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HEALTH AND DEVELOPMENT IN SOUTHERN AFRICA

Volume VII

A Review of Health Care in Rhodesia:
Issues, Analyses, and Recommendations

This sector assessment was undertaken in conjunction with the Southern Africa Development Analysis Project and has been used extensively, but not totally, in the Main Report and Country Papers

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I. INTRODUCTION

A. Background and Acknowledgements

This study is based largely on secondary source material available in the United States, much of it prepared several years ago. As a visit to Rhodesia was not possible under the terms of the contract financing the study, the data presented have not been validated. Certain important aspects of the research and writing of this study should be noted.

Statistics collected in the research for this assessment should not be considered absolutely reliable. Data were often found to be contradictory, with differences, according to source, sometimes of considerable variance. A great deal of the material collected contained figures which were too old to be relevant to the current, altered situations. In general, a selection had to be made, and most recent statistics available were used.

Birth and death registrations are mandatory only in certain areas; population projections were derived from census figures which are not very recent.

Original sources should be referred to for particulars on compilation of figures, methods of calculation, projections, and so on. In addition, because of the amount of research material collected, original sources may be referred to for additional relevant information which may not be contained in this report.

Another aspect which posed certain difficulties for the author and editors was the problem of objectivity. Some sources reflected clearly the "Western" standpoint; many reflected a particular political bias or ideology. While it is not possible for any researcher to prepare a "value-free" analysis, efforts were made to be as objective as possible.

The content of the report is largely descriptive; some of the information was obtained from travel notes and interviews from which observations were selected as illustrations to make a specific point. The formats or outlines of the desk studies differs somewhat from that of the reports on the countries which were visited.

It will be seen that the introductory sections on political, economic, and social structures are relatively lengthy. This was felt to be necessary, given both the current complex historical, political, and economic situation as well as the strong interrelationship between health and more macro political-economic policies and events.

Rhodesia is in transition to majority rule, and therefore, recommendations for future assistance are dependent upon its subsequent development. However, regardless of the future political situation, it is possible to highlight current and future priority health needs.

Except when referring to the time when the country will have majority rule, the name Rhodesia is used in this

report. When the era of majority rule is discussed, the country is referred to as Zimbabwe.

The principal author of this desk study was Helen Cohn. In preparation of this report, William J. Bicknell, M.D., M.P.H., Health Policy Institute, Boston University, participated in the technical review process.

B. Summary Statistical Profile of Rhodesia

	<u>Most Recent Estimate</u>
<u>General</u>	
Per capita GNP (US\$ at current prices)	430 ^(a)
Population (midyear, in millions)	7 ^(a)
Land area (thousands of square kilometers)	391 ^(b)
Population density per square kilometer	44 ^(b)
Urban population (% of total)	20 ^(b)
Labor force in agriculture (%)	63 ^(b)
Age structure (%):	
0-14	48
15-59	N/A
60+	N/A
Adult literacy rate (%)	30 ^(b)
<u>Health Status</u>	
Life expectancy at birth (years)	52 ^(a)
Crude birth rate (per 1,000 population)	47 ^(a)
Crude death rate (per 1,000 population)	13 ^(a)
Population growth rate:	
Total (natural)	3.5 ^(a)
Urban	5.9 ^(b)
Number of years for population to double	20 ^(a)
Infant mortality rate (per 1,000 live births)	122 ^(a)
Maternal mortality rate (per 1,000 live births)	N/A

	<u>Most Recent Estimate</u>
<u>Health Resources</u>	
Government health expenditures (recurrent only):	
Total (millions of US\$)	N/A
As % of all government expenditures	N/A
Per capita	N/A
Population per physician	5,700
Population per nurse	1,944
Hospitals (population per bed)	412
Hospital beds per 1,000 population	2.4
Community water supply (% population served)	N/A

Units of Valuation

The official unit of currency in Rhodesia is the Rhodesian dollar (R\$). Current official rate of exchange is R\$1.0 = U.S.\$1.44.

Sources:

- a. Population Reference Bureau, "World Population Data Sheet, 1978", June 1978.
- b. AID, Framework for United States Assistance Programs, March 1977.

II. A PROFILE OF RHODESIA: THE CONTEXT OF HEALTH AND DEVELOPMENT

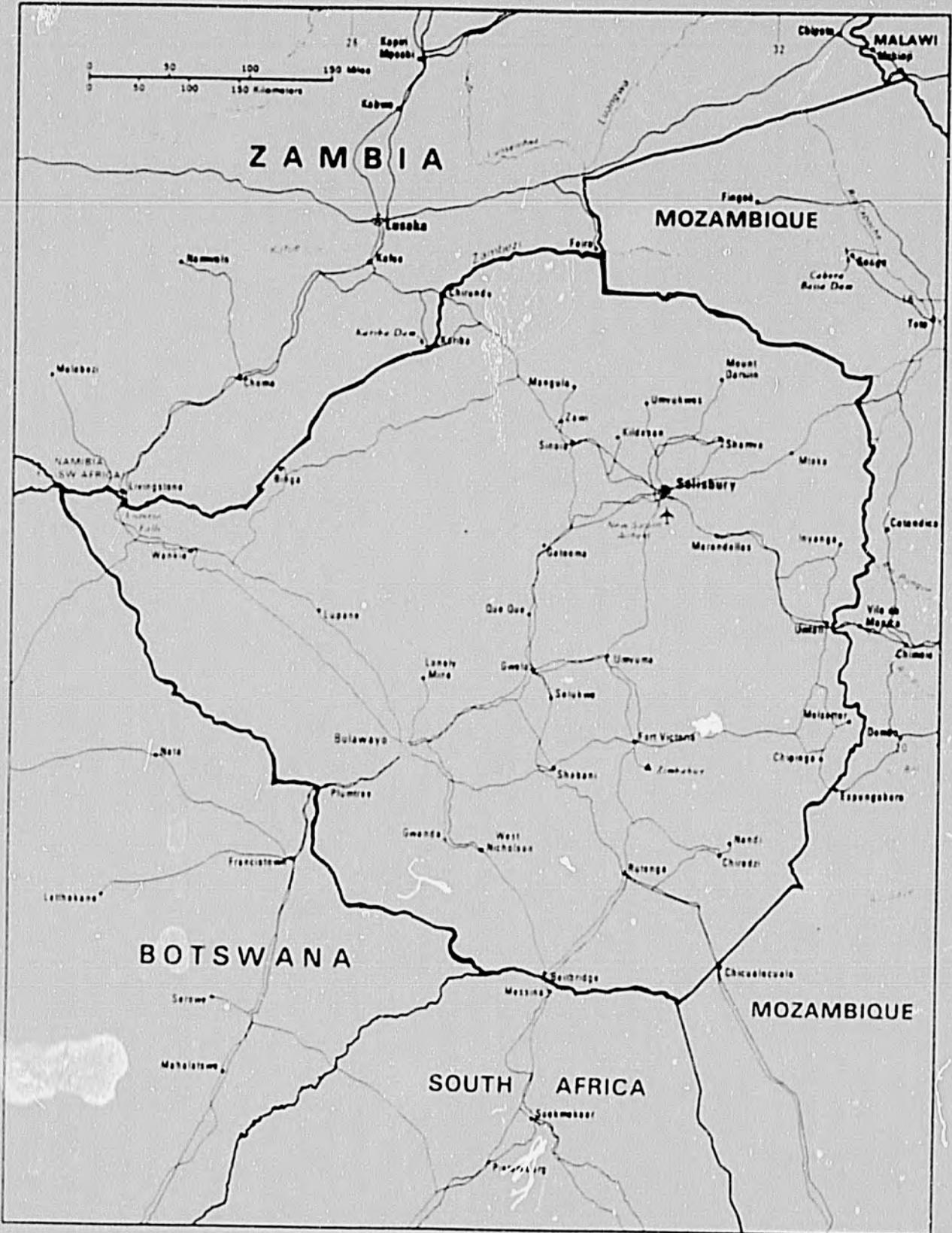
A. PHYSICAL FEATURES

Rhodesia, a southern African country with a population of more than 6.6 million, lies between the Limpopo and the Zambezi Rivers (see Map). Landlocked, Rhodesia depends on rail routes to Beira and Maputo in Mozambique and to Cape Town, Durban, and other ports in the Republic of South Africa. The country has four relief regions: the high veld at an altitude of over 4,000 feet, the middle veld with an altitude of over 3,000 feet, and the low veld at less than 3,000 feet which occupies the Zambezi, Limpopo, and Sabi Lundi River basins; lastly, the narrow mountainous area bordering on Mozambique known as the eastern highlands.

Temperatures are moderated by altitude, and range from 22°C in October and 13°C in July on the high veld, to 30°C and 20°C in the low-lying areas. Rainfall is largely restricted to the summer months (November to April) with a mean annual rainfall ranging from 55 inches on the eastern highlands, to 30 inches on the high veld, and to less than 15 inches in the low veld of the Limpopo River valley.

The soil varies in quality and is sandy and infertile in "over half the country." Many areas, however, are amenable to improvements by irrigation, and large-scale irrigation works have been started in recent years in the southeast low veld.

RHODESIA



Lambert Conformal Projection
Standard parallels 6°00'S, 30°00'S
Scale 1:5,550,000

A wealth of mineral deposits, including gold, asbestos, chrome, and copper are found mainly in the high veld. Coal is plentiful, and electrical power stations on Lake Kariba provide ample electricity. There is no oil in Rhodesia.

Approximately half the area is set aside as (a) Tribal Trust Lands (41.5 percent of total area) and (b) African Purchase Areas (5.2 percent). The remaining land belongs mostly to white city dwellers and to the country's 6,000 white farmers (46.7 percent of total area) or is natural game and forest reserves (6.6 percent of total area).

B. DEMOGRAPHIC PROFILE*

Cecil Rhodes, the British-born empire builder, sent his "Pioneer Column" from South Africa in 1890 to become the first white settlers in the land north of the Limpopo. They encountered two nomadic tribes: the Shonas and the Matabeles, numbering together not more than 350,000. Today the descendants of these tribes, along with migrants from neighboring countries, constitute the African population of Rhodesia - numbering over six million. The white settlers, mostly of British and South African origin, number approximately 277,000. In addition, there are close to 22,000 Asians and other non-whites. The listed total population for 1976 was 6,650,000.

* References 9 (Gelfand) and 13 (Leistner), also 25.

Birth and death registration is compulsory only in designated areas of Rhodesia. Population statistics are therefore based on estimations, and vary somewhat according to different sources. Official data are derived from projections based on the official census taken in 1969.

Between 1901 and 1975 the racial groups increased from:

	(1901)	(1975)
African	- 500,000 (97.7%)	to 6,110,000 (95.3%)
White	- 11,000 (2.1%)	to 278,000 (4.3%)
Asians & Other	- < 1,000 (.2%)	to 20,900 (.3%)
Non-Whites	- < 1,000 (.2%)	to 20,900 (.3%)
TOTALS	512,000 (100%)	to 6,408,900 (100%)

The present racial distribution is roughly as follows:

African	- 95%
White	- 4.5%
Asians & Other	- 0.5%
Non-Whites	

During 1977, it has been estimated that while the African population increased by 3.6 percent, the white population for the first time in the history of the country experienced a decrease over the previous year of 5,000.

The current black Rhodesian birth rate has been estimated as 52 per 1,000; the following estimates for the total population are given for mid-year 1975.

Total Population - 6,310,000

Crude Birth Rate - 48

Crude Death Rate - 14

Rate of Natural Increase - 3.4%

The high birth rate in the black population is associated with a high infant mortality rate in the rural areas, and with polygyny, which persists where maternal mortality is experienced and feared.

A further feature of population growth is the increase in the working-age group (15-59 years). In total numbers, this age group increased by 574,000 between 1970 and 1975-- a number equivalent to between 50 and 65 percent of the total previous work force.

