

(871)

# Institute of Development Management

INSTITUTE  
- 1 DEC 1978  
DEVELOPMENT OF  
LIBRARY

GROWTH AND RESOURCE ALLOCATION  
IN LESOTHO'S PRIMARY SCHOOL  
SYSTEM

BY

JOHN G. ABBOTT, B.Sc.

IDM RESEARCH PAPER NO. 2

AUGUST, 1978.

**Botswana  
Lesotho and  
Swaziland**

GROWTH AND RESOURCE ALLOCATION  
IN LESOTHO'S PRIMARY SCHOOL  
SYSTEM

BY

JOHN G. ABBOTT, B.Sc.

IDM RESEARCH PAPER NO. 2

AUGUST, 1978.

## FOREWORD

In September 1977 the IDM and the Ministry of Education of Lesotho had initial discussions on undertaking a research study on certain aspects of education in future policy development. The study it was agreed would be focused principally on equity issues in regard to finance and distribution of resources, projections of future requirements, and patterns in the allocation of resources. The outline followed closely the format of an earlier study the IDM had made in Botswana in 1976 which had been found useful in the work of the National Education Commission in that country.

Mr. John Abbott was engaged as the principal researcher under the general direction of Mr. Jim Campbell, the IDM's Research Coordinator. Mr. Abbott began in early December working closely with Ministry of Education staff in Maseru. Besides assembling information and conducting research for the IDM study he assisted the Ministry in supervising the collation and tabulation of the results of a major inventory project of the elementary school system of Lesotho.

The results of the research undertaken and findings and conclusions reached are presented in this second IDM Research Paper. It is hoped that this may prove useful to the Ministry of Education of Lesotho and to others concerned with the important role education plays in the development of that country.

George V. Haythorne,  
Director.

TABLE OF CONTENTS

	Page
Forward	i
Contents	ii
List of Tables	iii
I Introduction and Background	1
II Growth of the System	5
- Teacher Supply	5
- School Furniture	13
- School Classrooms	16
III Location Factors in Resource Allocation	18
IV Summary and Conclusions	22
Appendix	-
Glossary	-

List of Tables

	Page
Table 1 - Number of Primary Schools, Classrooms, Classes, Pupils, Teachers, and Pupil:Teacher Ratio by Governing Body - March 1976	2
Table 2 - Number of Primary Schools, Classrooms, Pupils, Teachers, and Pupil:Teacher ratios for the year 1967-1976	3
Table 3 - Class Accommodation in Primary Schools in Lesotho - March 1975	4
Table 4 - Seating Provisions in Primary Schools	4
Table 5 - Teacher Stock and NTTC Pre-Service Teacher Output Projected to 1985	6
Table 6 - Total Projected Teacher Supply Including In-Service LIET Trained Teachers	8
Table 7 - Projected Untrained Teachers Supply at One Percent Growth	9
Table 8 - Projected Annual Per Teacher Salaries: 1977-1985	10
Table 9 - Projected Cost of Primary Teachers: 1977-1986	11
Table 10 - Trends in Primary Teachers Salaries, Education Budget and Total Government Budget - 1974/76 - 1977/78	12
Table 11 - Actual and Projected Government Revenues to 1979/80	13
Table 12 - Provision of Equipment, Teaching Aids and Toilets: Sample By School Location and Denomination - 1976	14
Table 13 - Estimated New Classrooms and Classroom Improvement Requirement	16
Table 14 - A Comparison By Denomination of Allocated Funds For Classrooms Building and Improvement	17
Table 15 - Pupils Per Teacher, Pupils Per Training Teacher, Pupils Per Classrooms by Denomination and Location	19
Table 16 - Percentage of Untrained Teachers and Primary Higher Trained Teachers by Denomination and Location	20
Table 17 - Sample of Standard 7 Examination Results by School Location and Denomination - 1977	21

Appendix Tables

- Table 1 - Teacher Wastage
- Table 2 - High, Medium, and Low Twenty Schools in Each District:  
Pupil/Teacher Ratio
- Table 3 - Higher, Medium, and Low Twenty Schools in Each District:  
Pupil/Classroom Ratio
- Table 4 - High, Medium, and Low Twenty Schools in Each District by  
Pupil/Seat Ratio
- Table 5 - A Comparison of Standard Seven Examination Results of  
Ten Schools in Each District Having the Highest Pupil/Teacher  
Ratio with Ten Having the Lowest.

