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9. ABSTRACT This paper analyzes the educational and training needs of Zimbabwe in the unusual and possibly crisis situation prior to the achievement of a new African led government. One objective is to catalog the human resource problems likely to develop in the fields of formal and nonformal education in the case of four possible eventualities: negotiated settlement with interim shared government, negotiated settlement with immediate majority rule, guerrilla warfare, and civil war. Other objectives are: to identify the capacity of institutions, agencies, and people who could assist; to indicate the extent to which the U.S. might assist through both bilateral and multilateral programs of technical assistance; and to analyze the extent to which further research in specific areas will be necessary. The framework of the paper includes: general indicators of current development of education and training in Rhodesia; and assessment of manpower needs by sector; a sectoral analysis of educational needs in the transitional phase to majority rule; a catalog of available programs and institutions; and programmatic recommendations. It is the researcher's opinion that stress should be put on relating programmatic options to African, and especially Zimbabwean, experiences in order to make them as relevant as possible. The major recommendations concern high level management training, middle level supervisory and technical training, and labor-intensive programs and basic skills training. They also cover shortfalls in specialist teaching personnel, the development of educational technology and materials, sector review of education, integrated rural development, study abroad, and further research.			
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FINAL REPORT

EDUCATIONAL AND TRAINING
OPPORTUNITIES WITHIN ZIMBABWE
AND IN NEIGHBORING COUNTRIES
DURING AND AFTER THE TRANSITION
PHASE TO MAJORITY RULE

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EQUAL OPPORTUNITY EMPLOYER

EDUCATIONAL AND TRAINING OPPORTUNITIES WITHIN ZIMBABWE AND IN NEIGHBORING COUNTRIES DURING AND AFTER THE TRANSITIONAL PHASE TO MAJORITY RULE

I. INTRODUCTION

The purpose of this paper is to analyze the educational and training needs of Zimbabwe in the very unusual and possibly crisis situation prior to the achievement of a new African-led government. The specific objectives are four-fold:

- a. To catalog the human resource problems that are likely to develop in the fields of formal and nonformal education during the transitional period of political change, considered with regard to the four possible scenarios identified as follows:
 1. Negotiated settlement: Interim shared government (Black and White)
 2. Negotiated settlement: Virtually immediate African majority rule
 3. Guerrilla warfare, and
 4. Civil war.
- b. To identify the capacity of institutions, agencies and people in Zimbabwe, in African countries and elsewhere that could assist in the solving of these problems, especially as viewed from previous African experiences.
- c. To indicate the extent to which the United States might assist through both bilateral and multilateral programs of technical assistance, and
- d. To analyze the extent to which further research in specific areas of the educational and training fields will be necessary and/or desirable.

The framework of the paper has the following format:

- I. Introduction
- II. General Indicators of Current Development of Education and Training in Rhodesia
 - A. Philosophy and Aims
 - B. Statistical Indicators
- III. An Assessment of Manpower Needs Related to Training by Sector
 - A. Agriculture
 - B. Manufacturing and Industry
 - C. Mining

- D. Transportation and Communications
- E. Government and Public Administration

In each of these sectors, a statement of the present position precedes an analysis of the possible consequences resulting from the four scenarios of political change.

- IV. A Sectoral Analysis of Educational Needs in the Transitional Phase to Majority Rule and in the Longer Term
 - A. Elementary
 - B. Secondary (including Vocational-Technical)
 - C. Higher Education (including Vocational-Technical)
- V. A Catalog of Available Programs and Institutions That Might Be Utilized for Technical Assistance Programs, in Zimbabwe, Africa, and Elsewhere
 - A. Manpower Training
 - B. Formal Education
- VI. Programmatic Recommendations
- VII. Appendices
 - A. Sources
 - B. Statistical Data on Zimbabwean Exiles

The research methodology employed involved a literature review of available secondary sources, both statistical and descriptive. Special consideration has been placed upon African experiences with programs for manpower training and education. The rationale for this is that too often in the past, bilateral programs of technical assistance have imposed solutions without recourse to African opinion and perspectives of what the particular problems were. Most sub-Saharan nations have been challenged by the transitional periods to full independence and the more long-term adjustments towards specific developmental goals. African methods of tackling African problems are likely to be viewed by Zimbabweans as being (a) more valid than other models from outside Africa, (b) more acceptable politically and attitudinally, and (c) more relevant.

Attempts have been made to consult with as many Zimbabweans as possible to gain insights into indigenous attitudes to Zimbabwean education and training.

Since both are highly emotional and politicized subjects, this was a valuable exercise in gaining an understanding of local value systems, perspectives, anticipations and aspirations. In order to validate and expand the input from these Zimbabwean and other African sources, it is strongly recommended that an on-site visit be made to the continent. In parentheses at this point, it might be mentioned that a strong feeling was sensed by the authors of this report that Africans do not necessarily attach the same priorities to development as Westerners. Briefly, many Africans regard the attainment of social goals as more important than economic improvement in the immediate future. DeGregori is right in his view that Africans are not possessed of the "myth" of anti-technology,¹ but many do see the need to establish first and foremost an African societal structure that can later act as the motivating agent for development. Nyerere has stated that "We believed that to transform the situation we had only to replace expatriate administrators and policy makers with local people... in other words, to energize the system we knew and to reverse certain policies to which we had always been opposed."²

In the context of Tanzania, the primary aim of education for self-reliance was placed on the vehicle of Ujama'a, which has been defined by Omari as "familyhood," the integral parts of which are "living together and taking care of each other communally; owning the means of production communally; and the distribution of the products accordingly."³ Obviously, there is not a strict parallel between Zimbabwe and Tanzania, due to the former's more diversified

¹DeGregori, Thomas R. "Technology and the Economic Development of the Tropical African Frontier." Cleveland, Ohio: Case Western Reserve University, 1965.

²Nyerere, Julius K. "From Uhuru to Ujama'a," Africa Today, Vol. 21, No. 3, Summer 1974, p. 4.

³Omari, C. K. "Tanzania's Emerging Rural Development Policy," Africa Today, Vol. 21, No. 3, Summer 1974, p. 13.

economy and greater urbanization. Many Zimbabweans consulted implied that the thrust of the guerrilla movements in attempting to rid the country completely of foreign and imposed cultures, based on Western concepts of industry and plantation agriculture, strikes a very responsive cord among Zimbabweans of all levels of education and experience. This African search for an indigenous "ethos" or societal "psyche" has been variously poorly understood, paternalistically tolerated or deliberately brushed aside as being archaic or counterdevelopmental by colonizers and technical assistance experts alike. It is precisely for this reason that the identification of problems of transition facing Zimbabwe have to be seen through African eyes. Perhaps more important, efforts to assist Zimbabwean development must look to previous African experiences for solution models and to previously accepted conduits for channeling technical assistance.

Several other secondary sources were consulted. A listing of agencies, businesses, educational institutions and individuals contacted for pertinent information is attached as Appendix A.

II. GENERAL INDICATORS OF CURRENT DEVELOPMENT OF EDUCATION AND TRAINING IN RHODESIA

The problems facing Zimbabwe in the transition to majority rule are largely a product of colonization. A brief review of the underlying philosophy in education and training as it has affected Africans and as it has been formulated by White Rhodesians is required. Secondly, an overview of statistical data relating to the disparities in educational opportunity and job availability between Africans and Europeans will help to put the problems into a Zimbabwean perspective.

A. The Philosophy and Aims of Education in Present Rhodesia

There is little doubt that, essentially, the whole structure of formal education and vocational-technical training in the country during the colonial past and subsequent to UDI was predicated on two overriding considerations. First was the establishment and maintenance of White political control. Second was the ensurance of a pool of African manpower to assist in the growth of the economic dominance of the White minority. Despite the important developmental role played by missionary schools, by some companies and by a few individuals, in which it can be assumed that there were some elements of altruism and genuine desire to ameliorate the economic condition of the African, the overall philosophy has been based on the aims outlined by the authors of the "Area Handbook for Southern Rhodesia":

The aims of White-directed education for Africans generally were to restrict African advancement. When not restrictive, government legislation and ministerial policy were largely paternalistic.

...educational policy was structured in accord with overall White segregationalist philosophy. Interaction between the separate White and African societies was based on functional necessity, such as that between employer and employee or master and servant.⁴

This view was unanimously held by all Zimbabweans consulted. One source defined the motives of the Smith regime as being based on nothing more than "The franchise, land and income."

With regard to skill training at all levels and in all sectors of the economy and government the attitude of the ruling group has been consistent, that is, to maintain the wage-gap differential between Europeans and Africans. At the present time this means that Whites in employment earn almost 11 times as

⁴Nelson, Harold D. "Area Handbook for Southern Rhodesia." Washington, D.C.: USGPO, 1975, pp. 145-146.

much as the average black worker.⁵ Harris has expressed the importance of this wage-gap index in the following words:

...because it manifests itself in an obvious and permanent reflection of the unequal distribution of economic privilege and opportunity in the society.

...it arises as a consequence of discriminatory practices at every level in the society and in the economy.⁶

In a study conducted in 1973, over 90 percent of the 545,000 African urban employees surveyed received cash below the poverty datum line. According to the University, "these low levels of wages present among African employees are sanctioned under law."⁷

B. Indicators of Educational Development: General

A statistical analysis of the general situation existing in the educational domain is best revealed by a comparison between the African and European divisions of the system:

	<u>African</u>	<u>Non-African</u>
Total expenditure on primary and secondary education	\$22,500,000 for 95% of population	\$ for 5% of population
Total enrollments (primary and secondary)	831,648	69,580
Per capita expenditure	\$27.00	\$321.93
Enrollments in secondary schools	35,876 (4% of enrollment)	29,465 (4% of enrollment)
Extent of vocational-technical and teacher training post-secondary school. Percentage of graduates admitted into programs.	0.43%	10.46%
Percentages entering university (in Rhodesia and elsewhere)	0.14%	6.78%

SOURCE: World University Service, 1974 data.

⁵Harris, Peter S. "Black Industrial Workers in Rhodesia." Gwelo, Rhodesia: Mambo Press, 1974, p. 11.

⁶Ibid., p. 11.

⁷Riddell, Roger C. "The Urban Poverty Datum Line for Rhodesia, 1974," The Rhodesian Journal of Economics, Vol. 8, No. 3, September 1974, p. 139.

With regard to the earning disparities between African and non-African, the following brief statistics are illustrative:

	<u>African (per annum)</u>	<u>Non-African (per annum)</u>
Average earnings	\$359	\$3,901
Earnings of mining workers	142	5,335
Earnings of teachers	820	3,630
Earnings of medical personnel (doctors and nurses included)	702	2,930

SOURCE: World University Service, 1974 data.

III. AN ASSESSMENT OF MANPOWER NEEDS RELATED TO TRAINING BY SECTOR

In order to project the manpower and technical training needs for an independent Zimbabwe, it is important to understand the current employment situation for the Africans in Rhodesia. All too often it is assumed that whenever jobs appear, qualified workers will also emerge to handle these new responsibilities. However, this will not be the case in Zimbabwe in the event of a White exodus unless planning and technical training programs for Africans are envisaged.

Harris has estimated that there are only some 20,000 semiskilled African workers in the labor force (the criterion being effective on-the-job training that has taken up to a year), and no more than an additional 10,000 skilled artisan, skilled administrative and professional Africans.⁸ In contrast, virtually all Whites fall into these two categories. Although a breakdown between semiskilled, skilled and managerial occupational groups is not generally available from official statistics, the following table indicates the total numbers of positions that would be vacated if all Europeans left the country. While many Africans have the capacity to assume these jobs, very few have received the necessary training to ensure the maintenance of current production standards. The extent of the training needed in terms of numbers alone is consequently staggering.

⁸Harris. *ibid.*, pp. 14-15.

