

Document of
The World Bank

FILE COPY

FOR OFFICIAL USE ONLY

Report No. 1258a-ZA

STAFF PROJECT REPORT
FOURTH EDUCATION PROJECT
IN THE REPUBLIC OF ZAMBIA

December 1, 1976

Education Projects Division
Eastern Africa Regional Office

This document has a restricted distribution and may be used by recipients only in the performance of their official duties. Its contents may not otherwise be disclosed without World Bank authorization.

CURRENCY EQUIVALENTS

US\$1	=	Kwacha 0.804
Kwacha 1	=	US\$1.2444
Ngwee (N) 100	=	1 Kwacha

MEASURES

1 Meter (m)	=	3.28 Feet
1 Square Meter (m ²)	=	10.76 Square Feet
1 Kilometer (km)	=	0.6214 Miles
1 hectare (ha)	=	2.471 Acres

GOVERNMENT OF THE REPUBLIC OF ZAMBIA

FISCAL YEAR

January 1 - December 31

STAFF PROJECT REPORTA FOURTH EDUCATION PROJECT IN THEREPUBLIC OF ZAMBIATABLE OF CONTENTS

	<u>Page No.</u>
BASIC DATA	
GLOSSARY	
SUMMARY AND CONCLUSIONS	i-x
I. DEVELOPMENT AND MANPOWER REQUIREMENTS	1
Economic Development	1
Implications for Education Policy	2
Population, Employment and Income Differentials	3
Manpower Requirements	5
II. EDUCATION SECTOR ANALYSIS	9
Background	9
The Formal Education System	10
Non-Formal Education	13
Issues in Education Development	14
The Sector Review and the Proposed Reform of the Sector	20
The Role of the Bank in Zambian Education Development	24
 Annexes:	
II-1 Structure of Education System	
II-2 Education Pyramid	
II-3 Enrollments in Primary and Secondary Schools 1965-1974	
II-4 Comparative Education Indicators	

This report is based on the findings of a mission which visited Zambia in October 1975 and March 1976, composed of Messrs. J. L. Scearce (architect), S. R. Santos (agricultural educator), H. M. Scheffold (education specialist) and Ms. R. P. Brandenburg (economist) all from the Bank Group.

<p>This document has a restricted distribution and may be used by recipients only in the performance of their official duties. Its contents may not otherwise be disclosed without World Bank authorization.</p>

	<u>Page No.</u>
III. THE PROJECT	26
Project Objectives and Strategy	26
Project Items	27
Educational Services Center	27
Business Education	28
Trades Training Institutes	30
Farm Institutes and Farmer Training Centers	30
Special Studies	33
Annexes: III-1 Technical Assistance for the EHC and DAMRD III-2 Organization Structure of DAMRD	
IV. COST ESTIMATES, FINANCIAL PLAN, IMPLEMENTATION, PROCUREMENT AND DISBURSEMENT	35
Cost Estimates	35
Financial Plan	39
Implementation of the Project	40
Procurement	41
Disbursements	42
Annexes:	
IV-1 Summary of Project Cost	
IV-2 Implementation and Expenditure Schedule	
IV-3 Key Indicators for Supervision	
IV-4 Technical Assistance for the Project Implementation Unit	
IV-5 Estimated Schedule of Disbursements	
V. BENEFITS AND JUSTIFICATIONS	43
VI. AGREEMENTS REACHED AND RECOMMENDATIONS	43
Related Documents and Data Available in the Project File Key to Map Map IBRD 12131R	

REPUBLIC OF ZAMBIA

Basic Data - 1974

General

Area	752,600 km ²
Population	4.9 million (1975)
Per Capita Income	\$540 (1975)
Literacy Rate	43% (1973)

Education

Enrollment in Primary Schools (Grades 1-7)	860,000
- as % of 7-13 age group	88%
Enrollment in Secondary Schools (Forms I-V)	65,800
- as % of 14-18 age group	13%
University of Zambia	2,612
- as % of 19-22 age group	0.7%
Recurrent Expenditure of Ministry of Education & Culture	K 70 million
- as % of Government Recurrent Expenditure	16%
Recurrent Expenditure on Education and Training	K 93 million
- As % of Government Recurrent Expenditure	21%
Total Expenditure on Education and Training as a % of GDP	7%

ZAMBIA

FOURTH EDUCATION PROJECT

GLOSSARY

COSC	Cambridge Overseas School Certificate
DAMRD	Department of Agriculture, Ministry of Rural Development
DCD	Department of Community Development
DTEVT	Department of Technical Education and Vocational Training
EHC	Evelyn Hone College of Applied Arts & Commerce
ESC	Educational Services Center
FIs	Farm Institutes
FTCs	Farmer Training Centers
MOD	Ministry of Defense
MOE	Ministry of Education
MOH	Ministry of Health
MLSS	Ministry of Labor and Social Services
MPW	Ministry of Public Works
NORAD	Norwegian Agency for International Development
NORTEC	Northern Technical College
NRDC	National Resources Development College
SNDP	Second National Development Plan (1972-1976)
TNDP	Third National Development Plan (1977-1981)
TTIs	Trades Training Institutes
UNIP	United National Independence Party
UNZA	University of Zambia
ZIT	Zambian Institute of Technology

ZAMBIA

APPRAISAL OF A FOURTH EDUCATION PROJECT

SUMMARY AND CONCLUSIONS

The Sector and its Problems

1. At Independence in 1964, Zambia had a very limited pool of trained manpower and relied almost entirely on expatriates for the design and execution of development programs. The expansion of the education system was therefore given top priority in Zambia's national development plans. From 1964 to 1974 primary school enrollments doubled and at the secondary and higher levels they more than quadrupled. Although the supply of educated manpower increased quantitatively, expatriates still predominate in certain areas, e.g., nearly 70% of the managers of business concerns and 60% of personnel in specialized technical and professional occupations are expatriates.

2. The general education system consists of seven years of primary education (aged 7-13), five years of secondary education (aged 14-18) and four to six years of university education. About 88% of the relevant age group are enrolled in primary schools and 13% in secondary schools. Courses in a variety of vocational subjects are offered to junior secondary school leavers and a number of diploma courses to upper secondary school leavers. The University of Zambia, established in 1966 has now a total enrollment of over 2,500.

3. The principal issues in education development can be summarized as follows:

- (a) Administration and Management. In general, in spite of successful efforts to link technical and vocational education with industry, the administration of education is not well coordinated with that of other government services either at the national or provincial levels. In addition, the supporting educational services (e.g., curriculum development, education research and guidance, etc.) suffer from poor integration and lack of unified direction;
- (b) Curricula and Teaching Methods. Although balanced curricula have been developed for primary and secondary education, their application is not wholly satisfactory because of low teacher quality, high staff turnover and inadequate supervision. The problem is particularly acute in secondary education where about 68% of the teachers are expatriates who have comparatively short contracts.

- (c) External Productivity. The emphasize on capital-intensive sectors in Zambia's development and relatively high wages in the modern sector have constrained job creation. The situation is further aggravated by a lack of preparedness of school leavers for their subsequent careers. As a result, the tendency of employers to choose capital-intensive technologies and to hire expatriates instead of nationals is strengthened. While the expansion of junior secondary education has outgrown the absorptive capacity of the modern sector, the output at the higher levels is still insufficient to meet the demand particularly in commercial and agricultural occupations. More attention must, therefore, be given to both the quantitative and qualitative aspects of education at these levels, in order to achieve closer integration between the manpower needs of the economy, on the one hand, and the education/training system, on the other.

4. In order to develop solutions for these and other problems, the Government undertook an overall review of the sector. The main conclusions of the review are expected to be developed in early 1977 and used for the formulation of educational objectives and targets of the Third National Development Plan (1977-1981). The review is being conducted within the framework of the United National Independence Party's (UNIP) guidelines for national education policies for the decade 1974-1984 whose main points are: a) to restructure the system of education and provide for ten years of compulsory education; (b) to improve and expand the programs of adult education; (c) to develop a locally based examination system; and (d) to merge the functions of the local and regional education councils with those of the local and regional development committees in order to develop an improved administration. The review is also guided by President Kaunda's directive that every student should develop positive attitudes towards productive work and should render national service before entering higher education. The results of the review would be the basis of educational reforms, guided by the principle that students must not be seen only as consumers of social services but also as productive forces contributing to the economy.

5. In accordance with the broad educational objectives outlined in UNIP policy guidelines, the task of the review is to: (a) determine how best to achieve these objectives within reasonable time limits and existing and projected resources and constraints; (b) develop a comprehensive long-term educational development plan with quantitative and qualitative specifications; and (c) prepare a phased program for its implementation. Upon completion of the review, comprehensive projects are expected to be developed with Bank assistance. Meanwhile, the Government has developed an interim investment program to meet urgent and immediate priorities which will not be affected by the findings of the review. This project is a major part of the interim program.

6. The Bank has had a major role in assisting education in Zambia. Three Bank projects are providing improved facilities for some 70,000 student places including 40,000 new places, mostly in secondary schools and at the University of Zambia. The First Education Project (Loan 592-ZA), after numerous initial delays and more recently delays attributed to civil strife in adjacent countries, is now proceeding satisfactorily and is expected to be completed in 1978. The Second Education Project (Loan 645-ZA) has been satisfactorily completed as originally appraised. As a result of contributions of equipment by bilateral sources, a saving of \$1.0 million from the loan proceeds resulted and the Closing Date has been extended to 1978 to allow the use of these savings for project related items. The Third Education Project (Loan 900-ZA) is proceeding satisfactorily.

7. Since Independence, the Government has placed emphasis on quantitative expansion of the formal education system at all levels. The system has now grown to such dimensions that it becomes necessary to consolidate and strengthen administrative and support services in order to maintain high quality instruction. Future reforms would also need the support of such services. Furthermore, the implementation of the government policies to expand agricultural production and promote rural development requires urgent improvements in farmer training and agricultural extension efforts. Finally, the training for skills in business and commerce should be expanded to meet the acute shortage of Zambian manpower in these fields. Therefore, the interim investment program is designed:

- (a) to provide Zambia with an adequate administrative structure to consolidate the educational services;
- (b) to assist rural development by improving farmer training and the extension service; and
- (c) to increase the supply of trained staff in the business and commercial sectors of the Zambian economy.

The Project

8. The project was identified during a Bank economic mission which visited Zambia in June 1975. A Government request for Bank assistance was made in October 1975. Bank missions in November 1975 and March 1976 assisted the Government in preparing the project and appraised it. Negotiations were held in Washington from November 15 to 19, 1976. The delegation of the Government of Zambia was led by Mr. P.A. Siwo, Permanent Secretary, Ministry of Education.

9. The proposed project is designed to meet the objectives of the interim investment program outlined above, consisting of: (a) improvement of education administration, research and curriculum development through the construction, furnishing and equipping of Phase II (para. 10) (Phase I is a component of the Third Education Project) of the Educational Services Center (b) expansion and improvement in business education through the provision of additional boarding capacity and equipment for the Evelyn Hone College of Applied Arts and Commerce and instructional equipment for commercial and

secretarial courses at five Trades Training Institutes; (c) improvement in the training of agricultural staff and farmers through provisions for and/or renovation of teaching and boarding facilities, utility services, staff housing, instructional equipment and transport in eight existing Farm Institutes and 20 existing Farmer Training Centers; (d) technical assistance consisting of 25 man-years of specialist services and 40 man-years of fellowships for staff development at the Evelyn Hone College and 13 man-years of specialist services and 8 man-years of fellowships in agricultural education and extension; and (e) completion and evaluation studies. The project would also include a survey of the construction industry.

Detailed Features

10. Educational Services Center, Phase II. The Ministry of Education maintains a number of uncoordinated educational services facilities (e.g. curriculum development, student services and several examination services sections) which located all over Lusaka and in other provinces, generally housed in temporary or sub-standard facilities. Phase I of the Center is being carried out under the Third Education Project (Loan 900-ZA); it provides for the first time a unified administration and includes a Curriculum Unit, an Audio-Visual Center, the Correspondence Course Unit, the Zambia Library Service, Orbit Magazine, Administrative Services and a Printing and Documentation unit. The proposed project would assist in Phase II and would add an Examination Section including a Standards and Certification Division, a Research, Evaluation and Guidance Section and an expansion of the Printing and Documentation Unit. The Examination Section administers examinations for all primary and secondary schools, Trades Training Institutes, Teacher Training Institutes and post-secondary technical schools.

11. Business Education. The project would expand the supply of Zambian business and accountancy manpower by: (a) increasing the boarding capacity of the Evelyn Hone College of Applied Arts and Commerce by 250 places and providing the college with required instructional equipment and furniture; (b) assistance in the training of Zambian teachers for the college's business and secretarial studies department; and (c) assisting in the establishing of commercial and secretarial courses in five Trades Training Institutes through the provision of instructional equipment.

12. This college campus has a capacity of 1,200 student places, of which only 950 are filled due to limited boarding capacity (640 places) and the lack of other housing facilities for students in Lusaka. The increase in boarding places at the college campus would allow for an expansion in enrollments in the business and accountancy studies departments. Since the teaching staff of the Business Studies Department is still composed entirely of expatriates the project would include a staff development scheme which is to be updated in detail by the Department of Technical Education and Vocational Training (Section 3.06). 1/ Beneficiaries of the fellowship scheme would be required to teach at least three years at the colleges.

1/ Refers to Section of Loan Agreement.

13. Trades Training Institutes located in the eight provinces have been successful in the basic training of certain skilled manpower demanded by Zambian industry inside and outside big business centers. Five institutes, located in areas of growing demand for secretarial manpower have been chosen for the introduction of commercial courses. With the provisions of the required instructional equipment, classes could start immediately. No problems are anticipated in recruiting specialized teachers for these courses.

14. Farm Institutes and Farmer Training Centers operated by the Department of Agriculture, Ministry of Rural Development. Residential farmer training is carried out in 27 centers, each of the eight provinces having 3-4 centers where short courses for farmers and farm women are offered and in eight Farm Institutes, one in each province, where mainly in-service training for extension staff is taking place. A recent study which was conducted under the Third Education Project (Loan 900-ZA), revealed that while farmer training and extension activities had some influence in improving agricultural production, their overall impact has been minimal due to the following constraints: (a) the instructors at the centers and institutes and the extension agents and their assistants are inadequately trained; (b) the institutions do not have transportation facilities necessary to bring in farmers and staff for training; (c) provisions for water and electricity are inadequate; and (d) some teaching facilities are substandard and essential instructional equipment is lacking. As a result of these constraints these institutes and centers have operated at only about 54% of their capacity. The proposed project would assist in upgrading the quality of the agriculture staff and farmer training programs by providing the necessary facilities, equipment, thirteen man-years of specialists services for an agricultural educator, an extension educator, a rural home economics educator, an audio-visual and teaching aids specialist, and eight man-years of fellowships for advanced training in agricultural and home extension education and audio-visual and teaching aids. Three institutes and seven centers are presently being upgraded under the Third Education Project (Loan 900-ZA). The remaining twenty centers and five institutes are expected to be improved under the proposed project. The three previously assisted institutes would receive an audio-visual workshop and additional equipment. These improvements would allow the centers to admit 13,400 additional farmers and farm women. The Government confirmed that: (a) the four specialists would be appointed within nine months of the date the Loan Agreement (Section 3.07); and (b) that with the help of the agricultural specialists, a detailed plan satisfactory to the Bank, for the retraining of the teaching and extension staff and the improvement of the instructional and extension programs of the Department of Agriculture will be prepared and submitted to the Bank within 18 months after the date of the Loan Agreement (Section 3.08).

15. Special Studies - The proposed project would include assistance to carry out the following studies:

(i) Survey of the construction industry.

The industry is now dominated by firms owned by expatriates and little is being done to promote the development of local Zambian contractors. Due to the present uncertainties over whether the Government intends

to encourage or curtail private initiative, many contractors are reluctant to undertake additional work; this has inflated prices. Aware that such problems exist, the Government has requested assistance to undertake a survey which would give guidance on how to promote a viable industry. The survey would review the industry as a whole, including the infrastructure. The terms of reference of the survey have been prepared by the Government and reviewed by the Bank. The cost of the survey is estimated at US\$250,000 equivalent.

- (ii) Completion and Evaluation Studies. To facilitate the evaluation of the proposed project after its completion, funds would be provided under the proposed loan for conducting evaluation studies of project components. The completion and evaluation studies report would be submitted to the Bank for review within three months after completion of the project. The terms of reference of these studies would be mutually agreed upon between the Borrower and the Bank.

Project Cost and Financing

16. The total project cost is estimated at \$23.2 million equivalent including taxes (\$1.0 million equivalent) of which the foreign exchange component is US\$15.0 million, equivalent or 65%. The proposed loan would cover \$13.3 million of the foreign exchange costs, the balance of \$1.7 million being provided by a grant from the Norwegian Agency for International Development. The Government would provide most of the funds required (\$7.8 million equivalent) to meet the local currency expenditures, the balance of \$0.4 million being provided by NORAD. Standardized building designs previously developed by the Buildings Branch of the Ministry of Public Works and consultant architects will be used where practicable and emphasis will be given to the maximum use of local materials and simplified building technology. Base unit costs of US\$270 per square meter on average for construction for the Farm Institutes and Farmer Training Centers is somewhat high due to, inter alia, their remote locations and small size of work involved. This compares with US\$350 (October 1975) in Zaire and US\$250 (September 1976) in Madagascar. Project costs are summarized as follows:

ESTIMATED COST BY PROJECT ITEMS

	<u>Kwacha (Millions)</u>			<u>US\$ (Millions)</u>			<u>% of Base Cost</u>
	<u>Local</u>	<u>Foreign</u>	<u>Total</u>	<u>Local</u>	<u>Foreign</u>	<u>Total</u>	
<u>I. Civil Works, Furniture, Equipment & Vehicles</u>							
1. Educational Services Center	0.64	1.09	1.73	0.79	1.36	2.15	16
2. Evelyn Hone Collage	0.43	0.54	0.97	0.54	0.67	1.21	9
3. Farm Institutes	0.32	0.69	1.01	0.40	0.85	1.25	10
4. Farmer Training Centers	1.21	2.15	3.36	1.50	2.68	4.18	32
5. Trades Training Institutes	<u>0.01</u>	<u>0.08</u>	<u>0.09</u>	<u>0.02</u>	<u>0.10</u>	<u>0.12</u>	<u>1</u>
Sub-total I	<u>2.61</u>	<u>4.55</u>	<u>7.16</u>	<u>3.25</u>	<u>5.66</u>	<u>8.91</u>	<u>68</u>
<u>II. Professional Services (Architectural/Engineering)</u>	0.43	0.23	0.66	0.53	0.29	0.82	6
<u>III. Technical Assistance</u>	0.42	1.68	2.10	0.53	2.09	2.62	20
<u>IV. Special Studies</u>	0.23	0.12	0.35	0.28	0.15	0.43	3
<u>V. Project Administration</u>	<u>0.22</u>	<u>0.12</u>	<u>0.34</u>	<u>0.27</u>	<u>0.15</u>	<u>0.42</u>	<u>3</u>
BASE COST (Sept. 1976) Total (I-IV)	<u>3.91</u>	<u>6.70</u>	<u>10.61</u>	<u>4.86</u>	<u>8.34</u>	<u>13.20</u>	<u>100</u>
<u>VI. Contingencies</u>							
1. Physical increases (8%)	0.34	0.56	0.90	0.41	0.70	1.11	
2. Price increases (47%)	<u>1.99</u>	<u>3.42</u>	<u>5.41</u>	<u>2.48</u>	<u>4.26</u>	<u>6.74</u>	
Sub-total VI	<u>2.33</u>	<u>3.98</u>	<u>6.31</u>	<u>2.89</u>	<u>4.96</u>	<u>7.85</u>	
Total (I-VI)	<u>6.24</u>	<u>10.68</u>	<u>16.92</u>	<u>7.75</u>	<u>13.30</u>	<u>21.05</u>	<u>/1</u>
<u>VII. NORAD (Technical Assistance)</u>	0.33	1.37	1.70	0.42	1.70	2.12	
TOTAL PROJECT COST (I-VII)	<u>6.57</u>	<u>12.05</u>	<u>18.62</u>	<u>8.17</u>	<u>15.00</u>	<u>23.17</u>	

/1 Includes taxes estimated at US\$1.0 million equivalent.

Financial Plan

17. The total project cost of US\$23.2 million equivalent would be financed as follows:

	<u>Govt. of Zambia</u>	<u>IBRD</u>	<u>NORAD</u>	<u>Total</u>
1. Civil Works	3.07	3.77	-	6.84
2. Furniture	0.04	0.62	-	0.66
3. Equipment & vehicles	0.14	1.27	-	1.41
4. Prof. Services (A/E)	0.53	0.29	-	0.82
5. Tech. Assistance	0.53	2.09	2.12	4.74
6. Special Studies	0.28	0.15	-	0.43
7. Project Admin.	0.27	0.15	-	0.42
8. Unallocated (contingencies)	<u>2.89</u>	<u>4.96</u>	<u>-</u>	<u>7.85</u>
TOTAL	<u>7.75</u>	<u>13.30</u>	<u>2.12</u>	<u>23.17</u>
Of which taxes	<u>1.00</u>	<u>0.00</u>	<u>0.00</u>	<u>1.00</u>

Implementation of the Project

18. The project would be implemented in about six years after loan effectiveness. The Project Unit established in the Buildings Branch of the Ministry of Public Works for the implementation of the Third Education Project (Loan 900-ZA) would be responsible for the financial and administrative control of the project, and for liaison with the Bank and various Ministries and agencies (Section 3.02(b)). The Unit hitherto has functioned satisfactorily. Because of increased workload it will be strengthened through the addition of a full-time assistant project director to be provided by the Norwegian Agency for International Development (NORAD). Any new appointments to the positions of project director, assistant project director, architect, equipment specialist and the accountant would be made in consultation with the Bank. The borrower will continue to maintain the unit and its staff (Section 3.02(b)). Included in the project would be supplemental operational expenses of the Project Unit. NORAD is to provide, on grant basis, technical assistance consisting of about 18 man-years of specialists services for the Project Unit and about 18 man-years of services of building construction supervisors.