At the same time, the white population has fluctuated with the political and economic vicissitudes of the country. Immigration averaged 9,000 per year between 1954 and 1957, and continued (with some decline during the Federation period) until 1971. Since then, there has been a steady emigration: between October 1975 and October 1976, 5,400 people left the country. [4, page 11]

Urban-Rural Distribution

Of the total population of Rhodesia, 20 percent is urban; of the white population, 85 percent is urban. The extensive farmlands occupied by the remaining rural white population (15 percent) are in the hands of 6,000 white farmers or farming companies. The highest proportion of the

white population lives in Salisbury, the capital (approximately 566,000 in 1976), and the four other major cities. About four percent live in small towns of under 2,000 population each.

About two-thirds of the black population live in the Tribal Trust Lands (TTLs). These are the 166 areas set aside for black Rhodesians in the tribal tradition of community ownership. More recently African Purchase Areas have been acquired by the government for resale to Africans who can afford to establish themselves in a cash economy.

The remaining one-third of the black population is distributed as follows.

40 percent: employed on white-owned farms
15 percent: in domestic service
45 percent: live and work in the towns

More than 80 percent of the black population resident in TTLs are women and children, as shown in the following statistics:

Age-Sex Composition of Black Rhodesians by Locality

<u>Locality</u>	<u>Children</u>	<u>Men</u>	<u>Women</u>
White Areas (including towns):	39.2%	38.7%	22.1%
Tribal Trust Lands:	53.3%	19.2%	27.5%

This preponderance of women and children in the rural TTLs reflects the migration of rural-based black males seeking work in mines and industry, leaving much of the labor of subsistence farming to women and old men. The data

also imply associated social problems arising from the separation of parents and female heads of rural households. In addition to the Asian and other non-white population, which is almost 100 percent urban, Rhodesia imports labor for mines and industry from neighboring countries; of this population 67.4 percent are men, 23.4 percent women, and 9.3 percent children.

The growth rate of the black population and its urban-rural composition are currently subject to the effects of wide-scale mobility and instability; many refugees are fleeing the country or from the danger zones in rural areas into the towns. Moreover, the government is sending thousands of rural people into protected villages. In these circumstances population data, including health and vital statistics, are based on considerable guesswork.

C. HISTORICAL AND CULTURAL CHARACTERISTICS

Eighty years ago the country which is now Rhodesia was populated by two warring tribes: the Mashona and the Matabele (which today constitute 77 percent and 17 percent, respectively, of the black African population).

Six years of bitter fighting with the white settlers from South Africa ended in 1896 with peace terms which gave the British the rights to develop and govern the country. When Cecil Rhodes died and was buried in the "Dwelling Place of the Spirits,"--a place most venerated by the

African tribes, his brother said that this was proof that the white men and the Africans would be "friends and brothers forever."

But in resistance to granting full citizenship to blacks, which was a condition for granting of independence by Britain, this self-governing colony unilaterally declared itself independent in 1965 and vowed to maintain white supremacy and the discriminatory policies which had characterized the black-white relationship since 1890.

Today some say there are two Rhodesias: one is the sophisticated, prosperous white Rhodesia, farming and mining the rich land, or living and working in the prosperous cities (Salisbury and Bulawayo have been called "two of the handsomest small cities in the world"); and the other is the Rhodesia of the Tribal Trust Lands, seemingly untouched by the 20th century, where the soil is generally poor, the farms produce enough only to keep the people in poverty, and essential services are inadequate and often inaccessible.

Rhodesia is predominantly a Christian country, but in the black population, belief in spirits, ancestor worship and polygyny persists in some areas.

Contact between white and black (with a population ratio of 1:20) is close and continuous in the work place and is not altogether prohibited socially. While schools,

hospitals, and housing are segregated, hotels, bars, and transportation are generally open to blacks who can afford them.

More than half of the Rhodesian regular army and two-thirds of the police force are black. Fifty-three percent of the student body of the University of Rhodesia is black, and in the Government, 10 of the 23 senators and 16 of the 66-member Assembly are black.

Rhodesia's white population has its cultural origins in England, South Africa, and other western industrialized countries. Basic values come out of traditions of individualism, competitiveness, and/or capitalism. Rhodesia's economy and its way of life have been dependent upon the existence of a subservient working class which in turn must depend on it.

Black Africans, on the other hand, whose tribal values are vested in family and communal living, are linked to a paternalistic government which provides for and defends basic needs, and to the Church which offers education and medical care to counter the ravages of poverty and disease.

In addition to the cultural conflict between the black and white races, another cultural element is contributed by the approximately 21,000 Asians and other non-whites who, being predominantly urban traders and craftsmen, have injected the flavors of eastern diet and rituals into the

African townships. Some say that they have forged a link between communal and competitive value drives.

The official language of the country is English. The major African languages are Shona and Ndebele. Between 20 and 30 percent of black African adults are literate.

D. THE POLITICAL SYSTEM

Since its separation from the Republic of South Africa in 1923, to become a self-governing British colony, the Rhodesian government has been styled on the British parliamentary system. After the Unilateral Declaration of Independence (UDI) in 1965, a new Constitution was adopted, having been endorsed by a predominantly white electorate. The new Constitution was based on the parliamentary system with a President as Head of State replacing the governor who had represented the British crown.

Legislative authority was vested in the President and Executive Council--an advisory body made up of the Prime Minister and members of the House of Assembly.

- The Senate: 23 members, 10 whites elected by whites, 10 blacks elected by an electoral college of black Chiefs, and 3 Senators (white and black) appointed by the President.
- The House of Assembly: Consisting of 66 members, 16 of whom are black. An increase of black membership--not to exceed half the total membership--is provided for under the Constitution. However, such an increase is conditioned upon the overall income tax of the black electorate reaching a certain proportion of that paid by whites (a mere 2,362, Africans were eligible to vote in 1974). [ib, page 713]

Black members of both houses are elected in such a way as to equally represent the two major black populations, the Matabeles and the Mashonas.

The cities and towns come under the authority of councils elected by the local white populations only. The Tribal Trust Lands are divided into chiefdoms, each chief having a group of headmen who administer subdivisions or "wards" within the chiefdoms.

Chiefs are mostly appointed by the government; if chosen by the people as the traditional head (by succession or legacy), they have to be approved by the government. Many chiefs have supported the white government in the present struggle, but of those who support the liberation movement a number have been detained.

The other branch of government--the Judiciary--is patterned on the Roman-Dutch system operating in the Republic of South Africa since early in the century. Its components are:

1. The High Court with two divisions:
 - a. the Appellate which is the highest court of appeal and is presided over by the Chief Justice, the Judge President, and a Judge of Appeal;
 - b. the General Division which consists of the Chief Justice and judges.
2. Magistrate's Courts, established on a regional basis with two divisions, criminal courts, and civil courts.

Since 1976, special courts and new laws have been established to try cases arising from the activities of the liberation movement. Citizens may be detained by any police officer, held for 30 days without right of appeal, and may be detained indefinitely on the authority of the Minister of Justice, Law and Order.

The form of government outlined here may have significance only in so far as its principles are entrenched in the new constitution proposed by the "Rhodesia Constitutional Agreement" signed in March 1978 by Prime Minister Ian Smith and the three black moderate leaders who agreed to negotiate with him. On the other hand, the parliamentary system may speak to independent Rhodesia as a tool of white supremacy, and as such may be ultimately rejected.

Rhodesia's Unilateral Declaration of Independence (UDI) in 1965 was followed by United Nations sanctions, which had serious if not immediate effects on the economy. At the same time, the black nationalist movement, supported by neighboring countries stepped up its activities both in guerilla warfare and in the recruitment of civilian and military followers in a determined resolve to take control of the government from the white minority. Despite pressure from the West, and from the Republic of South Africa, Prime

* Details of earlier constitutions can be found in Africa South of the Sahara, 1976-77.

Minister Smith refused to negotiate with the (exiled) black leaders. Instead, he increased his defence spending by 40 percent; his police force by 25 percent, recruited mercenaries into the Rhodesian army, and dropped the minimum age of enlistment from 18 to 16 years. Repressive measures against the black population include detainment without trial, the development of "protected villages" for rural people suspected of potential anti-government activity, and attacks on guerilla bases in Zambia and Mozambique. These measures have apparently not lessened the strength and number of the guerilla activities within Rhodesia.

Under the stress of economic sanctions and in the face of the too-liberal (for the whites) terms of the proposed Anglo-American settlement, Prime Minister Smith announced on November 24, 1977, that he was prepared to negotiate a settlement with African leaders.

The three more moderate of the black leaders led by Bishop Mazoweru agreed to participate in negotiating a constitutional settlement leading to majority rule, safeguarding the living standards and the confidence of the whites, and retaining the security forces and judiciary. The Patriotic Front (a fusion of ZANU under Mugabe and ZAPU under Nkomo) adamantly rejected the Smith plan and declared the Anglo-American proposals at least a basis for discussion.

Without them, Smith announced that the new interim government, including the moderate black leaders, had reached an agreement leading to majority rule. Negotiations between Nkomo and Smith in 1978 to bring ZAPU into the new government broke down and Nkomo reaffirmed his opposition to future dealings with the "Smith government."

The Rhodesia Constitutional Agreement includes major increases in black representation in government; a declaration of rights largely focussed on compensating whites for losses they may incur; and an independent judiciary. Independence was to be declared on December 31, 1978; the date has now been moved to the Spring of 1979.*

It was expected that the three black leaders in the interim government would gain black support, would curb the guerilla attacks, and would sway the rural masses-- presently committed to the purposes of the Patriotic Front-- to the government side.

The Organization for African Unity (OAU), and most of the international community have condemned the plan on the grounds that no solution is acceptable that has not had the full participation and agreement of all the parties. The Patriotic Front has had off-and-on talks with British and American representatives in anticipation of the failure

* Details of the Agreement are listed in UN Document A/AC109/L.1214, p. 13-17 (Ref. 3).

of the present agreement and a review and revision of the Anglo-American proposals by all the parties.

The country continues to be ravaged by guerilla war; the operation and development of essential services have been seriously disrupted, and thousands of people have been forced into exile or displaced within the country.

E. THE ECONOMY

Rhodesia's gross national product for 1975 was estimated at US \$2.8 billion or US \$430 per capita. While most of the developing countries (including sub-Saharan countries) are dependent on agriculture or mining as the mainstay of their economies, with other commodities playing a secondary role, Rhodesia's economy is diversified and highly developed. Manufacturing generates 27 percent of the GNP, agriculture 16 percent, and mining 7 percent.

In 1973 the gross output of Rhodesian industry included:

- Metals and metal products - 23 percent
- Food stuffs - 22 percent
- Chemicals and petroleum products - 13 percent
- Textiles - 10 percent

As a percentage of the gross domestic product manufacturing increased from 17.9 percent in 1966 to 24.8 percent in 1975. The fact that the Rhodesian economy does not depend on income from one or two export commodities, and that it can draw from a diversity of products at home has enabled it to

withstand the sanctions on imports imposed by the United Nations in 1965 (see Table 1 for gross domestic product by sector for the years 1966-1975).

While economic pressures played a major role in the white regime's surrender to the concept of majority rule, foreign capital has (since UDI) constituted 37 percent of listed investments. The Patriotic Front, however, is committed to a reversal of white domination and to equitable distribution of land and employment opportunities; and the future economic structure of the country is a matter of speculation for politicians and investors as well as for economists.

Reports abound on the plight of the exploited black African "unskilled" worker in Rhodesian industry, farms, and mines. Great wealth has accrued from the availability of African labor. The ratio of white workers' average earnings to black workers' earnings is about 11 to 1. In European-owned farms, where employment is 99 percent African, this earnings ratio is 24 to 1 (see Table 2 for a summary of black-white earnings differentials by employment sector in 1974).