TABLE
EUROPEAN, ASIAN AND COLORED EMPLOYEES BY SECTOR

Agriculture and forestry	4,950
Mining and quarrying	3,830
Manufacturing	24,460
Electricity and water	1,820
Construction	8,050
Finance, insurance, and real estate	9,170
Distribution, restaurants, and hotels	21,630
Transportation and communications	11,290
Public administration	13,330
Education	7,370
Health	4,560
Other services	11,870
TOTAL	122,300

SOURCE: Monthly Digest of Statistics, Central Statistical Office, Salisbury Rhodesia, December 1975. Table 15, figures for June 1975

It is sometimes stressed that since only approximately 15 percent of the African population is in wage employment, the importance of this to Blacks is relatively unimportant. This neglects the fact that one-half of the population are of school age and only ten percent of the work force is made up of females. Harris has calculated that between 50 percent and 60 percent of Africans in Zimbabwe are dependent on wage income as the main source of survival.⁹

The current sectoral distribution of Africans within the commercial segment of the economy is detailed in Table 2. From Table 2, the following manpower sectors have been identified as being the most crucial for national development in the transitional phase to majority rule (allied health fields are being

⁹Harris, *ibid.*, p. 9.

TABLE 2
SECTORAL DISTRIBUTION OF LABOUR

Sector	African	European, Asian and Coloured	Total
Agriculture and forestry	379,700	4,760	384,460
Mining and quarrying	58,100	3,590	61,690
Manufacturing	129,900	22,990	152,890
Electricity and water	5,500	1,780	7,280
Construction	64,800	8,670	73,470
Finance, insurance and real estate	4,000	8,700	12,700
Distribution, restaurants and hotels	65,800	22,920	88,720
Transport and communications	21,800	10,960	32,760
Services			
Public administration	28,400	12,530	40,930
Education	27,300	7,160	34,460
Health	8,600	4,000	12,600
Private domestic	130,600	—	130,600
Other	30,400	10,740	41,140
TOTALS	955,000	118,800	1,073,800

SOURCE: Van Heerden, J. "Labour Force," Chapter 4 in Rhodesia: Economic Structure and Change, by G. M. Leistner,

treated in a separate paper by Dr. Watson, and education forms the subject of the next section of this paper):

- A. Agriculture
- B. Manufacturing and industry
- C. Mining
- D. Transportation and communications
- E. Government and public administration

Each of these sectors will be discussed separately, addressing first an estimate of the major training consequences likely to result from the four identified political scenarios projected for the transitional period, and, second, an attempt to relate each of these to a previous experience in Africa with a view to learning the lessons from African responses to problem situations of a similar or parallel nature.

Although it is recognized that the population living in the tribal lands is large, the following quotation places the wage earning sector in its proper perspective:

Of the Black population, only 15.17 percent were in wage employment during 1972. This statistic, however, understates the importance of wage employment to Blacks. When it is remembered that nearly one-half of this sector of the population are under the age of 17, and that only ten percent of the working force are female, it becomes apparent that between 50 and 60 percent of all Black households are dependent on income from employment as a main source of family income. It has become a feature of the occupational structure of the country.¹⁰

A. The Agricultural Sector: Major Foreseeable Consequences

Agriculture and forestry constitute the majority of the African work force. Approximately 85 percent of Africans are rural-based and depend on agriculture for their livelihood. Even within the European controlled commercial sector, agriculture is the largest employer of African labor, with 380,700 workers as of June 1975.¹¹ Because of the roughly equal division of present Rhodesia into two separate and quite distinct agricultural systems, represented by the European rural areas and the tribal trust lands, it is necessary to consider the effects of majority rule on these widely disparate areas separately.

Scenario I: Negotiated Settlement: Shared Power

In the European commercial farming areas the most important assumption must be that under no circumstances will any new African government tolerate the legal alienation of ownership of the land to Whites. The return of the best watered and most fertile areas of the country to Zimbabwean control is inevitable, whether this takes the form of land nationalization, the splitting up of

¹⁰Harris, p. 9.

¹¹Monthly Digest of Statistics. Salisbury, Rhodesia: Central Statistical Office, Table 14.

the estates for private African use or a return to tribal communal ownership. Nevertheless, there is a powerful incentive for retaining the capital-intensive, mechanized, scientifically orientated and technologically advanced agronomy and marketing system of the present European agricultural sector. In the last analysis the major reasons for retaining the plantation system will be economic and reflect (a) the need for foreign exchange earnings, (b) the desirability of producing raw materials for local industry, and (c) the growing dependence on the commercial farms to produce food crops for an expanding population.

The impact of a negotiated settlement that allows some (but not all) of the White farmers to stay in Zimbabwe would be developmentally beneficial. There is evidence that not all European farmers have been avid supporters of UDI. One Zimbabwean mentioned that some, perhaps hedging their bets, have even cooperated with nationalist guerrilla groups or at least turned a blind eye to their military movements across their lands. More positively, some Zimbabweans have indicated that, although the White farmers might not be admired for their human qualities, they have managed to realize the agricultural potential of large areas of the country. Pragmatically, these Zimbabweans agree that, apart from the Rhodesian front "ultras" it would be economically detrimental to lose the contribution to national GDP that the commercial sector of agriculture provides. In this light, incentives to stay on could form part of the thinking of a future nationalist government.

It is important to mention here the current production rates in agriculture as reported by a reliable source:

1975-1976 Production Rates

Production (in tons)	European	African Purchased Area	Tribal Trust Lands
Maize	1,260,000	53,480	435,000
Ground nuts	5,783	6,280	110,000
Wheat	125,467	325	0
Milk	139,617	0	50,400
Tea	6,989	45	0
Beef	90,000	0	62,000
Sugar	280,000	0	0

If the European lands lay fallow or are destroyed, the production rate will not even satisfy the consumption rate of the African population. It is imperative that current production be maintained.

If as many as 30-50 percent of the European farmers can be retained, the transition situation in agriculture can be eased significantly. It is assumed that these people would accept Zimbabwean ownership of the land. The ex-owner would then become a hired manager or agricultural expert, with the dual function of continuing the effective management of his former lands (and possibly of other neighboring plantations vacated by Whites) and a training agent for high-level management for Africans and for the training of middle-level agricultural technological manpower.

In the TTLs and the African purchase areas, the position under Scenario I would seem to be relatively optimistic. In a recent conversation with a Zimbabwean national, the opinion was expressed that there are enough Africans with specialized skills who currently work the land, and sufficient agricultural extension officers to maintain the present level of outputs in these areas.

This view is supported by Reader, who, writing in 1972 commented:

Vocational training is seen at its best in the five agricultural training schools (Chibero, Mlezu, Esigodini, and Gloag [which is Presbyterian] and Kukwanisa, [operated by the Courtauld Trust]). As far as we can tell, all of their graduates are finding employment, largely with farmers, and there is considerable optimism about their future expansion.¹²

¹²Reader, D. H. "African Education and the Rhodesian Employer - A Sociological Perspective," The Rhodesian Journal of Economics, Vol. 6, No. 2, June 1972, p. 7.

Experiences from African settings that are similar to this scenario are found in Kenya (The White Highlands--dairy farming, beef production, pyrethrum and cereal cultivation, etc.); Tanzania (sisal); Uganda (cotton); and much of French West Africa, especially Cote d'Ivoire.

Scenario 2: Negotiated Settlement: Virtually Immediate Black Rule

A large proportion of the European farming community was very supportive of UDI. These farmers, despite international sanctions, have prospered economically in recent years. Given an immediate African takeover, a great number would leave. Reasons for this include: (a) an inability to adjust psychologically to an entirely new political system, (b) ingrained racism, and the inability to adjust to a Black dominated society, (c) the legal appropriation of their land, and the inability to work as a "hired hand," and (d) uncertainty of their long-term future, especially in regards to job security.

Under such circumstances, the necessity for immediate crash training programs in plantation management for Zimbabweans is apparent. It is doubtful if local or exile Zimbabweans, in anything like the required numbers, would be available to replace departing Whites. In order to maintain current commercial farm production, the short-term solution would require the importation of expatriate managers and scientifically-trained personnel, preferably with African experience, and for a strictly limited time. A secondary need would be for middle-level technicians to ensure the maintenance of existing farm equipment and processing plants.

Areas within Africa that have experienced massive flights of European farmers are limited. Algeria provides the best model. This country's actions in devising ways to maintain a balance between the need to continue commercial farming for economic reasons and social demands from the indigenous population to split up the estates of the "pieds noires" are useful to draw upon.

Scenario 3: Guerrilla Conquest; and Scenario 4: Civil War

Under these circumstances, virtually all the European farmers would flee the country. There would probably be irresistible pressures from peasant farmers for the parceling up of European estates, given the very real land hunger present among all African groups. Any solution to this situation would have to be long-term, and would be a strictly Zimbabwean matter--too politically sensitive to form the subject of projected foreign technical assistance.

The similarities of the Congo (Zaire), Rwanda and Burundi experiences are obvious, as are the more recent Angolan and Mozambique conflicts. There is little doubt that such civil disturbances break out in Zimbabwe, the American public also would have little stomach to be involved, militarily or in a technical assistance way.

B. The Industrial and Manufacturing Sector: Major Foreseeable Consequences

During the early 1970s, manufacturing surpassed agriculture as the labor sector contributing the largest share to the GDP of Rhodesia. The manufacturing companies were in a unique situation, as this sector became the potential generator of employment for the African majority; but they have failed in their response to the needs of this majority, due largely to political pressures from the White dominated government and the European trade unions.

There are several reasons to explain the lack of African skilled workers:

1. There are informal government pressures on the hiring policies of Rhodesian industries.
2. White labor unions have insisted on the principle of equal pay for equal work, which has prevented some Africans from competing effectively against non-Africans by offering to work for less.
3. Trade and technical schools, which had nearly 1,800 African students in 1961, had fewer than 800 in 1970 due to the closing of Luvuvu and Mzingwane on government orders, and

4. The African apprenticeship program, instituted in 1960 by Sir Edgar Whitehead, folded because of pressure by the White unions in 1963 after the Rhodesian Front government, yet the construction industry in 1973 fell 30 percent because there were not enough White apprentices.¹³

In a recent study, Cheater and Mathobi¹⁴ observed the practices of seven different Rhodesian companies--one government organization and six manufacturing companies of various size. They found that there was one African for every six Europeans in managerial roles and one African for every 11 Europeans in technical and highly skilled jobs. In supervision positions, Africans outnumbered Europeans four to one; while in the semiskilled and unskilled categories, all the workers were African. Considering that there are over five times as many Africans as Europeans employed in manufacturing, these figures substantiate the feeling that training is desperately needed, and that job discrimination has been a relevant factor.

The writers assert that certain white artisans refuse to train African apprentices. They also judge that the Industrial Conciliation Act of 1959 with its amendments hinder African apprenticeship, and they conclude that not much change has occurred recently. These latter two assumptions appear to be supported by recent discussions with Zimbabwe nationals and personnel within the American industrial sector having operations in Rhodesia.

The following tables, originating from a study currently being conducted at the University of Salisbury, illustrate future skilled manpower requirements for industry, broken down by specific types. As is evident from the second table, even if the Europeans do not leave in mass, there still is an apparent

¹³Nelson, Harold D. Area Handbook for Southern Rhodesia. Washington, D.C.: USGPO, 1975, pp. 324-325.

¹⁴Irvine, S. H. "Review Article - Science and Advocacy: A Review of Education, Race and Employment in Rhodesia," Rhodesian Journal of Economics, Vol. 9, No. 4, December 1975, pp. 157-175.

shortage. It is time for the government to understand that the Africans can be trained to fill this gap and that immigration is not the answer.