19. Design and supervision of construction of all project institutions would be carried out by consultant architects/engineers. Standardized building designs and documents previously developed by the Buildings Branch of the Ministry of Public Works and consultant architects would be utilized to the maximum extent practicable. The consultants would be under the supervision of the Project Unit and would be employed within six months of the date of the Loan Agreement (Section 3.02(a)).

Procurement

20. Contracts for civil works, furniture, equipment and vehicles would be awarded on the basis of international competitive bidding in accordance with Bank guidelines except as follows: (i) due to wide dispersion of the rural construction sites, civil works contracts to cost less than US\$250,000 equivalent (estimated at US\$4.5 million); (ii) furniture, equipment and vehicle contracts to cost less than US\$50,000 equivalent (estimated at US\$0.3 million); and (iii) locally procured transportation services for furniture and equipment (estimated at US\$0.1 million). Contracts for items (i) to (iii) are likely to have a total value of US\$4.9 million, equivalent and would be awarded on the basis of competitive bidding, advertised locally and in accordance with local procedures satisfactory to the Bank. Standardized sketch designs, draft tender documents and master lists of furniture, equipment and vehicles, indicating proposed grouping for tender, would be reviewed by the Bank. Items would be grouped to the extent practicable to permit bulk procurement. Review of tender evaluation documents by the Bank prior to award would be required only for contracts above US\$250,000 equivalent for civil works and above US\$50,000 equivalent for equipment, furniture and vehicles. Qualified domestic manufacturers of furniture and equipment would be allowed a preference of 15% or the existing rate of import duties, whichever is lower, over the c.i.f. price of competing foreign suppliers.

Disbursements

21. Disbursement would be on the basis of: (a) 100% of foreign expenditures for imported construction materials, furniture, equipment, including vehicles and technical assistance; (b) 100% of ex-factory cost of locally manufactured furniture and equipment; (c) 45% of total expenditures for civil works; (d) 70% of total expenditures for imported goods purchased locally and local transportation services; and (e) 35% of professional services, special studies and project administration. All disbursements would be fully documented. Disbursements for expenses under project administration would be made against a certificate of expenditure and made available for inspection by the Bank during project supervision. Annual auditing of expenditures incurred by the Project Unit would be required (Section 4.02(c)).

Benefits, Justifications and Risks

22. In quantitative terms there will be substantial benefits from the proposed project. It will allow an increase in the supply of extremely scarce middle and advanced level manpower (in particular accountants) in business and commerce from 40 p.a. to 300 p.a., create the opportunity for training of an additional 13,400 farmers and farm women p.a. in the Farmers Training Centers and improve the in-service training capacity of the Farm Institutes for agricultural and extension staff. In qualitative terms, the project would for the first time permit the full coordination and administration of educational services which have come into existence since Independence, and improved educational research, evaluation and guidance will bridge the gaps between the school system and the labor market needs. The tailoring of all school examinations to Zambian requirements will be made possible as well

as more efficient cooperation between curriculum development units and examination administration. A special feature of the project is technical assistance and staff development for the Evelyn Hone College which will allow, over a span of six years, to Zambianize a hitherto 100% expatriate Business Studies Department faculty and will quintuple Zambian teaching resources in business studies. Training of farmers would be greatly improved through better qualified instructors and extension agents. The risks of the project relate basically to the Farmer Training Centers, their program orientation and the attendance of farmers. Therefore, the improvement in physical facilities is only one of the inputs required to develop an effective system of farmer training. In order to minimize the risks, the project includes technical assistance and evaluation studies.

Agreements Reached and Recommendations

23. Agreement was reached with the Government on the following principle points:

- (a) technical assistance, staff development, in-service training of agricultural teaching and extension staff and evaluation studies (paras. 3.09, 3.14 and 3.17); and
- (b) employment of architectural/engineering consultants, auditing procedures and project implementation arrangements (paras. 4.03, 4.11 and 4.17).

24. Retroactive financing in the total amount of \$100,000 equivalent is recommended for expenditures incurred from December 1, 1976 for "a survey of the construction industry and architectural and engineering services" (paras. 3.17 and 4.11).

25. The proposed project constitutes a suitable basis for a Bank loan of \$13.3 million equivalent to the Republic of Zambia on standard IBRD loan terms.

I. DEVELOPMENT AND MANPOWER REQUIREMENTS

Economic Development

1.01 Zambia is a landlocked country in the southern half of Africa. Most of the country consists of a high plateau intersected by valleys of the Zambesi River and its tributaries. With an area of 752,600 square kilometers and a population of 4.9 million, the country is sparsely populated. The people are of Bantu stock and there are seven major languages with English serving as the "lingua franca" of the Nation. The per capita income is about US\$540 equivalent -- one of the highest in Africa south of the Sahara. Zambia has large mineral reserves and wide areas of land suitable for crops and livestock, and has the potential for sustained development. However, over the past decade, overall growth has been disappointing; per capita income, in real terms, has remained unchanged from 1965 to 1975. The modern sector of the economy continues to be dominated by copper mining which contributes about 40% of GDP and over 90% of the value of exports. Despite levels of gross investment which have averaged 27% of GDP, output has grown by only about 3.5% p.a. from 1970 to 1974 as a result of near stagnation in the mining and agricultural sectors.

1.02 Manufacturing contributes 13% to GDP, 11% to employment and continues to grow rapidly, based mainly on import substitution for consumer goods, but employment creation has been low (about 2% p.a. from 1970 to 1974) due to the use of capital intensive techniques. Despite large mining investments in the past few years, it is expected that copper production will expand at about 3% p.a. on average from 1975 to 1980. Agriculture contributes 12% to GDP and 9.5% to employment, and production has expanded slowly (about 1.7% p.a. from 1970 to 1974) but is expected to improve as an effective agricultural policy is developed and implemented.

1.03 Owing to the failure to contain growth of recurrent expenditures and to maintain adequate foreign exchange reserves when copper prices were high, the Government is facing financial difficulties. The Government has tried to diversify its tax base away from mineral revenues by restructuring personal income tax, introducing new sales and excise levies, and raising most tax rates. However, recurrent expenditures have increased rapidly and consequently government savings have been generally lower than in the past decade (1964-1974). In real terms, government capital expenditures during the first three years of the Second National Development Plan (SNDP) 1972-1976 averaged only 71% of the annual amounts envisaged in the Plan.

1.04 During 1975, low copper prices led to a drastic drop in Zambia's foreign exchange earnings and low profits in the mining industry caused reduced tax revenues. The closing of the Benguela railway through Angola due to the civil war in that country and congestion in other Eastern African ports serving Zambia, made the export of copper very difficult and force majeure declarations had to be issued for a sizeable volume of contracted deliveries. In addition, large transit stocks of copper were blocked in Angola and shipments were delayed from other Eastern African ports. In the other direction,

vital imports did not reach the country timely or only after heavy losses, and the price level for imported goods rose sharply. Most affected by reduced and more expensive imports were the construction and manufacturing industries. In January 1976, the Government announced a series of austerity measures, including a reduction in recurrent and capital expenditures, increases in custom duties and sales, excise and income taxes and control over imports and foreign exchange transactions. In July 1976, the kwacha was devalued by 20%, an important step towards restoring Zambia's international competitiveness for industrial and agricultural products.

1.05 The recent economic difficulties have heightened the Government's awareness of the need for drastic changes in development strategy. The President and the National Council of the United National Independence Party (UNIP) announced in June 1975 that a return to the land and an increase of agricultural production would be given top priority in order to contain the high urbanization rate (paras. 1.08 - 1.09), to lessen dependency on food imports and to reduce income differentials. Within this context, the Government has announced a rural reconstruction program and is discussing with the Bank specific measures to improve agricultural output in both short and long-term planning. A Bank agricultural sector survey is recommending the following: (a) an increased allocation of infrastructure investment and provision of supporting services to rural growth centers; (b) a greater allocation than in the past of skilled manpower to the planning and execution of rural development projects and a regional decentralization of these functions; and (c) an improved efficiency of the marketing organization. The recent Government decision to increase producers' prices for major agricultural commodities indicates that appropriate action is being taken to stimulate an increase in farm output and reduce income differentials. Farmers' training will have to play an important role within the context of this strategy.

1.06 At the same time, the Government plans to rationalize and improve manufacturing and commerce in order to increase their contribution to output and employment. A shift from capital intensive to labor intensive techniques and a general improvement in management and organization of both parastatal and private companies are needed to increase the competitiveness of Zambia industry and reduce the high degree of subsidy and protection presently afforded. Improved training in business and accounting is required to meet these objectives.

Implications for Education Policy

1.07 At Independence in 1964, Zambia had a comparatively small number of educated and trained local manpower. During the 1960s the manufacturing and mining sectors expanded rapidly and the gap between the demand for and the supply of educated manpower widened. Consequently, the country remained dependent upon a large number of expatriates. In 1972, 24% of the jobs in the mining and quarrying sector were held by expatriates. This dependency is also well marked in the civil service and parastatals -- particularly in

professional posts where it is estimated that 63% are non-Zambians. Of the highly qualified personnel in Zambia today, about 65% are expatriates. In the future, Zambia intends to produce trained local manpower to replace these expatriates. Obviously full Zambianization is not feasible in the short run particularly for those jobs which require long experience and for which training in Zambia is too expensive, but it is reasonable to assume Zambianization as a target to be achieved by the mid or late 1980s. In addition to supplying the manpower for the modern sector, provisions of education and training for the development of the rural agricultural sector are to complement the Government's agricultural development objectives and strategy (para. 1.05).

Population, Employment and Income Differentials

1.08 The population of Zambia has an estimated growth rate of 2.9% p.a. There is a wide discrepancy, however, in population growth rates among the eight provinces which range from as low as -0.9% p.a. in the Luapula province to a high of 5.2% p.a. in the Central province. As a result, the distribution of the population among provinces is also rapidly changing. The Central and Copperbelt provinces continue to receive large numbers of immigrants and the remaining six provinces continue to show a net loss in interprovince migration. The extent of these migration flows in relative terms was not as large in 1969-74 as in 1963-69. There are several reasons for this: (a) the absorptive capacity of Central and Copperbelt provinces is unlikely to be increasing at the same rate as the population growth and so the attractiveness of these provinces to potential migrants may be declining somewhat; and (b) growth points, attractive to potential migrants are appearing in other provinces. The urban population 1/ growth rate p.a. has declined from 8.9% in 1963-69 to 6.8% in 1969-74, and during the same periods the rural population growth rate has risen from 0.5% to 1.2%. Thus the rate of urbanization is still rapid even though it appears to be slowly declining. The proportion of the population living in urban areas is now 35.3% (compared with 29.4% in 1969), an extremely high proportion by African standards.

1.09 Population is evenly distributed among five of the eight provinces - specifically, Copperbelt, Central, Southern, Northern and Eastern. However, employment in the modern sector does not follow the pattern of population distribution. For example, the number of wage employees as a percentage of the provincial population in 1974 was 25.7% for the Copperbelt, 19.5% for the Central, 7.6% for the Southern and 2.1% for Luapula. In the remaining provinces (North Western, Northern, Western and Eastern), wage employment ranged between 3.0% and 4.8% of the population.

1/ Urban areas are defined as those with a population of at least 5,000.

1.10 While data on unemployment are incomplete, it is believed that both unemployment and underemployment in Zambia are increasing. Due to the use of capital intensive technologies, the labor absorption capacity of the modern sector is limited, and the few new jobs which are created often require skills or training not possessed by a large number of the labor force. Unemployment was estimated by the Zambian Central Office of Statistics to number 141,000 in 1975, an increase from 56,000 in 1968. Nevertheless, the urban industrial areas attract large numbers of job seekers in part because they represent opportunities for upward mobility.

1.11 The total labor force in Zambia is now estimated to be about 1.5 million. Of this number, some 400,000 1/ are now employed in the monetary sector. Wages in the modern sector are high relative to other East African countries at a comparable stage of development and to incomes in the rural areas. It is estimated that about 30% of the population, dependent on the modern sector, enjoy a per capita income of about K690 per year as compared to K70 a year for the 70% of the population dependent on the traditional sector. In addition, recent wage increases have aggravated the situation and rising wages have accentuated the urban-rural gap which in turn has led to rising consumption patterns, greater demand for imports and an increase in Government recurrent expenditure. Furthermore, earnings in the modern sector in Zambia appear high relative to productivity, particularly if the subsidy of consumer goods through low agricultural prices is taken into account. Although the official Government policy since 1970 has been that wage increases should be related to productivity and not exceed 5% p.a., in practice this has not been true, as witnessed by the 25% average increase for civil servants granted in 1975. The growth of the parastatal institutions which are semi-independent of the general civil service in their salary determination has also placed an upward pressure on wages. In general, the parastatals have paid higher salaries and given better fringe benefits than the civil service. Naturally, the mining sector has traditionally played a crucial role in forcing upward the wage structure.

1.12 Wage employment in 1971 was estimated at 365,000 and increased at a rate of 2.3% p.a. up to 1974. In 1974, there were about 390,000 wage employees who comprised about 26% of the active labor force. The percentage distribution of wage employment by sector in the six-year period 1969-74 was as follows:

1/ Excludes domestics.

	<u>1969</u> (%)	<u>1971</u> (%)	<u>1974</u> (%)
Agriculture	11	11	10
Mining & Quarrying	18	16	16
Manufacturing	11	12	11
Electricity	1	1	1
Construction	20	18	20
Transport	7	6	7
Tourism, Finance & Social Services	<u>32</u>	<u>36</u>	<u>35</u>
All Sectors	100.0	100.0	100.0

Source: Government of Zambia, Monthly Digest of Statistics, July/August 1975.

1.13 The major employer during this six-year period has been the public sector including community, social and personal services, construction, mining and manufacturing. There have been no significant changes in the sectoral employment pattern over the last six years. The only moderate change has been in the construction sector, reflecting the government investment program which was geared to the implementation of the Tanzania-Zambia (Tanzam) railway in the early 1970s and which is now likely to witness a serious decline, in volume of both output and employment.

Manpower Requirements

1.14 The Government had projected that during the SNDP wage employment would increase by about 100,000, an average of 20,000 jobs a year. This growth of about 5% p.a. would have been consistent with a projected GDP growth of 7.5% p.a. The projected growth rates were clearly unrealistic. But even measured against more modest goals, the actual performance has been disappointing. The table below illustrates that during the first three years of the Plan wage employment grew at only 9,300, or 2.5% a year on the average. GDP grew by less than 4% p.a. in this period. In 1975, GDP fell and employment has most likely not increased over the level attained in 1974.

<u>Industry /1</u>	<u>1971</u> <u>(June)</u>	<u>1972</u> <u>(June)</u>	<u>1973</u> <u>(June)</u>	<u>1974</u> <u>(June)</u>
Agriculture	37,800	38,210	36,640	36,520
Mining & Quarrying	57,980	57,520	61,340	64,030
Manufacturing	40,620	42,560	40,990	43,130
Construction	70,160	68,950	76,100	74,770
Distribution	33,910	36,700	36,460	35,740
Transport	22,170	26,620	25,340	26,450
All Services	<u>95,710</u>	<u>94,180</u>	<u>100,700</u>	<u>105,630</u>
All Industries	358,350	364,740	377,570	386,270

/1 Excluding Domestic Service.

Source: Monthly Digest of Statistics, November/December 1975.

1.15 Preliminary government estimates for the period of 1977-1981 appear as unrealistic as the ones contained in the SNDP. Assuming that employment in 1976 would be 410,000 the estimates project a wage employment in 1981 of some 535,000. This assumes a growth rate of about 5.5% p.a. for employment over the period of the TNDP which, in turn, would mean a monetary GDP growth rate of at least 7% p.a. On the assumption of a more realistic growth rate of monetary GDP of about 5% p.a., wage employment would increase by some 3% p.a. and its distribution by sector would be as follows:

	<u>1974</u>	<u>1984</u>
Agriculture	36,520	46,000
Mining & Quarrying	64,030	73,000
Manufacturing	43,130	71,000
Construction	74,770	85,000
Transport	26,450	41,000
Electricity	5,470	7,000
Distribution, Finance & Social Services	<u>135,900</u>	<u>197,000</u>
Total	386,270	520,000

Source: Bank staff estimates.

1.16. According to Bank staff estimates, wage employment would be distributed by major categories of occupations as follows:

	<u>1974</u>	<u>1984</u>
Professional & Technical	32,800	46,800
Adm./Managerial	15,500	26,000
Clerical & Related Workers	30,100	48,800
Sales Workers	15,500	20,800
Service Workers	38,600	83,200
Production & Related Workers	<u>253,800</u>	<u>296,400</u>
Total	386,300	522,000

1.17 On the basis of conservative assumptions as to attrition rates for death, retirement, etc. (2% p.a. reflecting an implied average working life of 33 years and the comparatively young age profile of the persons now in employment) and on the hypothesis that some 80% of the over 30,000 expatriates in professional, technical, administrative and managerial positions will be replaced by Zambians by the mid- or late 1980s, the Bank staff projects that manpower requirements over the period 1974-1984 would be as follows:

	<u>Total Manpower Requirements</u> <u>1974-1984</u>
Professional & Technical	35,500
Administrative & Managerial	25,500
Clerical	24,500
Sales	8,800
Services	53,800
Production	<u>93,400</u>
	241,500

At the highest occupational levels which are also those most significant for educational planning purposes, the projection is extremely sensitive to the assumptions regarding Zambianization policy because net job creation is expected to be small (some 2,500 p.a.).

1.18 Data on the education background of job holders by occupational categories are scanty and imprecise. In order to estimate the need for outputs of the various levels of the education system, the Bank staff has developed a matrix regarding the required education background for new entrants into wage employment on the basis of international comparisons and conservative assumptions. The matrix takes account of the Government's intention to broaden participation in junior secondary education so as to attain eventually a universal basic education of ten years (paras. 2.29). This will have the effect to gradually raise education qualifications for various occupations, particularly for those at the bottom of the wage employment ladder. At the same time, however, the matrix takes account that

shortages of teachers prevent a major expansion of post-secondary and upper-secondary education and as a result, the educational profile of new entrants in professional, technical, managerial and administrative categories would be lower than that normally found in countries of Zambia's level of development. The matrix is provided below:

Educational Background of New Entrants in Wage Employment
1974-1984

	<u>University & Post-Secondary</u>	<u>Form V</u>	<u>Form III or Less</u>
Professional & Technical	20%	40%	40%
Managerial & Administrative	15%	40%	45%
Clerical	5%	25%	70%
Sales	5%	40%	55%
Services	5%	10%	85%
Production & Agriculture	5%	10%	85%

On the basis of this matrix, during the 1974-1984 period, education output needs are estimated at some 20,000 for graduates of the University of Zambia and other post-secondary institutions, 50,000 for Form V graduates and 170,000 for junior secondary or primary school graduates. These estimates do not include primary and junior secondary school teachers for which separate projections have been carried out as summarized in paras. 2.20 and 2.21.

1.19 Projections of the supply from the education system have been carried out by Bank staff on the basis of the enrollment targets in para. 2.36 and of observed participation rates of graduates into the labor force 1/. They indicate that with some 20,000 entrants into the labor market from the University and other post-secondary institutions and 40,000 from upper secondary education, manpower needs and supply would be broadly in balance at the higher levels, but that some 125,000 junior secondary school leavers and over a million primary school leavers would compete for about 160,000 jobs. Furthermore, due to the high degree of urbanization of Zambia (para. 1.08), youth unemployment in the towns is likely to reach acute proportions: under optimistic circumstances, in urban areas there would be only a job for every five teenagers with primary or junior secondary education. This reinforces the need for carrying out an effective program of agricultural development which would create productive self-employment in rural areas and for revising the incentive system as is now being undertaken by the Government (para. 1.05).

1/ 80% for graduates of universities and other post-secondary institutions, 70% for secondary school graduates.

1.20 Available data does not provide sufficient information to identify shortages of high and middle level manpower by major disciplines. However, interviews with employers reveal that gaps are particularly serious in science-based occupations for the reasons outlined in paras. 2.17, 2.21 and 2.22. In commercial occupations, some 55% of those now employed are expatriates and in agriculture, expatriates account for 50% of those occupying professional posts.

1.21 As a conclusion, the following priorities emerge for manpower development:

- (a) expansion and improvement of professional, technical and administrative training for both the high and middle levels with emphasis on preparation for science-based occupations and for jobs in commerce and agriculture; and
- (b) reorientation of primary and junior secondary education to prepare school leavers for a productive life on the land as a part of a well-conceived development program.

II. EDUCATION SECTOR ANALYSIS

Background

2.01 At Independence, Zambia was one of the African countries least prepared in educational terms. Very few Zambians had completed higher or even secondary education or participated in skill training and as a result, Zambia almost entirely relied upon expatriates for preparation and execution of development programs. In the early days of colonization, education for Africans was exclusively organized by religious missions. Nevertheless, when Great Britain in 1924 assumed direct administrative responsibility for Northern Rhodesia, a fairly widespread education system had been in existence, however operating on a very low standard. In 1964 it was apparent that national development could only be gained by placing major emphasis on educational development and consequently the expansion of the educational sector received priority in the Emergency Development Plan (January-December 1964), the Transitional Development Plan (January 1965-June 1966) and in the First (1966-1971) and Second (1972-1976) National Development Plans. Enrollments, therefore, expanded rapidly and increased about 120% at the primary level and 360% at the secondary level from 1964 to 1974.