The majority of Africans, however, do not participate in the market economy, and depend on subsistence farming in the overpopulated Tribal Trust Lands (TTL). The average

Table 1
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.

annual income of the 675,000 farmers in the TTLs is not over US \$200 per capita. On the other hand, the 6,000 farms owned by white farmers (who market 80 percent of their production) were subsidized by the government in 1977-78 in the amount of \$92 million. [13]

F. AGRICULTURE AND LIVESTOCK DEVELOPMENT

Agricultural production in 1973 was valued at R \$311 million, of which R \$42 million was produced and consumed by rural households. Of the gross marketed output (R \$269 million), 60 percent was field crops, mainly tobacco, corn, and cotton; livestock accounted for the remaining 37 percent.

Agriculture provides 17 percent of the GDP and employs 36 percent of the national wage-earning workforce. While climate and rainfall determine the suitability of the land for crops or livestock, legal restrictions on land occupation and ownership determine the use of the land and the distribution of the wealth accruing from it (see Table 2).

Major crops are corn, tobacco, ground nuts, and cotton; a variety of other crops, including sugar, are produced. In the TTLs nearly 40 percent of the cultivated land is devoted to corn, 95 percent of which is consumed by the people.

The number of white farmers, particularly tobacco growers, decreased between 1965-1969 by 2,000, mainly due to

Table 2
AVERAGE ANNUAL EARNINGS BY SECTOR (Dollars)

Sector	Black		White		"Wage Gap"
	1974	1974	1973	1974	1974
Agricultural & Forestry	142.1	155.9	3166.6	2591.8	3436
Mining & Quarrying	385.5	437.1	5308.9	1604.9	5667
Manufacturing	565.9	632.3	4484.6	5111.1	4479
Electricity & Water	541.6	576.9	5085.7	5586.5	5010
Construction	501.7	578.2	4270.9	4844.7	4266
Finance, Insurance, Real Estate	818.2	871.7	3822.9	4454.4	3583
Distribution, Restaurants, Hotels	500.8	556.7	3341.2	3674.0	3118
Transport & Communications	815.5	908.2	4706.4	4904.9	3996
Public Administration	666.6	770.0	4636.8	5295.9	4525
Education	823.0	922.7	3631.3	4074.5	3152
Health	697.6	784.0	2444.2	3199.0	2415
Private Domestic	301.7	321.6	-	-	-
Other	473.1	518.4	3233.0	3490.1	3169
TOTAL	357.7	401.4	3974.9	4470.3	4069

Source: Rhodesia, Monthly Digest of Statistics. C.S.O. Salisbury; cited in Clacke, D.J., The Distribution of Income & Wealth in Rhodesia, Mambo Press, Ec Series #7.

Note: Earnings include (1) all cash wages, salaries, allowances, commissions and bonuses; (2) Employers' contributions to pension funds, provident funds, holiday funds and medical aid societies; (3) the cash value of all income received in kind, e.g., free rations, housing, uniforms, etc.

the impact of UN trade sanctions. Government recruitment programs had increased the number by about 700 from 1969 through 1973.

The importance of white Rhodesian farming to the country's economy is reflected in the many government investments in irrigation projects, in agricultural research, in price guarantees, as well as in subsidies to farmers. Currently (1977) 180,000 black Rhodesians are employed on white-owned farms at wages "significantly lower than unskilled urban employment." [4, p. IV-7]

The gross value of agricultural output increased by R \$183.7 million between 1968 and 1974. Crops accounted for two-thirds, and livestock for one-third of the total.

Land tenure restrictions have been a basic element in rural African poverty and will undoubtedly be the object of much attention during the transfer to majority rule.

It is estimated that with development on the TTLs of agricultural technology and the extension services as presently available to white Rhodesian farmers, the country's agricultural yield could be quadrupled. The poverty, malnutrition, and disease which characterize the TTLs are incongruous in a country which already is self-sufficient in food production. [34, p. 51].

G. INDUSTRY AND MINING

Asbestos, gold, copper, coal, and chrome have been the principal materials mined in Rhodesia. In 1965, when the last official figures were published, they accounted for 88 percent of the total mining output, valued in 1973 at R \$136 million.

Detailed tables of Rhodesia's income and expenditure, trade and increases of payments are included in the report of the Southern African Task Force, Chapter 2. See also "Average Annual Earnings by Sector," Table 14 in D.G. Clarke, The Distribution of Income and Wealth in Rhodesia, Mambo Press, Socio Economic Series No 7.

H. TRANSPORTATION

Rhodesian Railways is a state-owned corporation providing public transportation of passengers and goods in Rhodesia and Botswana.

Until 1973 the railway system was linked to Zambia through the Victoria Falls Crossing, and until 1976 to the ocean ports of Mozambique. Today it is linked to South Africa through Botswana and Beit Bridge, and to its overseas markets through South African ports. It is the largest industrial organization in the country, employing nearly 20,000 workers. Its assets in 1968 were valued at R \$70.0 million. According to the Monthly Digest of Statistics, Rhodesia Central Statistics Office, April 1976, the freight

tonnage hauled by the Railways rose from 9,886 M.T. in 1968 to 12,800 M.T. in 1975 and increase of 29.5 percent in seven years.

The system covers approximately 3,415 kilometers, and operates a complementary Road Motor Service over an additional 12,000 kilometers over 80 routes to areas not well-served by the railway.

A network of roads connects all the urban centers; roads in the TTLs exist, but are mainly gravel.

Air Rhodesia, the national airline, is a state-owned corporation established in 1967. (Air services to all countries except South Africa had been cut off in 1965.) There are two international airports, at Salisbury and Bulawayo, and a number of airports for domestic traffic. In addition to Air Rhodesia, several private companies provide air travel.

I. EDUCATION

In the light of present war conditions in Rhodesia, the education system as documented in official reports does not always reflect the actual situation. The liberation army in their guerilla attacks on European-controlled institutions have not deliberately attacked schools. Nevertheless, by the end of July, 1977, 300 primary and nine secondary schools had been closed. [11, pg. 67]

While children and their teachers have occasionally been "kidnapped" by the guerillas for training in liberation camps, many more have been herded by the government into "protected villages", where schools and other social services are makeshift or non-existent.

A feature of the present situation in Rhodesia is the exodus of both white and black teachers and the emigration of white and black students to be educated in other countries.

Nevertheless, the education system in Rhodesia is as good or better than that of most of the countries of Southern Africa. The adult black Rhodesian literacy rate is 30 percent. Between 1971 and 1975, there were 2,500 primary school teachers enrolled in training centers for the primary teachers' higher certificate.

Primary and secondary educational facilities are separated by race, with advantages for the white population in all aspects of the system. Some comparative figures follow: [4, IV. 29]

	(1975)	
	<u>Black</u>	<u>White</u>
Primary: percent of age group enrolled	66.5	90-100
percent of age group last year	45.4	90
Secondary: percent of age group enrolled	7.7	90-100
percent of age group last year	4.3	90
Expenditure per student	RS 39	411

The "private" school--a feature both of British education (and therefore of white Rhodesian) and of missionary work (and therefore of black Rhodesian) plays a major role in the country. While heavily subsidized by the government and subject to national educational standards, primary and secondary white schools are respectively 12 percent and 41 percent private. The majority of African children attend mission schools.

Although 20 to 30 percent of black schools are reported to be mission or private schools, their enrollment in 1975 was 726,000 children, as compared to 83,000 in government schools [8, pg. 668]. There is a severe shortage of secondary schools in the TTLs and they hold little attraction for trained teachers.

Post-secondary schools are integrated except in agriculture where Africans are trained separately. Since 1965 trade and agricultural schools' enrollment has increased by 23 percent and the University enrollment has doubled. Government expenditure has increased accordingly. These institutions are important to the country in terms of providing teachers as well as skilled workers (See Table 3). Nevertheless, in 1976 there were only 200 black African students in technical courses (of a total of 1,410) and none in commercial courses (of a total of 1,250) or adult education courses (of a total of 916). [14, pg. 15]

Table 3
Rhodesian Postsecondary Institutions

Name	Emphasis	Enrollment	Annual Output
Bulawayo Teachers College	Teacher Training	455	145
Bulawayo Polytechnic College	Engineering, Technical & Commercial	1,973	650*
Salisbury Polytechnic College	Engineering, Technical & Commercial	2,499	800*
Umtali Polytechnic College	Commercial, Hairdressing	-	-
Gwelo Polytechnic College	Commercial, Hairdressing	-	-
Que Que Polytechnic College	Commercial, Hairdressing	-	-
Chibero Agricultural College	Agriculture	82	27
Kukwaisa Agricultural College	Agriculture	130	42
University of Rhodesia	Education, General Curriculum	1,506	350
TOTAL		6,645	2,014

* Estimate

The disparity in white and black education in Rhodesia apparently reflects government policy aimed at the continued provision of untrained and unskilled workers, and at ensuring that competition between the majority black and minority white populations will be kept to a minimum.*

However, for those Africans who do graduate from the University, few career opportunities are open. Only in the last few years have African graduates been able to enter the medical and technical fields. Until then, opportunities were limited, in the main, to school teaching and religious ministries. [16, pg. 141]

The integration of white and black education is likely to be a major policy of the new majority government. Problems in equalizing quality standards throughout the system will have to be dealt with and the preparation of black students to replace whites in the administration, in commerce, as well as in the services, will have to be undertaken.

On attaining independence, many countries have been faced with considerable "losses" in trained manpower. In the rural areas in Rhodesia the shortages of medical and para-medical staff already are reaching crisis levels. The

* For a fuller account of the education system in Rhodesia with accompanying statistics see Chidzero, Education and Inequality [14, pg. 13-24]

University admits approximately 80 medical students per year, but the majority of Rhodesian doctors go to the UK and South Africa for training.

Training centres for nurses, midwives, and some other health professionals are slowly coming into existence with government support [2, pg. 223], through the Red Cross [17, pg. 224], the Planned Parenthood Association [17, pg. 220], and in areas taken over by the liberation movement.

III. THE HEALTH SECTOR

A. A PROFILE OF THE HEALTH SITUATION IN RHODESIA

1. Health Status and Patterns of Morbidity and Mortality

As discussed in previous sections, Rhodesia's wealth has been exploited primarily by the privileged white population and by investors outside the country. Health services provided by the government and by private agencies to the African rural communities (reportedly 80 percent of the government health expenditures) have not lifted that population's health status to a level comparable to that of whites living predominantly in urban communities of the country. Discrimination in land ownership, education, employment, and in participation as full citizens in policy-making and government, has had its effect on the standard of living of the black Rhodesians, and consequently on their health.

The general health situation described here is thus characteristic of a developing country. In Rhodesia, however, the general health situation of the African population contrasts very unfavorably to that of the relatively affluent and well-nourished whites who are well-served with modern medical care and adequately protected from the environmental health hazards which are endemic and, at times epidemic, in the predominantly African rural population.

A major health problem facing the new Zimbabwe regime will be the adaptation of existing services on an equitable basis in a way that permits equal access to the entire population.

In addition, no matter how they are to be organized health services will likely be overburdened in handling the health effects of the war, which has seriously disrupted life and health throughout much of rural Rhodesia.

The disease pattern of Rhodesia's white population is that of a modern, affluent people: the degenerative diseases account for a major portion of morbidity and mortality, the accident rate is high, and children suffer mostly from acute episodic diseases. This small white population is closely surrounded by a larger population suffering from the effects of urban poverty, discrimination, poor working conditions, large families, migrant labor, poor housing, unsafe water, and environmental pollution. But the urban white population is relatively well-served, particularly in respect of curative care available at urban hospitals. The major burden of disease is in the rural population of the TTLs and among the people who work in the country's lucrative farming and mining industry.