TABLE 3
ANTICIPATED REQUIREMENTS OF SKILLED MEN, 1974-1982

Industry	Numbers in Employment			Gross Additions Required		
	1974	1978	1982	1974-78	1978-82	1974-82
Aircraft	375	445	531	152	158	310
Building	4,623	5,666	6,660	1,866	1,967	3,833
Electrical	1,799	2,198	2,586	724	770	1,494
Motor	2,212	2,712	3,186	895	941	1,836
Mechanical	4,844	5,937	6,972	1,952	2,065	4,017
Printing	790	964	1,134	319	336	655
TOTAL	14,643	17,922	21,069	5,908	6,237	12,145

SOURCE: (confidential)

TABLE 4
NUMBERS DUE TO COMPLETE TRAINING PER YEAR COMPARED
WITH NUMBERS REQUIRED AS PER ABOVE TABLE

	Numbers Expected to Complete	Numbers Required	Shortfall
1975	423	1,477	1,054
1976	575	1,477	902
1977	635	1,477	842
1978	705	1,477	772
1979	829	1,559	730
1980	1,100	1,559	459
1981	1,500	1,559	59
1982	2,000	1,559	+441
TOTAL	7,767	2,144	4,377

SOURCE: (confidential)

Currently, the number of African apprentices enrolled in specific programs can be broken down as follows:

TABLE 5
ENROLLMENT OF AFRICAN APPRENTICES IN SPECIFIC PROGRAMS

Industry	Numbers	Total
Aircraft		1
Aircraft fitter	1	
Building		105
Bricklayer	52	
Carpenter/joiner	36	
Plumber/drainlayer	5	
Painter/decorator	6	
Plasterer	5	
Shopfitter	1	
Electrical		17
Electrician	12	
Electrical fitter	1	
Instrument mechanic	3	
Lift mechanic	1	
Mechanical Engineering		50
Boilermaker	6	
Diesel plant fitter	8	
Fitter (including machining)	5	
Fitter and turner (including machining)	18	
Moulder (including core maker)	2	
Plating/welding	4	
Roll turner	2	
Turning (including machining)	3	
Welding	2	
Motor		34
Motor mechanic (including diesel and tractor)	32	
Auto Electrician	1	
Panel Beater	1	
Printing		3
Machine binder	2	
Printer's mechanic (including envelope and stationery)	1	

SOURCE: (confidential)

There are also a number of African employees who have had on-the-job training without the formalized instruction of apprenticeship.

Another difficulty presents itself in looking at this sector in the light of previous African experiences. The only comparative situation in sub-Saharan Africa in the degree of diversity and the strength of the industrial base in the overall economy is in South Africa. There are, therefore, no real possibilities of transference of solutions from other African countries.

Scenario 1

Shared power during an interim period would be advantageous to the industrial structure of Zimbabwe. This is due to the heavy reliance on technical and managerial know-how. At the present time, irrespective of the reasons for the situation, the vast bulk of such expertise resides in the European community. If industrial production is to be maintained at present levels, and stand a chance to grow in the longer run, a large number of Whites must be persuaded to remain. At this point, it is necessary to distinguish between the elements in the European working population that are desirable to retain and the elements that should leave Zimbabwe. In the industrial sector, at least in the short run, it would be beneficial if many high-level managerial and technical Whites remain. Conversely, the middle-level White supervisory personnel and artisans who occupy positions which Africans cannot only aspire to but are capable of filling, should be encouraged to leave Zimbabwe. In the case of high-level decision makers who remain, it will be incumbent on them, as part of the conditions of continuing residence within the country, to act as training agents for Africans on-the-job. In the case of middle-level positions, crash training programs in supervisory and technical skills will have to be mounted for Africans. The Kenya model is most illustrative for this scenario.

Scenario 2

The assumption in the situation of virtually immediate Black political rule is that most middle-level management and technical personnel will leave voluntarily. In addition, it is supposed that a large portion of the White entrepreneurial group will also depart. With regard to the high-level employees of multinational corporations, provided that diplomatic relations are maintained between the emergent Black government and the country base of the corporation, there will probably be no great exodus.

In both the high-level and middle-level management categories, intensive programs will be needed to train Africans to assume these roles. This scenario is most advantageous to Zimbabwean exiles, in the sense that it will almost certainly call on them to assume immediate roles of responsibility. The importation of a limited number of skilled contract personnel at both levels will be needed to maintain the output of the industrial sector and to train Africans to take over.

Scenario 3

As mentioned in the agricultural sector, virtually all Whites will flee. This includes most of the multinational corporation's employees. Heavy industry and the consumer goods manufacturing plants would close down, at least in the short run. Their reopening would thereafter depend on the Zimbabwean government establishing favorable relationships with industrialized countries to import personnel as and when political stability could be achieved.

Scenario 4

See Scenario 4 under agriculture, with the added complication that industry might face partial or total destruction of equipment and plants (a Luddite-type reaction).

C. The Mining Sector: Major Foreseeable Consequences

The United States has a large vested interest in this area in the form of American companies operating in Zimbabwe, and because of the strategic importance of the chrome and asbestos sources of supply.

Mining provides just over six percent of the Rhodesian GDP and about one-third of its exports. "The Minister of Mines asserted in 1973 that the volume of mining production had almost doubled since 1965."¹⁵

Most of these mining companies are affiliated with outside concerns, so if there is a large exodus of Whites, the mining industry will be the industry most affected in both the managerial and skilled labor areas. "African employment in 1972 was still below the 1957 level, and the history of mining indicates that profits depend upon an increasing degree of mechanization."¹⁶

Scenarios 1 and 2

Mining activity will probably continue, perhaps at a reduced rate due to the exodus of Whites, particularly at the foreman level. Zimbabweans have indicated that this is a prime area of concern because of the total lack of trained machine operators (White unions have pursued a policy of reserving such jobs for Europeans, hence excluding Zimbabweans from any form of technological training). Importation of technicians is vital, preferably Africans from neighboring countries, e.g., Zambia. Immediate training programs for Zimbabweans must be established to fill this gap.

African experiences that could act as references for problem solving capacity are Zambia (copper), Tanzania (diamonds), Ghana (gold and bauxite), and Botswana.

¹⁵Nelson, *ibid.*, p. 309.

¹⁶Nelson, *ibid.*, p. 324.

Scenarios 3 and 4

The mines will almost certainly be closed, because of the companies' concern over the safety and security of their expatriate workers in what are usually remote areas. These personnel are vital to the operation of the mines and the associated processing plants. The African experience that obviously equates with this scenario is the Katanga situation.

Transportation and Communications

The racial imbalance for hiring in the railroad and trucking industry has been maintained despite crucial difficulties in finding skilled White manpower in the transport sector. "The Ministry of Transport reportedly assured White locomotive engineers that they would maintain their exclusive monopoly on the job on the main line operations."¹⁷ This assurance was countered by resignations of the Asian, colored and African locomotive engineers of the Rhodesian Railway Workers Union, which caused a massive problem by the end of 1972.

The following numbers of employees distributed by the specific type of transport illustrates, once again, that high-level management training for Africans is necessary.

	<u>European/Asian Colored</u>	<u>African</u>
Road-Motor Service		
Management, specialist and branch heads	6	0
Executive staff	3	0
Engineer men drivers	132	30
Others	0	208
TOTAL	141	238
Railway		
Management and specialist	267	0
Executive staff	345	0
Engineer men drivers	911	45
Guards, shunters, brakemen, etc.	795	477
Artisans	5,591	411
Others	0	10,959
TOTAL	7,909	11,892

SOURCE: (confidential, from Southern Rhodesia)

¹⁷ Nelson, *ibid.*, p. 265.

Scenarios 1 and 2

It would be desirable that the top management, program planners and essential railroad engineers should stay. Since these are all Europeans, and since the railroad employees are government civil servants, the leverage that could be exerted by Britain in the way of guaranteeing such benefits as pension rights could be important. On the other hand, White conductors and ancillary system personnel in the middle-level skill category should be encouraged to leave, even if they don't decide to do so of their own volition.

On-the-job training of high level African personnel, drawn mainly from the ranks of the leadership of the very powerful Railways Associated Workers Union, which has an 11,000 membership, should be instituted immediately. Middle-level African employees are probably capable of maintaining a skeleton system of priority services in the short run, but there should be expanded training at all levels to counter the shortfall caused by the expected White exodus.

The reliance on railroads is emphasized, not only for the maintenance of international trade, but also for the very important role they serve in the distribution of foodstuffs and particularly the provision of supplies to the urban dwellers. The maintenance of the system in good operating order during the transition phase is absolutely crucial. In this regard, the experiences of railroad management in East Africa, Nigeria and Ghana act as good parallels.

The road system, postal and telephone services and airline operations pose the same problems as the railroads, so that adequate provision must be made to mount training programs for both high-level and middle-level management and technical skills. Each of the ex-British colonies could act as models for communications and roads (although the latter have played a minor role in African commerce until recently), and the unique experience of Ethiopian Air Lines (in affiliation with TWA) could provide expertise in airport management, aircraft maintenance, pilot training, etc.

Scenarios 3 and 4

In a situation of prolonged guerrilla warfare against the White government, the railroads and trucking infrastructure would undoubtedly suffer greatly. Permanent way, bridges and the like form excellent military targets, apart from being quick ways to induce political chaos and economic paralysis. In addition, in such circumstances, it is highly likely that many White conductors and truckers would be forced to leave Rhodesia because of the dangers of pursuing their jobs in obviously perilous rural areas. Also in such a situation, the railroads and roads would become more and more arteries of military traffic rather than being used for commerce. Little training capacity would exist under this scenario, and even less in conditions of civil war. The Angola and Beira/Maputo situations are analogous for reference purposes.

E. Government and Public Administration

Effective government and public administration is central to national stability and crucially affects the economic and social sectors. There is a plethora of willing and able political leaders at the decision making level. There might be, in fact, an oversupply of contenders for the top positions unless strong central leadership emerges to incorporate the various factions. Each new African government has faced a similar problem once the common uniting goal of achieving independence has been removed. These experiences are well documented, e.g., Jomo Kenyatta's "Facing Mount Kenya."

Considering an imminent change in government, manpower in the area of the Civil Service will be altered. Currently, the upper echelons of the Civil Service are all Europeans. There are significant numbers of Africans in the ranks of middle management, to the extent that Zimbabweans consulted feel that there should be no real problem in maintaining the governmental structure, at

both the central and local levels working smoothly during the short-term phase of transition to majority rule.

The present strength of the Rhodesian police force is estimated at 6,000 with two-thirds being African. Since most of the police force is literate, with some primary schooling, they may be a group to utilize in upgrading their positions of responsibility in government. Perhaps, even a larger potential source of leadership and manpower for government are the highly educated cadres in the Zimbabwe Liberation Army. Some of these people are university graduates and have already emerged as leaders. According to a Zimbabwe national, their orientation is to be based on concern for the masses so that they can be better teachers tomorrow.

In this sector, the analysis by scenario has been dispensed with, because of the unique nature of governmental administration. The same needs will be present whether the most optimistic or pessimistic political prognostications materialize.

Zimbabwean nationals are relatively sanguine about the ability of the present civil service to continue to operate during the transition period, largely because they have noticed that the structure of the British ex-colonial bureaucracy has survived the tests of ethnic strife and military coups in several other African situations. Nigeria and the Sudan are obvious examples. Administrative continuity is, therefore, not seen as an immediate problem. Of more concern is the strong likelihood that popular pressures to open up government jobs to large numbers of previously unemployed high school and university graduates will create a burgeoning bureaucracy, which is developmentally counter-productive. Also, there is no doubt that managerial training at all levels will be as important in the long term as has previously been indicated for the commercial sector.

IV. A SECTORAL ANALYSIS OF EDUCATIONAL NEEDS IN THE TRANSITIONAL PHASE AND IN THE LONGER TERM

The following analysis of the Rhodesian educational system takes a different form from that adopted in the foregoing assessment of manpower training needs. First, the indicators of present educational development in the African school system are stressed, not only to emphasize the iniquities of the past under the "dual system," but to point very positively to the need for a fundamental rethinking of the whole structure and organization of the future Zimbabwean educational system. Second, the analysis of possible consequences relating to the various identified political scenarios, while extremely relevant to the immediate manpower crises, are not so critically important to a consideration of the formal education system. The reasons for this are (a) because education is, by definition, a long-term process, ideally life-long, so that planning must be geared to a lengthy time span, and (b) because it is the opinion of all Zimbabweans consulted that the formal educational system is functioning well at the present time and will not cause grave problems in the transition phase to majority rule. Certain difficulties are foreseen, however, and these have been cataloged.