2.02 Today, the Ministry of Education (MOE) is responsible for almost all educational activities, channeling about 90% of public recurrent expenditure for education into primary, secondary, tertiary education, vocational training, adult education and the Zambian Youth Service. Other public entities with sizeable educational activities are the Ministry of Rural Development (MRD)

(extension service), the Ministry of Labor and Social Services (MLSS) (through its Department and Community Development, community development-oriented adult education), the Ministry of Health (MOH) (para-medical trades and in-service training for all categories of medical personnel) and the Ministry of Defense (MOD) (training of unemployed youth in rural camps). The Office of the President, the Ministries of Telecommunication, Mining, Aviation, Defense and the General Post Office either have or have had substantial training programs for the benefit of their own staff, including manual workers. In addition, the mining industry plays a major role in professional and skill training at various levels.

The Formal Education System

2.03 The structure of the education system, the education pyramid, enrollment in primary and secondary education and comparative education indicators are included as Annexes II-1, II-2, II-3 and II-4. The full primary course consists of seven years of schooling but in some rural areas schools with four classes only, are still in existence with about 65% of the pupils advancing from Grade 4 to Grade 5. In 1974 there were 1,585 full (Grades 1-7) primary schools and 1,069 with a reduced number of grades. About 75% (643,200 pupils) of all primary schools are operated by the Government; 24.6% (211,500 pupils) Government aided, and less than 1% (3,500 pupils) are private. Participation of the relevant age group (7-13 years) in primary schooling is about 88%. The primary course is concluded with the "Grade 7 Composite Examination", determining who will gain access to Lower Secondary School and who will have to find employment or ways leading to further education or skill training. The secondary course is composed of a Lower Cycle (3 years, Forms I-III) and an Upper Cycle (2 years, Forms IV-V). Some 13% of the age group are enrolled in secondary courses and about 20% of Grade 7 primary school leavers progress to the secondary level and upon completion of the third year of secondary schooling (Form III), the "Junior Secondary School Leaving Examination" is taken. It serves as certification for those leaving the course and for the selection of students for entry to the upper cycle. About 46% of these students progress to the upper cycle and take at the end of Form V, the Cambridge Overseas School Certificate (COSC) examination conducted and administered by MOE. Today there are 111 secondary schools in operation and about 50% of them have received Bank assistance under Loan 592-ZA and Loan 900-ZA. Basic data on general education are presented below:

Primary and Secondary School Data (1974)

	<u>Enroll- ment</u>	<u>% of age Group</u>	<u>Comple- tion Rate %</u>	<u>Teachers</u>	<u>% Qualified</u>	<u>% Expatriates</u>	<u>Boys: Girls</u>
<u>Primary</u>							
<u>Schools:</u>			65% (rural)				
<u>Grades:</u>			90% (urban)				
1-7	860,000	88%	80% (average)	16,916	79%	3%	55:45
<u>Secondary</u>							
<u>Schools:</u>							
<u>Forms</u>							
I-V	65,800	13%	41%	2,932	59%	68%	66:34

2.04 Vocational training is provided in 19 trades which, in themselves, comprise clusters of occupations (e.g., plumbing, pipefitting, sheet metal work) in accordance with Zambian conditions. Eight Trades Training Institutes (TTIs) and a Secretarial College offer full-time two-year pre-employment courses. It is planned to enlarge the programs of five TTIs by adding commercial and secretarial classes in order to meet critical manpower demands in well-identified areas (para. 1.17). Total enrollment (June 1975) was 1,930 (9% girls) with an output (1974) of 550.

2.05 Technical Training is taught in three post-secondary technical institutions with Form V entry requirement: the Northern Technical College (Norotec) at Ndola, assisted by Bank Loan 592-ZA, the Zambian Institute of Technology (ZIT) at Kitwe, and the Evelyn Hone College of Applied Arts and Commerce (EHC) at Lusaka. Norotec offers trades training and post-secondary training for technicians and technologists (automobile, mechanical drafting, refrigeration, and structural fabrication courses). The 1975 enrollment was 462 students (all men). ZIT has industry-oriented programs comprising architecture, civil engineering, computer programming, electrical and electronic engineering, metallurgy, mining, telecommunications, and mechanical engineering generally of three years duration. In June 1975, ZIT had an enrollment of 834 students (11% women). The EHC is Zambia's most important single institution for pre-employment vocational training with 1,200 student places, of which 250 presently are unoccupied because of lack of boarding facilities. As a central institution, EHC is admitting students from all over the country as far as the limited boarding capacity allows. In 1975, five departments were operating (Academic and Applied Sciences; Para-medical; Hotel and Catering, Visual and Creative Arts; Business and Secretarial Studies). In an Extension Studies Department another series of similar courses are offered.

2.06 Medical training is conducted on three levels, all receiving Bank assistance under Loan 900-ZA: (i) post-secondary professional training of 3-7 years duration; (ii) para-medical training for a period of 2-3 years; and (iii) training of medical auxiliary staff of 2-3 years duration for Form III leavers. Only about 16% of the 610 doctors working in the country are Zambians. With increased production of UNZA and graduates returning from abroad on Government and mining industry scholarships, the situation will improve in favor of Zambian nationals in the profession in the early 1980's. The training of dentists and pharmacists remains a problem. For registered nurses, para-medical and medical auxiliary staff, shortages are being met through the expansion of existing training programs and the establishment of new training centers. Over 90% of auxiliary medical staff are Zambians.

2.07 Agricultural education is supervised by the Ministry of Rural Development (MRD) except at the higher level. Higher education in agriculture is offered by the School of Agricultural Sciences at the University of Zambia, graduating some 30-40 students a year. Specialized three-year diploma courses in agriculture, agricultural education, engineering, livestock, farm management, irrigation and nutrition are offered at the Natural Resources Development College (NRDC) in Lusaka. NRDC has a capacity of 600 student places but has a present enrollment of only 450 due to lack of facilities for laboratory and practical work in certain courses. Two-year certificate courses for agricultural and veterinary assistants are taught at three intermediate agricultural colleges. Government and church groups sponsor three additional farm schools.

2.08 In eight provincial Farm Institutes (FIs), in-service training of extension staff and three months of basic training for commodity demonstrators are carried out. FIs also conduct farmer training courses for their local districts but suffer from poor facilities and a high turnover of personnel. At the farm level, aside from 540 agricultural camps where extension activities are based, 27 Farmer Training Centers (FTCs) are active and each usually serves one or two districts. Training programs, however, have not been fully effective as revealed by a recently completed evaluation study. Details are provided in paras. 3.11-3.13. As indicated in paras. 1.19 and 1.21, the improvement of agricultural education and farmer training is a vital element for the implementation of the rural development program under preparation by the Government of Zambia. Therefore, it has high priority and requires urgent attention.

2.09 Higher Education is offered at the University of Zambia (UNZA) established in 1966 with an initial enrollment of 312 students. In 1974, total enrollment was 2,516, distributed over eight schools: Natural Science, Engineering, Medicine, Agricultural Sciences, Education, Law and Mining. The total academic staff comprised 307, with only 44 or 14% Zambians. Since its inception, UNZA has produced 860 graduates. All students enter one of the two basic schools: (a) the School of Natural Sciences for Medicine, Engineering, Agricultural Sciences and Mining; or (b) the School of Humanities for all other programs. After one year, they proceed to the specialized school of their choice. In addition to degree programs, courses

leading to the Diploma in social work and several in education are offered, as are post-graduate programs leading to MA and MSc degrees. Academic standards are high and the University is experiencing all of the problems of a young and growing institution. In mid-1975, it was announced that UNZA will be expanded and two additional campuses established: one in Ndola for the first two years of undergraduate studies and another in a rural area yet to be determined for the Schools of Agriculture, Veterinary and Forestry Sciences. A planning team has been appointed to work out details for inclusion of the decentralization/expansion program in the TNDP.

Non-Formal Education

2.10 Mass Media for educational purposes are still in the initial stage of development. School radio is on the air for 23 hours a week during 27 weeks of the year mainly offering English language courses supporting classroom teaching and external and correspondence course programs. Content and presentation of locally produced programs have not yet reached a very high qualitative level. More and better trained personnel are needed to make radio an efficient educational tool. Radio is considered potentially useful for extension work, literacy and women's education. Television remains an expensive item accessible only to few urban dwellers and has not yet penetrated rural areas. It offers an educational program of 20 hours weekly during 27 weeks of the year with little relevance to the curricula of primary and secondary schools. As a printed learning aid, MOE is publishing "Orbit," a very attractively presented magazine but too sophisticated for young people.

2.11 Extension Service operates in 540 agricultural camps (farming areas) scattered all over the country, and is reaching the adult rural population through direct contact at farm sites and in cooperation with FTCs (para 2.08). The extension branch of the Ministry of Rural Development headed by the Deputy Director (Extension) has a full establishment of 15 superscale officers, 62 professional officers and is well staffed at senior levels, although only few posts are filled by Zambians. There are 34 vacancies out of 158 technical officer posts, and 60 vacancies out of the cadre of 720 junior technical officers and agricultural assistant posts. The 140 agricultural demonstrators are at full establishment, and there are an additional 760 commodity demonstrators. There is about one extension staff for every 385 families (or, excluding the three-month trained demonstrators, one extension staff member per 760 families). Although this appears to be a good ratio, many camps are run by demonstrators with inadequate training and the lack of recurrent funds for travel and transport facilities have reduced the contact intensity between extension agents and farmers over the 1968-1975 period.

2.12 Adult Education Centers under the responsibility of MOE exist in the four major cities of the Copperbelt. Their main activity is to offer "academic" courses leading to external grade 7 and Form III certificates and the training of typists/secretaries. In 1974, total enrollment in the Centers was 2,480. Academic courses were attended by 1,730 persons and 530 were enrolled in secretarial courses. About 65 attended foreign-sponsored shop and

sales courses, leaving some 155 for adult education proper, all enrolled in home economics. Aside from Adult Education Centers, there exist throughout the country some 730 evening schools with about 60,000 participants preparing for the external primary composite examination and 52 "supervised study groups" with 6,500 participants aiming at the external junior/secondary examination. There exist considerable difficulties in recruiting qualified part-time teachers and with the exception of the secretarial courses, the efficiency of Adult Education Centers, the evening schools and the study groups, is limited. Completion rates for external courses are very low and the value of the whole program remains, therefore, doubtful. Other important adult education institutions are the Department of Community Development (DCD) of the Ministry of Labor and Social Services, and the Ecumenical Centers. The DCD is the main organizer of adult literacy programs and is specialized in rural development. Other activities of the DCD are to undertake minor self-help projects (water supply, school building, feeder roads) and to form rural women's clubs for learning home improvement. Ecumenical Centers operate combined training (homecraft and farming) and rehabilitation efforts for the benefits of adults, adolescents and children.

2.13 The "National Service" (created after Independence) is being reactivated for all primary and secondary school leavers. Students of higher education may have to participate under a formula yet to be elaborated. The purpose of the Service is to give the youth, within the political doctrine of Zambian humanism, a taste for simple living and an understanding of agriculture and the rural environment (para. 1.19-1.21). No detailed plans for the Service have been made public as yet but the Ministry of Defense, which is responsible for the operation, is preparing a training scheme and several model camps have been established. The Service is still in the testing stage and the first camps appear not to have been entirely successful. More experience and institutionalization are needed before an evaluation is possible. In the short run, the Government is intending to use the Service as an instrument to absorb large groups of the unemployed primary school leavers recognized as a new major social problem (para. 1.19). To a smaller extent, the Zambian Youth Service of the MOE is providing community development oriented elementary training in building trades and agriculture for primary school leavers.

2.14 The educational activities of the mining industry are numerous and in the several mining training centers, there are about 2,000 persons in training or retraining in any given month. Altogether more than 4,000 persons each year participate in some type of training under the sponsorship of the mining industry.

Issues in Education Development

2.15 Administration. With the rapid expansion of the school system, the strengthening of supporting educational services and the improvement of administrative structures became necessary. According to the stipulations of the Education Act of 1966, MOE acts with the advice of a National Council of Education (including regional and local representatives

and of all major interest groups) and at the periphery, with regional and local councils. The advisory structure is not however providing significant returns because of a generally centralistic orientation of MOE and competition, at the regional and local level, with the development committees. In order to improve administration, it is planned therefore to merge regional and local education councils with the development committees. Primary schools and adult education centers are administered and supervised by Regional Education Officers stationed in the nine educational regions. A unified educational reporting system has been introduced recently in order to increase the information flow from the periphery to the center and vice versa. Its usefulness seems to meet expectations but a later in-depth evaluation will have to confirm this. The MOE itself is organized into Administrative, Professional, Planning and Inspectorate Divisions and is adequately staffed. The Planning Division is functioning particularly well and is responsible for many educational innovations. However, in certain Divisions, many higher-ranking specialized positions remain occupied by expatriate professionals on contract with the Government. Supporting educational services have yet to offer benefits due to the lack of coordination as a result, inter alia, of being located in Lusaka and other towns and also due to unsuitable or temporary substandard facilities. Coordination of the education sector with other sectors (industry, commerce, and agriculture for example) is not well developed, except for vocational training activities under the Department of Technical Education and Vocational Training (DTEVT), which cooperates with an advisory council including representatives of the major industries and trades.

2.16 Curricula and Teaching Methods. In Zambia, as in other African countries after Independence, it was felt that the content of learning at all levels should be aligned with the new national and social reality. Therefore, a Curriculum Development Unit was established in the MOE, and in 1971 a new "Zambian Primary Curriculum", stressing the pedagogical importance of active learning and confrontation of the pupils with their immediate social and physical environment, was introduced. The new curriculum is now being taught in about 75% of all primary classes. In line with the importance of the rural segment of the population, emphasis was given to simple environmental science, homecraft, attitude formation towards manual labor and the establishment of permanent literacy in one of the seven major Zambian languages and English. However, primary education was not intended to be a terminal course and, therefore, did not prepare students for rural living and one of its main functions remains as a preparation to subsequent levels of education. The new curriculum is well supported by text books and other teaching materials but low teacher quality prevents its effective implementation. Lack of adequate supervision tempts many teachers to apply the new curriculum in a lax manner, in particular, with regard to the application of English as the medium of instruction. The majority of the teachers need to be retrained. The Chalimbana Teacher Training College (enrollment 250 teachers) is offering in-service training of three months to one year duration according to the individual needs of the teachers. Its capacity, however, is far too small to solve the problem of teacher up-grading within a reasonable time span. This problem is under discussion as a part of the proposed educational reform.

2.17 At the lower secondary level as well, a significant change of curriculum was introduced, emphasizing the development of skills useful for later employment in industry and commerce (technical drawing, woodwork, metalwork, homecraft, commerce and agriculture). The change was promoted with Bank assistance which provided, inter alia, the necessary facilities. The assumption was that 95% of the boys and 70% of the girls would find employment in the modern sectors of the economy after completion of Form III. To date, the new secondary curriculum is only taught in selected schools due to the lack of specialized teachers and much investment in workshops and equipment is therefore not yet brought to full use ^{1/}. Expectations with reference to employment prospects of Form III leavers have as well proved to be far too optimistic (para. 1.19). The upper cycle of secondary schooling continues to follow the pattern of the British Grammar School but with increasing adjustments to Zambian needs. Examinations for the COSC, though based on the syllabi prepared by the Cambridge University Examination Syndicate, are largely conducted and administered by the MOE. In 1973, 22% of the candidates failed with the percentage of failures particularly high in General Science (57%), Mathematics (47%), History (51%) and Biology (43%). There exists the widespread opinion in Zambian educational circles that in order to improve examination results, standards should be lowered, a measure not supported by industry and post-secondary training institutions. Lately, there have been pronouncements which advocate a systematic rural orientation of primary and secondary schools but the contents and specifications of this orientation are yet to be finalized (para. 2.30). In a general overview it can be stated that although the primary and secondary school curricula are generally satisfactory, their effective application leaves much to be desired and that a concerted effort to improve the quality of education deserves highest priority. The improvement of education services (para. 2.15) can assist towards this objective.

2.18 Efficiency. The internal efficiency of the education system is constantly improving but is not yet satisfactory at all levels. Intensive efforts over the past ten years to expand primary enrollment have resulted in the overcrowding of existing primary school facilities with double shifting and, in some urban areas, triple shifting. Also numerous schools are operated in dilapidated and incomplete facilities. For secondary schools, the situation has greatly improved as a consequence of the Bank-assisted First and Third Education Projects (Loans 592-ZA and 900-ZA). Another problem is that absenteeism is still frequent particularly in remote rural areas. Repeating of grades is controlled by a stipulation in the Education Act of 1966 and is permitted only one time in Grades 4 and 7 and in Form III and V, and only if student places are available. On the average, about 2% of all primary pupils repeat with a concentration of about 3% in Grade 4 and 9% in Grade 7. Pupils with very weak learning or motivation either voluntarily drop out or are phased out, in particular at the secondary level. The dropout rate is higher for pupils in the rural areas and for girls generally. Rural

^{1/} Construction and equipment of secondary educational facilities financed under Loans 592-ZA and 900-ZA are expected to be completed in 1978.

primary schools with limited classes are being expanded to offer the full course since it is realized that four years of primary education is neither sufficient for obtaining employment nor for acquiring permanent functional literacy.

2.19 As indicated in para. 2.03, the participation of the relevant age group in primary schools is about 88% and about 13% of the relevant age group in secondary schools. About 20% of Grade 7 leavers progress to the lower secondary level. A very selective examination at the end of the lower secondary cycle eliminates 54% of the Form III students. This is done to reduce dropout in the upper secondary cycle to a minimum and under the assumption that most Form III leavers would find immediate employment. While a low dropout in the upper cycle has been achieved, the expectation with regard to the employment prospects of Form III leavers has not materialized (para. 1.19). For the full secondary course the completion rate is 41% which leads to an output quantitatively higher than the requirements of the labor market. But at the same time, because of decreasing secondary school leaver quality, industry and post-secondary institutions have great difficulties in finding candidates with qualifications for employment or enrollment in higher education.

2.20 The strongest impediment for a rapid improvement in the internal efficiency of the education system remains quality and adequate supply of Zambian teachers. Only 3% of the primary school teachers are non-Zambians (mostly long-standing residents in the country of non-European origin) with 80% of all primary teachers ranging in the lowest grades and pay scale. Since the pay scale is based upon qualifications, it can be used as a quality indicator. Zambian educational authorities fully realize that the quality of primary schooling is an essential prerequisite for the success of all subsequent educational levels and the improvement of primary teacher quality is to be given high priority during the forthcoming decade. Plans to this effect are being formulated within the context of a sector review conducted by the Government (paras. 2.29). In numerical terms, primary teacher supply may be expected to soon reach an equilibrium with demand under the assumption of universal education to Grade 7 and a class size of 40.

2.21 At the secondary level, the teacher situation is quite different. In 1968, only 8% of secondary teachers were Zambians; at present this proportion has reached some 32%, with non-Zambian teachers recruited mainly from English-speaking countries throughout the world. However, since 1968, a decrease in the quality of expatriate teachers has been noted basically due to the young professional age of new recruits and as a result of a deterioration of the terms and conditions of employment, coupled with reduced job security. Science teaching is almost exclusively in the hands of expatriate teachers. Secondary teacher colleges and UNZA have a combined output of about 420 teacher graduates p.a. and this is expected to increase in 1977, when two new colleges are fully operational. Under the assumptions of: (i) a continuation of an increase in enrollment only reflecting population growth; and (ii) a gradual decrease of a present teacher attrition rate of 15% p.a. to 5% p.a., only by 1985 will all expatriate teachers be replaced by Zambians. As regards the development of universal education up to Form III (para. 2.26), this target could be reached only much later as under no circumstances could the present supply of secondary teachers be considered sufficient. As a first step,

however, the Government, in an attempt to prevent secondary school teachers from leaving the school system after only two or three years of service for better-paying jobs in the parastatal sector, has placed a ban on transfers and salary scales have been restructured throughout the public sector, which reduces the incentive for leaving the teaching profession for employment in the parastatals.

2.22 External Productivity. The quality of school leavers at all levels has been recently reviewed by employers as well as by the Government. Employers and the teaching staff of vocational and post-secondary institutions have observed a lack of preparedness of school leavers for their subsequent careers. In particular, many school leavers' knowledge of English is considered insufficient for employment in the modern sector. In secretarial and business courses, English is therefore the main subject taught. Another area where preparation is weak is in the sciences due to the lack of teachers (para. 2.21). Consequently, many training programs of the mining industry and other important employers are designed to compensate for the shortcomings of primary and secondary education. Teacher Training Institutes (TTIs), with Form III entry requirements, de facto, accept 50% of candidates with Form V status and the EHC and ZIT tend to admit to certain academic courses only candidates with considerably better examination records than formally required.

2.23 The principal objective of the Zambian education system has been to provide the trained manpower to elaborate and carry out the Government's development plans. In particular, Zambianization of the high and middle level manpower has been one of the major thrusts of government policy. However, as indicated in paras. 1.14 - 1.19, education outputs have not been in line with actual absorptive capacity of the labor market and while most high and middle level positions are occupied by expatriates, unemployment of primary and junior secondary school leavers is estimated to be about 140,000 and growing steadily. The requirements for jobs which previously necessitated a Form III level education have gradually been "pushed up" and employers seek persons with a Form V certificate. To date, the MOE's Zambian Youth Service has taken some measures to provide training for some primary school leavers. Also, the National Service (para. 2.13) is expected to absorb a larger number of these unemployed school leavers. On the other hand, well-identified manpower needs are not being met.

