services but without the personal associations and experience, these people would take considerable time to replace their predecessors. Perhaps more important, shortages of skilled craftsmen and trade people could cripple manufacturing output and the expense of importing large numbers of new machine operators, mechanics, printers, plumbers, etc. would be prohibitive.

One other effect of transition will be the lifting of sanctions and renewed open access to international markets. The ability to purchase parts and equipment not produced at home will certainly be beneficial. The entire question of imports and exports is less clear. Before UDI, 33 percent of all exports went to neighboring countries. How much of that market can be recaptured is open to question. At the same time countries such as Britain have developed new sources for materials formerly imported from Rhodesia. However, it seems likely that the net positive effect of new export markets will outweigh the negative effect of exposure of domestic manufactures to foreign imports.

## IV. SECTOR ANALYSES - EMPLOYMENT AND MANPOWER

### A. Overview

The December 1976 population of Rhodesia is estimated at 6.5 million with 6.2 million Africans and 0.3 million non-Africans. Among the working age population (ages 15 to 59) of about 3.1 million, close to 1.1 million are employed in the wage sector. An undetermined number of the remaining 2.0 million work as subsistence or small-scale farmers while the rest are dependents or unemployed.

The wage sector is composed of 950,000 Africans and 120,000 non-Africans. Included with the former group are around 200,000 African immigrants from neighboring countries, mostly from Malawi and Mozambique. Most of these people have lived in Rhodesia for many years and are employed mainly in agriculture and mining. The majority of the 120,000 non-African employees are of European origin while the remainder are of Asian or mixed blood.

Wage sector employment as a percent of total African working age population was at a high of 39 percent in 1960. Economic and political problems brought about a decline to 30 percent in 1966. Rapid growth since that time has pushed the figure as high as 38 percent in 1974; it currently stands at 36 percent.

Thirty-eight percent of the African workers are employed in agriculture. Domestic service (14.5 percent) and manufacturing (14.4 percent) share the second place. Construction (6.6 percent), mining and quarrying (6.4 percent), and distribution, restaurants and hotels (6.1 percent) are also important sources of employment. Only 3.6 percent of the African wage earners are employed in public administration.

The non-African employment pattern is radically different. The largest share (19.9 percent) consists of employment in manufacturing, closely followed by distribution, restaurants and hotels (17.2 percent), with public administration (11.1 percent) in the third place. Miscellaneous services (9.2 percent), transport and communication (9.4 percent) and finance, insurance and real estate (8.2 percent) also play an important role. (Table IV-14).

Wage differentials are a more important factor. In 1975 non-Africans earned R$ 606 million in wages and the Africans R$ 462 million. The average annual wage earnings of non-Africans were almost eleven times as high as the annual average earnings of Africans.

The non-African/African differentials look less extreme if one takes into account the difference between the occupational structure of the two groups. In low wage sectors (agriculture, domestic service), the percentage of Africans is much higher than in high wage sectors, such as public administration. Except for agriculture, in which white employees earn on the average almost twenty-four times as much as African employees, the non-African/African differentials are smaller within the individual sectors than for the economy as a whole. The lowest differentials are in education and health services. These two occupations pay little by non-African standards and attract Africans with adequate educations.

A complete census of the population by skill or trade is not available. However, several independent studies provide a rough guide. One study estimates that 250,000 professional, skilled or semi-skilled people participate in the workforce. Almost all the non-Africans are in this group. This would leave from 100,000 to 150,000 Africans who would also be professional, skilled or semi-skilled. In the civil service, out of 13,000 tenured or executive positions, Africans hold 829 and only three of these are truly senior posts. There is a comparatively greater number of educated Africans employed in the teaching profession than in the civil service, but even there all teachers above the lower secondary school level are non-Africans. A study of seven large Rhodesian employers found one African for every six non-Africans in professional/managerial roles and one African for every eleven non-Africans in technical and skilled jobs. Africans outnumbered non-Africans four to one in supervisory positions and all the semi-skilled and unskilled were African. The study probably exaggerates African representation in high level positions since the sample was of large firms which have the reputation of more African participation in these positions. It does present the hypothesis that professional/technical roles are more accessible to Africans than skilled or craft-type jobs which are highly unionized and protected. This hypothesis has been supported in other studies.

## B. Population Pressure

Rapid African population growth and the consequent increase in the working age group creates one of the major problems Rhodesia faces. Between 1970 and 1975 the working age group * grew by 574,000.

* This includes all men and women aged 15 to 59. It includes all nonemployed housewives or dependents and should not be viewed as a potential workforce. The potential workforce probably was between 50 percent and 65 percent of the total working age group.

Over the same period only 210,000 wage sector jobs were created. Thus, during one of the highest growth periods of the Rhodesian economy has ever experienced less than 37 percent of those entering working age found wage employment. With the slowdown of the economy, this problem is becoming more severe. In 1976 it is estimated that 15,000 people lost their jobs while 108,000 people were being added to the working age group. By 1980, 124,000 will be added to the working age group annually and by 1985, 148,000.