The following sections will comprise this sectoral analysis of educational needs:

A. Indicators of Educational Development

1. The Elementary Sector
 2. The Secondary Sector
 3. The Higher Education Sector
- b. Short-Range Priorities
 - c. Long-Range Priorities

A. Indicators of Educational Development

Murphree et al. have given the following encapsulated comment on the situation of African education in present Rhodesia:

Although the European and African Education Departments are administered by a single Ministry, share certain common services, and are housed in the same building, they have developed as distinct and different systems...

...the inequities which have resulted from the maintenance of the two systems because of the opposite policy which has, in fact, been pursued, namely that those who contribute most in terms of taxation to the available resources must receive most of the benefits from such taxation.

The government thus spends nine times more on each European child than it does on each African child in the primary grades. Because of this expenditure, a European child has a "right" to education which is compulsory to the age of 15. He automatically goes to secondary school and if he is bright enough, carried on to the sixth form where tuition is free. On the other hand, the African child enters a system that is voluntary and highly selective. Whether he continues or not at certain levels depends upon his ability to pass examinations and his parent's ability to pay his fees. If he is bright and fortunate he may be among the top 2.2 percent who complete Form IV or among the 0.2 percent who complete the sixth form.¹⁹

The following sectoral analysis applies only to the African division of the Rhodesian educational system. It shows the relative strengths and weaknesses in the six areas of finance; plant, educational facilities and support services; student enrollment; instructional personnel; curriculum; and system administration.

1. Elementary - The missions were the pioneers in elementary education.

Their schools eventually came to serve primarily the rural areas, while the government dominated and controlled the schools in the towns.

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Murphree, M.W., B.J. Dorsey, G. Cheater, and B.D. Mthobi, Education, Race, and Employment in Rhodesia, Salisbury, 1975

Since 1964, there has been a deliberate attempt to phase missionary schools out by denying adequate financial assistance. Government support to African education was restricted by the 1966 Ten Year Plan for Education, by allocating only 2% of the Rhodesian Gross National Product to this sector. Hitherto, also the government had paid 100% of teachers' salaries. This was reduced to 95%, with the requirement that the missions pay the balance. Many missions could not bear this burden, and could not pass it on in the form of fees to African enrollees, because of their extreme poverty. The result has been that, while before 1964 the missions administered 85% of primary schools, the figure ten years later had dropped to less than 20%.²⁰

A parallel development was the Rhodesian Front's program to turn over more control of African primary schools to local "African Councils", in what was euphemistically described as a policy of 'Self-help'. In these community schools, the African is expected to pay 5% of the teachers' salaries. The result was that in 1974, only 15% of primary schools were being run by African Councils. In the period of the late 1960's and early 1970's, total enrollment of Africans dropped. Governmental aid for construction and maintenance is calculated on an allowance per pupil, with the ratio of assistance of 1 to 11 for African and European students. Many of the community schools are bankrupt.

The government in 1976 has effective control of 65% of the primary schools in Rhodesia, and can manipulate them to the segregationist philosophy at will.

²⁰Murphree, pp. 46-47

TABLE 6

RESPONSIBLE AUTHORITIES FOR PRIMARY SCHOOL MANAGEMENT 1970-71

Responsible Authority	Number of Schools	
	1970	1971
Mission	2838	614
Government Urban	83	85
Committee	90	331
Council	139	822
Community Board	74	62
Rural Council	--	20
Sponsored	--	1299
Total	3224	3233

SOURCE: Rhodesian Government, Annual Report of Secretary for African Education, 1970 and 1971.

a. Finance. In 1971, which was the latest date for which statistics could be found, the total expenditure on Elementary education in the African Education System was \$11,931,625 (compared to \$6,631,336 for European education). It should quickly be pointed out, however, that on a per capita basis, the costs per pupil was only \$18.67 for each African, compared to \$165.39 for each European.²¹

b. Plant, educational facilities and support services. A map indicated the geographical distribution of schools could not be located. In general, however, indications are that there is an adequate network of schools in the urban areas, and also in the Tribal Reserves. Exceptions are the sparsely populated regions of the Zambezi and Limpopo Valleys, the areas of the lower Sandveldt of the west and south-west, and the forested, mountaineous regions of the Mozambique border-lands. There are also insufficient educational facilities in the "Protected villages".

²¹ Murphree, p. 54

There is a wide variation in the standards of the instructional units. Well constructed buildings and modern educational environments have been provided by mining companies, by some plantation operators, mission schools, and by the government in urban African residential areas. At the other end of the spectrum are the many rural, community-supported schools (some, but not all of which, were former "satellites" of missions), which have a very inadequate local financial resource base. In the opinion of Zimbabweans consulted, the worst facilities are those associated with the "schools" located on privately owned European farms. Here in many cases, the motives of utilizing child labor and providing a "sop" incentive to retain African parents interested in educating their children has resulted in the setting up of so-called schools, which are housed in meager shacks and possess completely inadequate facilities.

With regard to the availability and supply of educational materials, there is relatively little difficulty. Both locally produced and imported textbooks and materials are available. This does not imply that they have been or are relevant to the education of Africans, since, on the whole they have been produced and ordered with the European sector in mind. In the African schools, certainly in comparison with their European counterparts, there is a paucity of educational technology hardware in the form of science equipment and mass media equipment. This is especially the case in the rural areas. Libraries are inadequate in many African schools. Pupil transport and food services are largely absent in rural areas. Many children have to walk long distances to school, as many a 10 miles each way each day. In the former and existing mission schools, the health services tend to be good. Much of the school maintenance is performed by students, in part payment for their education, in mission schools.

In general, the support services situation is better organized and more comprehensive in the urban areas.

c. Student Enrollment. The following data has been abstracted from official Rhodesian sources:

Grade 1.....	158,322
Grade 2.....	145,294
Grade 3.....	132,608
Grade 4.....	118,584
Grade 5.....	104,618
Grade 6.....	83,133
Grade 7.....	68,652 ²²

With regard to student enrollment, the government has had to face a situation in which the growth rate of the African population is in the order of 3.6% per annum, and the fact that about half of the total population is under the age of 16. Nevertheless, the following table indicated the long way that the system has to go to achieve universal education for the African, even though Rhodesia is only surpassed in sub-Saharan African in the percentage of children in school by Lesotho and Ghana:

TABLE 7

PERCENTAGE OF AFRICAN SCHOOL AGE POPULATION ATTENDING SCHOOL, 1969

School Age Population	Number	Per Cent
In School	696,690	45.3
Left School	228,850	15.0
Never Attended	587,530	38.0
No Response	25,970	1.7
Total	1,539,040	100.0

SOURCE: Murphree, p. 50, quoting the 1969 Population Census Interim Report, vol.II, p.29

²²Central Statistical Office, "Monthly Digest of Statistics," Dec., 1975
Salisbury, Rhodesia

The drop-out rate, or as Zimbabweans prefer to term it the "Elimination Rate", is startling. This is mainly a function of a very severe selection process for promotion at the end of each school year; the inability of Africans to afford fees; and the fact that many African schools do not offer the two highest grades in the primary program. Only 50% of the children who begin the lower level of the primary system (Grades 1 through 5) go into the upper levels (Grades 6 and 7)

Approximately 45% of the primary enrollment is composed of girls.

d. Instructional personnel. There is a very adequate supply of teachers, almost all of whom, at this level, are women. This is because, this was one of only a few professions that the Government allowed them to enter (another was nursing). Not all of them are well trained, particularly those that were the product of mission school teacher training, which tended to be very traditional and lacking in innovative ideas. The Teachers College of Bulawayo is an entirely Black institute, and has produced the bulk of the present teachers manning the primary sector. The greatest weakness is in the inability of most teachers to teach modern concepts of Math. There has been insufficient in-service training of primary teachers in the past, so that teaching methodology tends to be stereotyped and out-dated.

e. Curriculum. In the lower level, the concentration is on English, Arithmetic, Social Studies, Agriculture, and Crafts. Religion continues to be a strong subject area in mission schools. The curriculum was designed to prepare African children for functional literacy in lower level skills in the agricultural and industrial labor force. In the upper level, the main concentration is on preparation for the national leaving examination, which involves mainly academic subjects, as a feed-in mechanism for the secondary education sector.

2. Secondary - The government took the lead in the setting up of African secondary schools with the establishment of Goromonzi School near Salisbury in 1946. The missions followed suit, setting up schools in several locations. The Anglican, Roman Catholic and American Methodist churches were most active in this area. However, it was the government that really was the leader in this sector. The structure of the system follows the British pattern. It is a six-year program, with the first four years (Forms I-IV) offering a basic, generalized instruction, and the last two years (Forms V and VI) being more specialized, and designed as a college preparatory course. An alternative two-year junior secondary program designed to prepare students for entry into primary teacher training institutes, agricultural colleges and vocational (craft) schools was introduced by the Smith government, but, as Murphree observes:

The new policy instead of producing dramatic expansion has merely produced a shift of direction from primary to secondary education and specifically to vocational preparation type junior schools. The fact that expansion in this new direction has not really progressed very far would seem to be due to a number of factors. The most important factor is the unrealistic expectations of the government that such an ambitious program could be financed by the poorer sector of society--local African communities--who, in addition, were not convinced that this was the best type of education for their children.²³

a. Finance. In 1971, the following situation appertained:

TABLE 8

GOVERNMENT EXPENDITURE ON EDUCATION BY RACIAL GROUP, 1971

Expenditure	European Education	African Education
Secondary school enrollment	26,839	26,077
Expenditure	\$8,068,680	\$3,915,903
Cost per secondary pupil	\$300.00	\$150.16

SOURCE: Report on Education, 1971, p. 26, Table 1; Annual Report of the Secretary for African Education, 1971, p. 25, Table 14 (a report of the Rhodesian government).

²³Murphree, p. 50.

b. Plant, educational facilities and support services. The overall standards of the buildings is high. Many of them, such as Fletcher High School, were constructed as "showpieces" by the Rhodesian government. Almost every city and large town has a secondary school, and some of the mining companies have constructed their own.

Educational materials and support services tend to be good, but there is a lack of laboratory facilities, science and technology equipment and vocational workshops and equipment. Mass media equipment is likewise insufficient.

c. Student enrollment.

Form I	12,600	Form IV	4,863
Form II	12,126	Form V	417
Form III	7,352	Form VI	373

SOURCE: "Monthly Digest of Statistics." Salisbury, Rhodesia: Central Statistical Office, December 1975.

Entry into the secondary system is restricted by the availability of places. Consequently, a very large proportion of students who pass their primary leaving examination are denied places. Only the most intelligent, the relatively well-to-do and academically orientated students are fortunate to obtain places as a general rule.²⁵ Although there are some rural-based boarding schools for Africans, the bulk of the schools are located in urban areas and serve urban youth.²⁶ Education for girls lags behind that for boys.²⁷

²⁵Murphree, pp. 96 and 98.

²⁶Idem, p. 104.

²⁷Idem, p. 107.

In addition to internal promotion examinations at the end of each year, there are national examinations at the end of Forms II, IV and VI. This explains the drastic enrollment drops at these levels. The "ordinary" level of the General Certificate of Education (Cambridge Overseas) is taken at the end of Form IV. The performance of Zimbabweans in this highly competitive examination is outstanding. Approximately 4,000 students obtain a pass each year. Of more significance, however, is the excellence of the academic effort. In 1974, out of a total pass number of 3,981, 1,128 obtained first class passes and 1,624 had second class passes.²⁸

The following tables illustrate the past number of African school leavers and also future predictions. It is important to view these statistics to understand the dimension of the problem facing the African student.