2.24 At present, of the estimated 5,000 managers of business concerns, nearly 70% are expatriates and there is only one Certified Public Accountant of Zambian nationality in the country. At the lower level, a large number of bookkeeping and secretarial positions are filled by expatriates mostly coming from the Asian subcontinent and the West Indies. In Lusaka alone, it is estimated that 500 secretaries of enterprises are expatriates. Lower level training in business and commerce is given in seven locations. The combined output of these institutions in 1975 was less than 300 and all of them found employment immediately. Graduates of the two- and three-year courses in business and commerce from EHC, UNZA, ZIT and the Administration College of Chingola have also found employment subsequent to graduation. High level manpower particularly in the field of accountancy is in particularly short supply.

2.25 Another critical area is that of high and middle level manpower for agricultural production and development in line with the Government's intention to implement an effective rural policy. In this area, the need is not to expand supply, except for certain women specialists, because (as outlined at paras. 2.07-2.08 above) there are sufficient numbers of agricultural technicians at various levels, and post-secondary agricultural training institutions have an annual output of 120 which accords with estimated long-term needs. The need is for qualitative improvement. Agricultural technicians require urgent retraining and an effective scheme of in-service training of agricultural staff should be implemented.

2.26 Equity. There are no major inequalities in education opportunities in Zambia. Access to all levels of education is not hampered by a punitive fee structure; in fact, no school fees are levied. In some rural areas (para. 2.03), only some 65% of primary pupils have an opportunity to advance to Grade 5. However, provisions for offering the full primary course (Grades 1-7) at all schools were made in the SNDP and are expected to be extended and completed as a part of the TNDP. In order to improve equity and to raise the quality of school leavers, the Government and the UNIP are contemplating to expand primary and lower secondary education to such an extent as to make universal schooling possible up to Form III (para. 2.30). However, no date has been set for the achievement of this target. As a heritage from pre-Independence times, three types of primary schools (Government, Government-aided and private primary schools) remain which differ with regard to teacher quality and advancement in implementing the full curriculum. The Government, however, is undertaking strong efforts to unify the system and to assume full responsibility for the remaining Government-aided and private schools with the intention of giving equal opportunity to all children. Nevertheless, due to Zambia's continued dependence on highly specialized mining staff, a few fee-paying primary schools may in the future continue to serve the particular needs of the expatriate community. Migration within rural areas and between rural and urban areas (para. 1.08) has caused some unsatisfactory distribution of primary schools and urban children continue therefore to enjoy easier access to schools. Poor quality of English of rural school leavers is often a handicap throughout their educational and professional careers. The hope that differences in English language proficiency would level out during secondary schooling was not fulfilled and only at the university level did it tend to disappear.

2.27 The degree of geographical concentration of educational opportunities at the secondary level has been calculated by the Bank staff. ^{1/} For the analysis, the division into the eight provinces was used. The 1974 population of the age group between 14 and 18 was extrapolated by use of the 1969 Census of Population and the 1974 Sample Census of Population whose growth rates for specific areas were used to project the growth of age group relevant to secondary education. On the basis of this data, the measurements of education equity were derived by calculating the Representation Index

^{1/} A similar exercise would not be meaningful at the primary level since Zambia will soon be reaching universal primary education.

(RI) and the GINI coefficient. ^{1/} The relevant age group population along with school capacity was distributed geographically as follows:

<u>Provinces</u>	<u>Percentage of Age Group</u>	<u>Representation Index</u>
1. Copperbelt	29.29	1.292
2. Northern	11.34	0.845
3. Luapula	7.26	0.971
4. North Western	4.30	0.956
5. Eastern	8.29	0.692
6. Central	18.22	0.910
7. Southern	13.94	1.246
8. Western	7.35	0.837

The RI indicates that the Eastern province is particularly under-represented. If the Government intends to raise the present enrollment and possibly expand secondary education enrollments in order to obtain a more equitable distribution of secondary education, the student places should be provided to the Eastern province. Further expansion in Copperbelt and Southern districts would simply distort the situation further. However, overall secondary education capacity is rather well distributed with a GINI coefficient calculated at 0.1161 - one of the lowest in Africa. In addition, regional imbalances are mostly compensated by the rule that boarding secondary schools (= 63% of all student places) admit 20% of students from outside the immediate attendance area. Differences in teacher quality do exist between urban and rural areas and because of the centralized pattern of higher education, urban dwellers have easier access to UNZA and other post-secondary institutions.

2.28 At all levels, girls are a minority and have a greater tendency to drop out, particularly in the rural areas. This fact was noted by the Government in 1968 and some elements of the egalitarian doctrine of Zambian humanism have been reinterpreted to allow temporarily, that better educational opportunities are given to the sex and specializations most in demand in the labor market. However, equal educational opportunities for girls remain as an important target of Zambian educational policy.

The Sector Review and the Proposed Reform of the Sector

2.29 The growing feeling of the public and educational authorities that the education sector does not produce the attitudes and skills conducive to self-reliance and national development, has led to an overall review of the sector to pinpoint and analyze its shortcomings. As part of the review exercise, teams of experts have been analyzing the educational systems of

^{1/} Percent of distributed goods (e.g., capacity, teachers, recurrent costs per student).

RI = Percent of distributional basis (e.g., age group population).

Cuba, Jamaica, the People's Republic of China and selected African countries. After a period of public discussions and analysis, and following ratification by the political entities scheduled by late 1976 at the earliest, the main conclusions will be used as a basis for educational program targets for the TNDP. Prior to the review, the UNIP provided guidelines for "national education policies for the decade 1974-1984", including 20 points, of which four are particularly important as follows: (a) to restructure the system of education and provide for ten years of universal education; (b) to improve and expand the programs of adult education; (c) to develop a locally based examination system in order to replace the COSC and; (d) to merge the functions of the local and Regional Councils of Education with those of the District and Provincial Development Committees. These points indicate that the fundamental policy as to (i) the length of basic education, (ii) the role of adult and nonformal education, (iii) the reorientation of the content of secondary education, and (iv) the administration of education, have already been decided. In addition, the President of Zambia has indicated that every student should develop a positive attitude towards productive work (guided by provisions in the curricula) and, prior to entering into higher education, should have participated in the National Service (para. 2.13).

2.30 The principles and strategies of the educational reform have been elaborated during the first half year of 1976. At present, a draft reform program is under discussion and by early 1977, the educational reform is expected to be finalized. The "theme" of the draft reform is "education for development" and the proposals lead to a combination of study and work. The most fundamental change envisaged at the first level of the system is the introduction of ten years of compulsory basic education for all children. Since present limited capacity of the primary school and junior secondary system would only allow the enrollment of a small additional number of pupils, changes in the school calendar (four instead of three terms) and a new "rotative" intake system are expected to provide additional capacity. The "rotative" system would mean that one-half of the children in grades 8-10 (Form I-III, according to the present system) would be attending school during two of the four terms while the other half would remain at home pursuing a course of "self-instructional" lessons or doing community project work under the guidance of local leaders. Through rotation, together with more intensive use of existing facilities, it is expected to double the enrollment in basic education and at the same time to increase the teacher force by only 20%. At the secondary level, changes are expected to be radical as well. Since Forms I to III would be integrated in and become grades 8-10 of basic education, "second stage education" would include various separate vocational and/or sub-professional courses (for agricultural assistants, nurses, junior accountants, medical assistants, etc.). The traditional general secondary course would lose its importance because of the terminal character of basic education as well as of "second stage education" and changes in the examination structure. New curricula would be designed, including a strong element of civic education and introducing professionalization into the "second stage education." After graduation all "second stage" leavers would participate in the National Service before proceeding to employment or higher education. Third stage education (higher education) would provide a combination of professional courses and general education.

2.31 Adult education, henceforth called continuing education, would as well undergo transformation. A new Department of Continuing Education would be responsible for the national literacy campaign, formal education by part-time study, skills training programs for adults and certain parts of the in-service training of teachers. Courses for adult education would be revised in order to reflect adult interests and experience and to allow participants to take, as external candidates, any of the new examinations of the reformed system.

2.32 The combination of "study and work" would have higher educational and productive objectives. Every pupil or student would participate in production as an attitude formation exercise, for occupational preparation and to add to the national output. There is much hope expressed in the draft reform to finance a substantial part of education costs from the proceeds of the students productive activities (cooperative farms, school-community projects, infrastructure projects, school building, school furniture manufacturing), which would be geared to food production and to the development of cottage industry.

2.33 The new education system would require changes in teacher training and administration/organization of the sector. Teachers would have to play a leading role in organizing productive work and MOE would have to change its management procedures in order to keep administration efficient and flexible. Among other things, the Government's ongoing Zambianization program (paras. 1.07 and 2.23) and its decision to merge the functions of the local and regional educational council with those of the district and provincial development committees are steps towards attaining better administration and management. It is expressed at several places of the draft reform that the proposed educational changes can only be achieved by "greater sacrifices and more intensive efforts by all of the people" and by the creation of a spirit of volunteerism, in particular on the part of the teachers. The Party is expected to play the major role in launching and sustaining the reform. Costs and financing of the reform proposals are yet to be worked out; it is expected that they would be defined after the essential principles of the draft reform have been accepted by UNIP and the public opinion.

2.34 The reform is expected to lead to the formulation of a broad sector investment program as part of the Third National Development Plan. It is noted that the reform explicitly confirms the right of each Zambian to at least ten years of basic education and that, in planning for education, social demand considerations will prevail over manpower considerations. The implementation period for the reform is foreseen to be one decade.

2.35 From the outset, however, it appears that the main constraint on the implementation of the reform is the present and projected shortage of teachers and instructors at all levels but primary education (paras. 2.21 and 2.22). Also, while the expansion and improvements of adult education could be based upon the improvement and a more effective utilization of existing schools, a shortage of physical facilities and financial restraints are likely to prevent

the growth and broadening of junior secondary education to attain universal education of ten years, even after the introduction of the "rotative" intake system (para. 2.30).

2.36 Estimated education recurrent expenditure requirements during the period 1976-1986 are presented in the following table. These estimates are based on the assumption that compulsory education up to Form III (or grade 10) will be provided beginning in 1977. Based on 1976 prices, recurrent expenditure would amount to about K 240 million in 1981, which is more than double the estimated recurrent expenditure in 1976. By 1986, the recurrent expenditure would increase to about K 296 million. These estimates include a 20% nominal increase in teacher salaries as authorized by the recent implementation of revised salary schedules, along with moderate increases in student requisites. Based on these financial estimates, MOEC's total recurrent expenditure from 1976 to 1986 would increase at about 11.1% p.a. in real terms. By 1986, however, total education recurrent expenditure would reach 37% of the budget which is an extremely high proportion. On purely financial grounds, it appears that the Government's stated policy of universal and compulsory education up to Form III is highly improbable, unless the cost-saving devices promoted as a part of the reform prove to be effective.

ENROLLMENT (in 000's) AND RECURRENT EXPENDITURE

(IN K MILLION)

	1976		1981		1986	
	<u>Enroll- ment</u>	<u>Expendi- ture</u>	<u>Enroll- ment</u>	<u>Expendi- ture</u>	<u>Enroll- ment</u>	<u>Expendi- ture</u>
Primary Education	950.0	55.1	1,230.5	71.4	1,422.9	82.5
Secondary Education	78.0	22.6	440.0	132.0	575.9	172.7
Teacher Training	3.0	2.5	10.8	9.0	10.8	9.0
Others	<u>-</u>	<u>22.4</u>	<u>-</u>	<u>28.0</u>	<u>-</u>	<u>32.0</u>
Total	1,031.0	102.6	1,681.3	240.4	2,009.6	296.2
Total Government Recurrent Expenditure		540.1		657.0		799.3
Education Recurrent Expenditure as a Percentage of Total Government Recurrent Expenditure		19		36		37

2.37 An alternative enrollment projection was developed by Bank staff to examine the financial implication of more realistic targets. This projection envisages a 100% participation rate in primary, a progression rate of 18% to junior secondary education between 1976 and 1981 and 50% from 1981 to 1986. The recurrent expenditure implications of the afore-mentioned projections indicate the following:

ENROLLMENT (In 000's) AND RECURRENT EXPENDITURE

(IN K MILLION)

	1976		1981		1986	
	Enroll- ment	Expendi- ture	Enroll- ment	Expendi- ture	Enroll- ment	Expendi- ture
Primary Education	950.0	55.1	1,230.5	71.4	1,422.9	82.5
Secondary Education	78.0	23.4	130.2	39.0	303.1	90.9
Teacher Training	3.0	2.5	5.9	4.9	6.6	5.4
Others	--	22.4		28.0		32.0
Total	1,031.0	103.4	1,366.6	143.3	1,732.6	210.8
Total Government Recurrent Expenditure		540.1		657.0		799.3
Education Recurrent Expenditure as a Percentage of Total Government Recurrent Expenditure		19		22		26

Recurrent education expenditures would account for a comparatively reasonable proportion of the budget. Furthermore, their projected share of government total recurrent expenditure could be reduced if the cost-saving devices depicted above are successful.

The Role of the Bank in Zambian Education Development

2.38 The Bank has had a significant role in assisting the education sector in Zambia. Excluding the education component of the Lusaka Sites and Services Project (Loan 1057-ZA), three education projects are providing improved facilities for some 70,000 student places including about 40,000 new student places. Over 85% of the student places to be provided and/or improved under these projects are in large comprehensive secondary schools with facilities for the teaching of practical subjects (para. 2.17).

Of the remaining 15%, the majority are for expansion of the University of Zambia. The three projects touch only very slightly upon agricultural education and do not provide assistance to training in management, administration, accounting and bookkeeping. Qualitative advances were promoted, inter alia, by the Bank's financial aid for technical assistance specialists and fellowship training.

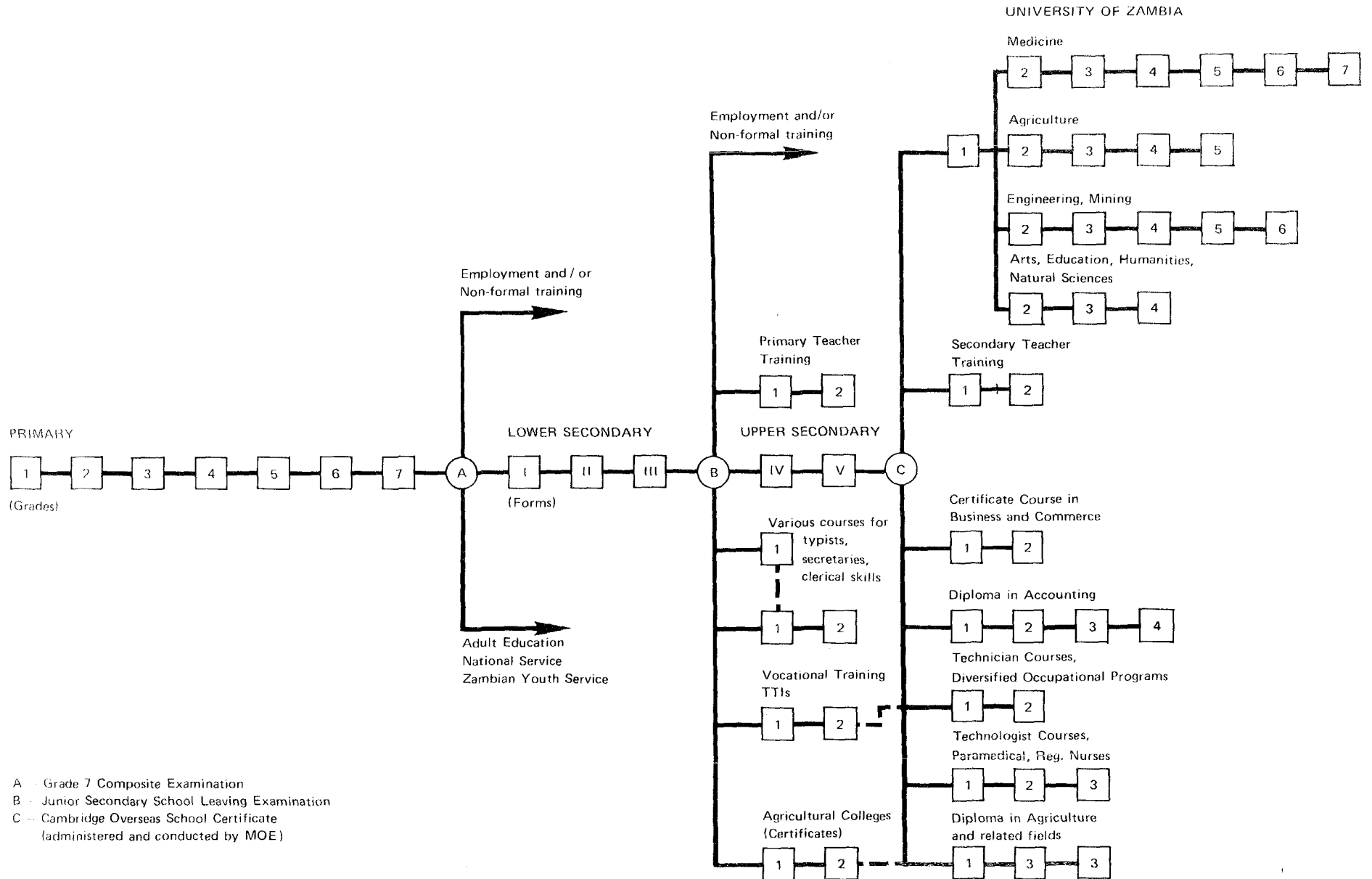
2.39 Zambia is one of the countries of the Eastern Africa Region where broad sector lending for education can be contemplated. At the moment, however, there are three major obstacles: (a) the formulation of specific programs suitable for a sector lending approach awaits the finalization of the reform and of a well-conceived investment proposals for the achievement of its objectives and targets; (b) project implementation capacity requires strengthening in particular as it concerns the development of trained local staff to replace the expatriate personnel; and (c) as there are various uncertainties and difficulties in the construction industry, a comprehensive study of the industry should be carried out in order to determine, inter alia, ways and means to increase the industry's capacity to be in a position to implement construction programs (including school building programs) at reasonable costs.

2.40 There are, however, urgent and immediate priorities which will not be affected by the findings of the education sector review and which will meet well-identified manpower and training needs and provide the infrastructure necessary for introducing the reforms being contemplated. On the basis of these priorities, the Government and the Bank have developed an interim investment program which would round off programs initiated under the previous three projects and improve training in the areas of agriculture and commerce.

2.41 The following priorities and recommendations are derived from this analysis:

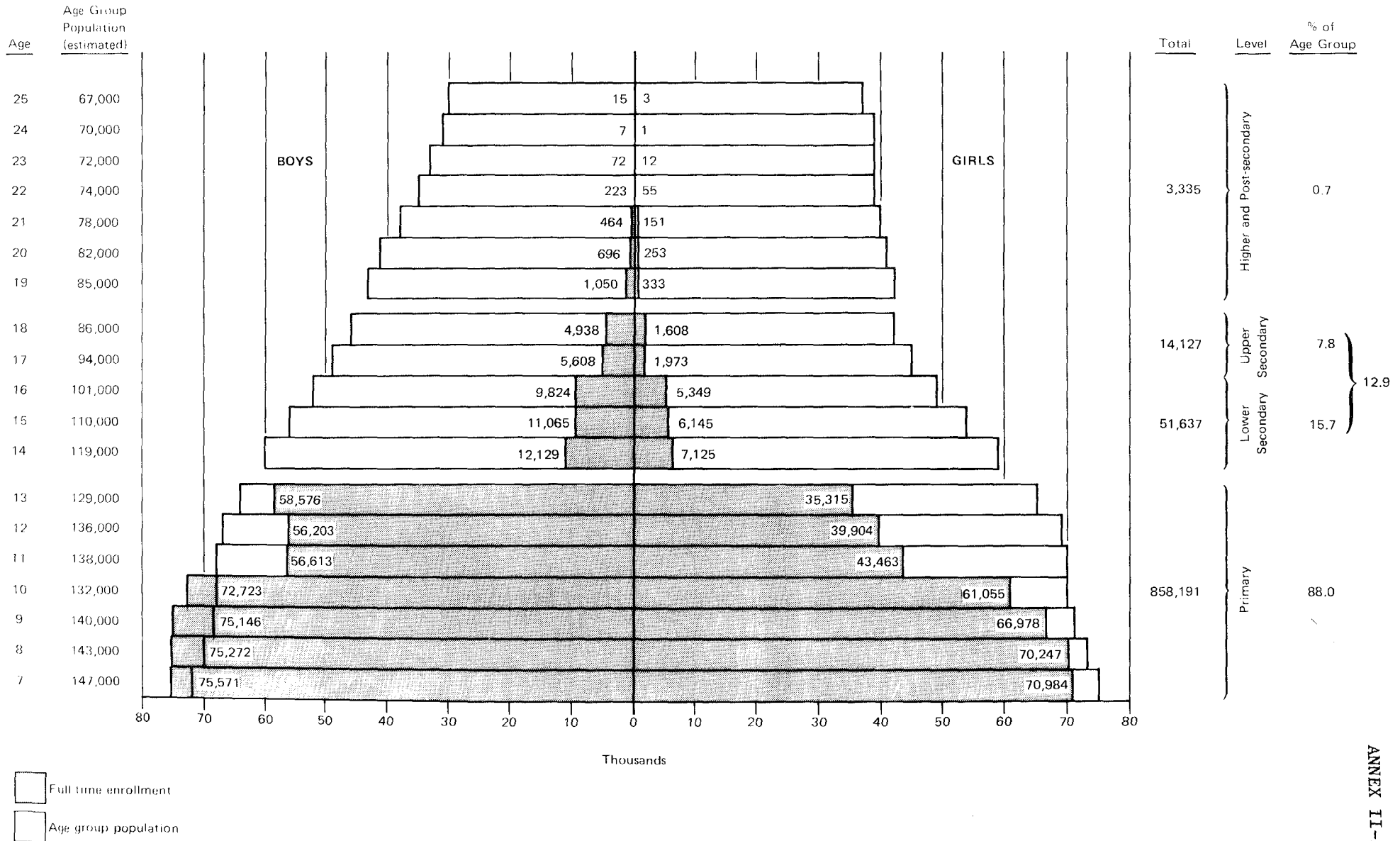
- (a) the quality of agricultural education and farmer training should be urgently improved to assist in the implementation of the rural development program (paras. 2.07-2.08);
- (b) business education and management training need expansion and improvement to meet well-identified manpower gaps (paras. 2.24); and
- (c) the administrative system of MOE needs institutional strengthening and better accommodation for the many existing services, allowing for better supervision and coordination (para. 2.15).