## Introduction and Background

The majority of Lesotho's primary schools is administered by four Missions. Table 1 shows that in 1976 the Lesotho Evangelical Church (LEC) operated 40 per cent of the schools which had 41 per cent of total enrolments. The Roman Catholic Mission (RCM) had the largest school ownership with 41 per cent of schools and 44 per cent of enrolments. The Anglican Church of Lesotho (ACL) was the third largest operating body in 1976 with 14 per cent of schools under its control and 12 per cent of enrolments. The African Methodist Episcopal Church (AME), Government and other non-mission schools represented approximately 5 per cent of total schools and 3 per cent of total enrolments.

Most Primary Schools do not offer full courses. In fact in 1976 out of a total 1063 schools only 39 per cent were able to offer a full seven year course.

In most cases schools offering incomplete courses up to standards 5 or 6 are situated in the mountains. Pupils attending these schools are obliged, where this is possible, to change schools for the final year. But often there is no alternative schools available. Nevertheless the percentage of schools providing full courses has improved from 16 per cent, 184 schools in 1967 to 39 per cent, 418 schools in 1976. Table 2 also shows the downward trend in the total number of registered<sup>(1)</sup> schools during the same period from a peak of 1350 in 1979 stabilising at approximately 1080 schools since 1972.

The trend in pupil enrolments is also shown in Table 2. Enrolments have increased at a rate of approximately 1.6 per cent per annum in ten years ended 1976 and amounted to approximately 222,000 in that year.

The proportion of children of school-going age, 6-12 years, attending primary school is quoted by official sources as 72 per cent. The proportion of boys and girls attending primary school has remained steady throughout the decade ended 1976 with girls accounting for approximately 60 per cent of total enrolments (see Table 2).

The numbers of teachers classified by type of training is shown in Tables 2 and 3. In 1976 there were 2975 trained and 1260 untrained teachers employed in the primary teaching service. The percentage of un-qualified teachers declined slightly over the decade ended 1976 to just under 30 per cent from a peak 36 per cent in 1971. The pupil teacher ratio for the country in 1976 was 52 to 1 (Table 2) having deteriorated to the levels of the late 1960's due to a marked rise in total enrolments in 1974.

---

1. There are about 20 semi-registered primary schools which are not recognised by Government and receive no assistance with teachers salaries.

NUMBER OF PRIMARY SCHOOLS, CLASSROOMS, CLASSES, PUPILS, TEACHERS AND PUPIL: TEACHER RATIOS BY GOVERNING BODY-MARCH 1976

Govern- ing Body	No. of Schools	Pcntage of Schools	No. of Class- rooms	No. of Classes	NO. OF PUPILS				NO. OF TEACHERS				Pupils Per Quali- fied Teacher	Pupil: Total Tea- cher Ratio	No. of Schools Offering Full Course	% of Total No. of Schools
					Boys	Girls	Pcntage of Total	Total	Quali- fied	un- Quali- fied	Total	% of un- Quali- fied Teachers				
L.E.C.	431	40	942	1648	38184	52965	41	91149	1041	468	1509	31	1:88	1:60	168	39
R.C.M.	440	41	1489	1949	38084	58528	44	96612	1442	551	1993	28	1:67	1:48	172	39
A.C.L.	151	14	387	591	11638	15622	12	27260	364	204	568	36	1:75	1:48	58	38
A.M.E.	10	1	23	43	774	1057	1	1831	33	8	41	20	1:56	1:45	6	60
Govt. & C'ttee	16	2	63	69	1299	1294	1	2593	57	16	73	22	1:45	1:36	7	44
Other	15	2	44	52	1189	1383	1	2572	38	13	51	25	1:68	1:50	5	33
TOTAL	1063	100	2948	4352	91168	130849	100	222017	2975	1260	4235	30	1:75	1:52	416	39
TOTAL 1975	1065	-	2875	4733	90915	131017	-	221932	2948	1280	4228	30	-	1:52	378	35

Note

L.E.C. - Lesotho Evangelical Church  
R.C.M. - Roman Catholic Mission  
A.C.L. - Anglican Church of Lesotho  
A.M.E. - African Methodist Episcopal Church