TABLE 9

NUMBER OF AFRICAN SCHOOL LEAVERS WITH VARIOUS SCHOOL QUALIFICATIONS, 1969-1974

Schooling	1969	1970	1971	1972	1973	1974
Grade 9	309	626	1,384	2,040	2,830	1,612
Form II	3,391	4,018	4,583	3,899	3,074	2,479
Form III	91	129	134	126	212	231
Form IV	1,740	2,029	2,185	2,706	3,543	3,551
TOTAL	6,131	6,802	8,286	8,771	9,659	7,873

SOURCE: Swanepoel, J. J. "Jobs for Boys and Girls with Secondary Education." Salisbury, Rhodesia: Rio Tinto Foundation, 1975.

²⁸"Education in Rhodesia." Geneva, Switzerland: World University Services, 1976, p. 4.

TABLE 10

PREDICTED NUMBERS OF AFRICAN SCHOOL LEAVERS WITH
VARIOUS SCHOOL QUALIFICATIONS, 1975-1980

Schooling	1975	1976	1977	1978	1979	1980
Grade 9	1,660	1,578	1,552	1,464	1,313	1,100
Grade 11	—	1,792	2,294	2,694	3,316	3,999
Form II	1,957	1,486	1,177	845	510	256
Form III	286	310	338	362	381	400
Form IV	4,176	4,746	5,139	5,608	5,998	6,311
TOTAL	8,079	9,912	10,500	10,973	11,518	12,066

SOURCE: Swanepoel, J. J. "Jobs for Boys and Girls with Secondary Education." Salisbury, Rhodesia: Rio Tinto Foundation, 1975.

d. Instructional personnel. There is a more than adequate supply of teachers in the short run, except in the subject areas of math, science and technical-vocational training. The competency is high. The method of teacher training has been as follows:

Completion of Form IV + 2 years of teacher training at Bulawayo allows a teacher to teach Forms I and II.

Completion of Form VI + 2 years of teacher training allows a teacher to teach Forms I-IV.

Completion of a university degree allows a teacher to teach all forms in the secondary school.

Most of the teaching staff at the secondary level is composed of males.

e. Curriculum. The curriculum follows the British pattern, being highly academic, even in some cases to including Latin. The emphasis is on English, social sciences, Languages and the humanities in general. Mathematics and pure sciences hold a secondary place. The biggest area of weakness is the almost total lack of any instruction in applied mathematics and science and in technology. Vocational training is not taught in these schools. Formerly, there were two institutions set up

as technical-vocational schools for Africans at Luvuvu and Mzingwane. In 1957, these schools produced 1,481 graduates; in 1963, the number had fallen to 1,119 and in 1965, only 832 graduated.²⁹ The schools were closed, by government order, in 1969. Opposition to African competition in such fields as construction, electrical and manual trades was experienced from White trade unions, large companies which deliberately refused to employ graduates on apprenticeship schemes and by the government, which preferred to pursue a policy of importing skilled Whites from Britain and other overseas countries.

f. Administration. Traditionally, headmasters were Europeans, but there is a growing number of Africans. This is even true in mission schools, where long-time resident aliens have been forced to send their sons for military service, often against their wishes, as a result of the guerrilla insurgency. The result is that many mission headmasters have left the country. There is no lack of African capacity in this area, though, since many only entered education because it was the only professional field open to them, it is probable that African administrators (and significant numbers of teachers) will opt out of education in the post-independence period.

General Conclusion. The most important indictment of the whole secondary school system comes when it is seen in the light of its effectiveness in preparing its students for entry in the job market. Data from Murphree's study shows that even those children who have survived the highly selective educational system and have passes in the ordinary level and/or

²⁹Data quoted by Mr. Elton Razemba.

in the advanced level of the General Certificate of Education have little chance of obtaining any employment, let alone employment consistent with the investment in education. Six months after finishing their studies, 11.6 percent of school leavers had managed to obtain employment; 50.2 percent were unemployed, while 25.6% had decided to continue their studies (many by correspondence).³⁰

3. Higher Education - Any analysis of the role that higher education plays in present day Rhodesia must pay attention to the pervasive influence of British educational philosophy. One of the most important aspects of this inherited system is the elitist attitude to education, with its emphasis on rigid selection based on public examinations. This has been further compounded by racial discrimination in Rhodesia, so that very few Blacks have managed to reach post-secondary educational institutions. Another result of the emphasis on an academic form of education has been a deliberate neglect of career education and scientific and technological specialization. Consequently, vocational and technical programs have received low status recognition and little government support. This is particularly the case in the area of preparing the African population for skilled positions.

a. The University of Rhodesia, located in Salisbury, is the premier institution of higher learning in the country. It began operations in 1957, and since then had graduated 618 Africans.

(1) Finance. The University has been supported largely by a government grant. In 1975, the budgetary situation was as follows:

³⁰ Muzphree, p. 150.

TABLE 11

BUDGETARY SITUATION, UNIVERSITY OF RHODESIA

Source	Funds
Revenue, Government grants	\$4,591,000 (Rhodesian)
Revenue, Other	<u>543,000</u>
	5,134,000
Expenditure, Recurrent	5,226,000
Expenditure, Capital	<u>197,000</u>
	\$5,423,000

SOURCE: "Principal's Report to Council." University of Rhodesia, 1976.

Of particular relevance to this study is the sources of funding for African students, who, in contrast with European students, have not been supported primarily by government funds. The breakdown of financial support for Africans is detailed in the following table, the figures being for 1975.

TABLE 12

FINANCIAL SUPPORT FOR AFRICANS

Source	Funds	Number of Students
World University Service	\$134,000	181
Churches	68,000	101
Government	97,000	127
University of Rhodesia	67,000	90
Other sources	20,000	23

SOURCE: "Principal's Report to Council." University of Rhodesia, 1976.

b. Plant. The teaching and residential facilities are good.

c. Student enrollment. The 1976 enrollment included 865 Africans (727 full-time and 138 part-time). This constituted 51.7 percent of the student body. Of the 385 Africans who entered the University in 1976, the distribution between the six faculties (departments) was as follows:

Arts	66	17.1%
Science	87	22.6%
Engineering	21	5.5%
Education	48	12.5%
Medicine	27	7.0%
Social Studies	136	35.3%

SOURCE: "Principal's Report to Council,
University of Rhodesia, 1976.

Although the University has, to a certain extent, been forward looking in the sense that it has been the only multiracial educational institution in Rhodesia, there has been considerable racial discrimination here also. Appendix 2 of the "Principal's Report to Council," in 1976 outlines the depth of this distinction in treatment between Africans and Europeans. Above all, it points out the difficulties facing African graduates after they have completed their studies and attempt to enter the job market. The most striking feature is their dependence on the teaching profession for employment: 75 percent of University graduates in 1968-1972, and 61 percent in 1973-1974.³¹ The report emphasizes this is not by choice but as a result of economic necessity, since so many other work opportunities have deliberately been denied to Africans by the government and private concerns. The following table illustrates this point:

³¹"Principal's Report to Council." Salisbury, Rhodesia: University of Rhodesia, Appendix 2, April 27, 1976, p. 3.

TABLE 11
AFRICAN AND EUROPEAN GRADUATE "DESTINATIONS"

	African 1968/72		European 1973/74	
	%	%	%	%
Graduate certificate in education	50	17	38	27
Uncertificated teachers	25	5	23	4
Doctors	10	12	17	18
Postgraduate (other than P.C.E.)	4	16	-	-
Civil service or municipal- ities	3	17	4	15 1/2
Commerce & industry (private sector)	3	17	7	10 1/2
Unemployed (us- ually temporar- ily)	5	-	5	-
Other	-	16	6	24

SOURCE: "Principal's Report to Council," University of Rhodesia, Appendix 2, p. 11.

Other: =national service, emigration, housewives, employed at U.R. etc.
(In 1973/74 table "others" includes postgraduates, other than P.C.E.)

- d. Instructional personnel. At the present time, less than ten percent of the University faculty are Africans (eight full-time teachers out of a total of over 200).³²
- e. Course offerings. The following list is a breakdown of study areas that are available: (see next page)

³²"Education in Rhodesia." Geneva, Switzerland: World University Service, p. 6.

TABLE 12

LIST OF DEPARTMENTS AT THE UNIVERSITY OF RHODESIA

<u>Faculty of Arts</u>	1 African Languages
	2 Classics
	3 English
	4 Geography
	5 History
	6 Linguistics
	7 Modern Languages
	8 Theology and Philosophy
<u>Faculty of Education</u>	9 Department of Education
	10 Institute of Adult Education
	11 Institute of Education
<u>Faculty of Engineering</u>	12 Science Education Center
	13 Civil Engineering
	14 Electronic and Power Engineering
	15 Mechanical Engineering
<u>Faculty of Medicine</u>	16 Anaesthetics
	17 Anatomy
	18 Medical Microbiology
	19 Medicine
	20 Obstetrics and Gynecology
	21 Pediatrics and Child Health
	22 Pathology
	23 Pharmacy
	24 Physiology
	25 Psychiatry
	26 Social & Preventive Medicine
	27 Surgery
<u>Faculty of Science</u>	28 Agriculture
	29 Biochemistry
	30 Division of Biological Sciences and Department of Zoology
	31 Botany
	32 Chemistry
	33 Computer Science
	34 Geology
	35 Institute of Mining Research
	36 Mathematics
	37 Physics
	38 Accounting
<u>Faculty of Social Studies</u>	39 Center for Inter-Racial Studies
	40 Economics
	41 Law
	42 Political Science
	43 Psychology
	44 Sociology

SOURCE: "Principal's Report to Council," University of Rhodesia, Appendix 1.

The advantage for the future of the existence of a relatively wide range of study areas in the six University "faculties" must be balanced against the fact that past government scholarship policy has effectively steered Africans away from the more scientific and technological subjects.³³ In addition, a common criticism of those fortunate Zimbabweans who did manage to graduate in a technical or scientific discipline is that the course of academic study is too theoretical. The need to add relevance to past academic training at this level through the medium of practical on-the-job experience in industry, mining, commerce, agriculture, etc., is stressed by many Zimbabweans consulted.³⁴

f. Administration. At the present time, only one administrative position out of 25 is held by an African.³⁵

B. University Study Outside Rhodesia

Appendix B gives available statistical information on this aspect of human resources in the education area. Accurate data has been difficult to obtain. Although it has been found impossible to verify, Mr. Razemba mentions that approximately 2,000 Zimbabwean graduates are available. This figure includes the 618 that have completed their studies at the University of Rhodesia. The numbers currently studying abroad are unknown with any degree of accuracy, but probably amount to another 1,000.

C. Institutions of Technical and Vocational Learning

Since, as previously indicated, there are virtually no opportunities for studying technical and vocational subjects within the regular secondary school

³³"Principal's Report to Council." Rhodesia: University of Rhodesia.

³⁴Messrs. Mapondera, Moyana, Gutu, and Razemba all emphasized this point, adding that it was symptomatic of the British system of education as a whole.

³⁵"Education in Rhodesia." Geneva, Switzerland: World University Service, p. 6.

curriculum, reliance for teaching industrial and commercial skills has been placed on (a) on-the-job training, and (b) separate technical and vocational institutions.