The Secretary for Health in 1973 reported as follows:

"...smallpox has been eradicated; malaria and sleeping sickness controlled; tuberculosis, which in the early 60s threatened to reach epidemic proportions,

has been halved in incidence in the last ten years; leprosy...within sight of eradication; the control of measles...simply depends on expansion of vaccination facilities. PCM is slowly succumbing to education and the distribution of milk and other protein foods. Gastro-enteritis... better prevention and treatment. Bilharziasis...on the increase...(there is a) need for improved environmental hygiene... Both sections on the population increasingly suffer from psychosomatic disease and mental health problems."

The Secretary remarked that one segment of the population is interested in transplant surgery, while another is concerned with "excessive infant mortality."

a. Disease: Urban

In considering the training of doctors to meet the health needs of the population Dr. Michael Gelfand* pointed out that both rural and urban Africans are becoming more scientifically-minded and are using the technology available in the large hospital centers. Appearing at greater frequency than 20 years ago among all black Rhodesians, but not as frequently as among whites, is coronary thrombosis, thyrotoxicosis, and ulcerative colitis. In Harari Hospital in Salisbury, blacks are now admitted with diabetes and appendicitis, both unusual heretofore. The following lists of the most frequent reasons for admission to an urban and a rural hospital in 1969 are given for comparison.

* Professor of Medicine, University of Rhodesia.

Urban

Trauma
Respiratory problems
Infections and parasitic diseases
Complications of pregnancy
Disease of the digestive system
Neoplasms
Diseases of the genito-urinary system

Rural

Deliveries
Bilharziasis
Respiratory problems
Ankylostomiasis
Enteritis and diarrhea
Pneumonia
Nutritional deficiency
Bronchitis-Asthma
Anemias
Skin infections
Fractures limbs

b. Disease: Rural

The most common causes of death among rural blacks are: malnutrition and vitamin deficiency; gastro-intestinal diseases; tuberculosis and measles [16, pg 110]; or combinations of these, or one of these as a secondary cause of death. For the most part, these are preventable causes of death; 35 percent of deaths from these conditions occur in young children, 65 percent in older children and adults.

The most common illnesses among rural blacks are infections and infestations which occur in adults and children alike, more often leading to death in the latter, but chronically debilitating in both.

The major infectious and parasitic diseases in the rural black populations are schistosomiasis, malaria, and tuberculosis. Leprosy is endemic; 446 cases were reported in 1976. [18, pg. 114]

The irrigation schemes introduced into Rhodesia, the Kariba dam being the classic example, while beneficial

to economic development, are major causes of the spread of schistosomiasis. A study of the disease in 14 African countries in 1963 showed that in a population of 100 million people, 34 million were infected. Another study showed that in 1952 0.3 percent of French West-Africans died from this disease; other studies have emphasized that many of these infected develop only mild symptoms of the disease or none at all.

The Kariba dam, originally designed as a joint project of the Rhodesian Federation (S. Rhodesia, N. Rhodesia [now Zambia,] and Nyasaland [now Malawi]) resulted in mass movements to the cities, to Lake Kariba, and to different parts of the area. Human migrations to and from water supplies are responsible for spreading schistosomiasis. Control depends on preventing contamination of the water as well as on the routine application of molluscicides to water bodies. Longitudinal studies of non-infected people to ascertain the rate and season of infection would help to determine the transmission potential in an area. In one such study, it was found that transmission decreases in the cooler months, also that streams implicated in S. mansoni were successfully treated by the "dam and flush" method after which no further spread was noted for a period of three years (Feb. 1973 - Feb. 1976). [31, pg.5]*

* For a reportedly effective method of control carried out in the S.E. Lowveld, see report by A.E. Evans, April 1978.[31]

Other infections include:

Trypanosomiasis, (sleeping sickness), confined almost entirely to the Zambezi River Valley, transmitted by rodents and contracted usually only by people who are malnourished.

Malaria, Tuberculosis, Leprosy and various helminths and bacillary infections. While the incidences of some of these conditions have declined (tuberculosis and leprosy), others remain high or increase periodically (malaria), and the burden of chronicity on the population is such that comprehensive health and nutrition improvement programs are urgently needed to promote resistance to infections even while environmental programs get under way at a slower pace.

c. Diseases: Mining

The mining of Rhodesia's mineral wealth causes certain health problems for the industry's work force.

Mine workers are generally migrant laborers who have left their wives and children at home in the rural area. In addition to the psycho-social problems of disrupted family life, the man away from home can be exposed to venereal disease. The incidence of both syphilis and gonorrhoea are high among mine workers. If untreated he can infect his wife and obviously jeopardize any subsequent pregnancy. Sterility and still births among African women are major factors in the "cultural" resistance to family planning.

Pulmonary tuberculosis and a wide spectrum of respiratory conditions are known to be related to the mining of gold, coal, chrome, asbestos, and copper. Few studies have been carried out and those usually during the period of employment or a short time after leaving employment.

Current knowledge of the cancer rate among people who have worked with asbestos has not been applied as yet to these mine workers.

Government policy dictated in 1973 that the mining industry should develop its own health services, not only in relation to the working environment, but also with the provision of primary medical and health services [2, pg. 232]. (Many mining companies do run their own hospitals). While the Ministry's aim was to relieve the major hospitals of the pressure of patients, there could be an added advantage in industry's concern for, and research into, the factors implicated in work-related disease. It would be most beneficial if such services and research were extended to the family members whose health and welfare is largely determined by the health of the working member.

d. Accidents

Accidents, a major feature of the mining industry in any country, are probably as well, if not better, prevented, treated, and/or compensated for as in most countries in the region.

Industrial and work-related accidents in Rhodesia occur to a large extent both in the mining industry and in agriculture. A total of 41,701 work-related accidents were reported for the country as a whole in 1973-74 [25 pg. 2]; of this number 3,410 occurred on European-owned farms.

Among plantation workers in that year, there were 57 deaths, a mortality rate only slightly lower than the national average of industrial accidental deaths. In cane cutting in the Lowveld, 26 percent of the accidents were corneal injuries and 12 percent were from the use of the cane-knife. The fatality rate for tractor drivers is twice that of the UK. Agriculture-related accidents accounted for 22.6 percent of all man-days lost on claims met by the Workmens Compensation Act.

Statistics on work-related accidents and disease are derived from claims on the Workmens Compensation Act. Ineligible to claim under this Act are uninsured workers (domestic employees and "casual" laborers, who may represent over 25 percent of the agricultural work force). For those covered by Workmens Compensation, the level of disability pensions is based on the wage earned; however, children's benefits, medical costs, and widow's pensions are fully paid.

2. Food and Nutritional Status

The per capita food production index for Rhodesia in 1975 was 91 KT, having dropped from 95 in 1965 but risen from 80 in 1973 [27, pg. 11]. The average per capita protein intake of the population (percent of FAO req.) is 171 percent. One source observes: [9, pg. 94]

Rhodesia...is one of Africa's most prosperous countries. Its farms produce far more food than needed and, with further irrigation, agricultural production could be quadrupled.

Ten years after UDI, in spite of trade sanctions Rhodesia was still exporting half of its marketed food output and was largely independent of basic food imports. Crops continued to increase in output: soybeans increased 60 times; wheat 26 times; maize 6 times; groundnuts 4 times; cattle and milk products 2 times. Between 1968 and 1974, the value of European farm production increased by over \$320 million, of which 80 percent was marketed; African production increased by R \$120 million, 25 percent of which was marketed. African farmers produced about 30 percent of the total corn production, the chief staple, of which only 5 percent was marketed commercially. [4, IV-4]

Although malnutrition for decades has been the most widespread health problem in the country, recently its severity has been lessened: the "starvation--which once stalked isolated village communities in time of drought and crop failure--was less of a problem in the 1970's." [23, pg. 293] Amelioration of the malnutrition problem has occurred despite overpopulation in the TTLs.

Nevertheless, malnutrition is a major health problem both in the overcrowded townships and in the rural areas. Maize and cereals eaten as staples are deficient in protein, calcium, and vitamins A, B, and C. Yet these staples

comprised over 75 percent of the food intake of rural Africans. Meat is consumed usually only at celebrations. Eggs, vegetables, and fruit are available, usually in shorter supply in rural than in urban areas.

Government policy dictated that the TTLs should produce enough to provide for the population's needs. Much of the land is overgrazed and barren; the population has increased and the land has become impoverished. In addition, the buying power of the Africans is minimal. White wage earners are paid ten times more than Africans who are restricted to the status of unskilled labor. Eighty percent of urban Africans live below the poverty line.

Farm workers in some areas are among the most malnourished of the country's population. Given a daily ration of grain, they are literally starved for protein and vitamins. Children suffer from kwashiorkor while their families work to produce the food surpluses which the country exports.

[25, pg. 106]

Many farmers pay part of the wages in food rations, to be eaten by the worker himself, thus preventing him from distributing his earnings among his family members.

Nutrition education is sometimes a feature of health services in developing countries. It would seem that in Rhodesia, however, nutrition education for Africans has taken place through their daily observation of the eating habits of the privileged whites on whose farms they have

labored, in whose kitchens they have cooked, whose children they have fed, and above all, whose fertile lands have bordered on the poor and often barren lands of the TTLs.

Indeed, there are illustrations of these educational effects among those Africans who have had the means to improve their dietary habits.

Dr. Gelfand of the Department of Medicine of the University of Rhodesia questions whether the enriched diet of the whites adopted by some Africans may not be responsible for the increasing incidence of diabetes, economy thrombosis, and peptic ulcer [28]. But he cautions against blaming the changed diet alone, when many other changes have taken place simultaneously in the way of life of the urbanized African. Between the urban and rural Shona, he observed differences not only in the food eaten but in their meal habits. The urban African substitutes bread, margarine, and jam for the rural porridge; drinks fresh rather than soured milk, and eats fruit in much larger quantity. Breakfast is routine in urban living, and is less of a feature in rural areas; sandwiches, bread rolls, and mineral water are not known in rural areas, but are often consumed at midday by townsmen. [28]

Another illustration of white influence on black African nutrition was found in a study of 5,376 Africans over a period of 2 1/2 years. With western acculturation,

nutrition deficiency diseases decreased, but obesity and caries began to increase. [29, pg. 13]

The Rhodesian Freedom from Hunger Campaign distributes low-cost or free protein-rich food supplements to lactating mothers and their infants, and the nutrition of these vulnerable groups is said to have improved radically. The manufacture of supplementary food for malnourished people has become a major business, now dominated by a consortium of agricultural investors; on farms, it is supplied to workers in lieu of wages. [25, pg. 118]

3. Environmental Impacts on Health

a. Housing

Salisbury houses its population of 123,000 in comfortable, well-built, and often highly luxurious colonial-type houses. It is surrounded by ten African townships where the municipal-built houses are often overcrowded, most are without indoor running water, and few have indoor electricity. The black population is officially listed at 400,000; in fact, it is higher. Some members of its small but growing black middle class own their own homes, thinly spread through the white suburbs. The average value of black-owned houses is around RS8,000.

This picture is repeated to a greater or lesser degree in Rhodesia's 14 other main cities and towns, where one million blacks live in segregated municipal townships.

These are the workers needed for the fast-developing manufacturing industries. They are subjected to residential segregation by the Land Apportionment Act as amended in 1931.

Slum conditions largely prevail throughout the townships. Originally these dwellings were intended as residences for transients, and are built in rows of identical houses or blocks of flats.

The great broadening and advancement of industry in the 1950s and early 1960s coupled with poverty and overcrowding in areas, forced the townships to accommodate an influx of rural people into the cities. [17, pg. 3] Job seekers often stay illegally with friends and relations; the unemployed seek shelter; families double-up in single dwellings. Shanty towns have sprung up to supplement urban housing; these consist of temporarily constructed shacks in unsanitary conditions.

Urban African housing in many areas constitutes a health hazard, especially to families with young children. Further industrial development will call for substantial input into the urban housing. But even in the situation as it is today, the provision of better housing and sanitary conditions is of major importance.