TABLE 2

NUMBER OF PRIMARY SCHOOLS, CLASSROOMS, CLASSES, PUPILS, TEACHERS AND PUPIL:  
TEACHER RATIOS FOR THE YEARS 1967 - 1976

Year	No. of Schools	No. of Class-rooms	No. of Classes	NO. OF PUPILS				NO. OF TEACHERS			% un-Qualified	P:T Ratios	No. of Schools Offering Full Course	Schools offering full course as 1% of all schools
				Boys	Girls	% of Girls	Total	Qualified	un-Qualified	Total				
1967	1165	...	...	65671	102132	61	167803	2116	949	3065	31.0	1:55	184	16
1968	1204	...	...	71206	108180	60	179386	2151	1268	3419	37.1	1:52	185	15
1969	1304	...	...	73154	107749	60	180903	2329	1254	3583	35.0	1:51	227	17
1970	1350	...	...	73441	109954	60	183395	2615	1349	3964	34.0	1:46	...	...
1971	1112	...	...	68582	102872	60	171454	2470	1407	3877	36.3	1:44	...	...
1972	1085	...	...	69506	103706	60	173212	2619	1317	3936	33.5	1:44	328	30
1973	1085	...	...	75650	111809	60	187459	3823	1128	3951	28.5	1:47	378	35
1974	1081	...	...	88057	129981	60	218038	2924	1215	4139	29.4	1:53	378	35
1975	1080	2875	4733	90915	131017	59	221932	2948	1280	4228	30.3	1:52	378	35
1976	1078	2948	4352	91168	130849	59	222017	2975	1260	4235	29.8	1:52	416	39

Source: Education Statistics, Bureau of Statistics, Maseru.

Pupil:teacher ratios for Districts are close to the average for the country. Only inter-denominational comparisons of P:T ratios by Mission (Table 1) show significant variation; Government and Committee schools having substantially fewer pupils per teacher. Only LEC schools have P:T ratios higher (60:1) than the national average (52:1).

Pupils per qualified teacher in the three largest missions, which together operate 95 per cent of the schools in 1976 were RCM 67:1, ACL 75:1, LEC 88:1. Finally, another meaningful indicator of the primary schools system is the number of classes held in the open air and the number of pupils seated on the floor (Table 3).

TABLE 3

Class Accommodation in Primary Schools in Lesotho, March 1975

No. of Classes by Type of Building									
School Building		Church Building		Other Building		Open Air		Total	
No.	%	No.	%	No.	%	No.	%	No.	%
2274	54	1571	33	257	5	328	7	4773	100

Source: Ministry of Education, Annual Report 1974-1975.

Table 3 illustrates that in 1975 7 per cent of primary schools classes were held in the open air. Only 54 per cent of classes were housed in a specifically built classroom.

TABLE 4

Seating Provision in Primary Schools - 1975

Pupils Seated									
at desks		on chairs		on benches		on the floor		Total	
No.	%	No.	%	No.	%	No.	%	No.	%
72343	32	1604	1	57209	26	90776	41	221932	100

Table 4 shows that 41 per cent of pupils in 1975 had no form of seating whatsoever. This situation is one to which the paper will address itself in a later section.

## Growth of the System

This section will examine the supply of three critical inputs; teachers, classrooms and furniture in relation to current sufficiency, future needs and projected costs.

### Teacher Supply

The Kingdom of Lesotho's Second Five Year Development Plan aims at achieving a pupil-teacher ratio policy of 49:1 in primary education by 1979. This objective rests on the future performance of the National Teacher Training College (NTTC) which received its first students in April 1975.

The writer was fortunate to have access to various enrolment and teacher projections and reports produced for the Mid Project Review of the NTTC. (2) In the following paragraphs these projections are reviewed and utilized.

The enrolment projections produced in 1976 for the Ministry of Education by Cheswas, a UNESCO Consultant, appear to be reliable and realistic. Table 7 (see Page 9) shows his projected enrolments to 1985. Cheswas estimated that total enrolment will expand at the rate of approximately 1:6 per cent per annum from 221,400 in 1976 to 254,700 in 1985. This represents an overall 11 per cent increase between 1976 and 1980 compared with a 4 per cent increase from 1980 to 1985. This projected output of primary school teachers is taken from the NTTC projection published in "Papers for the Mid Project Review" although some inaccuracies and inconsistencies appear in these projections and they have been revised accordingly. In particular double counting occurred with respect to the 1976 and 1977 output of teachers graduating with Primary Higher Qualifications.

Table 5 shows the revised projections of existing stock of teachers and anticipated output of teachers from the NTTC holding Primary Teachers Certificate and Advanced Primary Teachers Certificate (APTC).

Figures in brackets denote students in the course of studying. During these three years our figures show a 4 per cent annual wastage, the same as that used in the NTTC Mid Project Review Report. However, with regard to wastage during teaching our figures compared the stock of qualified teachers in consecutive years over a ten year period, 1967 to 1977, after having adjusted for teacher output of the previous year. Thus Appendix Table 1 clearly shows an average annual wastage of approximately 2.5 per cent. Consequently the projections use a rounded 3 per cent annual teacher wastage instead of 5 per cent previously used.