Harris has pointed out that the traditional journeyman apprentice system of on-the-job learning has not been successful in Rhodesia, largely due to the reluctance of White skilled workers to instruct Africans.³⁶ Mothobi supports this conclusion, and suggests that due to the haphazard and uncoordinated methods of shop-floor training, there is a great need to expand trade and apprenticeship schools.³⁷

At the present time, the following opportunities exist for vocational-technical education in Rhodesia:

1. Agricultural training - Chibero and Gwebi Agricultural Colleges award diplomas for agricultural studies. They were set up specifically for creating agricultural extension officers for work in the tribal reserve areas. The total enrollment in both institutions in 1975 was 159.
2. Teacher training - The Teachers' College in Bulawayo had an all-African student body of 438 in 1975.
3. Industrial training - Africans comprise approximately ten percent of the enrollment at Bulawayo Technical College and at Salisbury Polytechnic. There is, however, no uniform system of technical education for the whole country. Mothobi gives the following data:
 - a. Full-time training of 39 weeks (13 weeks X 3 consecutive terms) for the electrical, auto and printing industries.
 - b. Part-time training on the block-release system (6 weeks X 6) for the mechanical engineering industry (except for mining industry apprentices who are on full-time training at the Bulawayo Technical College).
 - c. Thirteen weeks X 2 consecutive terms in the first year of training and 13 weeks X 1 term in the third year of training for the building industry (except for the trade of plumber/drainlayer, which is on full-time training).
 - d. Day release for aircraft maintenance and hairdressing industries.³⁸

³⁶Harris, pp. 66-67.

³⁷Mothobi, B. D. "The Nature and Scope of Technical Training for African Workers in Industry, with Special Reference to Apprenticeship Training." Note: Mr. Mothobi does not wish to be quoted directly from this study in its present draft form. This wish has been respected.

³⁸Mothobi, p. 35.

4. Education in the Liberation Army - Representatives of the ANC and Zanu in the United States are in agreement that, although the educational levels of the cadres are high, with many high school dropouts, high school graduates and several university trained people serving in the guerrilla forces, there is little structured education in the camps. The need for mobility, farm work to ensure food supplies, military training and operational duties preclude any formal education in the normal sense of the word. Most education is attitudinal, and consists of political indoctrination. Some para-medical training is included in the general military training.

B. Short-Range Priorities

As indicated in the introduction to this analysis of the educational needs of the educational system, there are some areas of concern that will become apparent in the transitional phase to majority rule. They are termed "short-term priorities" here because, while extremely important, they do not present crisis situations. Nevertheless, plans and feasibility studies should be begun immediately under the assumption that some form of negotiated settlement will be reached. Scenarios 3 and 4 preclude any technical assistance in the short-range priority areas.

1. Technical-Vocational Education - This is the educational sector that has been consistently and deliberately neglected in the African school system by the present government. The situation has actually deteriorated in the years since UDI due to the closing of the two existing vocational-technical schools for Africans. In the secondary schools there is no curriculum for career training. In the Bulawayo Technical College and the Salisbury Polytechnic, only about ten percent of the student enrollment is African, and

even here the emphasis has been on training in traditional crafts and clerical training for women. Only in the agricultural sector has there been significant technical training at Chibero and Gwebi Agricultural Colleges. At the University of Rhodesia, not only is there a lack of opportunities to study in such fields as engineering, but the government has, by manipulating its scholarship awards, directed Africans into nontechnical study areas. In short, it has been Rhodesian Front policy to deny Africans any meaningful technical training, preferring to search for skilled manpower from overseas sources so as to increase White immigration.

A structure of formal vocational-technical institutions at the secondary and higher education levels needs to be established. Also, courses in these areas must be included in the regular curriculum of existing secondary schools. Funding for construction, equipment and personnel will be needed.

2. The Structure of Higher Education. The University of Rhodesia does not have the physical capacity, financial resources, personnel or present organization and structure to produce the high-level manpower in several critical areas. Only a minority of Europeans took their degrees at this University. Particularly in technical studies, White Rhodesians traditionally went to South African and British institutions. It is doubtful if Zimbabweans will either want or be able to afford to rely heavily on university study abroad. Of crucial concern is the expansion of the engineering faculty to include all aspects of engineering--industrial, mining, agricultural, civil, electrical, and mechanical. Another priority is in the area of business management and accounting. The medical faculty requires expanding, while an increased emphasis on the practical applications of science taught in the science faculty will necessitate increased expenditure on plant, equipment and personnel.

3. Shortfalls in Educational Personnel - Although, as stated previously, there is an overall satisfactory situation with regard to teachers in Zimbabwe to teachers in Zimbabwe, there is an urgent need for specialized teachers in the areas of secondary math and science. Teachers will also be needed in the vocational-technological areas. At the university level, again, there is likely to be a need for specialists in the first few years of independence. Within the Ministry of Education, assistance will be required in such specialized fields as curriculum development, teacher training, testing and measurement, in-service training, educational administration and, above all, in educational planning.

4. Educational Technology - Sophisticated hardware will not be necessary, but in the days after majority rule there will almost certainly be an explosion of demand for mass education, programs for adult literacy and upgrading of skills programs. The role that mass media could play in such a situation would be important. At present, there is an insufficiency of transmitting and receiving equipment for both radio and television, and a lack of programming personnel and servicing staff.

C. Long-Range Priorities

The following tasks are identified as being the most significant:

1. A complete restructuring and reorganization of the Zimbabwean educational system to reflect Zimbabwean developmental needs in the political, economic and social spheres. An analysis of resources and constraints--the incorporation of nonformal as well as formal system of education--will be considered.
2. A curriculum review to reflect Zimbabwean priorities in education.
3. An expansion of the capability of teacher training institutions.
4. The development of a program for the expansion of school buildings within Zimbabwe, especially in neglected geographical areas.

5. The expansion of English language training programs for teachers. The extension of studies in the use of indigenous languages for primary teaching.
6. The provision of university facilities for research into African problems in Zimbabwe and the Southern African area.
7. The development of an ongoing program to ensure the continued availability, in expanded terms, of opportunities for specialized advanced studies and training for Zimbabweans outside of Zimbabwe.

V. A CATALOG OF AVAILABLE PROGRAMS AND INSTITUTIONS

In this section, an attempt is made to identify institutions, organizations and people that could be utilized as effective agents for mounting practical training programs and programs of educational assistance for Zimbabweans, and that could act as channels for funnelling technical assistance aid. In general, priority has been given to African, and especially Zimbabwean, agencies, followed by multinational organizations. The rationale for this is political expediency. It must be stressed that this catalog is by no means exhaustive. It is illustrative of the kinds of institutional resources that are available.

A. Manpower Training

The diversity and relative sophistication of the present Rhodesian economy, in large measure due to the factor of permanent White settlement, creates immediate manpower needs that have no parallel, in terms of the magnitude of the problem, in other African experiences. The industrial and mining sectors and the large agricultural emphasis on commercial farming has enabled the development of a national per capita GDP that is second only to South Africa in sub-Saharan Africa. The urgency of manpower training for Africans, given the inevitable exodus of large numbers of Europeans, regardless of the political scenario, is evident. In general, the need for African replacements, the speed with which training should be implemented and the number of Africans required

in each sector of the economy will increase moving along the spectrum from Scenario 1 to Scenario 4. Scenario 4 presents almost insurmountable response situations.

The analysis of programmatic implications has been divided into the following generic sections:

1. High-level management training.
2. High-level technical training.
3. Middle-level supervisory management and technical training, and
4. Basic skills training and public works programs.

1. High-Level Management - Africans have deliberately been excluded from high-level administrative and executive positions in government, the Civil Service, public and private industry, commercial agriculture, transportation, financial institutions, marketing and the distributive trades, health fields and the security forces.

In this area, there is a high degree of transferability of administrative and decision making skills between sectors. Initially, management training will probably have to be conducted outside Zimbabwe. The following agencies are identified as being relevant:

- a. Africa. In the review of the literature, articles have been appearing about management training in the 1976 issues of African Management. One article describes the Kenya Institute of Administration, which is essentially the Civil Service Training College of Kenya. It is situated at Lower Kabete, which is about nine miles from the center of Nairobi. Students come here from all over Kenya for residential courses lasting from two weeks to one year at a time. There are seven academic departments specializing in different areas of public service training. Some students come straight from school, some straight from university and others from post-experience in-service training. Other programs are

currently being conducted in Kenya and other African countries. It may be possible to enroll some Zimbabwe students in these existing programs and use these programs as models for establishing similar institutes in Rhodesia.

Suggestions for other institutions are:

- i. Institute of Public Administration, Zomba, Malawi.
- ii. Kivukoni College (a TANU institution), Dar es Salaam, Tanzania.
- iii. The National Institute of Public Administration, Lusaka, Zambia.

b. The United States and Europe. The utilization of United States and British resources and institutions is particularly suited to the large numbers of university educated Zimbabweans that are exiled in these areas. Government agencies, private companies and universities could be used for this purpose in crash training programs. Indications are that exile political organizations can rapidly identify the personnel available for such programs. They could also be used as coordinating agencies for programs.

US institutions that might prove useful are:

- i. Governmental Affairs Institute, 1776 Massachusetts Ave, N.W., Washington, D.C.
- ii. African American Labor Center, 344 East 46th Street, New York, N.Y. (they already have operations in Botswana, Lesotho and Swaziland).
- iii. Opportunities Industrialization Center, 1225 N. Broad Street, Philadelphia, Pa. (existing African operations)
- iv. International Executive Service Corps, New York
- v. U.S. universities with strong departments of management training, e.g., Sloan School of Management at MIT, and the Wharton School, University of Pennsylvania.
- vi. Action Programs International, 606 Wilshire Blvd., Suite 516, Santa Monica, California.

British institutions include:

- i. The Civil Service College.
- ii. The National Coal Board Management Training Scheme.

European institutions include:

1. The Konrad Adenauer Institute, West Germany

In all of the above, the importance of channeling assistance funds through multinational agencies is stressed.

2. High Level Technical Training - Given the relatively large supply of university graduates, Zimbabweans are available to be utilized. They lack practical, diversified training in the application of their scientific and commercial studies to business and industrial realities. Crash training programs for these technocrats of the future Zimbabwean society are urgently needed. These could take place inside Zimbabwe, in the U. S., in neighboring African countries and elsewhere. The following list of critical areas has been compiled from information received from Zimbabweans:

Mining engineering and technology.

Agricultural engineering and agronomy, land surveying, hydrology and soil analysis.

Business management, especially accounting, computer technology, cost analysis, business law, mechanics of export-import trade, techniques of personnel management and negotiation.

Industrial technology.

Transportation programming and communications technology

The major institutions likely to be able to impact training in the specific sectoral areas are listed below.

(a) Zimbabwe: The University of Rhodesia has existing departments of agriculture, mining research, geology, accounting and computer science.

The essential effort here should be in reducing the theoretical

orientation of present programs and introducing a greater emphasis on the practical application of science and technology. It is doubted that this could be done with enough speed to address the problems during the transition period.

(b) Africa:

- i. The University of Kenya, faculties of engineering, commerce and agriculture.
- ii. University of Dar es Salaam, faculties of engineering, technology and agriculture.
- iii. University of Zambia, faculties of engineering, agriculture and mines.
- iv. The 11 research institutes maintained by the East African community in Tanzania, Uganda and Kenya.

(c) United States:

- i. The Wolper Organization Inc., 8489 West 3rd Avenue, Los Angeles, California 90048 (communications, operating already in Botswana, Zimbabwe and South Africa).
- ii. The Battelle Memorial Institute, 505 King Avenue, Columbus, Ohio 43201 (highly technical science and engineering fields).
- iii. California Polytechnic State University, San Luis Obispo, California 93401 (agriculture)
- iv. African Technical Educational Consultant Service, 400 Central Park West, New York, New York 10025
- v. U. S. government regulatory agencies, e.g., CAB, SEC, Customs, etc.

(d) Europe:

- i. Friedrich Ebert Institute, West Germany.
- ii. SIDA, Sweden.
- iii. Huddersfield, Chelsea and Manchester Polytechnics, United Kingdom.

3. Middle Level Supervisory Management and Technical Training

The area of middle level supervisory management is crucial because the African has traditionally been excluded from positions of responsibility on the shop floor or in the office due to pressures from the members of White unions and by government policy. The problem at this foreman or supervisor level is not the technical expertise of the motor mechanic, plumber, electrician, miner, shop worker, etc., but their lack of training and experience in the decision making process.