A further consideration is the ownership of urban housing (townships) by the municipalities and by a few large industrial companies. Most municipal housing is subeconomic,

but in Rhodesia's townships it is by definition for segregated blacks. People who can afford to buy, build, rent, or otherwise invest in their houses aspire to a higher standard of domestic life.

The housing of Africans on European-owned farms has largely taken the form of compound dwelling, comprised of family units mostly of the pole and dhaka (a mud mixture) variety. Compound inspectors report squalor, lack of latrines, water shortages and generally poor sanitary conditions in many compounds. More recently farmers are providing centralized housing for their workers in the form of single unit compounds. These are better built and equipped but enforce a type of communal living not customary to rural Africans. Overcrowding and lack of supervision lead to slum conditions and squalor in many compounds.

[25]

Housing in the TTLs is to a large extent the traditional, with the extended family living in a series of huts built around a communal area. These are built of poles and dhaka with a thatched roof. They range from primitive to well-constructed, comfortable homesteads.

In the African Purchase Areas, housing is usually built by the farmers themselves and has a more European look: constructed of brick, embellished with a tin roof, windows, and a few steps reaching to the front door.

Private ownership has probably resulted in more ventilation and sanitation improvements than have been effected by the educational efforts of the health authorities.*

b. Water

Water supplies are adequate and efficiently treated and controlled in the cities and in many of the smaller towns and settlements; dams exist in some areas where the rainfall is low and pressure is difficult to maintain in piped systems. In rural areas people depend on streams and rain storage tanks; the water supply is inadequate and constitutes a major source of waterborne infections, both through intermediate vectors and through contamination by human and animal vectors.

The country is divided into six watershed zones in which estimated potential for water supply is recorded as a basis for planning and for setting priorities in water resources development.**

Based on current utilization, population growth and industrial development, it is estimated that, with appropriate planning, water resources will be sufficient well into the 21st century.

* Rural housing is more fully described in the chapter on "Living Conditions" in Area Hand Book 1975, Reference 18.

** For a detailed report on water resources, see Ref. 17, Pages 187-189.

Water pollution control is an integral part of water resource development and is the responsibility of the national authority under the Water Act of 1970. Local authorities and industry are required to meet standards for treatment of effluents before discharge into water.

[17, pg. 182]

At the village level the provision of adequate supplies of clean water to rural communities may be the most important single factor in preventing disease and promoting the health of adults and children. But it is the most expensive and is hard to come by. The Provincial Medical Office of Health for Matabele Land reports on the creation of 100 protected wells in a small rural area over a period of four years [33, pg. 53]. With the Health Assistant gaining the cooperation and voluntary labor of the local people, these wells replaced the old water holes in river beds used by the people for washing, drinking, and cooking. Not only did the new wells provide an adequate supply of safe water throughout the year but the people were better informed on the relationship of water to health--a relationship of which they had been largely unaware.

This illustration seemed worthy of inclusion in this report partly as an example of what can be done at the local

level, but also because a report by Lowenson, Secretary for Water Development, makes no mention of the desperate need for water in the African villages. The report speaks of the Water Act in terms of management for economic development, yet acknowledges its domestic recreational use in the following statement: [17, pg. 191]

Water is a focal point in our recreational and leisure activities, whether it be swimming, boating, fishing, camping or just merely enjoying the "water-scape" and it seems that we are going to have more leisure time in the future for recreational activity.

In countries such as Rhodesia, where water is costly and in short supply, the competition among towns, industries, and agriculture finds agriculture the loser. Examples of this in Rhodesia are the domestic and industrial growth of towns like Que Que and Redcliff which have placed restrictions on the agricultural development of the area. The question of where and whether irrigation schemes should be adopted in the different water-short areas of the country, what manner of irrigation, and for which types of crops, are discussed in an excellent study of the subject by G.J. Wilson, Department of Conservation and Extension, 1978. [17, pg. 15]

c. Sanitation and Waste Disposal

Excreta disposal in Rhodesia is by means of water-closets in the cities, night soil collection in poorer urban

areas, pit latrines in the compounds and in some homesteads in the TTLs, and the neighboring bushes in the poorer areas of the TTLs. Recently a better constructed and ventilated pit has been designed at the Blair Research Laboratory which is an improvement on the old, appears to be acceptable to the population, and inexpensive to install. [35, pg. 75]

4. Population and MCH/Family Planning

Rhodesia's Department of Census and Statistics maintains reliable data on urban vital statistics. For rural areas projections are based on the 1969 national census and estimates are made on periodic sample surveys.

Population growth is considered a major health issue by the government and is not greatly affected by education and family planning measures. Acknowledging that the rural people need to feel secure in the survival of their children (and of their wives) the Secretary of Health in 1973 stated [17, pg. 235]:

The African people should by now have realized--they can survive.

In light of comparative infant mortality rates, it is clear that African "survival" is less than satisfactory [23, pg. 66]:

Infant Mortality
(Infant Deaths per 1,000 live births)

White:	18.8
Asians & Other Non-whites:	38.0
African:	135.0

(This Figure is markedly lower in African urban areas and therefore is probably nearer 200 for the rural populations.)

On a random sample of 80,000 African women between the ages of 45 and 65 on the 1969 census, it was found that their average number of live-born children was 6.9 of whom 5.4 had survived [2, pg. 230]. This average loss of one to two children per woman would be totally unacceptable to the white Rhodesian population.

Overcrowded, unhygienic conditions in the TTLs and more recently in the urban black townships are factors used in the drive to control the birth rate. However, the maldistribution of arable land between whites and blacks and the need for rural residents to migrate to the towns to augment their incomes are the more positive reasons for spatial overcrowding. The overall population density is only about 40 per square mile, and a four-fold increase in food production is within reach.

Nevertheless, the annual African population growth rate has reached about 3.5 percent for the past 15 years, and the population of nearly 6 million is expected to double before the end of the century.

The new Zimbabwe government will have to weigh cultural values regarding large families and regarding tribal rivalry; both values encourage inexorable population expansion.

Of the health aspects of family planning, however, there is no doubt that pregnancy spacing and limitation on family size are essential in the promotion of health of mothers and children. The survival of children, especially infants and toddlers, resulting from a longer period of maternal care before the birth of a subsequent child, is in the long term a determinant of fertility reduction and thus of population control.

A mission doctor in a TTL found that the infant and toddler (1-5 year age group) death rate in the five years before and the five years after a given date (1967) had remained about the same: 12.6 percent before and 14.6 percent after 1967. A high incidence of perinatal deaths was attributed in both periods to premature and unattended deliveries. The mortality rate after the neonatal period was attributed to gastro-enteritis, pneumonia, and infectious diseases (measles) as is typical of developing countries with scarce resources and inadequate services. The point he makes is that the routine immunization of children and improved transportation to medical facilities have affected many of the old scourges (smallpox, whooping cough,

etc.), but reducing the incidences of the killing diseases identified in his study will require more vigorous health services in the homes and neighborhoods of the people. [24, pg. 10-11]

But it is not only in the TTLs that African families are in need of a more vigorous health care program than now exists. There are 380,000 Africans working on 6,000 European farms and living with their families in farm compounds. These may be the poorest and most exploited of Rhodesia's population. A survey published by the Mambo Press in 1977 [25] provides information on many health aspects in the life of employed farm workers and their families.*

In a survey of child mortality, it was found that 57 families in one compound had sustained a loss of 60 children representing 22 percent of all the children born. High as this figure is, the aggregate figure masks the fact that all the deaths had occurred in 27 of the 57 families. Not all the deaths took place on the farm, but all were children of farm laborers and separation from the compound in some cases may have been as much implicated in their deaths as the fact that the compound could not sustain them.

* The term farm worker denotes an African laborer on a European-owned farm. "Farmer" means the white owner.

As in the TTLs, some meager child care is offered in, or within access to, farm compounds. The government's move to train primary health workers and midwife assistants, and the Rhodesian Planned Parenthood's contribution to the training of family planning workers, are small steps in the right direction. Much more vigorous efforts need to be made to bring maternal and child health services to the areas where the need is greatest and the environment is least conducive to the survival of children.

a. School-Age Children

School health services are almost non-existent for African children, of whom the majority in rural areas are not in school. A survey of 381 rural African children in a secondary school is often quoted and probably fairly accurately reflects the health status of this age group. [26, pg. 79-81] This survey took an inventory of all diseases diagnosed in these children over a period of 1 1/2 years. The results were categorized under chronic and episodic diseases. The most frequent diagnosis on the chronic list was anemia (48 percent) followed by a high incidence of bilharziasis. Although the rates compared favorably with rural primary schools in the area, they compared very unfavorably with white and Indian children at the same educational level. The following comparison was extracted from the report:

	African (study pop.)	White	Indian
Bilharziasis	28.1%	1.0%*	2.2%*

The present rate of disease among African children was roughly comparable with that of white children of twenty years ago.

Other chronic diseases included hypertension (12.1 percent), enterobiasis (10.2 percent), cystitis, caries, skin conditions, etc. The author observed that where students went to the hospital voluntarily for acute and episodic conditions, the chronic conditions were largely diagnosed on service-initiated examination.

5. Special Problems and Their Implications for Health

Special problems in Rhodesia today derive both from the transitional, conflict-ridden situation of the present and from the discriminatory and exploitative practices of the past. White emigration is increasing, foreign trade has diminished, ideologies are competing; the war is costing the government R\$0.7 million a day [10, pg. 12], and has already led to an acute economic crisis. By June last year, the number of African employees had fallen by 40,000 since two years previously [13, pg. 54]. These disruptive

* of the 54% of European and 17% of Indian children examined.

elements do not auger well for giving health problems and health services high priority status in the administration. Yet these same disruptive elements give rise to special health problems that cannot be disregarded.

a. War Conditions and Health

According to a report in the Washington Post on July 4, 1978, an estimated one million Africans have been uprooted by the war in Rhodesia and 3,000 Africans from both sides of the conflict have been killed. There has been an exodus from the TTLs of 500,000 to the cities, and of 100,000 to Botswana, Mozambique, and Zambia. The Rhodesian Red Cross estimates that the black population of Bulawayo of 250,000 has increased to 500,000 and probably by a greater number in Salisbury. The Red Cross is providing medical assistance. The government has moved half a million rural blacks into 270 "protected villages." An estimated one out of six Africans has been displaced by war.

Displaced people include men, women, pregnant women, children, sick babies, and old people. Refugees are not always able to flee in family units; some children get left behind or are sent ahead.

There are no major, organized efforts to resettle refugees and rehabilitate them. In Rhodesia, they are required to find for themselves the refuge, the food, the assistance they need. The "protected" villages are overcrowded and poorly serviced in respect to human needs. To

ensure their separation from the guerillas, they are kept under strict surveillance. A strict curfew is enforced and people who break it have been shot. The economic and social life of the people has been disrupted and the government has made no move to alleviate their plight. [3. pg. 21]. In the northeast, where the Patriotic Front is most active and where most of the protected villages are located, cholera broke out in mid-1974 where it had been a problem before. The people suspected the water had been purposely contaminated as an act of war. [37, pg. 40]

While some statistics on the refugees or otherwise displaced people came through various sources including the press, the government has restrained free reporting in the Western press, probably partly to build morale among white Rhodesians and partly to conceal from the blacks whatever headway is made by the Patriotic Front. Reliable figures on deaths and injuries resulting from the fighting, as well as deaths, morbidity, unattended births or violence suffered by civilians' and soldiers' families, are not available. However, there is no hiding the fact that in terms of health and medical care there is an emergency situation in the cities as well as the rural areas.

The situation in the camps in Mozambique and Zambia as well as rural areas in Rhodesia is reported by journalists in the host countries and through organizations

supportive of the Patriotic Front; also by the Catholic Commission of Justice and Peace in Rhodesia.

From ZANU headquarters in Maputo, Mozambique there was issued an appeal for medical assistance and equipment and detailed lists of needed items were attached.