ZAMBIA STRUCTURE OF EDUCATION SYSTEM (1975)



A - Grade 7 Composite Examination
 B - Junior Secondary School Leaving Examination
 C - Cambridge Overseas School Certificate
 (administered and conducted by MOE)

ZAMBIA – EDUCATION PYRAMID, 1974



SOURCE: Ministry of Education, Zambia Educational Statistics, September, 1976.

ZAMBIA - FOURTH EDUCATION PROJECT
PRIMARY SCHOOL ENROLMENT- 1965-1974
ALL SCHOOLS

YEAR	SEX/T	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5	GRADE 6	GRADE 7	GRADE 8	E.S.N	TOTALS
1965	B	43,745	40,075	39,676	40,194	23,943	21,648	12,164	9,136		230,631
	G	41,151	35,851	33,274	31,387	15,368	12,742	5,926	3,753		179,462
	T	84,896	75,926	72,950	71,581	39,311	34,390	18,090	12,919		410,093
1966	B	53,410	44,596	41,886	42,488	34,490	24,978	23,072			265,533
	G	50,297	40,151	35,498	32,474	22,533	14,452	13,404			207,849
	T	103,707	84,749	77,384	74,962	57,023	39,430	36,076			473,432
1967	B	59,744	52,635	45,215	43,076	36,795	35,388	27,761			300,660
	G	56,159	48,375	39,087	34,723	24,806	21,324	15,152			270,692
	T	115,903	101,010	84,302	77,799	61,601	56,712	41,973			539,352
1968	B	63,954	60,297	53,929	46,875	37,826	37,816	39,231			339,928
	G	58,909	54,828	47,404	38,406	26,651	23,116	20,011			268,965
	T	122,863	115,125	101,333	85,281	64,477	60,932	59,242			608,893
1969	B	65,670	64,144	60,903	55,199	40,229	38,701	42,601		169	307,536
	G	61,293	57,080	53,035	45,397	29,639	24,677	21,858		116	293,295
	T	127,163	121,194	113,938	100,596	69,868	63,378	64,459		285	601,281
1970	B	66,132	64,485	64,398	62,120	43,435	40,896	43,811		69	385,673
	G	61,197	58,489	55,264	50,782	32,306	27,506	23,411		59	302,954
	T	127,359	122,974	119,662	112,902	75,741	68,402	67,222		108	694,670
1971	B	66,730	65,403	66,092	66,793	46,298	43,723	47,219		73	402,321
	G	62,601	59,269	57,704	54,990	35,112	31,105	26,640		49	327,470
	T	129,331	124,672	123,796	121,783	81,410	74,828	73,859		122	729,801
1972	B	73,418	67,353	67,132	69,319	51,854	48,214	51,289		114	423,433
	G	69,477	61,591	59,095	57,182	38,972	33,917	29,217		79	343,100
	T	142,545	128,944	126,227	126,501	90,826	82,131	80,506		193	777,873
1973	B	73,046	72,970	68,744	69,275	54,300	52,983	53,620		71	445,009
	G	69,266	67,185	60,687	58,115	41,230	37,106	31,593		43	365,225
	T	142,312	140,155	129,431	127,390	95,530	90,089	85,213		114	810,234
1974	B	75,571	75,272	75,146	72,723	56,613	56,203	58,576		89	470,104
	G	70,984	70,247	66,978	61,055	43,463	39,904	35,315		54	387,946
	T	146,555	145,519	142,124	133,778	100,076	96,107	93,891		141	858,191

Key:- B-Boys;G-Girls; T-Total
E.S.N. Educationally Sub-Normal

- NOTES:
- 1) Up to 1965 the Primary System consisted of 8 years of schooling, i.e., Sub-standards A and B and standards 1 to 6.
 - 2) 1969, 1971, 1972 and 1973 totals includes E.S.N. pupils prior to 1969 E.S.N. Pupils were not recorded separately.
 - 3) From 1970 only those E.S.N. pupils in a special class with a special teachers were counted.

ZAMBIA - FOURTH EDUCATION PROJECT
SECONDARY SCHOOL ENROLLMENT , 1969-74

Year	Sex	Form 1	Form 2	Form 3	Form 4	Form 5	Form 6	Totals
1969	B	9,647	9,499	6,109	4,679	2,559		32,493
	G	6,074	5,072	2,360	1,462	696		15,664
	T	15,721	14,571	8,469	6,141	3,255		48,157
1970	B	9,307	9,672	6,259	5,761	4,206		35,205
	G	5,863	5,746	2,319	2,031	1,303		17,267
	T	15,173	15,418	8,578	7,792	5,509		52,472
1971	B	9,902	9,709	6,705	5,930	5,272		37,518
	G	5,851	5,702	3,232	1,964	1,738		18,487
	T	15,753	15,411	9,937	7,894	7,010		56,005
1972	B	9,870	9,980	9,632	4,916	5,545		39,943
	G	5,877	5,443	5,111	1,967	1,710		20,108
	T	15,747	15,423	14,743	6,883	7,255		60,051
1973	B	11,079	9,743	9,769	5,164	4,593		40,348
	G	6,491	5,640	5,263	1,769	1,843		21,006
	T	17,570	15,383	15,032	6,933	6,436		61,354
1974	B	12,129	11,065	9,824	5,608	4,938		43,564
	G	7,125	6,145	5,349	1,973	1,608		22,200
	T	19,254	17,210	15,173	7,581	6,546		65,764

COMPARATIVE EDUCATION INDICATORS

(NOVEMBER 10, 1976)

YR	POP. (000)	GNP/CAPITA AT MARKET	% GNP DEVOTED TO EDUC.	% TOTAL PUBLIC EXP. TO EDUC.	% OF PUBLIC EDUCATION RECURRENT EXP. ALLOCATED TO PRI. SEC. HI.	LITERACY (% OF ADULTS)	PRI. ENROLLMENT RATE (%)	COMPLETION RATE (%)	STU. IDENT. PER TEACHER	AV. PRI. SALARY IN PRI. SEC. (% OF GNP/CAPITA)	PROGRESS FROM PRI. TO SEC. (% ENROLLMENT)	SEC. ENROLLMENT PER HIGHER EDUC. (% ENROLLMENT)	SEC. TO HIGHER EDUC. RATIO
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)

ADVANCED

AUSTRIA	73	7.5	3,510	4.3	9.9	470	250	200	99	98	93	26	2.0	99	51	19	8.00
CANADA	72	22.10	5,450D	7.7	19.4	30	38	19	98	89	98	24	2.0	99	82	17	9.00
GERMANY F. REP.	72	61.00	5,320D	4.2	14.2	...	74**	26	99	91	99	33	...	99	91	22	17.00CY
JAPAN	71	108.30	3,630D	4.3	20.7	39	38	12	99	99D	99C	25C	2.0	99C	94D	20C	28.00D
NETHERLANDS	72	13.4D	4,330D	8.5	19.1G	32	45	19	99	95	95	29	3.0	97	73	20	11.00
NEW ZEALAND	73	2.9	3,680	5.2	...	39	24	29	99	99	99	26	...	99	67	19	24.00
NORWAY	72	3.9D	4,660D	7.0	15.2	58	23	13	99	99	98	20	1.9	99	76	14	11.00
SWEDEN	73	8.1	5,910	8.9	16.0	36	14	13	99	99	99	17	...	90	85	10	30.00
U.K.	72	55.0D	3,060D	6.3	12.7	26	39	22	98	99	...	26	2.0	...	63	17	11.00
U.S.A.	72	210.4D	6,200D	6.0	15.4	...	73**	27	99	99	99	25U	2.0	...	93	19U	29.00

EUROPE

GREECE	71	8.9D	1,870D	2.2	11.1	54Y	29Y	14Y	82A	95Y	...	32Y	...	70A	58Y	43Y	11.00
IRELAND	72	3.0D	2,150D	5.1	13.9D	43Y	41Y	14Y	98	97	99A	35	...	95A	75	19	7.00A
PORTUGAL	72	9.0D	1,410D	...	...	...	...	...	...	91XY	...	...	...	...	65XY	...	7.60Y
SPAIN	71	34.7D	1,710D	2.4B	15.2A	49Y	22Y	15Y	94A	91A	...	35A	...	...	29A	30	6.00A

AFRICA

ALGERIA	75	15.7	778	7.5	...	41G	32G	18G	30	76	62E	42E	6.0G	49E	17	25	4.00
BENIN	73	2.9	110	5.3	32.0	47	23	10	11	32XR	70R	50R	25.0B	43R	76	39S	0.44CY
BUTSWANA	74	0.7	300	5.0	20.0	38	20	15	25	70X	75	35	5.0	24	13X	18	0.30Y
BURUNDI	74	3.5	92	2.5	19.9Q	47R	41R	12R	10	20X	30Z	38	10.0	14	2X	18	1.0
CAMEROON	73	6.2	250	5.9	20.0	38Y	29Y	17Y	...	74	...	51DY	...	...	9	23CY	0.90CY
C.A.R.	70	1.70	160D	4.0N	20.0	56	19	...	...	64CY	25	65CY	...	18	5CY	27.5Y	0.07Y
CHAD	75	4.0D	80D	3.0	10.0	78	22	...	15	29XY	30	65BY	15.0	8	2XY	30	0.01BY
CONGO(B)	74	1.3	450	6.0	19.3	40	32	21	50Z	133X	63	63	6.0	48	33X	22	3.40
EGYPT	74	36.4	280	5.3	...	29	36	24	40	70X	45	40	...	64	39X	28	11.00
ETHIOPIA	73	26.5	90	3.1	20.0	42	29	18	7	17C	42	50	3.0	63	2	30	0.20
GABON	73	0.5	1,310	5.0	20.6	25	9	11	...	184XY	25C	46C	5.0	18A	20C	21C	1.40CY
GHANA	71	9.30	300D	4.7	24.4DR	38Q	15Q	23Q	...	56XY	62	30CY	...	14	11X	16CY	0.74BY
IVORY COAST	72	5.8D	380D	6.3	24.7	27BY	33BY	13Y	9A	52	57A	46	...	...	10	25	1.20BY
KENYA	73	12.4	170	6.4N	27.0	63	11	11	40	73	...	40	8.0	14	12	23	1.03BY
LESOTHO	75	1.2	110N	12.0P	23.0	49	18	20	40	85	50	52	7.0N	81	10	26	1.00
LIBERIA	75	1.5	410	2.4	13.2	27	15	20	73	58	...	35	2.0	...	12	26	1.10AY
MADAGASCAR	74	8.6	150D	3.2	22.1	51	24	25	40	68X	30	63	15.0	48	9X	26	1.00
MALAWI	74	4.8D	110D	3.1	20.9	...	...	...	25	56X	60	50	7.0	40	4X	20	0.26CY
MALI	74	5.3D	70D	4.6N	32.3	36B	52B	12B	10C	18A	22A	40A	14.0B	37A	4A	17A	0.16AY
MAURITANIA	70	1.2D	200D	4.5	21.0	...	...	...	10	15X	...	22	...	...	3	24	...
MAURITIUS	72	0.8D	410D	3.7	11.7DQ	71	10	4	80	86	99	31	...	...	31	30	1.47CY
MOROCCO	74	15.9	320	5.0C	16.5	44	47	9	26Z	54X	21	37	...	...	31	13X	2.00
NIGERIA	71	71.2D	210D	3.2N	...	40A	24A	20A	...	39XY	...	34CY	...	...	4	20CY	0.37CY
RWANDA	73	3.9D	70D	3.2C	28.0D	...	...	...	23	52	...	51	...	...	...	13	0.23CY
SENEGAL	71	4.0D	280D	4.0N	22.5DR	38A	42A	5A	10	38X	...	46	...	...	11X	25	1.71CY
SIERRA LEONE	73	2.7	160	3.4	23.4	31	36	30	15Z	34X	45	32	4.0E	68	13X	21	0.53BY
SUMALIA	75	3.2	100	3.7D	10.8G	49Q	16Q	19Q	50Z	34X	86	35	10.0	60	3	15	0.10
SUDAN	72	17.0D	130D	4.5	13.2	43	29	28	15	38	75	45	4.0	25	11	20	1.23Y
SWAZILAND	75	0.5	400	4.5	18.0	37	31	13	50	70	50	38	3.0	84	19	22	2.00
TANZANIA	74	13.2C	110C	5.1N	17.0	36	...	12	63	44X	...	49	...	...	7	2	21C
TUNISIA	73	5.4D	460D	6.3	25.4	37	43	18	55	72	81	41	6.0	31	14	21	3.00
UGANDA	70	10.8D	150D	5.2N	17.6CR	40W	22W	25W	25A	48XY	...	36	...	...	14A	4XY	21
UPPER VOLTA	72	5.7D	70D	4.0	23.9	65	10	6	5	10	...	45	18.0	20	7	23	0.01BY
ZAIRE	73	23.4	140	5.2CN	21.3C	54C	17C	29C	15	63	38	44A	6.0	43	8	24	0.96BY
ZAMBIA	74	4.7	482	5.3	14.2	34	18	16	43	88	80	47	9.0	20	13	22	1.00

CENTRAL AMERICA AND THE CARIBBEAN

COSTA RICA	71	1.8D	710D	5.2	22.7	57	25	12	89	86CY	65	29	3.0	58	22CY	25	12.11CY
DOMINICAN REP.	72	4.4D	520D	3.0	13.9	42	24	22	51	80	17	54	3.0D	63	13.5	24	7.00
EL SALVADOR	75	3.7D	350D	3.6	23.8	61	5	22	60B	65C	...	39CY	...	39	13XC	21CY	4.35HY
GUATEMALA	73	5.1	500	1.9	18.0	55	23	14	47	64	26	35	3.0	69	8	25	4.09Y
HAITI	72	4.4D	130D	0.9	6.6D	61	11	8	20B	22	25Z	45	5.0	50	3	23	1.00Z
HONDURAS	72	2.7D	320D	3.9	26.5D	64	13	18	52	81X	18	37	6.0	75	14X	14	3.00
JAMAICA	72	1.9D	990D	6.5Y	19.7	33Y	22Y	7Y	86	106XY	...	52	...	...	32XY	19	4.79Y
MEXICO	70	56.0D	890D	2.6	9.3	54	24	12	76	71	31	46	3.0	63	19	23	6.32CY
NICARAGUA	74	2.0D	500D	2.5	14.2	61	13	13	57	65	21	37	2.0	93	17	24	7.00
TRINIDAD & T.	71	1.0D	1,310D	5.1	18.9	53	27	12	90	95X	87	35	4.0	15	49	25	2.56AY

SOUTH AMERICA

BRAZIL	74	101.1D	760D	4.3	12.0C	42	20	37	79	80X	...	27CY	...	...	18B	15CY	6.00B
CHILE	72	10.2D	720D	4.6Y	10.6AY	36Y	14Y	36Y	...	111XDY	...	37BY	...	...	48XDY	...	...
COLOMBIA	70	22.5D	440D	4.0	10.9	35	18	20	73	67	20	36	4.0	90	17	14	4.00
ECUADOR	72	6.7D	380D	3.7	27.7C	45QY	42QY	10QY	69	72	...	38	...	...	18	14	4.97BY
GUYANA	74	0.7	410D	5.8N	14.7D	47	35	14	83A	92X	39	33	6.0	19	62X	24	1.00
PARAGUAY	74	2.4D	374	1.8	11.0	55	13	22	81	82	26	30	1.9	65	17	12	5.00
PERU	71	11.5D	620D	4.5	24.1D	50	22	15	72	80	38	39DY	3.0	70	30	23DY	12.00
VENEZUELA	73	11.2	1,630	4.6	19.9	30Q	25Q	35Q	77A	81	...	33	2.4	...	33	...	12.63CY

COMPARATIVE EDUCATION INDICATORS (CONTD)

(NOVEMBER 10, 1976)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)			
ASIA AND OCEANIA																	
AFGHANISTAN	74	16.3	867	...	39P	23P	16P	10	26X	24	41	5.0	7B	8X	21	1.00	
BANGLADESH	73	74.0	80	1.2	20.2	...	...	23	56X	...	48	...	...	23X	28	...
CHINA(TAINAN)	73	15.0	660	3.2	14.0	28	41	22	82	98C	94	14.0	84	61C	26	20.00C	
INDIA	71	581.9D	120D	2.5YY	...	...	...	29	79X	...	43A	...	...	28X	20AY	4.00AY
INDONESIA	73	124.4D	130D	1.8	11.0	63	23	14	62	63	40	5.0	91	12	16	2.00	
IRAN	73	32.1	870	3.3	12.6	50B	188	128	50	77	74A	5.0B	80A	24	32	4.32CY	
IRAQ	72	10.4D	850D	6.7	16.3DR	...	...	...	26	61CY	...	...	...	26XCY	26	6.28CY
JORDAN	73	2.9	340	7.0	8.8	52	15	21	59	91X	76	5.0	84	50X	22	4.00	
KOREA	73	32.9	400	2.9	20.1	64	26	8	92	97	90	3.0	71	46	37	6.00	
LEBANON	72	2.9D	940D	3.5	18.0	39	40	10	68	86	65	19	2.0	63	26U	23.00	
MALAYSIA	74	11.7	670	6.4	28.0	44	31	11	60C	96F	90	4.00	83F	44F	27F	3.00F	
OMAN	72	0.6D	840D	1.7N	3.8	96	-	-	20	24X	99	7.0	...	0.4X	9	...	
PAKISTAN	75	66.2D	120D	1.6	16.2	45	25	18	21	47X	50	39	...	17X	18	6.00	
PAPUA N.G.	75	2.6	410	5.6	16.1	38	16	24	32	57P	73P	11.0	90	12X?	24	0.90?	
PHILIPPINES	74	40.2D	280D	2.9	14.9	73	15	12	87	104X	...	15.0	...	46X	...	21.00	
SINGAPORE	72	2.2D	1,030D	3.1	16.2	44	31	15	75A	96Y	72A	...	99A	57Y	24	8.25Y	
THAILAND	73	39.4	270	4.0NF	20.7F	65	9	15	82	87X	93C	3.0 U	91C	21X	24	2.00	
TURKEY	72	37.9D	600D	...	13.0DR	...	...	...	...	105XCY	...	...	...	22XY	27DY	5.31BY
YEMEN	73	6.3	100	0.5	4.0	45P	21P	23P	10	15X	18	5.0	75	2X	19	0.05BY	
YEMEN P.D.R.	72	1.5D	110D	2.3A	12.6	79	12	-	10	70X	31	29	10.0	99	12X	20	0.08AY

SUMMARY FOR DEVELOPING COUNTRIES:

NUMBER OF COUNTRIES:	74	71	69	68	68	69	77	53	76	51	54	77	73	73
RANGE:	(0.5- 12.0P)	(3.8- 32.3)	(25- 96)	(0- 52)	(0- 40)	(5- 98)	(10- 184X)	(17- 99)	(19- 65)	(1.8- 25.0)	(7- 99)	(4- 75.0)	(9- 43)	(0.1- 23.0)
QUANTILES: UPPER :	5.2	22.1	55	31	22	75	87	75	46	8	80	29	26	6.0
MEDIAN:	4.0	18.0	45	23	15	50	71	50	38	5	63	16	23	2.00
LOWER :	3.0	13.9	38	16	12	21	52	30	33	3	25	9	20	.9

SYMBOLS: ...	DATUM UNAVAILABLE	A=1970 OR BEFORE	M=CURRENT PRICES	SOURCES:
-	MAGNITUDE NIL OR NEGLIGIBLE	B=1971	N=GDP	COLUMNS: 1 AND 2 WORLD BANK ATLAS
?	QUESTIONABLE	C=1972	P=INCLUDING FOREIGN AID	OR IBRD MISSIONS
*	INCLUDES PART-TIME STUDENTS	D=1973	Q=CENTRAL GOVT. ONLY	3 TO 14 IBRD MISSIONS
**	COMBINED WITH PRIMARY	E=1974	R=MINISTRY OF EDUCATION (MUE) ONLY	AND/OR UNESCO
		F=1975	S=MDE AND STATE GOVT. ONLY	STATISTICAL
		G=1976	T=EXCLUDING CENTRAL GOVT.	YEARBOOK
			U=PUBLIC ONLY	
			V=INCLUDING PRIVATE EXPENDITURE	
			X=INCLUDING OVERAGED STUDENTS	
			Y=UNESCO SOURCES	