---

(2) Papers for the Mid Project Review, National Teacher Training College, August, 1977.

TABLE 5

TEACHER STOCK AND NTTC PRE-SERVICE TEACHER OUTPUT: PROJECTED TO 1985

		1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
Original Stock of Trained Teachers (1)		actual (2975)	actual (2976)	2887	2800	2716	2635	2556	2479	2405	2332
	75	(50) <sup>(2)</sup>	50	46	45	44	42	41	40	38	37
Output of	76	(186)	(186)	186	180	175	169	165	160	154	150
Primary	77		(205)	(197)	(186)	183	178	172	167	162	157
Teachers	78			(240)	(230)	(221)	215	208	202	196	190
Certificates	79				(240)	(230)	(221)	215	208	202	196
(PTC) and	80					(240)	(230)	(221)	215	208	202
Advanced	81						(240)	(230)	(221)	215	208
Primary	82							(240)	(230)	(221)	215
Teachers	83								(240)	(230)	(221)
Certificates	84									(240)	(230)
(APTC	85										(240)
Total Output Pre-Service Teachers		-	50	232	225	219	604	801	992	1175	1355
Stock Plus Output Pre- Service Teachers		2975	3026	3119	3025	3118	3239	3357	3471	3580	3687

Notes (1) Assumes 4% annual drop out during 3 year course and 3% wastage during teaching.

(2) Brackets denotes teachers in course of study.

Table 6 provides the total supply situation projected to 1985, including in-service trained teachers. The purpose of the Lesotho In-Service Education of Teachers (LIET) Program is to upgrade and certify primary teachers who do not have the opportunity to follow a full pre-service course. The first LIET course which started in June 1976 consisted of correspondence teaching, supported by five two-week sessions at the NTTC during school holidays and four terms of field assignments between the campus sessions. There are seven certificates each of one year's duration and equivalent to other teaching qualifications.

At the time of writing the Lesotho Government had not announced whether LIET Certificate 1 should be considered as "qualified teacher" level. There is therefore doubt as to whether it should be included or excluded from the projected supply of qualified teachers. The NTTC projections for the Mid Term Project Review excluded LIET Certificate 1 teachers from the qualified teacher supply projections; however, for convenience computed future teacher supply including and excluding LIET 1 teachers are shown (Table 6). However, the teacher salary cost projections have included LIET Certificate 1 teachers as "Qualified" and assumed they are at least equivalent to the lowest cadre of qualified teachers<sup>(3)</sup>. These projections therefore anticipate that the total supply of trained teachers will increase from 2975 in 1976 to 4687 in 1985 (Table 6).

---

(3) The lowest cadre of qualified teachers are: N.P.L. II, D.M., UPGR, EV II, ITC II.

TABLE 6

TOTAL PROJECTED TEACHER SUPPLY INCLUDING IN-SERVICE LIET TRAINED TEACHERS

	1976	77	78	79	80	81	82	83	84	85
Trained Teacher Stock + PTC/APTC Output	2975	3026	3119	3025	3118	3239	3357	3471	3580	3687
Plus LIET 2	-	-	34	33	32	31	261	253	483	468
Total Projected Teacher Supply with LIET 2 only	2975	3026	3153	3058	3150	3270	3618	3724	4063	4155
LIET 1 Output	-	-	64	60	429	416	583	566	549	532
Total Projected Supply of Trained Teachers (LIET 1 & 2 Included)	2975	3026	3217	3118	3579	3686	4201	4290	4612	4687

Note: LIET 1 = Std. 7 + 2 yrs course; equiv. to J.C. )  
LIET 2 = LPTC )

TABLE 7

PROJECTED UNTRAINED TEACHERS SUPPLY AT PER CENT  
GROWTH SHOWING RESULTING P:T RATIOS

Rate of Growth	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	P:T Ratio in 1985
1%	1260 (52.2)	1273	1285	1298	1311 (50.4)	1324	1338	1351	1364	1378	(42.0)
Projected Entolments (000's) (Cheswas)	221.4	227.0	236.7	249.6	246.5	245.7	246.7	246.3	250.3	254.7	

Note: brackets denotes P/T ratio in that year.

Table 8 shows the projected salaries which are applied to the various cadres of teachers in our supply projections. These were based on actual salaries paid in 1977/78 and projected increments for the following year.

Untrained teachers are in effect a residual in the supply projections. They are used to staff unfilled but established teaching posts. As a percentage of all primary teachers unqualified teachers have remained fairly constant since 1973 at around 30 per cent (see Table 2).