With regard to middle level technical training, again, many skilled jobs were previously reserved for Europeans. In certain areas the short-fall of skilled technicians will be critical. Mr. Mapondera has identified the following as being the most important:³⁹

- a. Health and allied health programs
 - i. Dental health personnel
 - ii. Respiratory therapists
 - iii. Therapeutic recreational services personnel
 - iv. Medical records technicians and librarians
 - v. Medical technologists
 - vi. Physician assistants
 - vii. Radiology technologists and technicians
- b. General services - On-the-job training programs
 - i. Water and wastewater treatment plant operators
 - ii. Power utility operators
 - iii. Telecommunications technicians (telephone-telegraph operators and installers)
 - iv. Transportation facilities operators
 - v. Construction equipment operators
- c. Aviation technologists
 - i. Flight crew officers
 - ii. Airport managers
 - iii. Fixed base operators
 - iv. Aviation sales representatives
 - v. Air stewards and stewardesses
 - vi. Air traffic controllers
- d. Civil engineering technicians

³⁹Mapondera, Christopher. "Draft Proposal, Manpower Development Program for Rhodesian Africans," September 1975.

- e. Industrial engineering technicians
- f. Agricultural and food technicians

Specifically with regard to technical training in industry and manufacturing a recent speech by Mr. Profita brought up some sensitive facts that should be borne in mind when developing actual training programs:

[Problems] relate largely to products and production, and seem to recur with regularity; least in expatriate companies, and most in state owned and operated companies. They are:

- unreliable product quality
- poor equipment maintenance
- high materials waste factor
- high administrative overhead, but poor supervision
- lack of uniform and reliable systems of accounting and financial control
- where systems do exist, in this and in other management and technical areas, lack of discipline in following them

And, too much promising young technical talent is ending up in administrative posts in the capital cities. This, in spite of manpower survey findings showing gaps in many engineering, scientific, and technician classifications. The gaps are especially acute in rural development areas.⁴⁰

It is strongly recommended that in-country training should be the primary location for the teaching of mid-level skills. The trade unions are seen as the logical coordinating agents for such programs. Harris has observed that

The leaders of the skilled union groups have frequently stated that they are fully prepared to train and accept black apprentices. They prefer to see formal training blacks in preference to an increase in the rate of job fragmentation.⁴¹

In November 1974, a new united national trade union center was established, representing all African led unions in Rhodesia. This organization,

⁴⁰Profita, J. C. "Public Policies and Expectations of African Countries Towards Foreign Business and Investment," presented at a conference, University of Houston, Houston, Texas, October 14-15, 1976, pp. 7-8.

⁴¹Harris, Peter S. "Black Industrial Workers in Rhodesia." Gwelo, Rhodesia: Mambo Occasional Papers - Socioeconomic Series No. 1.

the National African Trade Union Congress (NATUC), has now been recognized both nationally and internationally as the only national trade union center which can truly claim to represent the majority of workers in the country. The current President is John J. Dube, and the Secretary-General is Rolek M. Bango (Mr. Dube is a leading official from the powerful Railway Associated Workers' Union). The address is: National African Trade Union Congress, P. O. Box 63, Mpopoma, Bulawayo, Rhodesia.

In a speech made by Mr. Dube, March 1965, he stated:

"Certainly one of the key elements of national and organizational success is the effective development of human resources which our national movement (NATUC) is seriously concerned with and will do all in our power to campaign for. We regard manpower planning as the design of a desired future and effective ways of bringing it about...one of the key areas of national manpower lies in the field of education and training."⁴²

As of March 1976, there were nine registered unions in the NATUC. They comprise 36,418 members. There are also 11 non-registered unions with a membership of 13,260.

	Registered	Non-Registered	
Rail	10,000	Food	2,000
Tailors	4,000	3 Transport	3,000
Bulawayo municipal	6,000	2 Eng, metal	2,000
Catering, hotel	9,000	Building	1,500
Commercial	3,000	Leather	2,000
Brick	1,000	Postal	2,000
Asbestos, cement	1,000	Jewelry	500
Dry cleaning	500	Concrete	500
Furniture	1,500		

Although there may be some bias in favor of a union curriculum, the framework for teaching administrative and technical skills has been established. What is needed is the continuation and enlargement of these programs, and perhaps the assistance of the AFL-CIO in conjunction with the

⁴²Dube, John J. "Education and Training Programme - Relevant to the Manpower Requirements of an Independent Zimbabwe," March, 1976.

African American Labor Center. Supervisory skills, especially on the middle-management level, should be stressed.

W. G. Lawrence reported in an article published in 1974 that "Somewhere in the region of 4,000 trade unionists have gone through trade union training courses at Ranche House College in Salisbury with every cooperation and encouragement from the Principal, Ken New and his staff. The College is a multiracial oasis."⁴³ It is believed that the majority of the people who attended these courses were Africans.

Training possibilities in other areas include:

a. Africa

i. Malawi Polytechnic, Blantyre

ii. Kenya

(a) Kenya Polytechnic, Nairobi

(b) Mombasa Polytechnic

(c) Egerton College, Njoro (agricultural technology)

iii. Dar es Salaam Technical College

iv. Zambia

(a) Evelyn Hone College of Applied Arts and Commerce, Lusaka

(b) Natural Resources Development College, Lusaka

(c) Northern Technical College, Ndola

(d) Zambia Institute of Technology, Kitwe

b. Britain

There has been a very significant migration of Zimbabwean students to Britain in the last couple of years. The present estimate is that there are well over 1,500 students in the United Kingdom.

A large proportion of these possess the ordinary level of the GCE,

⁴³ Lawrence, W. G. "A Decade of Free Trade Union Work in Rhodesia," Free Labour World, October 1974, pp. 5-7.

which does not qualify them for acceptance into British universities.⁴⁴ They are, however, very capable of being trained for middle level skills.

Mr. Dube emphasizes the responsibility that Britain must take in playing a major role in training, especially in vocationally-oriented interdisciplinary programs combining technology, economics, and management for industrial purposes. He outlines the following measures:

- i. Establishment of a high powered committee comprising of Zimbabweans and officials of the ministry of overseas development that will work in close liaison in drawing up a taxonomy of key occupations to be derived in the main from a sectoral breakdown of the Zimbabwe economy.
- ii. Delineating priority sectoral manpower requirements in terms of short-term development needs. Past and present employment opportunities and patterns in the African sector of Rhodesia to be considered as very critical factors.
- iii. Provision of more postgraduate grants for training in established scientific technologies and management courses and research programs for operational careers in industry and government. The following sectors, owing to their key place in the economy, ought to be given special priority treatment: agriculture, food chemicals, metallurgy, transportation and utilities, manufacturing, trade, finance, construction and education.
- iv. The British government to devise machinery that should enable graduates in such subjects as law, economics and accounting to apply their professional skills in manufacturing industry and commerce by topping up their original training with background understanding of the related science and technology and the organization and management of industrial concerns."⁴⁵

⁴⁴London Times, September 26, 1975.

⁴⁵Dube, John J. "Education and Training Programme - Relevant to the Manpower Requirements of an Independent Zimbabwe," March 1976.

Britain has a number of organizations that may be helpful in training. The Trade Union Congress (TUC), the Ministry of Overseas Development (MOD) and the Federation of British Industries could possibly provide trained personnel and assistance on-site. Huddersfield Polytechnic Institute and Chelsea Polytechnic Institute may also be able to absorb part of the teaching function.

c. International

The National African Trade Union Congress should not only look to Britain for help, but can work closely with other countries' training programs, established by institutes and organizations. The International Confederation of Free Trade Unions (ICFTU) (address: Rue Montagne aux Herbes Potageres, 37-41, 1000 Bruxelles, Belgium) has assisted in training through 1975. Seminars have been held by NATUC and ICFTU for national leaders and regional officers on the role of the trade unions in the changing society in Rhodesia.

The International Trade Secretariat (ITS) has also been conducting educational seminars at all levels and for a number of individual unions. The specific ITS organizations which can be of greatest help in the short term are the:

International Federation of Plantation, Agricultural and Allied Workers, Geneva, Switzerland
Miners International Federation, London, England
International Metalworkers Federation, Geneva, Switzerland
International Federation of Building and Woodworkers, Copenhagen, Denmark

Some of these organizations already have bases in Africa. The following is a preliminary list and the name of a contact:

PTTI	Mr. Okoh, based in Nigeria
Miners	Mr. Foday, based in Ghana
FIET	Mr. Senkezi, based in Kenya (commercial and technical employees)
Metal	Mr. Kenyago, based in Kenya
Transport	Mr. Udogwu, based in Ghana

d. United States

The researchers did not consider the U. S. as a major training center because of the distance, cost and adaptability factors. Nevertheless it is felt that the American based multinational corporations should positively identify themselves with such training functions, both within Zimbabwe and elsewhere in Africa. Also, the African American Labor Center could work closely with the NATUC in program development.

4. Basic Skills Development and Public Works Programs - The urgency for providing mass programs for basic skill development is linked to the inevitable popular demands for work, and the solid expectation that a new African government will be willing and able to provide large numbers of jobs immediately on takeover. There will almost certainly be an explosion of euphoria in the heady first days of African rule. This will almost definitely cause a spirit of overconfidence in the ability of the Zimbabweans to manage their daily economic lives. Expectations of sudden wealth and a desire to be "where the action is" will likely cause a rapid initial migration to the urban centers and also a movement of people from the overcrowded tribal reserves to the areas hitherto reserved for White farming. The pressures on such services as allied health, food distribution, sanitation, energy provision and housing will be increased suddenly, and probably strained to the breaking point, if not worse.

In such circumstances, one of the main preoccupations of the new government will be to prevent massive movements of people to the urban centers and head off popular disillusionment by providing labor-intensive work programs. Dr. Abraham Kiapi, the Dean of Makerere Law School, emphasized this point by referring to Julius Nyerere's solution of setting up a national service scheme, in which youths were sent into the countryside to assist in developmental projects. The Ethiopian government's "Zemetcha" scheme follows this pattern. President Kenyatta instituted large schemes to use unemployed workers on roadbuilding and irrigation.

The researchers believe that the focus for such mass programs should be in the rural areas. Community based schemes for integrated rural development fit in well with current trends in aid donor circles. In Zimbabwe, this emphasis is as important as elsewhere in Africa, since...

Rhodesia's two most pressing economic problems--the high rate of natural increase of the population and the state of underdevelopment and stagnation in the peasant farming sector--are closely interrelated.⁴⁶

The research work of the Whitsun Foundation in the area of integrated rural development is seen as very fortuitous for an independent Zimbabwe.

"Rural development...is now a major priority among the major multilateral and bilateral aid agencies, and it would appear that in new political circumstances, funds from such agencies could well be a source of meeting the development needs of the tribal sector."⁴⁷

Certainly in Scenario 1, this organization could become the major agent for the establishment of pilot programs.

⁴⁶Harris, p. 34.

⁴⁷"A Programme for National Development." Salisbury, Rhodesia: Whitsun Foundation, 1976.

B. The Formal Education System

With over 2,000 university graduates inside and outside Zimbabwe, several hundreds currently under training at the University of Rhodesia, in the United States, Africa and Europe and a functional literacy rate that approaches 50 percent in the urban areas at least, a very adequate supply of school teachers and administrators in all three levels of the educational system and an efficient structure and organization of central and local education, there is no danger of imminent collapse. In general terms, Zimbabwe is in a much more fortunate position than that faced by other African countries during their transitions to independence. Zambia and Tanzania, for example, had less than 100 university graduates when they achieved statehood.

Zimbabweans are not complacent however, since the continuing needs for a trained and extensive manpower pool to ensure the smooth running of the country's economy are greater than the needs that faced such countries as Zambia, Malawi and Tanzania. This is due to the relative sophistication and diversity of Rhodesia's present economic structure.