COMPARATIVE EDUCATION DATA ARE USEFUL IN THE EVALUATION OF VARIOUS EDUCATION SYSTEMS AND ANALYSIS OF RELATIVE STAGES OF EDUCATIONAL DEVELOPMENT BETWEEN VARIOUS COUNTRIES, HOWEVER, ON THE BASIS OF THE PRESENT DATA, CROSS-NATIONAL COMPARISON SHOULD BE APPROACHED WITH GREAT CAUTION. DATA PRESENTED IN THE ABOVE TABLE HAVE BEEN COLLECTED LARGELY BY THE BANK MISSIONS FROM GOVERNMENT SOURCES; THE REMAINDER ARE STAFF ESTIMATES OR DATA FROM UNESCO. EFFORTS HAVE BEEN MADE TO STANDARDIZE DEFINITIONS AND WITHIN LIMITS, TO CHECK THE ACCURACY OF THE DATA. NEVERTHELESS, SUCH DATA ARE STILL IMPERFECT IN SEVERAL RESPECTS AND THE BANK IS WORKING TO IMPROVE THEM PROGRESSIVELY ON THE OCCASION OF ITS OPERATIONAL WORK. IN THE USE OF THESE DATA, THE FOLLOWING QUALIFICATIONS SHOULD BE BORNE IN MIND:

- (1) "EDUCATION" AS DEFINED IN THE TABLE INCLUDES ALL EDUCATION AND TRAINING, FORMAL AND NON-FORMAL;
- (2) "PRIMARY EDUCATION" REFERS TO EDUCATION AT THE FIRST LEVEL AND "SECONDARY" EDUCATION REFERS TO ALL EDUCATION AT THE SECONDARY LEVEL REGARDLESS OF TYPE (E.G. GENERAL, TECHNICAL, AGRICULTURAL);
- (3) "LITERACY RATES" (COL. 6) ARE OFTEN OBTAINED FROM COUNTRY CENSUSES. IN MANY COUNTRIES THEY ARE ONLY APPROXIMATIONS AND IT IS DOUBTFUL THAT ANY UNIFORM DEFINITION OF "LITERATE" HAS BEEN FOLLOWED CONSISTENTLY;
- (4) "PUBLIC EXPENDITURE IN EDUCATION" (COLS. 3, 4 AND 5) REFER TO ALL CAPITAL AND RECURRENT EXPENDITURES DEVOTED TO EDUCATION BY PUBLIC AND QUASI-PUBLIC AGENCIES;
- (5) "ENROLLMENT RATIOS" (COLS. 7, 12 AND 14) REFER TO SCHOOL YEAR AND MEAN THE PERCENTAGE OF ELIGIBLE CHILDREN ENROLLED FULL-TIME IN THE APPROPRIATE SCHOOL, PUBLIC AND PRIVATE BY LEVEL. THEY ARE OFTEN SUBJECT TO A WIDE MARGIN OF ERROR IN THE DEVELOPING COUNTRIES DUE TO VARIATION IN THE ACCURACY OF BASIC DATA (I.E. AGE-SPECIFIC POPULATION AND ENROLLMENTS). ENROLLMENT FIGURES FREQUENTLY ARE HIGHER THAN THE NUMBER OF STUDENTS ACTUALLY IN SCHOOL. OVERAGED STUDENTS WHOSE INCLUSION IS INDICATED BY FOOTNOTES ALSO CAN INFLATE THE RATIOS.

III. THE PROJECT

Project Objectives and Strategy

3.01 During the decade after Independence, priority was given to quantitative expansion of the formal school system at all levels (para. 2.01). Nonformal education and the development of efficient administrative and educational support services received relatively little attention even though their institutional framework was set up (paras. 2.15-2.18). In the meantime the educational system has grown into dimensions which make it necessary to consolidate and strengthen its administrative and support services before other important targets are approached. Also, the training of agricultural personnel and farmers requires urgent up-grading to allow the implementation of programs for increased agricultural output and productivity (para. 2.08) and training of accountants, bookkeepers and middle-level administrators is of high priority (para. 2.24). Therefore, the interim investment program prepared by the Zambian Government and the proposed project are designed to provide Zambia with an administrative structure to consolidate the educational achievements, to improve training for agricultural staff and farmers for rural development, and to increase the supply of middle and advanced level commercial and business know-how, atypically scarce, and consequently, in strong demand in the modern sectors of the Zambian economy. The proposed project consists of:

- (a) improvement of education administration, examinations system, research and curriculum development through the construction, furnishing and equipping of Phase II of the Educational Services Center;
- (b) expansion and improvement in business education through (i) expansion of the boarding capacity of the Evelyn Hone College of Applied Arts and Commerce; and (ii) provisions of equipment and furniture for the Business and Secretarial Studies Department at EHC and for five Trades Training Institutes;
- (c) improvement in the training of agricultural staff and farmers through provisions and/or replacement as required of teaching facilities and boarding facilities for women, utility services, staff housing, instructional equipment and transport in eight existing Farm Institutes and 20 Farmer Training Centers;
- (d) technical assistance consisting of 25 man-years of specialist services and 40 man-years of fellowships for staff development of the Evelyn Hone College and 13 man-years of specialist services and eight man-years of fellowships in agricultural education and extension; 36 man-years of specialists service for the project unit (to be provided by NORAD) and

(e) special studies consisting of:

- (i) Survey of the construction industry,
- (ii) Completion and Evaluation Study of the proposed project.

Student places and approximate enrollments are as follows:

	<u>Student Places</u>			<u>Approximate Enrollment p.a.</u>
	<u>Existing</u>	<u>New</u>	<u>Total</u>	
Educational Services Center	----- Not applicable -----			
Evelyn Hone College	1,200	-	1,200	1,000 ^{/2}
Farm Institutes (8)	640		640	3,200 ^{/3}
Farmer Training Centers (20)	594	400 ^{/1}	994	19,880 ^{/4}
Trades Training Institutes (5)	<u>1,580</u>	<u>210</u>	<u>1,790</u>	<u>1,790</u>
Total	<u>4,014</u>	<u>610</u>	<u>4,624</u>	<u>25,870</u>

/1 For women.

/2 EHC presently operates only at 80% capacity due to lack of sufficient boarding places.

/3 Average of eight weeks per course.

/4 Average of ten days per course, but the FTCs presently operating at five.

NOTE: Existing FIs and FTCs now operate at only 54% of their total capacities.

Project Items

3.02 Educational Services Center (ESC), Phase II. The MOE maintains a number of educational services facilities (e.g. curriculum development, student services and several examination services sections) located all over Lusaka and in other provinces. These services are generally housed in temporary or sub-standard facilities and administration is difficult due to their scattered locations and the lack of adequate physical facilities (para. 2.15). Establishment of Phase I of the ESC was the initial step taken towards the consolidation and improvement of all the service units of the MOE and is now being carried out under the Third Education Project (Loan 900-ZA) and would provide for the first time a unified administration of these services. The services included in Phase I are the Curriculum Development Unit, Audio-visual Aids Unit, Correspondence Course Unit, Zambia Library Service, Printing and Documentation, Orbit Magazine, and Administrative Services. The proposed project would assist in Phase II and would add to the Center an Examination Section including a Standards and Certification Division for the DTEVT, a Research, Evaluation and Guidance Section and an expansion of the Printing and Documentation Unit.

3.03 An important step forward in the equalization of educational opportunities in Zambia was the centralization and standardization of examinations at all levels. This Division administers examinations to all primary schools (about 115,000 in 1975 expanding to 202,000 in 1985), lower secondary (about 16,000 in 1975 to 32,000 in 1985), upper secondary (about 7,000 in 1975 and 25,000 in 1985) and primary teacher colleges (about 900 in 1975 and 1,500 in 1978). A special section within the Division would be administering and conducting examinations in trades and para-medical subjects offered in all of the TTIs and post-secondary technical institutes, and is expected to grow rapidly over the coming years. These examination activities would be supported by a Certification Section in the Division which would issue and distribute all awards and maintain an extensive filing system.

3.04 Curriculum improvement and development at all educational levels are foreseen to be a priority undertaking of the MOE during the forthcoming decade (paras. 2.16, 2.17 and 2.31). The Research, Evaluation and Guidance Division whose main function is to supervise and monitor the implementation of all new or revised curricula and evaluate the outcomes of instruction therefore plays a very important role in educational development. In addition, this Division administers aptitude and ability tests for job placement to all Form V students and provides career and educational guidance to teachers and compiles all educational statistics.

3.05 Business Education. Business and commercial skills at all levels have been in great demand since Independence and supply has not kept up with demand (para. 2.24). Secretaries have been systematically recruited from abroad and many continue to occupy senior positions in government and industry. The situation is even less satisfactory in accounting, bookkeeping, and business administration where only a few Zambians have received degrees or similar qualifications and dependence on foreign expertise is continuing. In order to improve the supply of Zambian business and commercial manpower the project would: (a) increase the boarding capacity and improve conditions for the teaching of accounting and related subjects through the provision of instructional equipment and furniture of the Evelyn Hone College of Applied Arts and Commerce; (b) assist the replacement of expatriates by Zambian teachers through a staff development scheme; and (c) assisting in the establishment of commercial and secretarial courses in five Trades Training Institutes through the provision of instructional equipment.

3.06 EHC is Zambia's most important single and centralized post-secondary vocational training institution. Its capacity is 1,200 student places, of which only 950 are filled at present due to limited boarding capacity (640 places). Since housing for students, other than boarding facilities of educational institutions, is almost non-existent in Lusaka, MOE has proposed the construction of 250 boarding places at the EHC campus. This measure would increase the enrollment in the business studies departments and would allow more equitable admittance of students from all regions of the country.

3.07 The EHC follows, in a very flexible way, the immediate needs of the labor market in regard to its course planning. For this reason, in only five departments, a wide range of subjects are covered and diploma and certificate programs offered. Since its inception in 1964, EHC has shown particular concern for specialized and in-service training of teachers. In 1975, four departments were operating, offering training as follows: (i) Academic and Applied Sciences Department providing a 2-year Science Laboratory Technician course and science teaching for other EHC programs; (ii) Para-medical Department offering three-year courses leading to Diplomas in Pharmacy Technology, Public Health Inspection, Medical Laboratory Technology, Physiotherapy, Radiography and 6-month courses in Meat and other Food Inspection and to train Dispensary Assistants; (iii) Hotel and Catering Department with 3-year courses in hotel management and courses leading to various specializations in the catering and tourism area; and (iv) Visual and Creative Arts Department offering 3-year full-time courses for Secondary School Teachers in Art and courses leading to the Secondary Teacher Diploma in Music. Shorter courses in Graphic and Fashion Design, Printing and Composition, Printing Machinery and Journalism are also organized. EHC admits candidates only with practical experience and upon recommendation of their employers.

3.08 The nucleus of EHC activities is however the Business and Secretarial Studies Department with a combined enrollment of 525 students (58% of the total enrollment in 1975). The following courses are offered in the Business Section: (i) 18-month courses leading to the certificate in accounting and business studies for persons already engaged in book- or record-keeping employment; (ii) diploma course in accountancy; and (iii) various courses of varying durations in store-keeping, personnel management, procurement and secretarial trade. Instructional equipment to be provided under the project would make possible improvements in the courses offered by this Department.

3.09 Unlike the other departments of EHC, where Zambianization on the average has reached 50%, the teaching staff of the Business and Secretarial Studies Department is still composed entirely of expatriates, hired under technical assistance contracts from the UK, other African countries and South Asia. Only 50% of the expatriate teachers, upon arrival in Zambia, have had previous teaching experience and for some subjects, qualified teachers are not available under existing terms of employment. Therefore, in order to improve the teacher situation, the project would include 25 man-years of technical assistance specialists and 40 man-years of fellowships (Annex III-1) for studies abroad to implement a staff development plan prepared by the DTEVT. Beneficiaries of the fellowships would be bonded to teach at least three years at EHC and would be carefully selected among graduates or professionals who have already shown an interest or special ability for teaching which would minimize the attrition rate. The Government confirmed that within six months of the date of the Loan Agreement they would provide to the Bank an updated Staff Development Plan prepared by the DTEVT for the Business and Secretarial Studies Department of the EHC including a detailed plan for the recruitment of technical assistance specialists which

would include, inter alia, a schedule for the appointment of specialists and the training of fellows and exchange views with the Bank regarding the plan as so updated and its implementation.

3.10 Trades Training Institutes (TTIs) located in eight provinces of the country have so far been successful in the basic training of certain skilled manpower demanded by the Zambian industry inside and outside big business centers. The proximity of their locations to, and their close contact with industries outside the Copperbelt, seem to have been an important factor in reducing the migration of skilled manpower to other parts of the country. Five of the eight existing TTIs at Kabwe, Luanshya, Mansa, Nkumbi and Lukashya, all located in areas of growing demand for secretarial manpower, have been chosen for the introduction of the commercial subjects. The proposed project includes provision for furniture and instructional equipment for a total of seven classrooms for commercial and secretarial courses. In preparation for the immediate offering of commercial courses, the DTEVT has recruited about ten commercial teachers.

3.11 Farm Institutes (FIs) and Farmer Training Centers (FTCs). The promotion and improvement of agricultural production in Zambia are undertaken mainly by the Department of Agriculture, Ministry of Rural Development (DAMRD - Annex III-2) largely through residential farmer training and agricultural extension programs. Residential farmer training is carried out in 27 FTCs, each of the 8 provinces having 3-4 centers where short courses for farmers and farm women are offered. Extension work is conducted in 540 agricultural camps (extension stations), each camp consisting of a farming area where generally an agricultural assistant with one or two commodity demonstrators perform extension activities. Eight FIs, one in each province, are operated by the DAMRD for in-service training of its staff. Occasionally training for more advanced farmers is also conducted. These training institutions and agricultural camps are intended to cater to the training needs of about 600,000 farm families with over a million farm workers, and some 2,000 extension and training officers and other technical staff.

3.12 Training and extension activities, however, have not been efficient and effective. A recently completed evaluation study of the farmer training and extension programs of the DAMRD which was conducted by the Rural Studies Bureau of the University of Zambia under the Third Education Project (Loan 900-ZA), revealed that while farmer training and extension activities had some influence in improving agricultural production, their overall impact has been minimal due to certain serious constraints, as follows:

- (a) the instructors at the FTCs and FIs and the extension agents and their assistants are inadequately trained for their jobs. Most of the instructors have had no training in teaching methods while the commodity demonstrators who usually have the most contact with farmers, receive only 12 weeks of training in agricultural and extension education after they are recruited into the service among Form III leavers;

- (b) a number of training institutions do not have reliable transportation facilities necessary to bring in farmers and staff for training, adequate provisions for water and electricity and accommodations for women trainees and instructors; and
- (c) in many institutions, essential instructional equipment is lacking.

3.13 Farmer training and agricultural extension programs in Zambia have the potential to contribute considerably to rural development and are the only educational programs available to farmers for their technical guidance. However, although the existing training and extension programs are not large enough to meet the training needs of the entire farming population, the evaluation study recommended that no further expansion of training and extension activities should be considered until the existing programs are upgraded to reasonable standards. This recommendation was accepted by the DAMRD and the Government decided to launch a program for the improvement of agricultural training in accordance with the findings and recommendations of the study, with the following objectives: (a) to maximize the intake of the FTCs and FIs, (b) to upgrade the teaching and technical skills of the training, extension and other technical staff of the DAMRD and (c) to raise the quality of farmer training. These objectives would be attained by: (i) improving the instructional facilities, student and staff accommodations (particularly for women), utilities and operational services of eight existing FIs and 20 existing FTCs; and (ii) providing technical assistance consisting of specialists and fellowships to assist in staff development and in planning and organization of more effective training and extension programs. Three FIs and seven FTCs are presently being upgraded with Bank assistance under the Third Education Project (Loan 900-ZA) and are expected to be completed by March 1977.

3.14 Under the proposed project, eight FIs would be provided with home economics and audio-visual workshop, improvements in staff accommodations, water supply and electricity and vehicles where needed. The improvement of transportation and accommodation facilities would enable the FIs to operate at full capacity and with better operational and educational efficiency. About 1,500 additional MRD staff would be trained p.a. as a result of this upgrading. Thirteen man-years of expert services would also be provided consisting of three man years each for an agricultural educator, a rural home economics educator, an audio-visual and teaching aids specialist, and four man-years for an agricultural extension educator (Annex III-1). The agricultural education specialist would assist in developing the skills of the residential training staff in planning and organizing relevant instructional programs, in the use of effective methods of teaching farmers and in developing a manual on planning, organizing and implementing residential training programs for farmers and extension staff. The extension specialist would assist in training the extension staff in carrying out community surveys as a means of determining their needs and as a basis for program planning and in setting up and conducting

mass instruction activities such as field days, field demonstrations and community assemblies and in developing an extension workers' manual in planning, organizing and implementing agricultural extension programs. The rural home economics educator would assist in training home extension agents and in planning and implementing home extension programs and would assist the agricultural educator and extension specialist in preparing the manuals. The audio-visual and teaching aids specialist would assist the training staff of the MRD in the preparation, production and use of locally developed teaching aids and in the operation and maintenance of audio-visual equipment. About eight man-years of fellowship training is also included for the Zambianization of the posts (Annex III-1). The Government confirmed that they would appoint the specialists within nine months after signing of the Loan Agreement. The Government also confirmed that with the help of the agricultural and the rural home economics specialists, a detailed plan satisfactory to the Bank, for the in-service training of the teaching and extension staff and the improvement of the instructional and extension programs of the DAMRD would be prepared and submitted to the Bank within 18 months after the signing of the Loan Agreement. The Plan would, inter alia, include recommendations regarding provisions for adequate travel fund allocations in order to increase the contact intensity between the extension agents and farmers (para. 2.11).

3.15 The proposed improvements to the 20 FTCs include provisions for student housing for women, home economics workshops, instructional equipment, vehicles, improvement of water and electricity supply and limited renovation and/or replacement of dilapidated office/classrooms and dining facilities. The inadequacy of essential physical facilities, the lack of instructional equipment and absence of well trained teaching staff have rendered training at the FTCs ineffective. The lack of vehicles to transport trainees to and from the centers, inadequate boarding facilities for women and lack of water and electricity have been largely responsible for hindering the Centers from operating at full capacity (para. 3.14). With the proposed improvements, a total of about 198,000 man-days of training can be conducted at the FTCs as compared to 64,000 man-days of actual training in 1973-1974. As a result, an additional 13,400 farmers and farm women p.a. in ten-day courses would attend the FTCs. Providing vehicles in each Center would not only help solve the transportation problems of the trainees but would also improve the communication and movement of the FTC staff outside of the Centers, since these Centers are located in areas which are generally inaccessible to public transportation. Instruction at these FTCs is expected to be greatly improved with better trained instructors, who would have received in-service training at the FIs (para. 3.16), and with additional equipment which would be provided under the proposed project.

3.16 It is expected that adequate staffing of the FIs and FTCs in the project will easily be provided since there are now a total of 990 training and extension officers who are based in the provinces from which to draw instructors.

3.17 Special Studies - The proposed project would include assistance to carry out the following studies:

- (i) Survey of the construction industry. The Zambian construction industry is the largest employer in the country (para. 1.12) but there has been a noticeable lack of planning in the sector and even in the Government's building program resulting what is described as a "feast and famine" situation which adversely affects the industry. The Government has attempted to develop the Federation of Building Cooperatives and has encouraged Zambian contractors by limiting work valued under K 100,000 (US\$124,000) to wholly Zambian owned firms. However, these measures have been unsuccessful due to the lack of managerial capacity and credit facilities. The industry, as a whole, is predominantly operated by expatriates and organized under "Council for the Construction Industry" made up of representatives of the contractors, design professional groups and certain government agencies. The Council, even though it represents a broad scope of the industry, has had little success in developing lines of effective communication with the Government. Also, the industry can be described as being dominated by firms owned by expatriates with little being effectively done in promoting the development of local Zambian contractors. Due to the present uncertainties over whether the Government intends to encourage or curtail private initiative and enterprise, an unhealthy atmosphere has developed and many contractors are reluctant to undertake additional work. The overall situation has also been aggravated by recent difficulties in obtaining import licenses and foreign exchange for imported items for construction. In brief, the industry is going through a very critical period awaiting for, inter alia, indications from the Government as to its future policies towards the sector. The Government has recently recognized that such problems exist and has requested assistance from the Bank to undertake a "Survey of the Construction Industry" which would give guidance as to steps to be taken to promote a viable industry. The Government gives high priority to this survey and retroactive financing up to US\$50,000 equivalent is recommended for expenditures incurred from December 1, 1976. The survey would review the industry as a whole, including the infrastructure of the industry, such as local manufactures of building materials and components, transportation and firms providing professional services (i.e., architects, engineers, quantity surveyors, etc.). The terms of reference of the survey have been prepared by the Government and reviewed by the Bank. The cost of the survey is estimated at US\$250,000 equivalent.
- (ii) Completion and Evaluation Studies. In order to facilitate the evaluation of the proposed project after its completion, funds would be provided in the project to cover expenditures in conducting evaluation studies of project

components when completed. These studies, therefore, may take place long before the project as whole is completed. Among other things, these studies should include preliminary assessments of implementation as well as of Bank procedures and interventions in connection with the project. These studies would be managed by a designated official of the Government in cooperation with the Project Director under terms of reference satisfactory to the Borrower and the Bank. The Government confirmed that the completion and evaluation studies report would be submitted to the Bank for review within three months after the completion of the project.