The people for whom assistance is requested are categorized as (1) refugees, (2) people in training for the army (PF), and (3) people in the semi-liberated areas of Rhodesia from which the Smith regime has "removed all medical and paramedical facilities.*"

b. The Land

A major problem associated with the war is the neglect and in some cases the devastation of the land. Agriculture and cattle farming are the only real source of subsistence for the rural African. The damage done by the present situation will be felt in terms of crop failure and untended property, neglected cattle, and contaminated water supplies.

At present, and for the immediate future, hundreds of thousands of the population have been barred from their main source of subsistence.

* For additional information on the health effects of the war see refs 11, 20, 22, 34, 36, 37. See also ref 20. A report on an interview with Dr. Herbert Ushewokuze, a Rhodesian physician who is in charge of the ZANU health program.

B. THE HEALTH DELIVERY SYSTEM IN RHODESIA: AN OVERVIEW

1. The Organization and Management of Health Services Delivery

As in other former colonies in Africa, the Rhodesian health services were historically developed in a step-by-step pattern:

1. To provide medical care to the white settlers;
2. To control the native diseases to which the white settlers were exposed;
3. To promote the health of natives employed by the whites;
4. For humanitarian and social reasons, often stimulated by missionaries, to provide medical care to the natives; and
5. To develop a standard of health in the country commensurate with the expectations of modern society.

While the Africans in Rhodesia stood to benefit to some extent even at step (1) (if they were within reach of white settlements) and certainly from each additional step as it occurred, it was not until after World War I that the health administration was raised to cabinet status, with a Ministry of Health responsible at the central level for the health services of the country.

This was not to say that the cities and towns of Rhodesia had not already established excellent hospitals. Indeed, there were community hospitals and clinics run by local authorities, and missionary services supported to some degree by the government in rural areas; in addition,

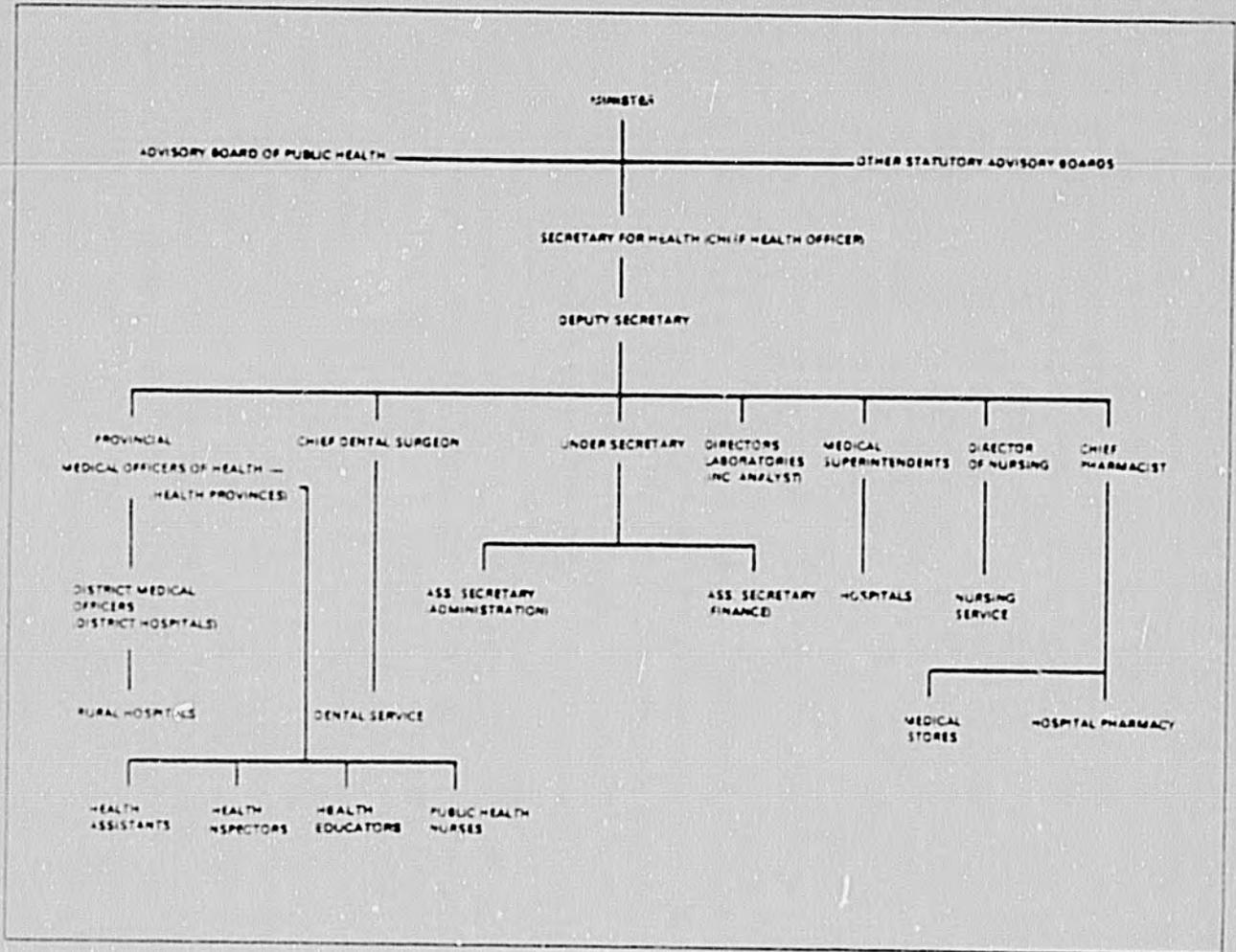
medical services were provided by the mining industry for its employees. The Ministry of Health assumed specific responsibilities:

1. Control of epidemic and endemic diseases;
2. Coordination and support of health services of local authorities and private agencies;
3. Provision of medical services, particularly specialist services, not otherwise provided for;
4. Provision of teaching and training facilities for medical, nursing and auxiliary health professions;
5. Carrying out of research; and
6. Introduction and administration of health legislation.

In 1946, after World War II the country was divided, for purposes of health services administration, into four Provinces (now five) each administered by a Provincial Medical Officer of Health. (See Figure 1 illustrating the organizational structure of the Ministry of Health.) [17, p. 220]

At the local level, responsibility for health services is assumed by municipalities and councils designated by the Minister as Local Health Authorities. The major municipalities have their own Public Health Departments, employ their own staff, and perform services not otherwise administered by the Ministry of Health. The smaller local authorities are supervised by the Provincial Medical Officers and

Figure 1
MAIN STRUCTURE OF MINISTRY OF HEALTH
RHODESIA



2. Financing of Health Services

The Rhodesian government's annual expenditure on health is in excess of R\$30 million, which is approximately 8 percent of the total government expenditure.*

Government expenditure on health is about 40 percent of total annual health expenditures; the remaining 60 percent is expended by local authorities, industry and voluntary agencies including missions. Of the GNP, between 4 and 5 percent is spent annually on health, for an average of R\$10 per capita. This per capita expenditure, which is far in excess of many Southern African countries, is still inadequate, perhaps more by reason of its uneven distribution than of the amount, to meet the needs of rural Africans. Nevertheless, 80 percent of direct government expenditure on health is devoted to the African population. [17, p. 232]

3. Health Manpower

The Medical Council of Rhodesia has legislative authority for the registration of members of the medical dental, nursing, and allied health professions; for the disciplinary control of these professions and for determining standards of training and qualifications for registration.

The following training programs for health manpower are conducted by government or voluntary agencies and meet the registration requirements of the Medical Council.

* See Tables 11.4 and 11.5 (Ref.2) attached for breakdown of capital and current expenditures (1974) for health and other sources.

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 & Defense	40.0	33.0	65.3	31.9	67.9	30.6	68.6	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 & Recreational Services	5.5	4.5	2.3	3.6	7.1	3.2	9.2	3.6	10.7	3.2
Housing & 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 Services	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 RS 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 & 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 & Recreational Services	0.2	0.4	2.7	2.8	3.3	3.0	2.3	1.6	5.0	3.0
Housing & Townships	6.5	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

a. Medical Practitioners

The Godfrey Huggins Medical School of the University of Rhodesia has been in existence since 1963. The Ministry of Health provides clinical facilities in Salisbury and Bulawayo, and a recent program has been initiated whereby students will gain clinical experience in rural areas. Graduates are entitled to registration with the South African Medical Council and the General Medical Council of the U.K. The annual admission has been limited to 50, but will be raised to 80 with the completion of an expanded teaching hospital facility.

b. Nurses

The number of nurses in the country is approximately 3,600. There are four training schools leading to State Registration with eligibility to be registered in South Africa to the U.K.

State Registered Nurses may take post-basic training in Rhodesia in midwifery, various specialities in hospital nursing, health education (a two-year university-affiliated training program leading to a Certificate in Health Education), and courses in university education in South African universities.

The Ministry runs three training schools for State Enrolled Nurses (practical nursing), and a number of mission hospitals offer courses approved by the Medical Council for Africans to train medical assistants.

Altogether 54 types of medical and paramedical personnel are listed on the Register of the Medical Council of Rhodesia. [17, p. 239] The number of registrants by category ranges from one to over 3,000. However, the subdivisions of some categories may represent special qualifications, but do not prevent the individual from fulfilling the functions of the genuine profession. The number of doctors registered may not correspond to the number in active practice. Many may be in part-time practice and some are out of the country. In addition their practice locations are highly concentrated in the cities. In a survey undertaken in 1965, when there were only 500 doctors registered and living in Rhodesia, 78 percent were working in six major towns leaving 22 percent to serve the rest of the country with 84 percent of the population.

In addition to the training and registration of health manpower on official lines, it is important to note the extensive training of auxiliary health workers by the liberation army. ZANU reports from Mozambique "five doctors - some state registered nurses--but for most of the medical work of ZANU depends on people whom it has trained itself." These include "a type of barefoot doctor," public health workers, psychiatric advisors, nutrition assistants, first aid workers, and laboratory assistants. [20]

This reference inserted in an outline of the organizational structure of health services is intended as a

reminder that the situation in Rhodesia is not adequately described by the documented statistics available in official or semi-official documents. Among the latter, however, is a report of the International Red Cross on the training of personnel for 17 First Aid Posts with 14 more to come, in areas exposed to military action, along with a provision for medical supervisory teams. [21]

According to the Central Statistics Office [15, pg. 5, Table 6] the number of workers employed in health services at the end of December 1977 was: African, 10,300; white, Asian and other Non-Whites: 4,400. These are not all professional health workers, nor should it be assumed that African employees are engaged in African health services. Further information on this item is given for 1975. [Ref. 4, p. IV-4, 5]

	Total Yearly Earnings	Yearly Per Capita Wages
Africans - 9,200	RS 8.6/million	RS 934.8
Non-African - 4,420	RS 15.9/million	RS 3,497.3

The number of doctors in practice rose from 540 in 1964 to 850 in 1973 giving an overall ratio of 1:7,000 inhabitants. In the rural areas, however, there is a ratio out of all proportion to urban centers. Taking the white and African populations separately, it is estimated that there is one doctor to 1,800 whites, while in some rural African areas the ratio is 1:100,000 population. See Tables 4 and 5. [17 p. 236 and 237]