Approximately 113,000 new Africans will be added to the working age group in 1977. Assuming a 65 percent participation rate, more than 73,000 will be seeking employment. Using a 50 percent rate, over 56,000 will be job seekers. In contrast, the average number of new wage jobs created during the high growth period of 1970-73 was 35,000 a year.

If the traditional rural sector could absorb these people, major problems could be averted; however, under the present government, African farmers have been largely limited to the overworked and overcrowded Tribal Trust Lands. This means that any new growth which is not absorbed in the wage sector must either stay on overcrowded Trust Lands or join the ranks of the unemployed. (Table IV-15).

Increasing urbanization exacerbates population and employment problems. Between 1969 and 1975 urban centers grew at over 6 percent annually and Rhodesia's urban population grew from 17.3 percent to 19.7 percent of the total. It should also be noted that urban growth has been artificially constrained by government regulations and housing shortages. These factors create a large group of adult males in the cities whose dependents live in rural areas. When the legal constraints are relaxed this imbalance will be at least partially corrected, thus accelerating urban growth. Even assuming a minimum 6 percent growth rate, however, some 80,000 people will be added to urban population in 1977. Many of these people will be looking for work in the wage sector.

In short, due to rapid population growth, overcrowded Tribal Trust Lands, and high urbanization rates, great pressure is being placed on employment, especially in the wage sector. A majority rule government will have new options concerning rural land allocation which will take some of the stress off the wage sector, however, it will remain critical to overall employment.

## C. Investment Capital

One way to form an estimate of the potential of wage sector employment is to look at the capital costs and constraints involved.

TABLE IV-15

African Employment/Unemployment Performance & Projections

| | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1980 | 1985 |
|---|---|---|---|---|---|---|---|---|---|
| Fourteen year olds turning fifteen | 117.2 | 121.2 | 125.3 | 130.0 | 134.6 | 139.3 | 144.3 | 166.2 | 198.4 |
| Fifty-nine year olds turning sixty | 13.0 | 13.4 | 13.9 | 14.4 | 14.9 | 15.4 | 16.0 | 18.4 | 22.0 |
| Deaths in the fifteen-sixty age group | 16.5 | 17.1 | 17.7 | 18.3 | 19.0 | 19.6 | 20.3 | 23.4 | 28.0 |
| Net change to fifteen-sixty age group | 87.7 | 90.7 | 93.7 | 97.3 | 100.7 | 104.3 | 108.0 | 124.4 | 148.4 |
| Addition to workforce assuming 100% participation | 87.7 | 90.7 | 93.7 | 97.3 | 100.7 | 104.3 | 108.0 | 124.4 | 148.4 |
| Addition to workforce assuming 50% participation | 43.9 | 45.4 | 46.9 | 48.7 | 50.4 | 52.2 | 54.0 | 62.2 | 74.2 |
| Net change in wage employment | 13.0 | 32.0 | 60.0 | 45.0 | 42.0 | 18.0 | ( 15.0)* | | |
| Addition to unemployed or absorbed by traditional sector @ 100% participation | 74.7 | 58.7 | 33.7 | 42.3 | 58.7 | 86.3 | 123.0 | | |
| Addition to unemployed or absorbed by traditional sector @ 50% participation | 30.9 | 13.4 | ( 13.1) | 3.7 | 8.4 | 34.2 | 69.0 | | |

* Economic Bulletin - Rhodesia, Oct. 1976

Source: 1969 Census data (assuming constant ratios for projections)

The cost of creating wage sector employment in an increasingly capital intensive economy like Rhodesia is very high. Although it is difficult to get a precise picture of capital/labor ratios, several admittedly by rough calculations provide an idea. Since 1970, gross fixed capital formation has averaged 19 to 20 percent of GDP. In 1976 Rhodesian dollars, the relationship between new employment and new investment has been one job for $10,000 investment. Using the 1976 GDP of $2.0 billion and assuming $400 million (20 percent) capital formation, 40,000 new jobs could be created. Again, this provides only a rough picture and due to increasing capital intensity it is probably the maximum number of new jobs possible.

What these calculations point out is that without capital inflows, lack of investment capital will seriously constrain wage sector expansion. Even with 40,000 new jobs, 14,000 people remain jobless assuming a 50 percent wage sector participation rate.

As the political uncertainties grow, the possibility of substantial investment from foreign and domestic sources diminishes. The high degree of uncertainty surrounding the future of Rhodesia's economic system, its trade relations, and its potential local and foreign markets all tend to inhibit investment. Until political stability is achieved, private investment will almost certainly decline and the public sector's share of total investment will probably increase.

## D. Skilled Manpower Shortages

A shortage of skilled manpower presents another major problem for Rhodesia's employment system. There can be little doubt that this problem is contributing to the poor economic performance since 1975, however, the extent to which it is artificially created by discrimination, or is a very real problem that will continue after majority rule, is not clear.