Technical Assistance(a) Evelyn Hone CollegeSpecialists:

Financial Accountancy Specialists	-	10	man-years
Management " "	-	5	" "
Auditing " "	-	10	" "
		<hr/>	
Total		25	" "

Fellowships:

Accountancy/bookkeeping			
Banking			
Insurance			
Advertising			
Management			
Business Administration			
Personnel Administration			
		<hr/>	
Total		40	man-years

(b) Ministry of Rural DevelopmentSpecialists:

Agricultural Educator		3	man-years
Extension Educator		4	" "
Rural Home Economics Educator		3	" "
Audio-Visual and Teaching Aids Specialist		3	" "
		<hr/>	
		13	" "

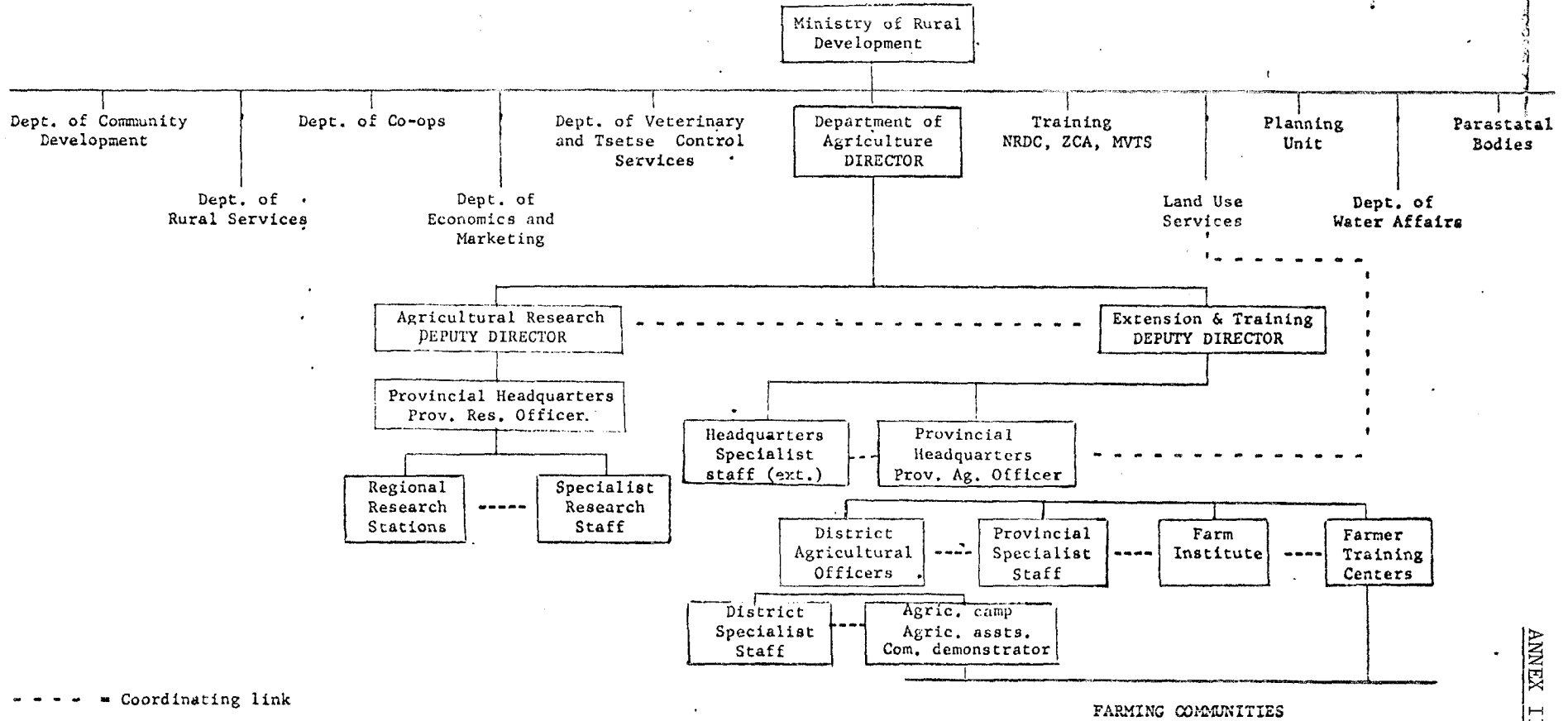
Fellowships:

Agricultural Educator		2	man-years
Extension Educator		2	" "
Rural Home Economics Educator		2	" "
Audio-Visual And Teaching Aids Specialist		2	" "
		<hr/>	
Total		8	" "

Z A M B I A

ORGANIZATIONAL STRUCTURE

Department of Agriculture
(Ministry of Rural Development)



IV. COST ESTIMATES, FINANCIAL PLAN, IMPLEMENTATION
PROCUREMENT AND DISBURSEMENT

Cost Estimates

4.01 The total cost of the project is estimated at US\$23.2 million equivalent. The estimated cost of the various categories of expenditures are shown in Annex IV-1 and summarized as follows:

ESTIMATED COST BY PROJECT ITEMS

	<u>Kwacha (Millions)</u>			<u>US\$ (Millions)</u>			<u>% of Base Cost</u>
	<u>Local</u>	<u>Foreign</u>	<u>Total</u>	<u>Local</u>	<u>Foreign</u>	<u>Total</u>	
I. <u>Civil Works, Furniture, Equipment & Vehicles</u>							
1. Educational Services Center	0.64	1.09	1.73	0.79	1.36	2.15	16%
2. Evelyn Hone College	0.43	0.54	0.97	0.54	0.67	1.21	9%
3. Farm Institutes	0.32	0.69	1.01	0.40	0.85	1.25	10%
4. Farmer Training Centers	1.21	2.15	3.36	1.50	2.68	4.18	32%
5. Trades Training Insts.	<u>0.01</u>	<u>0.08</u>	<u>0.09</u>	<u>0.02</u>	<u>0.10</u>	<u>0.12</u>	<u>1%</u>
Sub-total I	<u>2.61</u>	<u>4.55</u>	<u>7.16</u>	<u>3.25</u>	<u>5.66</u>	<u>8.91</u>	<u>68%</u>
II. <u>Professional Services (Architectural/Engineering)</u>	0.43	0.23	0.66	0.53	0.29	0.82	6%
III. <u>Technical Assistance</u>	0.42	1.68	2.10	0.53	2.09	2.62	20%
IV. <u>Special Studies</u>	0.23	0.12	0.35	0.28	0.15	0.43	3%
V. <u>Project Administration</u>	<u>0.22</u>	<u>0.12</u>	<u>0.34</u>	<u>0.27</u>	<u>0.15</u>	<u>0.42</u>	<u>3%</u>
BASE COST (Sept. 1976) Total (I-IV)	<u>3.91</u>	<u>6.70</u>	<u>10.61</u>	<u>4.86</u>	<u>8.34</u>	<u>13.20</u>	<u>100%</u>
VI. <u>Contingencies</u>							
1. Physical increases (8%)	0.34	0.56	0.90	0.41	0.70	1.11	
2. Price increases (47%)	<u>1.99</u>	<u>3.42</u>	<u>5.41</u>	<u>2.48</u>	<u>4.26</u>	<u>6.74</u>	
Sub-total VI	<u>2.33</u>	<u>3.98</u>	<u>6.31</u>	<u>2.89</u>	<u>4.96</u>	<u>7.85</u>	
Total (I-VI)	<u>6.24</u>	<u>10.68</u>	<u>16.92</u>	<u>7.75</u>	<u>13.30</u>	<u>21.05</u>	^{1/}
VII. <u>NORAD (Tech. Assistance)</u>	0.33	1.37	1.70	0.42	1.70	2.12	
TOTAL PROJECT COST (I-VII)	<u>6.57</u>	<u>12.05</u>	<u>18.62</u>	<u>8.17</u>	<u>15.00</u>	<u>23.17</u>	

^{1/} Includes taxes estimated at US\$1.0 million equivalent.

ESTIMATED COST BY CATEGORY OF EXPENDITURE

	<u>Kwacha (Millions)</u>			<u>US\$ (Millions)</u>			<u>% of Base Cost</u>
	<u>Local</u>	<u>Foreign</u>	<u>Total</u>	<u>Local</u>	<u>Foreign</u>	<u>Total</u>	
1. <u>Civil Works</u>							
a) Site development	0.37	1.32	1.69	0.46	1.64	2.10	16%
b) Buildings							
(i) Academic & Communal	1.06	0.87	1.93	1.33	1.08	2.41	18%
(ii) Boarding	0.82	0.67	1.49	1.02	0.83	1.85	14%
(iii) Staff housing	<u>0.22</u>	<u>0.17</u>	<u>0.39</u>	<u>0.26</u>	<u>0.22</u>	<u>0.48</u>	<u>4%</u>
Sub-total (b)	<u>2.10</u>	<u>1.71</u>	<u>3.81</u>	<u>2.61</u>	<u>2.13</u>	<u>4.74</u>	<u>36%</u>
Sub-total 1	2.47	3.03	5.50	3.07	3.77	6.84	52%
2. <u>Furniture</u>	0.03	0.50	0.53	0.04	0.62	0.66	5%
3. <u>Equipment & Vehicles</u>	0.11	1.02	1.13	0.14	1.27	1.41	11%
4. <u>Professional Services</u> (Architectural/Engineering)	0.43	0.23	0.66	0.53	0.29	0.82	6%
5. <u>Technical Assistance</u>	0.42	1.68	2.10	0.53	2.09	2.62	20%
6. <u>Special Studies</u>	0.23	0.12	0.35	0.28	0.15	0.43	3%
7. <u>Project Administration</u>	<u>0.22</u>	<u>0.12</u>	<u>0.34</u>	<u>0.27</u>	<u>0.15</u>	<u>0.42</u>	<u>3%</u>
BASE COST (Sept. 1976)	<u>3.91</u>	<u>6.70</u>	<u>10.61</u>	<u>4.86</u>	<u>8.34</u>	<u>13.20</u>	<u>100%</u>
8. <u>Contingencies</u>							
a) Physical increase (8%)	0.34	0.56	0.90	0.41	0.70	1.11	
b) Price increase (47%)	<u>1.99</u>	<u>3.42</u>	<u>5.41</u>	<u>2.48</u>	<u>4.26</u>	<u>6.74</u>	
Sub-total 8	<u>2.33</u>	<u>3.98</u>	<u>6.31</u>	<u>2.89</u>	<u>4.96</u>	<u>7.85</u>	
Total (1-8)	<u>6.24</u>	<u>10.68</u>	<u>16.92</u>	<u>7.75</u>	<u>13.30</u>	<u>21.05</u>	<u>1/</u>
9. <u>NORAD (Tech. Assistance)</u>	<u>0.33</u>	<u>1.37</u>	<u>1.70</u>	<u>0.42</u>	<u>1.70</u>	<u>2.12</u>	
TOTAL PROJECT COST (1-9)	<u>6.57</u>	<u>12.05</u>	<u>18.62</u>	<u>8.17</u>	<u>15.00</u>	<u>23.17</u>	

1/ Includes taxes estimated at US\$1.0 million equivalent.

4.02 Construction, furniture and equipment costs have been derived by the Government and reviewed by Bank staff on the basis of recent quotations received for similar project items in the First, Second and Third Education Projects (Loans 592-ZA, 645-ZA and 900-ZA) and in consultation with architects and quantity surveyors of the MOE and the Ministry of Public Works (MPW). Base unit costs of US\$270 per square meter on average for construction at the official exchange rate for the FIs and FTCs is somewhat high due to, inter alia, their remote locations and small size of work involved. Cost of the EHC and the ESC of US\$335-400 per square meter provides for more complex requirements, i.e., additional electrical and mechanical services and a multi-story structure for the boarding facilities at the EHC due to limitations of available land. This compares with US\$350 (October 1975) in Zaire and US\$250 (September 1976) in Madagascar. Transportation difficulties both for imported and locally manufactured items and the present status of the construction industry (para. 3.17) contribute to the high unit costs. To minimize costs, standardized building designs previously developed by the Buildings Branch of MPW and consultant architects will be used where practicable. Emphasis will be given to the maximum use of local materials and simplified building technology. The proposed schedule of accommodations are functional and areas per student place are realistic. Furniture and equipment would be kept to a minimum and of the type pertinent to the basic needs of the country to accomplish the educational objectives of the project. Academic and communal facilities, including the ESC, represents about 51% of the buildings costs; boarding 40%; and staff housing 10%. Site development is equivalent to about 31% of the total cost of civil works reflecting the project's emphasis on improving essential utility services to the existing institutions.

4.03 Customs Duties and Taxes. Items directly imported for educational facilities are exempt from import duties and taxes. The project has been costed net of import duties and taxes on those items but includes taxes estimated at about US\$1.0 million equivalent representing tax on locally procured construction materials and equipment, imported directly by contractors or vendors and for services. The Government confirmed that: (i) all imported project items procured directly by the Project Unit would be free of import duties and taxes; and (ii) that all necessary documentation, including required import licenses and authorization to remit foreign exchange, as may be required, will be processed in an expeditious manner so as not to delay project implementation.

4.04 Contingency Allowances. For physical increases, 10% has been added to the base cost of civil works and professional services (architectural/engineering) and equipment (including vehicles) and 5% for furniture, technical assistance, special studies and project administration. Estimated price increases are based upon the following annual rates for which price escalation has been calculated from the base cost date (September 1976) in accordance with the implementation schedule (Annex IV-2).

	<u>Civil Works</u>	<u>Furniture and Equipment</u>	<u>Professional Services, Tech. Assistance, Special Studies & Project Admin.</u>
1976	20	9%	7-1/2%
1977	18	8%	7-1/2%
1978-79	15	8%	7-1/2%
1980-82	10	7%	7-1/2%

Since 1970 prices in the construction sector have risen considerably over the general price index. From June 1970 to December 1974 the price index for building materials moved from 118.8 to 185.5. Since then, changes by two to seven index points/month have been frequent. For selected items (timber, metal products, paint and allied products) price increases between December 1972 and September 1974 were 85% to 42% and have become more dynamic thereafter. Difficulties by contractors in obtaining imported items and lack of competition due to the present uncertainties over whether the Government intends to encourage or curtail private initiative and enterprises (para. 3.17) also contribute to the present high cost level. As noted, Zambia has had a rate of inflation considerably above the international rate and only a gradual slow down in the rate of increase is expected.

4.05 The foreign exchange component has been calculated by Bank staff in consultation with the Government as follows: (a) site development 78%; (b) buildings 45%; (c) professional services (architectural/engineering), special studies and project administration 35%; (d) furniture 95%; (e) equipment 90%; and (f) technical assistance 80%. These percentages have been calculated on the assumption that it is likely that contracts for civil works and professional services will be awarded to firms already operating in Zambia and the bulk of furniture and equipment contracts awarded to overseas firms. Including contingencies, the foreign exchange component is estimated at US\$13.3 million excluding the grant (technical assistance) by the Norwegian Agency for International Development (NORAD).

Financial Plan

4.06 The total project cost of US\$23.2 million equivalent would be financed as follows:

	<u>Govt. of Zambia</u>	<u>IBRD</u>	<u>NORAD</u>	<u>TOTAL</u>
1. Civil Works	3.07	3.77	-	6.84
2. Furniture	0.04	0.62	-	0.66
3. Equipment & Vehicles	0.14	1.27	-	1.41
4. Prof. Services (A/E)	0.53	0.29	-	0.82
5. Tech. Assistance	0.53	2.09	2.12	4.74
6. Special Studies	0.28	0.15	-	0.43
7. Project Admin.	0.27	0.15	-	0.42
8. Unallocated (contingencies)	<u>2.89</u>	<u>4.96</u>	-	<u>7.85</u>
TOTAL	<u>7.75</u>	<u>13.30</u>	<u>2.12</u>	<u>23.17</u>
Of which taxes	<u>1.00</u>	-	-	<u>1.00</u>

4.07 An IBRD loan of US\$13.3 million equivalent would finance the foreign exchange component of the project which represents 66% of the total project cost excluding taxes and NORAD's contribution. The Government's counterpart funds of US\$7.8 million equivalent would be phased over six years with an estimated maximum contribution of US\$2.5 million equivalent required in any one Zambian fiscal year.

4.08 Recurrent cost generated by the proposed project is estimated at Kwacha 0.6 million p.a. at 1975 prices or less than 1% of the estimated total Government recurrent expenditure. The Government is expected to be able to provide these expenditures, including its share of the capital costs.

Implementation of the Project

4.09 The project would be implemented in about six years (Annex IV-2) after loan effectiveness with a proposed Closing Date of March 31, 1983. Key indicators for project supervision are included as Annex IV-3.

4.10 Administration. The Project Unit established in the Buildings Branch of the MPW for the implementation of components of Third Education Project (Loan 900-ZA) would be responsible for the financial and administrative control of the proposed project including liaison with the Bank. The Unit would also be responsible for the coordination with the various Ministries and agencies involved in the project. The Project Director is part time and the Unit would be strengthened by the addition of a full time assistant project director to be provided under the NORAD technical assistance program. Any new appointments to the positions of project director, assistant project director, architect, equipment specialist and the accountant would be in consultation with the Bank. The Government confirmed it would continue to maintain the unit and its staff. Included in the project would be supplemental operational expenses of the Project Unit. NORAD is to provide, on a grant basis, technical assistance specialists (Annex IV-4) for the project unit consisting of about 18 man-years of specialists services for the Project Unit and about 18 man-years of services of building construction supervisors. These supervisors would be responsible for the day-to-day supervision of construction work on project institutions. Qualifications and terms of reference of the construction supervisors would be satisfactory to the Bank.

4.11 Professional Services (Architectural/Engineering). Design and supervision of construction of all project institutions would be carried out by consultant architects/engineers selected and commissioned on terms and conditions satisfactory to the Bank. Standardized building designs and documents previously developed by the Buildings Branch of the MPW and consultant architects would be utilized to the maximum extent practicable. The consultants would be under the supervision of the Project Unit. The Government confirmed that the consultants would be employed within six months of the date of the Loan Agreement. It is expected however that the majority of the consultants would be appointed prior to the signing of the Loan Agreement and retroactive financing up to US\$50,000 equivalent is recommended for expenditures incurred from December 1, 1976. The building construction supervisors (para. 4.10) would be responsible for the day to day supervision of construction on all project institutions. These supervisors would be employed in the Project Unit and would work in conjunction with the consulting architectural/engineering firms who would be responsible for all technical items relating to the construction of project institutions.

4.12 Sites. Work under this proposed project consists of renovation and/or expansion of existing institutions located on satisfactory sites which are Government owned.

Procurement

4.13 Contracts for civil works, furniture, instructional equipment and vehicles would be awarded on the basis of international competitive bidding in accordance with the Bank Group's Guidelines for Procurement except as follows:

- (i) Civil works contracts to cost less than US\$250,000 equivalent each (total estimated at US\$4.5 million);
- (ii) Furniture, equipment and vehicle contracts to cost less than US\$50,000 equivalent (total estimated at US\$0.3 million); and
- (iii) Locally procured transportation services for furniture and equipment (total estimated at US\$0.1 million).

Contracts for items (i) to (iii) would be awarded on the basis of competitive bidding, advertised locally and in accordance with local procedures satisfactory to the Bank. The aggregate value of these contracts is likely to be US\$4.9 million equivalent.

4.14 Standardized sketch designs, draft tender documents and master lists of furniture, equipment and vehicles, indicating proposed grouping for tender, would be reviewed by the Bank. Items would be grouped to the extent practicable to encourage competitive bidding and to permit bulk procurement. Review of tender evaluation documents by the Bank prior to award would be required only for contracts above US\$250,000 equivalent for civil works and above US\$50,000 equivalent for equipment, furniture and vehicles.

4.15 Domestic manufacturers of furniture and equipment would be allowed a preference of 15% or the existing rate of import duties, whichever is lower, over the c.i.f. price of competing foreign suppliers.

Disbursements

4.16 Disbursement (Annex IV-5) would be on the basis of:

- (a) 100% of foreign expenditures for imported construction materials, furniture, equipment, including vehicles, and technical assistance;
- (b) 100% of ex-factory cost of locally manufactured furniture and equipment;
- (c) 45% of total expenditures for civil works;
- (d) 70% of total expenditures for imported goods purchased locally and local transportation services for furniture and instructional equipment; and
- (e) 35% of professional services (architectural/engineering), special studies, and project administration.

4.17 All disbursements would be fully documented. Disbursement for operational expenses under project administration would be made against a certificate of expenditure, documentation of which would not be submitted for review but would be retained by the Borrower and would be available for inspection by the Bank in the course of project supervision. Auditing would be required on an annual basis on expenditures incurred by the Project Unit. Auditing procedures have been mutually agreed upon by the Bank and the Borrower. Undisbursed funds would be used for project-related items as approved by the Bank.