Table 4
TOWN, RURAL & AFRICAN COUNCIL HEALTH SERVICES
RHODESIA, 1973

Type of Council	Services Operated				Grant-Aided Staff Employed							
	Number of Councils	Static Clinics	Domestic Mobile Clinics	Red Cross Posts	Bilharzia Control Schemes	Supply Feeding Schemes	Doctors	SRSS Nursing Sisters	Quali-fied Auxi-liaries	Unquali-fied Auxi-liaries	Dentists	Health Inspectors
MANKALAND												
European Rural Councils	1	1	-	-	-	-	-	1	-	-	-	-
European Town Councils	-	-	-	-	-	-	-	-	-	-	-	-
Tribal Trust Land Councils	7	14	8	-	-	-	-	1	20	-	-	-
African Purchase Land Councils	3	4	2	-	-	-	-	-	7	1	-	-
MASIKHALAND												
European Rural Councils	16	29	9	0	0	2	26	38	2	2	-	-
European Town Councils	3	4	-	-	-	-	3	6	-	-	1	1
Tribal Trust Land Councils	23	39	20	1	-	-	1	59	4	4	-	-
African Purchase Land Councils	8	9	2	-	-	-	1	12	1	1	-	-
MATABELELAND												
European Rural Councils	6	1	6	-	-	-	7	3	-	-	-	-
European Town Councils	1	-	1	-	-	-	2	3	-	-	-	-
Tribal Trust Land Councils	14	17	9	1	-	-	-	19	1	1	-	-
African Purchase Land Councils	1	1	-	-	-	-	-	1	-	-	-	-
MIDLANDS												
European Rural Councils	3	2	1	-	-	-	4	2	-	-	-	-
European Town Councils	-	-	-	-	-	-	-	-	-	-	-	-
Tribal Trust Land Councils	17	29	26	-	-	-	5	45	-	-	-	-
African Purchase Land Councils	6	6	5	-	-	-	-	7	-	-	-	-
VICTORIA												
European Rural Councils	2	6	1	-	-	1	4	1	-	-	-	-
European Town Councils	1	-	1	-	-	-	2	3	-	-	-	-
Tribal Trust Land Councils	11	19	41	-	2	-	-	37	3	3	-	-
African Purchase Land Councils	1	1	-	-	-	-	-	1	-	-	-	-
TOTAL 1973	124	182	132	4	2	1	57	268	12	12	1	1
TOTAL 1972	100	151	46	10	2	1	52	206	21	21	1	1

NR: Static Clinics 1972 1973 Increase/Decrease
 Mobile Services 151 182 +31
 TOTAL 46 132 +86
 TOTAL 197 314 +117

TABLE 5

MEDICAL AND PARAMEDICAL PERSONNEL

RHODESIA, 1973

REGISTERED WITH THE MEDICAL COUNCIL OF RHODESIA AS AT 31 DECEMBER 1973	
CATEGORY	NUMBER ON THE REGISTER
Medical practitioners	772
Medical practitioners (temporary register)	38
Medical practitioners (register of house officers)	9
Medical practitioners (provisional register)	34
Dental surgeons	136
Dental surgeons (temporary register)	11
Dental surgeons (provisional register)	4
Pharmaceutical chemists	315
Pharmaceutical chemists (temporary register)	5
Pharmaceutical chemists (provisional register)	5
Opticians	37
Opticians (temporary register)	0
Dispensing opticians	25
Psychologists	20
Physiotherapists	106
Physiotherapists (provisional register)	3
Radiographers	104
Occupational therapists	6
Prosthetists and orthotists	8
Medical laboratory technologists	100
Medical laboratory technologists (provisional register)	3
Health inspectors	78
Meat and other foods inspectors	2
Meat and other foods inspectors (health inspectors with meat and other foods)	64
Meat inspectors	14
Meat inspectors (provisional register)	1
Dental technicians	31
Dental technicians (provisional register)	4
Dental hygienists	3
Dental hygienists (provisional register)	1
Electroencephalographic technicians	1
State registered nurses	3,731
State registered nurses (provisional register)	73
State registered nurses (mental nurses)	140
State registered nurses (nurses for the mentally subnormal)	5
State registered nurses (mental nurses - provisional register)	1
State registered nurses (enrolled nurses, mental)	5
State registered nurses (enrolled nurses)	87
State registered nurses (enrolled nurses - provisional register)	3
State registered nurses (fever nurses)	70
State registered nurses (sick children's nurses)	31
State registered midwives	1,777
State registered midwives (provisional register)	8
State registered midwives (maternity nurses)	156
State registered midwives (maternity nurses - provisional register)	2
Medical assistants	1,719
Medical assistants (provisional register)	2
African nursing orderlies who have not transferred to the medical assistants register	408
Health assistants	298
African hygiene demonstrators who have not transferred to the health assistants register	63
Nursing assistants	76
Nursing assistants (provisional register)	2
Maternity assistants	445
Maternity assistants (provisional register)	5

It is probably not useful in this report to devote further time to the many specific white-black, urban-rural comparisons in the health field in Zimbabwe.

When under majority rule, the country will probably strive to tackle the problem of redistribution of existing services and manpower, and may look to ways and means for augmenting services, developing new approaches to health care, giving due emphasis to those parts of the country where the needs are greatest.

In the meantime the professional health personnel are largely concentrated in the hospitals and clinic services. The more recent addition of auxiliaries are assigned to rural and sometimes remote areas. The health personnel categories listed include: laboratory technicians, radiographers, pharmacists, health inspectors, health assistants, nursing auxiliaries, and institutional domestic supervisors. [17, p. 230-1]

C. MEDICAL CARE

1. Personal Health Services

In addition to the hospitals in Salisbury, Bulawayo, and other towns and districts maintained by the Ministry, 66 hospitals are run by medical missions which in 1973 employed a total of 465 doctors, nurses, and auxiliaries. In 1973 the Secretary for Health for Rhodesia, in an address to the

Rhodesian Medical Congress [2, p. 229], made the following statement:

"In Rhodesia while the only statutory functions of government lie in the field of preventive medicine, the administration, ever since the arrival of the Pioneer Colony, has been looked to for the provision of the major part of the organizational and institutional framework of medical care services for all classes and sections of the community. Medical missions, so dominant...elsewhere in Africa have played a lesser but still important role in Rhodesia..."

He continues to relate that industry and private enterprise have played a limited role and that the activities of local authorities have been restructured to the provision of hospitals for infectious diseases, thus the Central Government has been the main provider of hospital services.

Rhodesians, white and black, have indeed been served by modern hospitals maintained by the government in Salisbury and Bulawayo as well as in the smaller towns, Cwela, Que Que, Umtali, and also by the rural district hospitals. Medical practice is reported to be of high standard and the cost of hospital care is covered in all cases by the government or by free medical insurance if not by the patient himself. African patients are hospitalized at no cost to themselves with an admission fee of RS2.

In the rural areas however, where the majority of the population lives and where the incidence of disease is highest, hospital medical care is inadequate and in some

parts non-existent. Where hospitals do exist, long hard journeys are often undertaken to reach them. Thus, with a rural population of 4.5 million compared to an urban population of under 2 million of all races, the admissions to rural hospitals were only 23 percent of total admissions according to 1973 records. [16, p. 112]

An element of disregard for rural hospital deficiencies is implied by the observation that the new 900-bed Andrew Flemming Hospital in Salisbury will provide specialist services "for more than half the country." [17, p. 227]

In the country as a whole there are 225 hospitals, 131 maintained by state and local governments, 66 by missions, and 28 by mining and industry. A total of 17,000 beds gives a ratio of 2.4 beds to 1,000 population, with, of course, a very uneven distribution between the urban and rural areas. Tables, 6, 7 and 8 give summary data on hospitals.

Although health professionals are not identified by race in the reports, the shortage of doctors, nurses, as well as of midwives and other paraprofessional personnel, is most marked in the district hospitals of the rural areas, signifying an African rather than a total overall shortage. The total number of State Registered Nurses (approximately 4,000 in 1973), with an additional 1,777 sick children's nurses has shown little increase over previous years and is, as for all services, unevenly distributed between urban and rural areas.

TABLE 6

MEDICAL CARE: UTILIZATION OF MINISTRY HOSPITALS

IN RHODESIA, 1964 AND 1973

	Admissions		Out-patient Attendances	
	<u>1964</u>	<u>1973</u>	<u>1964</u>	<u>1973</u>
Central Hospitals	68,728	85,315	785,064	845,891
General Hospitals	52,136	54,019	439,587	392,451
District Hospitals	98,282	108,174	958,746	705,521
Rural Hospitals	144,940	75,097	2,149,341	968,530
TOTAL	364,086	322,605	4,332,738	2,912,393

TABLE 7
MEDICAL CARE: CHURCH-RELATED (MISSION) HOSPITALS
IN RHODESIA, 1964 AND 1973

	1964	1973
Numbers of Hospitals	64	66
Numbers of available beds	3,832	5,609
In-patient admissions	111,389	120,096
Out-patient attendances	1,950,405	1,414,191
STAFF: Medical	28	40
Nursing	127	170
Auxiliary	245	255

TABLE 8

MUNICIPAL HEALTH SERVICES IN RHODESIA, 1973

Data	Salisbury	Bulawayo	Gwelo	Umtali	Queque	Ft. Victoria	Gatooma
Population	487,320	285,400	55,430	56,550	40,640	14,200	40,650
Admissions (Isolation Hospitals)	6,391	1,781	607	3,191	-	-	-
Beds	380	350	50	106	-	-	-
Clinics	19	10	4	4	2	2	2
Medical Examinations (Employed Africans)	130,431	8,621	13,480	10,221	-	99	1,495
Mother & Child Welfare Attendances	47,090	117,716	9,832	44,819	2,041	245	10,108
Diphtheria Immunizations	34,218	47,468	9,435	5,709	834	290	2,224
Poliomyelitis Immunizations	35,532	46,564	10,235	5,910	1,568	290	2,224
Smallpox Vaccinations	120,659	94,312	27,939	11,268	639	155	751
BCG Vaccinations	39,401	3,256	6,289	891	436	-	1,126
Chest X-ray Examinations	123,155	81,174	22,467	-	-	-	-
Health Visitor Case Visits	59,390	10,746	7,528	4,108	-	1,911	6,000
Health Inspector Visits	15,230	44,402	N.R.	8,115	590	500	N.R.
Staff: Medical	4	3	-	-	-	-	-
Medical (Part-time)	6	1	1	1	1	1	1
Health Inspectors	30	24	3	4	2	1	2
Public Health Nurses (Health Visitors)	14	10	2	1	1	1	2
Nurses	52	27	11	14	2	1	12
Auxiliaries	114	102	26	9	11	2	1

N.R. = Nil Return

As a result of overcrowded hospitals and outpatient departments in the urban areas, the Ministry has aided local authorities to expand their services (mainly hospitals for infectious diseases) to primary medical care for their own populations, using the major hospitals only for referral to specialist clinics. This policy has been focused largely on the African townships where the people have access to the large city hospitals, have utilized them to the extent that the Secretary expresses as "the intolerable load of clinical trivia." [17, p. 221] But in the districts and rural areas also, the promotion of primary care facilities combining curative, preventive, and MCH services as general policy is to be more fully dependent on "local initiative."

In pursuit of this policy the Ministry trains and assists private agencies to train auxiliary health workers, more specifically the African Health Assistant, and the Nurse Practitioner.

The Private Sector

In addition to those maintained by the government, medical services are provided by:

1. Medical missions referred to above.
2. Two urban hospitals owned and staffed by Roman Catholic Orders.
3. Several small hospitals owned and operated by private medical groups.
4. Mining and industry owned hospitals; figures quoted for 1964 for these hospitals are: admissions 22,742 and outpatient attendance 338,398. [17, p. 227]

5. Private practice: general and consultant services available on a fee basis are utilized by the non-African population and to an extent by urban Africans. Some of the district medical officers and most of the consultants on the staff of the large urban hospitals and the medical school are permitted limited private practice.

"The private medical profession in Rhodesia has a long and honorable record of service" [17, p. 228]

6. Voluntary organizations registered under the Welfare Societies Act are involved in rehabilitation services, child welfare, work with the blind and physically handicapped, the elderly and infirm. These institutions are supervised as well as subsidized by the Ministry of Health, in addition to support by public donations.
7. The Red Cross and St. Johns Ambulance Association are engaged in training programs for hospital auxiliary staff (also first-aid posts in war zones--see above--and in day hospital services for the aged).
8. Traditional medicine practiced by the Nganga exists to a considerable degree in rural areas. The people's belief in the spirits, in their rewards and punishment for good or bad behavior, renders the diagnostic and healing powers of the Nganga essential in times of sickness. This does not however, negate their faith in the powers of Western medicine (also with magical properties) and should not, as is often the case, be used to rationalize the lack of Western-type medical care available to Africans.
9. A considerable, but unmeasurable amount of medical care is given to the laborers and their families on European-owned farms by the farmer's wives. Folk medicine and home remedies as concocted and administered by rural people all over the world are often the only "treatment" rural Africans in Rhodesia have ever had.