This explains the very great stress that Zimbabweans place on the expansion of the vocational-technical education area in all three sectors of the formal education system. As Murphree indicates, "This study has shown that there exists a lack of integration between the African secondary school system and the industrial and economic needs of Rhodesia."⁴⁸

A catalog of institutions that could respond to the identified short-term needs within the formal system follows:

1. The Shortage of Secondary School Teachers - Shortfalls are certain in the subject fields of vocational-technical, mathematics, science and English language. It is assumed that other African countries will not

⁴⁸Murphree, p. 174.

be able to assist in any major way, since they all have a similar under-supply of personnel in these areas.

For the recruitment of expatriate teachers, the following agencies are suggested:

- a. Asian governments, notably India, Pakistan, Sri Lanka and the Phillipines.
- b. The British Council and Ministry of Overseas Development.
- c. Peace Corps, Volunteer Service Overseas (United Kingdom) and particularly the United Nations Volunteer Service.
- d. Church groups, in particular the World Council of Churches.
- e. The IUEF.

For the building of separate technical, commercial and trade schools, finance in the way of loans, etc., could be forthcoming from such agencies as the World Bank, IDA, IBRD, national agencies such as USAID, SIDA, etc.

Places in British teacher training colleges would require contact with the Ministry of Education and Science.

2. The Expansion of Higher Education Opportunities - For the provision and recruiting of expatriate university teachers, it is recommended that first call should be made to African governments, then to national governments, and finally to individual universities in the United States and elsewhere.

For the provision of more study opportunities for Zimbabweans abroad, the United Nations, African American Institute, British Council, individual United States universities with scholarship schemes for foreigners and national governments (particularly African) should be approached.

3. Educational Materials and Technology - In the realm of textbooks such companies as McMillan and Oxford University Press have considerable experience in Africa. For science and mathematics, the Nuffield series and the Westinghouse group's individualized instruction series PLAN* are recommended.

For mass media programming, the British Council have a good track record in developing countries, while Japan has been liberal in the donation of hardware.

VI. PROGRAMMATIC IMPLICATIONS: AN ASSESSMENT OF PROBLEM SOLVING CAPABILITIES

In the event of a relatively stable transition period under Scenarios 1 and 2, the United States could envisage significant involvement as a donor of technical assistance. Zimbabweans will need immediate assistance in the following human resource areas, as they touch manpower training and education:

1. Crash training programs for high level management and the technical application of theoretical knowledge for existing university graduates of science, economics, law, etc.
2. Crash training programs for supervisory skills and technical skills for middle level personnel, in particular for the pool of unemployed high school graduates within Zimbabwe.
3. The institution of a program for mass labor-intensive basic skills development, in the form of a public works program.
4. The provision of ways and means to combat expected shortfalls in specific teaching areas at the university and high school levels.
5. The expansion of facilities for vocational-technical education within the structure of secondary and higher education.
6. Programs to maintain and expand opportunities for Zimbabweans to study abroad.
7. The development of educational technology and educational materials.
8. The commissioning of an in-depth study of the whole structure and organization of the Zimbabwean educational system, the production of a needs assessment based on the country's developmental resources and constraints, and the production of a national plan for education and training, utilizing both formal and non-formal strategies and tactics.

VII. RECOMMENDATIONS

The following recommendations are a distillation of the body of the report and of some of the alternatives presented already. It is the researcher's opinion that stress should be put on relating programmatic options to African, and especially Zimbabwean, experiences in order to make them as relevant as possible. All are regarded as of high priority in the transitional phase to majority rule.

1. High Level Management Training - Intensive courses in strictly defined fields of prioritized need such as mining and industrial management, accounting, urban planning, civil service methodology, commercial finance and law, etc., need to be mounted. A small number of target study groups with relatively small numbers of participants is envisaged. The identification of Zimbabweans for such courses cannot rely on traditional agencies of selection such as the AAI, since the time element is crucial. Exiles can be nominated by nationalist groups and Zimbabweans residing in present Rhodesia by the trade unions and the University of Rhodesia. The main criterion is proven intellectual capacity and evidence of leadership qualities. The location of training courses will initially be outside Zimbabwe--in U. S., British, or African universities, at the headquarters of multinational corporations and on site in governmental agencies. The teaching should be African experience related as far as possible, given by recognized experts. The length of courses will vary according to need, but the common requirement is that the planning and implementation should begin now. The origin of funding and the amount of financial support required from donor governments or private sources cannot be estimated in this present paper, and would require a separate cost assessment. Given the

relatively small number of people involved and the high level intensity of the training, bilateral arrangements would probably be more effective than channeling technical assistance through multilateral agencies.

2. Middle Level Supervisory and Technical Training - Sectorally based crash training programs for moderately large numbers of persons should be projected for within Zimbabwe. The personnel to be trained can be identified by trade unions, school administrators for the large pool of well-educated but largely unemployed graduates of secondary schools and by company personnel managers. The best locations for training in industrial and commercial skills would be Bulawayo Technical College, Salisbury Polytechnic and Ranch House College. For agricultural skills the existing agricultural colleges should be utilized. A small number of short contract expatriate teaching experts, versed in African situations, will be required. On a bilateral basis, the conduits preferred would be AID and the African American Labor Center in conjunction with NATUC. On a multilateral basis, the channel of assistance could be the ILO.

3. Labor-Intensive Programs and Basic Skills Training - The focus of such programs is likely to be large infrastructure development projects, e.g., dams, roads, urban water supply and sewage disposal, hospital and school building, grain storage facilities, etc. The identification of possible alternatives is likely to evolve into a compromise between perceived Zimbabwean priorities (which will probably be political in nature) and U. S. feasibility considerations (mainly economic in nature). The opportunity of creating long-term goodwill and cooperation between

the new Zimbabwean government and the U. S. is probably greater in such schemes than in any other area. They also allow the active involvement of U. S. corporations for technical planning, project development and short-term on-site management on a contractual basis.

Although the identification of participants would largely be the responsibility of the Zimbabwean leadership, a further U. S. involvement could develop in arrangements to distribute food in part payment for workers (through CARE, AID, FAO and church related organizations).

The adult literacy component of such projects is best served by the adoption of the work related schemes developed by UNESCO, while Mthombi has good suggestions concerning modular training methods for use in the Zimbabwean situation.

4. Shortfalls in Specialist Teaching Personnel, and the Development of Educational Technology and Materials - In the short run, no U. S. programmatic involvement should be contemplated in these areas. This is not only because the educational system is capable of maintaining itself without great disruption, but more because a complete reassessment of the system and production of a national plan for educational development reflecting the changed needs of Zimbabwean society will be required.
5. Sector Review of Education - The highest priority in education is the commissioning of a sector review of education. Essential components of any new plan would be the inclusion of vocational and technical training and the utilization of non-formal as well as formal patterns of education. Funding for an in-depth review of future manpower needs,

curriculum change, structural reorganization, etc., prior to the formulation of a national plan would almost certainly have to come from outside Zimbabwe, given the pressures for governmental expenditure that will inevitably occur in the immediate post-independence period. The World Bank and IIEP have much experience in mounting such reviews, while much preliminary work has been done by the Whitsun Foundation, especially in the manpower training assessment area. Prior to the setting up of a formal study, it would be very instructive to set up a task force of influential Zimbabweans, drawn from a wide spectrum of society with the aim of visiting several African countries to examine how each nation has tackled the question of decolonizing the educational system and making it relevant to African cognitive and affective needs.

6. Integrated Rural Development - The pilot projects suggested by the Whitsun Foundation are deserving of external support. The assisting of study tours for Zimbabweans to other African projects of this nature, e.g., the Chilalo experiment in Ethiopia, is recommended. AID has an extensive and long interest in rural based programs.
7. Study Abroad - Further research needs to be pursued in the following areas: (a) identifying the study areas that cannot be provided by the University of Rhodesia, and restricting scholarships to these areas, probably only at the graduate level; (b) examining the ability of universities and other institutions of higher education in Africa to train Zimbabweans in selected study areas; (c) the relative advantages and disadvantages of utilizing multinational agencies such as the UN, IUEF, World Council of Churches, etc., as channels of funding; and (d)

estimating the effectiveness of existing U. S. agencies as AAI and Phelps Stokes in selection, logistics and evaluatory functions for scholarship programs.

8. Further Research - An on-site evaluation and validation of the present study ought to be undertaken. In the longer term, consideration should be given to making the African American Scholars Council the vehicle for two-way research (U. S. Africanists conducting field research in Africa, and Zimbabwean scholars coming on study assignments to the U. S.) in the Southern Africa area. Lastly, a catalog of institutional capacity, identifying the areas of present competence and assistance in developing new fields of ongoing research in Southern African studies is necessary.

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Appendix B

Synopsis of Figures for Zimbabwean Exiles

1. ASPAU. African Scholarship Programs of American Universities.

- 87 Total graduates
- 41 (47.1%) returned home
 - 1 further study
- 26 working
 - 4 in other countries
- 15 unknown

Overall returnee ratio for Africans 90%. No figures on current enrollments.

2. AFGRAD. African Graduate Fellowship Program

Only 1 AFGRAD graduate returned to University of Rhodesia

3. SATP. South African Training Program for Zimbabweans, Namibians and South Africans.

1st. Awards 70 scholarships just issued for Zimbabweans. Breakdown of former SATP scholars still in U.S. by area of study (graduated)

	<u>Post Graduate</u>	<u>Bachelors</u>
Accounting	-	5
African Studies	2	-
Agriculture	-	4
Biological Science	1	3
Business Administration	1	9
Banking and Finance		
Economics	3	7
Education	3	1
Electric Engineering	-	1
Chemical Engineering	-	1
English	-	1

	<u>Post Graduate</u>	<u>Bachelors</u>
Geography	-	2
History	4	8
Humanities, Philosophy/ Religion	1	-
Industrial Arts	-	1
Journalism/Communications	-	3
Math	1	2
Pharmacy	-	1
Physical Science	1	1
Political Science	3	2
Public Administration	2	3
Public Health	1	-
Social Studies	-	1
Special Education	1	1
	<hr/> 24	<hr/> 62

+ 5 diplomas in Electronics and Mechanical programs.

4. Mr. Moyana suggests that there are currently 500+ Zimbabweans studying in U.S. universities.

5. U.N. Program for Southern Africa
Award of Scholarships

	1970/71	1971/72	1972/73	1973/74	1974/75
Total # of Scholarships	182	250	305	492	460
Completion	49	64	44	28	245

1974/75 Figures

312 Studying in Africa

eg. 101 in Sierra Leone
23 in Lesotho
38 in Nigeria
95 in Zambia

19 in Europe of which 18 in U.K.

49 in N. America (43 in U.S., 6 in Canada)

9 in India

Input to this program 1975

Examples: U.K. = \$151,844.
U.S. = 50,000.
Sweden = 107,000.
Norway = 285,000.
Japan = 130,000.
Denmark = 319,303.
Canada = 171,569.
France = 100,000.

*Complete breakdown in fields of study available for U.N.

6. IUEF. International University Exchange Fund. (Geneva)

Only 1971 figures available in brochure sent.

Total #	130	88	in Africa
		42	in Europe
		21	in Secondary School
		19	in Technical Vocational
		2	in Engineering/Architecture
		15	in Education
		5	in Agriculture
		4	in Medicine
		7	in Economics
		25	in Science
		17	in Arts
		10	in Social Science
		4	in Law
		1	in Political Science

31 Zambia 19 in U.K.

52 in Rhodesia, etc.

7. U.K.

Scholarships for 200 now in U.K. universities.

1500 Zimbabweans in U.K. more arriving each month.

OK to take jobs.

MOD grants --- \$1.7 million current year.

Large # do not have "A" levels - do not qualify

for U.K. universities but could get into U.S. colleges.

W.U.S. processing applications from Zimbabweans in

Salisbury to get to U.K.