ZAMBIA - FOREIGN EDUCATION PROJECT

SUMMARY OF PROJECT COST

(Kwacha 1 = US\$ 1.264 - September 1976)

No.	Project Items Name	Student Places		Gross Area of New Construction M ²	Site Development		Civil Works		Furniture		Instructional Equipment		Professional Services		Special Studies & Training		PROJECT TOTAL			
		Existing	New		Academic & Communal	Boarding	Staff	Total	Civil Works	Furniture	Equipment	Total	Professional Services	Technical Assistance	Special Studies & Training	Project Admins - Kwacha (0000)	US\$ Millions (0000)			
1.	Educational Services Center - Lusaka	n.a.	n.a.	3,220	82,400	1,030,400	-	1,030,400	1,112,800	154,600	463,600	1,731,000	see total	see total	1,731	2,154	2.15			
2.	Evelyn Home College - Lusaka	1,200	1,200	2,668	72,240	-	72,240	798,000	97,100	73,000	338,600	970,100	"	"	970	1,202	1.21			
	Sub-total (1-2)	1,200	1,200	5,888	154,640	1,030,400	72,240	1,728,400	1,210,800	231,200	538,600	2,201,100	"	"	2,201	3,381	3.36			
3.	Farm Institute - Kambe	60	60	275	82,000	43,200	-	17,575	60,775	142,775	42,800	42,800	192,075	-	-	-	-			
4.	" " - Mansa	60	60	275	33,000	43,200	-	18,030	63,030	96,050	6,700	145,550	-	-	-	-				
5.	" " - Mungwi	88	88	435	60,000	91,800	-	19,475	111,275	171,275	14,000	56,000	241,275	-	-	-				
6.	" " - Zambezi	96	96	275	33,000	45,000	-	18,030	63,030	96,050	6,500	42,800	145,350	-	-	-				
7.	" " - Namushankonde	60	60	340	57,000	66,150	-	19,475	85,625	142,625	9,600	42,800	195,025	-	-	-				
8.	" " - Masaiti	100	100	55	1,300	13,200	-	13,200	14,500	2,000	12,000	28,500	-	-	-					
9.	" " - Kanchochwa	88	88	55	1,425	14,575	-	14,575	16,000	2,000	12,000	30,000	-	-	-					
10.	" " - Kamopolia	88	88	55	1,425	14,575	-	14,575	16,000	2,000	12,000	30,000	-	-	-					
	Sub-total (3-10)	640	640	1,765	269,125	333,725	-	92,625	426,400	655,525	48,300	283,200	1,008,025	see total	see total	1,008	1,254	1.25		
11.	Farmer Training Center - Chailimbene	20	20	440	21,000	23,725	-	23,725	36,800	15,375	104,900	14,100	165,000	-	-	-				
12.	" " - Kibati	24	24	44	34,400	23,300	-	23,300	36,800	15,375	109,875	129,475	-	-	-					
13.	" " - Serenje	24	24	44	34,400	23,300	-	23,300	36,800	15,375	109,875	129,475	-	-	-					
14.	" " - Nkukulatwa	56	20	76	86,000	49,500	-	49,500	99,800	13,600	29,000	228,400	-	-	-					
15.	" " - Mibenge	20	20	40	83,200	22,800	-	22,800	36,000	13,500	9,600	10,000	175,100	-	-	-				
16.	" " - Nkucaba	20	20	40	83,200	22,800	-	22,800	36,000	13,500	9,600	10,000	175,100	-	-	-				
17.	" " - Npongwe	48	20	68	32,200	22,800	-	22,800	36,000	13,500	9,600	10,000	175,100	-	-	-				
18.	" " - Ketele	30	20	50	67,900	23,700	-	23,700	37,500	17,500	10,000	129,850	-	-	-					
19.	" " - Mheretisi	32	20	52	61,600	23,700	-	23,700	37,500	17,500	10,000	129,850	-	-	-					
20.	" " - Tomboka	20	20	40	81,900	23,600	-	23,600	37,500	17,500	10,000	129,850	-	-	-					
21.	" " - Noyokoso	32	20	52	89,900	23,600	-	23,600	40,500	15,375	10,500	10,000	191,875	-	-	-				
22.	" " - Mpeka	48	20	68	35,200	25,600	-	25,600	40,500	15,375	10,500	10,000	133,850	-	-	-				
23.	" " - Kedeompo	20	20	40	38,600	23,700	-	23,700	37,500	17,500	10,000	129,850	-	-	-					
24.	" " - Kasempa	20	20	40	83,600	23,700	-	23,700	37,500	17,500	10,000	129,850	-	-	-					
25.	" " - Mwalilunga	20	20	40	83,600	23,700	-	23,700	37,500	17,500	10,000	129,850	-	-	-					
26.	" " - Chafukoma	20	20	40	83,600	23,700	-	23,700	37,500	17,500	10,000	129,850	-	-	-					
27.	" " - Kama	40	20	60	85,400	39,700	-	39,700	15,000	179,800	12,700	14,500	207,000	-	-	-				
28.	" " - Namwehi	30	20	50	58,600	40,400	-	40,400	96,275	13,200	15,000	183,075	-	-	-					
29.	" " - Sesheke	20	20	40	35,200	23,600	-	23,600	37,500	17,500	10,000	129,850	-	-	-					
30.	" " - Sesheke	20	20	40	35,200	23,600	-	23,600	37,500	17,500	10,000	129,850	-	-	-					
	Sub-total (11-30)	296	600	996	1,265,100	563,525	-	563,525	762,900	292,825	1,623,200	2,131,100	2,356,000	see total	see total	2,325	4,116	4.18		
	1-35, Trades Training Institutes (15) /	1,580	210	1,790	-	-	-	-	-	-	-	-	-	-	-	-	93	115	0.12	
36.	Professional Services (Arch/Engr.)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	661	822	0.82	
37.	Technical Assistance (Specialists & Technicians)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,105	2,670	2.62	
38.	Special Studies & Agricultural Training Programs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	345	430	0.43	
39.	Project Administration	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	339	600	0.62	
	BASE COST - Sub-total (1-39)	-	-	-	14,360	1,848,915	1,931,700	1,488,640	385,350	3,805,880	5,564,775	7,134,651	7,137,701	660,600	2,105,432	345,350	339,600	10,609	13,201	13.20
40.	Contingencies (a) Physical increase (8%)	-	-	-	166,896	193,170	148,679	78,350	380,590	549,480	26,410	113,470	689,360	66,000	105,270	17,270	16,980	895	1,114	1.11
	(b) Price increases (4.7%)	-	-	-	1,015,850	1,542,850	1,116,500	281,930	2,811,200	3,827,150	137,350	293,000	4,259,300	483,160	547,400	34,500	88,300	5,413	6,736	6.74
	Sub-total (40)	-	-	-	1,182,746	1,806,020	1,265,179	320,500	3,191,890	4,376,630	163,760	406,470	4,948,660	546,160	652,670	51,770	105,280	5,908	7,850	7.85
	PROJECT TOTAL	5,012	610	4,654	14,360	2,877,635	3,837,220	2,754,020	706,000	6,997,770	5,971,465	6,929,035	15,434,121	12,104,561	2,758,102	387,120	664,880	16,917	21,051	21.05

/ Located in Shumba, Kabwe, Mankwato, Mankwato, and Lusaka.

ZAMBIA - FOURTH EDUCATION PROJECT
IMPLEMENTATION AND EXPENDITURE SCHEDULE ^{1/}

Implementation Schedule	Years	1				2				3				4				5				6				
		Quarters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
	<u>US\$ Millions</u>																									
I. Civil Works																										
1. Educational Services Center	1.39	::*	***	***	***	\$\$\$	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	vvv	vvv	vvv	vvv						
2. Evelyn Hone College	0.99	::*	***	***	***	\$\$\$	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	vvv	vvv	vvv	vvv								
3. Farm Institutes (8)	0.87	:::	###	###	***	***	**\$	\$\$\$	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	vvv	vvv	vvv	vvv						
4. Farmer Training Centers (20)	3.59	:::	###	###	***	***	***	\$\$\$	\$\$\$	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	vvv	vvv	vvv	vvv		
Total I	6.84																									
II. Furniture		***	***	***	***	\$\$\$	\$\$\$	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	vvv	vvv								
III. Equipment & Vehicles		***	***	***	***	\$\$\$	\$\$\$	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	vvv	vvv								
IV. Technical Assistance																										
Specialists for Evelyn Hone College (300 M/M)					4	4	10	18	18	30	30	30	30	28	26	26	26	18	2							
Fellowships for Evelyn Hone College (480 M/M)					30	30	45	45	45	60	60	60	30	30	15	15	15									
Specialists for Ministry of Rural Dev. (156 M/M)							8	8	8	11	11	11	11	11	11	10	10	7	7	7	7	7				
Fellowships for Ministry of Rural Dev. (96 M/M)					4	12	12	12	12	11	11	11	11													
Assistant Project Director (66 M/M))							3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Architect (52 M/M))										3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Procurement/Equipment Spec.(48 M/M)) by NORAD										3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Accountant (52 M/M))										3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Construction Supervisors (216 M/M))							6	6	6	12	18	18	18	18	18	18	18	18	12	12	6	6	3	3		
Expenditure Schedule	<u>US\$ Millions</u>																									
1. Civil Works	6.84	-	-	-	-	-	0.12	0.20	0.29	0.45	0.60	0.68	0.68	0.68	0.68	0.65	0.55	0.42	0.30	0.20	0.15	-	-	0.19	-	
2. Furniture	0.66	-	-	-	-	-	0.08	0.16	0.10	0.04	0.04	0.04	0.04	0.04	0.04	0.03	-	0.03	0.02	-	-	-	-	-	-	
3. Equipment & Vehicles	1.41	-	-	-	-	-	0.18	0.18	0.14	0.25	0.12	0.10	0.05	0.12	0.12	-	-	0.05	0.05	0.05	-	-	-	-	-	
4. Professional Services (Arch/Engr.)	0.82	0.02	0.02	0.02	0.02	0.10	0.04	0.06	0.06	0.12	0.02	0.05	0.02	0.08	0.03	0.04	0.02	0.02	0.01	0.01	0.02	-	-	0.04	-	
5. Technical Assistance	2.62				0.06	0.09	0.14	0.17	0.19	0.26	0.26	0.26	0.22	0.21	0.17	0.17	0.17	0.10	0.05	0.04	0.03	0.03				
6. Special Studies	0.43				-	0.04	0.04	0.05	0.04	0.03	0.01	-	-	-	0.01	-	-	-	0.01	0.03	0.03	0.02	0.02	0.01	0.01	
7. Project Administration	0.42	-	0.02	0.01	0.01	0.01	0.03	0.04	0.03	0.02	0.02	0.02	0.03	0.01	0.03	0.01	0.03	0.02	0.01	0.01	0.02	0.01	0.01	0.01	0.01	
Base Cost - Sub-total (1-7)	13.20	0.06	0.08	0.09	0.16	0.29	0.41	0.79	1.01	1.10	1.19	1.13	1.08	1.04	1.07	1.03	0.73	0.51	0.45	0.35	0.30	0.03	0.03	0.25	0.02	
8. Contingencies	7.85	0.01	0.02	0.02	0.04	0.08	0.11	0.21	0.27	0.29	0.33	0.34	0.31	0.29	0.69	0.69	0.59	0.49	0.49	0.44	0.45	0.40	0.40	0.44	0.45	
TOTAL PROJECT (1-8)	21.05	0.07	0.10	0.11	0.20	0.37	0.52	1.00	1.28	1.39	1.52	1.47	1.39	1.33	1.76	1.72	1.32	1.00	0.94	0.79	0.75	0.43	0.43	0.69	0.47	

^{1/} Implementation starts at date of Loan effectiveness.

Legend: : Selection and appointment of consultants \$ Tender and award phase
Survey of sites x Construction and delivery of furniture/equipment phase
* Design/preparation of construction furniture/equipment & tender document phase v Defects liability period/guarantee period

KEY INDICATORS FOR PROJECT SUPERVISIONA. Schedule of Obligation to be met by Borrower
(Covenants of the Loan Agreement)

Covenants	Section of Loan Agreement	To be completed by:	Status	Remarks
1. Appointment of Architectural/Engineering Consultants	3.02(a)	Within six months of date of Loan.		
2. Appointment of Assistant Project Director	3.02(b)	by NORAD.		
3. Submission of an updated staff development plan for the EHC including plan for appointment of Technical Assistance Specialists and Fellows for EHC.	3.06	Included in a plan to be submitted within six months of date of Loan.		
4. Appointment of Technical Assistance Specialists for MRD.	3.07	To be employed within nine months of date of Loan.		
5. Submission of a detailed plan for the retraining of the agricultural teaching and extension staff of DAMRD.	3.08	Within 18 months after the date of Loan Agreement.		
6. Submission of a completion and evaluation studies report.	3.09	Three months after completion of project.		
7. Submission of audit reports for project administration expenditures.	4.02	Annually.		

B. Schedule for Completion of Physical Facilities

1. Construction and equipping of:
- (i) Educational Services Center Phase II 45 months after Loan effectiveness.
 - (ii) Evelyn Hone College 39 months after Loan effectiveness.
 - (iii) Farm Institutes (8) 45 months after Loan effectiveness.
 - (iv) Farmer Training Centers (20) 54 months after Loan effectiveness.
 - (v) Trades Training Institutes (5) 18 months after Loan effectiveness.
2. Completion of survey of construction industry. 18 months after signing of Loan Agreement.

Also refer to Implementation Schedule Annex IV-2

C. Education Objectives

- 1. Zambianization of EHC staff (Business & Commerce).)
 - 2. Retraining of staff of FIs.)
 - 3. Retraining of staff of FTCs.)
 - 4. Training of extension agents.)
 - 5. Training of Farmers.)
- See plan mentioned in A-3, A-4, and A-5 above.

ZAMBIA - FOURTH EDUCATION PROJECT

IMPLEMENTATION OF THE PROJECT

TECHNICAL ASSISTANCE FOR THE PROJECT IMPLEMENTATION UNIT

(To be Provided by NORAD)

Specialists:

Assistant Project Director	5½	man-years	
Project Architect	4¼	"	"
Equipment Specialist	4	"	"
Accountant	4¼	"	"
Sub-total	18	"	"
Construction supervisors	18	"	"
TOTAL	36	"	"

ZAMBIA - FOURTH EDUCATION PROJECT
ESTIMATED SCHEDULE OF DISBURSEMENTS
 (US\$ Millions)

<u>Quarters</u> ^{1/}	<u>Disbursements</u>	<u>Accumulated Disbursements</u>	<u>Undisbursed Balance</u>
1	-	-	13.30
2	-	-	13.30
3	0.10	0.10	13.20
4	0.10	0.20	13.10
5	0.15	0.35	12.95
6	0.20	0.55	12.75
7	0.35	0.90	12.40
8	0.65	1.55	11.75
9	0.80	2.35	10.95
10	0.90	3.25	10.05
11	1.00	4.25	9.05
12	0.95	5.20	8.10
13	0.90	6.10	7.20
14	0.85	6.95	6.35
15	1.10	8.05	5.25
16	1.10	9.15	4.15
17	0.85	10.00	5.30
18	0.65	10.65	2.65
19	0.60	11.25	2.05
20	0.50	11.75	1.55
21	0.50	12.25	1.05
22	0.30	12.55	0.75
23	0.30	12.85	0.45
24	0.45	13.30	-

^{1/} From date of Loan effectiveness.

V. BENEFITS AND JUSTIFICATIONS

5.01 The proposed project would finance an interim investment program and would provide the necessary infrastructure for a fundamental education reform which is expected to start soon (paras. 2.29-2.35). Benefits in quantitative terms would be substantial. The supply of extremely scarce middle and advanced level manpower (in particular, accountants) in business and commerce would increase from 40 p.a. to 300 p.a., and technical assistance and a staff development scheme to Zambianize the business studies faculty over a span of six years. In the rural sector, the project would create additional capacity for the training of 13,400 farmers and farm women p.a. through the FTCs and improve the in-service training capacity of the FIs for agricultural and extension staff. Most of the new capacity in the FTCs is designed and reserved for women--a target group neglected in the past--and the training programs would undergo major revisions.

5.02 In addition, the project would promote coordination and administration of educational services and improved educational research, evaluation and guidance is expected to bridge the gaps between the school system and the labor market needs. The standardization of examinations would gear the content of instruction in various levels and types of education to Zambian needs. Finally, the study of the construction sector would provide the basis for the reorganization of a sector whose orderly development is vital to all other sectors of the economy.

5.03 Risks. The risks of the project relate basically to the FTCs, their program orientation, the attendance of farmers, etc. In fact, as pointed out in para. 3.15, the improvement in physical facilities is only one of the inputs required to develop an effective system of farmer training. In order to minimize the risks, the project includes about 13 man-years of technical assistance and evaluation studies (para. 3.14 and 3.17).

VI. AGREEMENTS REACHED AND RECOMMENDATIONS

6.01 Agreement was reached with the Government on the following principle points:

- (a) technical assistance, staff development, in-service training of agricultural teaching staff and evaluation studies (paras. 3.09, 3.14 and 3.17); and
- (b) employment of architectural/engineering consultants, auditing procedures and project implementation arrangements (paras. 4.03, 4.11 and 4.17).

6.02 Retroactive financing is recommended for: (a) the survey of the construction industry; and (b) architectural and engineering services (paras. 3.17 and 4.11).

6.03 The proposed project constitutes a suitable basis for a Bank loan of \$13.3 million equivalent to the Republic of Zambia on standard IBRD loan terms.

RELATED DOCUMENTS AND DATA AVAILABLE IN THE
PROJECT FILE

A. General Reports and Studies on Sector(s):

- | | |
|--|--------------------|
| 1. Educational Statistics | Nov/Dec. 1975 |
| 2. Monthly Digest of Statistics | September 1976 |
| 3. Statistical Profile of Zambian Education | December 1975 |
| 4. 1974 Primary School Statistics | |
| 5. Draft Statement on Educational Reform | March 31, 1976 |
| 6. Aims and Objectives for Education in Zambia | May 9, 1974 |
| 7. Aspects of Adult Education in Zambia | December 1973 |
| 8. Sector Profile-Mining, Manufacturing and Construction in Zambia | September 1975 |
| 9. Academic Staff Development Programme - The University of Zambia | January 1974 |
| 10. The IBRD Rural Sector Survey of August 11, 1975 - A Review by Mr. W. Conklin | September 20, 1975 |

B. General Reports and Studies Related to Project:

- | | |
|---|---------------|
| 1. Request for Educational Services Center Phase II | November 1975 |
| 2. Request for Evelyn Hone College | November 1975 |
| 3. Request from Department of Agriculture (Farm Institutes & Farmer Training Centers) | June 1976 |
| 4. Request for Survey of Construction Industry | November 1976 |
| 5. Request for New Secondary Schools | November 1975 |
| 6. An Evaluation Study of Zambia's Farm Institutes and Farmer Training Centers | December 1975 |

7. A Study of the Transport Requirments
of all Departments (Ministry of Rural
Development) September 1975
8. Preliminary Suggestions of a Fact -
Finding Mission to Zambia - - -
of the Netherland's Ministry of
International Development Cooperation April 2, 1976
9. Address by H.E. President Kaunda at
Seventh Graduation Ceremony at the
University of Zambia July 12, 1975
10. Tracer Project - The University of Zambia

C. Selected Working Papers:

1. "Working Papers" (Schedule of
Accommodations, Areas &
Costing of Project Items) December 1, 1976
2. General Conditions of Contract for Works
to be executed for the Government of the
Republic of Zambia August 1974
3. General Specifications - Civil Work
(Interim Metric Edition) February 1973
4. Architectural Drawings:
 - 4-1 Type 202 House January 1976
 - 4-2 Type 311 House April 1976
 - 4-3 Type 312 House September 1971
 - 4-4 Type 321 House April 1972
 - 4-5 Dormitory Block December 1968
 - 4-6 Kitchen/Dining Block (Farm Institute) April 1964
 - 4-7 Lecture Room/Office Block
(Agricultural Stations) October 1962
 - 4-8 Classroom/Office/Dining/Kitchen
Block (F.T. Center) October 1968
 - 4-9 Classroom/Office/Library Block
(F.T. Institute) September 1968

ZAMBIA - FOURTH EDUCATION PROJECT

KEY TO MAP

<u>No.</u>	<u>Name</u>	<u>City/Province</u>
1	Educational Services Center	Lusaka/Central
2	Evelyn Hone College	Lusaka/Central
3	Farm Institute	Keembe/Central
4	" "	Mansa/Luapula
5	" "	Mungwi/Northern
6	" "	Zambezi/Northwestern
7	" "	Namushakende/Western
8	" "	Masaiti/Copperbelt
9	" "	Kanchomba/Southern
10	" "	Katapola/Eastern
11	Farmer Training Center	Chalimbana/Central
12	" " "	Mkushi/Central
13	" " "	Serenje/Central
14	" " "	Mukulaikwa/Central
15	" " "	Mibenge/Copperbelt
16	" " "	Mutaba/Copperbelt
17	" " "	Mpongwe/Copperbelt
18	" " "	Katete/Eastern
19	" " "	Mbereshi/Luapula
20	" " "	Samfya/Luapula
21	" " "	Isoka/Northern
22	" " "	Mpika/Northern
23	" " "	Mporokoso/Northern
24	" " "	Kabompo/Northwestern
25	" " "	Kasempa/Northwestern
26	" " "	Mwinilunga/Northwestern
27	" " "	Chafukuma/Northwestern
28	" " "	Kaoma/Western
29	" " "	Nangweshi/Western
30	" " "	Sesheke/Western
31	Trades Training Institute	Kabwe/Central
32	" " "	Luanshya/Copperbelt
33	" " "	Lukashya/Northern
34	" " "	Mansa/Luapula
35	" " "	Nkumbi/Central

REPUBLIC OF ZAMBIA FOURTH EDUCATION PROJECT

- PROJECT INSTITUTIONS**
- ⊙ Educational Services Center
 - ⊙ Eyeing Home College
 - ⊙ Farm Institutes
 - ⊙ Former Training Centers
 - ⊙ Trades Training Institutes
- Other Symbols**
- Roads
 - No. Ways
 - In report indexes
 - District boundaries
 - Provincial boundaries
 - International boundaries
 - Rivers
 - Swamps