Although not stated in official documents it must be assumed that the racial discrimination characteristic of all aspects of Rhodesian life applies to some extent to

medical services and that the medical care outlined here, both public and private, is strongly biased towards non-African or at best towards urban populations. This is not to say that all African health and medical services are of a lower standard than that available to whites - rather that the provision of services is highly inequitable throughout the country.

2. Community Preventive and Public Health Services

It would appear that community health programs are less well developed than medical services, and the government's stated policy of community development and "local initiative" is in recognition of the need for further development of this type of service.

Preventive Services

Preventive measures have been concentrated largely on the control of communicable disease and mass inoculations when epidemics are threatened. While much of this work is centrally directed and developed mainly in areas of economic importance to the country, the more routine preventive services are the responsibility of:

1. the Public Health Departments of the major municipalities which employ health inspectors and public health nurses as well as doctors.
2. the Provincial Medical Officer, in each of the five health provinces, who, with a staff of health inspectors and nurses supervises the small local authorities and rural clinics.

In addition to control of communicable diseases, through routine immunizations, isolation and treatment of cases, and health education, these services include:

1. Follow-up care of discharged hospital cases of tuberculosis, leprosy, and mental illness. All such cases, when diagnosed, are entered in the Endemic Disease Register maintained by each Provincial Medical Officer and notified to the Health Assistants of the area for continued surveillance.
2. Maternal and child health services.
3. School health services, including dental care. These are restricted to inspections in the urban schools and available almost entirely to non-African school populations.
4. Environmental health services are the function of the local authority, and in urban areas have been of a high standard demanded by the white and non-African residents. A clean water supply, disposal systems, pest control, and such ordinances as are required to ensure healthy and salubrious neighborhoods are well established urban services. These standards however, do not apply to the African townships where urban Africans live in overcrowded and unhygienic conditions. In the rural African areas the paucity of environmental services is justified on the grounds not only of economic constraints, but "cultural and social" factors and the Africans' preference for "the more spectacular curative activities of modern medicine and surgery."

The major environmental concerns are:

1. control of communicable disease through environmental services, particularly malaria and schistosomiasis;
2. the development of rural community water supplies and improved waste disposal methods; the former taking priority in view of the prevalence of enteric and other water borne diseases (including cholera).

The agencies involved in the personal and environmental preventive health services in addition to the Ministry and local authorities, include medical missions, mining and industrial concerns, and voluntary agencies. In addition to providing services to the people these organizations offer training for personnel in preventive and curative care as well as environmental and community education functions.

Personnel involved in these services (see Manpower) include the African Health Assistant, considered the key figure in rural health. Trained for a period of three years, his functions include:

1. follow-up of registered cases of long-term and communicable diseases;
2. health education and environmental sanitation education in the villages, including vector control methods;
3. immunization programs at the local level;
4. notification of area health problems.

The African Health Assistant may be considered the rural counterpart of the Health Inspector who, with three years of training leading to the Certificate of the Royal Society of Health, is employed by the Ministry or local authority in urban and semi-urban areas.

The Health Inspector, however, although he has more training and closer association with health professionals in urban areas, is not involved in major communicable disease problems as they exist in the rural areas.

In 1973 there were a total of 1,721 Medical Assistants and 159 Health Inspectors. [17, pg. 239] Although information is not available that would distinguish the extent or the quality of services, as urban/rural or non-African/African, it is very clear both from the administrative framework and from the health status of rural Africans (see Major Issues) that community health services reflect the racial discrimination characteristic of the government regime. High-quality, efficient, and well-financed urban community services are in sharp contrast to services in the African rural areas. The attitude of the government is clearly implied by comments of the then Secretary for Health (1973). [17 and 2, pg. 230]

"...dramatic progress (in rural health services) must await the basic economic advancement of these areas."

"...when they (the Africans) consider their state 80 years ago....they could perhaps look back not in anger...."

"...they, (rural Africans) by consuming all they grow, subscribe little in real terms to the gross national product."*

D. FOREIGN DONOR ASSISTANCE IN HEALTH

As reported by the Southern African Task Force [4, pg. 118] foreign donor assistance to Rhodesia since 1965 (UDI) has been negligible. Rhodesia's national debt to the

* In 1973 the total output of African agricultural production was valued at \$58.5 million of which 38 percent was marketed. [17, pg. 98]

U.K. and the World Bank were cancelled at the time of UDI and the annual payments diverted to the country's irrigation projects. Under South Africa's Official Secrets Act a veil is drawn over assistance which may accrue from that country.

Rhodesia is not a member of the United Nations and has no affiliation with WHO or with other technical assistance agencies. Rhodesia since UDI has pursued a policy of self reliance; the Liberation Front uses the phrase in relation to the economic future of Zimbabwe as well as in reference to the development of health services [20, pg.2]. While aid to all the countries of the region from the World Bank and international agencies increased at various rates between 1970 and 1975, aid to Rhodesia decreased.

The Zimbabwe Development Fund (ZDF) proposed to assist in the transfer of government to majority rule would make available \$1.5 million contributed to by the U.S., the U.K. and the World Bank. The ZDF is one item in the Anglo-American "package deal" which is still in the negotiating stage.

The International Red Cross has budgeted almost 1.5 million Swiss francs toward health, food, and relief services to Rhodesia. A number of countries in addition to the U.S., the U.K., and Germany, as well as UN task forces, are studying the situation in Rhodesia with a view to determining the technical and financial assistance that will be needed and acceptable to the new majority rule government.

IV. RECOMMENDATIONS

The future development of health care services to more adequately meet the needs of the people of Rhodesia must be related to three major factors inherent in the present situation:

1. the political situation and the human cost of the war;
2. the effects of a long history of white domination and African deprivation; and
3. the existing burden of poverty and disease on a population living largely on subsistence farming of infertile lands, or on wages as unskilled laborers in an industrial economy.

There is an additional factor which, while uncertain in its value to the new society, cannot be discounted--the legacy of a modern, sophisticated, and costly health and medical program heretofore freely available to the urban minority.

Rather than to suggest specific actions to be taken to reverse the affects of the above factors on the health of the nation, the following recommendations are framed to point up areas in which the new Zimbabwe could look with advantage to donor countries for financial and technical assistance in the health field.

A. Politics, War, and the People's Health

No matter how long the present fighting continues, its affect on the health of the people is devastating, and will cripple the nation for years to come, unless emergency

measures are taken effectively. As noted earlier, the present interim government, being officially illegal, frees the donor countries to assist either side: WHO has assisted ZANU by contributing cholera vaccines; the International Red Cross assistance is impartial. Other voluntary agencies are free to choose.

Emergency measures to improve the health services available to victims of the war could include:

- field hospital services;
- health services in camps, including detention centers, training centers, and refugee camps;
- services for civilian victims of violence and of enemy raids;
- health and medical care, food supplements, and emergency shelter for refugees and other displaced civilians separated from their usual source of health care; and
- special emergency services for pregnant women, infants, and young children, including food supplements, rehydration centers, and treatment of injuries and more.

Recommendation:

Donors should give serious consideration to providing emergency health assistance to victims of the conflict on both sides. While such an effort may well prove politically difficult for some donors and somewhat hazardous for most, a humanitarian, nonpartisan approach on the health issue could provide a significant foundation for future collaboration in development of health in Zimbabwe, and it even offers remote possibilities for developing opportunities for political conciliation.

B. The Effects of White Domination

This report has focused largely on the contrasts between the white privileged and the black exploited sections of the population. Land reform and revision of black labor conditions are likely to be of high priority in the new Zimbabwe administration.

In 1975, over half the 258,000 Africans working in agriculture earned less than R\$10 a month. The gap between black and white living standards relates directly to income and indirectly to the maldistribution of arable land ownership and to the discriminatory education systems. In contrast to compulsory education for whites, there are over 2 1/2 million Africans who have never been to school; in 1976/77 the public outlay on each black pupil was R\$45.9, on each white pupil, R\$531. In the Salisbury Polytechnic (open to all races) the enrollment in courses was: [14, pg. 15]

Technical:	White	1,401	African	200
Commercial:	White	1,250	African	None
Adult Education:	White	916	African	None

For the African population, the consequences of these inequities are continued poverty, poor housing, inadequate sanitation, unsafe water-air environment conducive to acute and chronic malnutrition, infections, enteric and other infectious diseases, and an infant mortality rate fifteen times that of the whites.

While the new administration may immediately present the country with land and labor policies more acceptable to most segments of the population, the implementation of these policies will take time. And, while an equitable education system may be needed, it is not likely a high priority to the rural populace; even though widespread schooling could be organized relatively soon, the results (an educated population) will only be realized over the long term. Health services, on the other hand, will likely be a higher priority to the people without delay. It is not too soon to plan the redistribution of health resources, facilities, equipment, and manpower, and to design the implementation of services, even in anticipation of new policies for a national health program.

That the people should be given equal access to existing services is an over simplification of the complex goals which are likely to arise from the backlog of health needs. Removing inequalities may require the lowering of standards at one level in order to raise those at another level while remaining within the financial resource constraints available for health.

Recommendation:

The donor community should send a team of experts in health planning and management to conduct a study of the present health system, and of the adaptation which will be required to meet future needs. This may be more a study of

principles in health delivery than of resource quantification. In planning for the elimination of racial inequities in the people's access to health and medical care, such a study should focus on the resources and services required for a tax-supported system of care accessible to all socio-economic groups.

C. Poverty and Disease

Infectious diseases, acute and chronic malnutrition, and work-related diseases have a high attack rate among blacks, but are rare among whites.

While over the long term, the population stands to benefit from rural development and from a redistribution of the country's wealth and income-producing assets, the immediate need is for a vigorous attack on the conditions causing disease, and for the provision of adequate facilities for the treatment of those affected.

Undoubtedly, development of primary health care services in rural areas, including maternal and child health, and family planning services, will take precedence over the future development of hospitals in urban centers.

Recommendation:

Donors should make available their expertise in training auxiliary health personnel, and they should assist in the design of comprehensive health care programs at the village level.

D. Manpower

The development of manpower resources to staff the expanded health delivery system will be an urgent need. Short-term training programs will be required for the preparation of nurses, medical auxiliaries, village health workers, sanitarians, and other allied health professions.

Zimbabwe is not a "backward" country with regard to professional medical and nursing training. African graduates of Rhodesian universities and nursing schools are highly qualified in their health professions and well able to fill the top positions in technical research and medical practice held until now by their white countrymen.

However, the status and role of Rhodesia's trained auxiliary and indigenous health worker has been low. Their wages are minimal, and they are utilized only in the poorest geographic areas of the country. Because Zimbabwe is committed to village development, the participation in health services delivery by local workers should gain the respect of the people and the health professions alike.

Recommendation:

Technical assistance in the development of training programs for health (non-physician) auxiliary personnel should be extended by the donor community to the new government. Zimbabwe should be given long-term financial aid for the development of health services, and long-term or

continuing consultation and technical assistance in health planning and policy development.

Zimbabwe will inherit a sophisticated array of personal, curative health care service institutions from the present government. Its future commitment to high quality medical services will pose many management and administrative problems for the new regime.

Health policy will have to be made in the framework of an evolving national philosophy: the policy-making body will need the best advice from planning and management experts which can be supplied by the donor community. As the new government moves from the present state of racial conflict, it will require donor assistance in the design and implementation of service delivery programs which provide equity and accessibility to all its people.

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