There are numerous indications that the shortage has long been a problem for Rhodesia. The Smith government has developed extensive programs to encourage immigration from other countries and several high level commissions have been organized to examime the problem.

A 1971 Central Statistical Office survey revealed that within six critical trade groups there were 11,933 employed and 1,118 openings, an 8.6 percent vacancy rate. This and similar studies resulted in an expansion of trade schools and stepped up efforts to encourage immigration. The result was apparently inadequate as concern and complaints continued.

TABLE IV-16

Designated Trades - Number Employed and Vacancy Rates, November 1975

| Trade | Employed | Vacancy | Percent |
|---|---|---|---|
| Aircraft | 385 | 12 | 3.0 |
| Building | 3,339 | 267 | 7.4 |
| Mechanical | 4,129 | 377 | 8.4 |
| Motor | 1,864 | 223 | 10.7 |
| Printing | 753 | 50 | 6.2 |
| Total | 11,933 | 1,118 | 8.6 |

Source: Central Statistical Office

It has not been until fairly recently that the problem became serious. Politcal unrest and guerilla warfare cut into the already strained workforce in three ways. First, non-African immigration slowed dramatically. Few foreigners were interested in immigrating to a country with such internal turmoil. At the same time, non-African emigration from Rhodesia accelerated. Thus, immigration showed a net loss in 1976 -- the first net loss since 1964. To further darken the picture, those who were emigrating represented disproportionately high shares of the two most highly skilled occupation groups: professional and technical, and administrative and managerial. While these groups comprised 22 percent of the total, economically-active, non-African population in 1969, they accounted for 44 percent of the net loss to emigration in 1976. (Table IV-17).

The final blow to the skilled workforce has come from a major call-up of men under 38 to serve in the armed forces. This has forced many employers to operate at lower rates or close down completely.

The nation's training institutions are inadequate under normal circumstances and certainly are incapable of filling the country's needs with emigration depleting the skilled labor supply. The annual operating costs per student for trade schools run between R$ 500 per year to R$ 1,500 per year. The university's per student operating costs run closer to R$ 4,000 per year. The capital costs involved in expansion appear to run from R$ 10,000 to R$ 20,000 for each unit (student) of expanded capacity.

TABLE IV-17

Composition of 1969 Economically-active European, Asian & Coloured Population Compared to Net Immigration of the Same Group, Jan-Sept 1976

| Occupation Group | Total '69 Composition Number | Percent | Net Immigration Jan-Sept '76 Number | % of Total | Net Immigration as a % of 1969 Total |
|---|---|---|---|---|---|
| Professional, technical & related | 17,900 | 17 | - 558 | 31 | 3.1 |
| Administrative & managerial | 5,300 | 5 | - 242 | 13 | 4.6 |
| Clerical & related | 36,400 | 34 | - 314 | 17 | 0.9 |
| Sales workers | 12,300 | 10 | - 95 | 5 | 0.8 |
| Service workers | 3,800 | 3 | - 26 | 1 | 0.7 |
| Agriculture & related | 7,400 | 7 | - 32 | 2 | 0.4 |
| Production | 24,800 | 22 | - 208 | 12 | 0.8 |
| Other | 2,500 | 2 | - 326 | 18 | 13.0 |
| Total | 110,400 | 100 | -1,801 | 100 | 1.6 |

Source: Central Statistical Office Demographic Report, Oct. 1976

A formal apprentice training program functions within several of the basic trades in Rhodesia. Its size is so small (214 registered apprentices in 1970) as to make it of very limited importance to the national manpower training program.

With wage employment expanding at an average rate of 35,000 annually since 1970, it is clear that the training institutions annual output of around 2,000 is inadequate. Previously non-African emigration provided an average of 3,500 skilled workers annually. The net loss for 1976 was almost that large.

## E. Transition Problems

Transition to majority rule will create new problems and opportunities for employment in Rhodesia. The greatest potential problem is the exacerbation of skilled manpower shortages. While on one hand transition will free up large numbers of skilled men currently serving in the armed forces, it will probably also result in greater emigration of skilled Europeans. Since the skills of Africans are not established, it is difficult to tell how many of these Europeans can be replaced before output or quality are affected. Certainly since UDI many Africans have moved into higher level positions. At the same time though, there are still sufficiently skilled Africans who are held back due to discrimination. Very few Africans are in top professional and managerial positions and discrimination has effectively blocked Africans from experience in many skilled labor fields. Thus it appears there is some slack which has been created by discrimination which can make up for a limited white exodus, but anything exceeding 10 percent emigration will create serious problems.

It is likely that with majority rule Africans will demand a more equitable distribution of both jobs and income. Though many Africans possess the requisite education, very few have the work experience required by skilled posts. Opening skilled positions to these people may result in quality and production decreases. Also, increased wages or the imposition of minimum wages could cause serious economic problems. Profits and therefore investment could be reduced, capital intensive techniques increased, resulting in unemployment; and inflation would grow with a sudden rise in wages without commensurate productivity gains.

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