Table 7 shows the actual number of untrained teachers in 1976, 1260, projected at an annual growth of 1 per cent. The figures in brackets denote the pupil-teacher ratios when this number of untrained teachers is added to the projected supply of trained teachers. The one per cent rate of growth will imply an increase of only 118 untrained teachers over nine years to 1985 leading to an average P:T ratio of 50:1 in 1980 and 42:1 in 1985. (4)

---

(4) Comparing schools with high and low pupil:teacher ratios did not reveal any significant variation in terms of better or worse Standard 7 examination results. Therefore lowering the overall pupil:teacher ratio by itself may not improve student performance (See Appendix Table 5).

TABLE 8

PROJECTED ANNUAL PER TEACHER SALARIES: 1977 - 85

	1977	1978	1979	1980	1981	1982	1983	1984	1985
	----- (RANDS) -----								
(a) Trained Teacher Stock	1,118	1,221	1,270	1,373	1,373	1,428	1,485	1,545	1,607
(b) Untrained Teachers	640	640	640	640	672	672	672	672	672
(c) PTC/APTC Teachers from NTTC	1,400	1,442	1,500	1,560	1,622	1,687	1,754	1,825	1,898
(d) LIET I	850	876	911	948	986	1,025	1,066	1,109	1,153
(e) LIET II	1,400	1,442	1,500	1,560	1,622	1,687	1,754	1,825	1,893

- NOTES
- (a) Trained Teacher Stock salaries valued at actual average trained teacher salaries paid in 1977/78. The actual 3.11 per cent increment in the years 1977/78 and 1978/79 was raised by the author to 4 per cent per annum from 1979 onwards.
  - (b) Valued at average untrained salaries paid in 1977/78. No increments are paid on untrained teacher salaries. In anticipation of possible 1980 salary review the projection shows a "one shot" 5 per cent increase in 1980.
  - (c) PTC/APTC teachers salaries scale not yet announced by Government. The projection assumes these teachers will start on the second notch of the Primary Higher scale i.e. approximately R1400. A 3.11 per cent growth until 1978 and 4 per cent thereafter is used.
  - (d) LIET I teachers salary scale not announced but will probably be equivalent to the lowest cadre of qualified teachers (UPGR/EVII etc.) i.e. R850. A 3.11 per cent and a 4 per cent from 1979 are used.
  - (e) LIET II teachers salary not announced but it is expected that it will be equivalent to the PTC scale.



TABLE 9

PROJECTED COST OF PRIMARY TEACHERS: 1977 - 86

	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85	1985/86	1986/87
	----- ( RAN DS ) -----									
Teacher Stock	3,462,840	3,570,708	3,525,027	3,556,000	3,587,836	3,617,855	3,649,968	3,681,315	3,715,725	3,747,524
PTC/APTC From NTTC	-	20,000	334,544	337,500	341,640	979,688	1,351,287	1,739,968	2,144,375	2,571,790
LIET 2 From NTTC	-	-	49,028	49,500	49,920	50,282	440,307	443,762	881,475	888,264
LIET 1 From NTTC	-	-	56,064	54,660	406,692	410,176	597,575	603,356	608,841	613,396
Untrained Teachers at 1% annual growth	967,932	967,932	822,400	830,720	839,040	889,720	899,136	907,872	916,608	926,016
<b>TOTAL SALARIES</b> (Rands)	4,430,772	4,538,640	4,787,063	4,828,380	5,225,128	5,949,721	6,938,273	7,376,273	8,267,024	8,746,990

Table 9 presents our projection of the recurrent cost of primary teachers salaries from 1977 through 1986. Over the period we estimate that salaries will increase from R4.4 M. to approximately R8.8 M.

In 1976/77 personal emoluments of primary school teacher represented approximately 50 per cent of the total education budget while the education budget represented about 18 per cent of the total Government budget. (Table 10).

In the four years ended 1977/78 salaries and emoluments of teachers nearly doubled from R2.1 M to R3.9 M. (Table 10). However, the percentage of the total education budget going to primary teachers salaries has fallen from 51 per cent to 45 per cent. Education's share of total Government expenditure has also fallen from 23 per cent to 18 per cent.

TABLE 10  
TRENDS IN PRIMARY TEACHERS SALARIES,  
EDUCATION BUDGET AND TOTAL GOVERNMENT  
BUDGET - 1974/5 - 1977/78

	1974/75	1975/76	1976/77	1977/78
Primary Teachers Salaries (Rands)	2, 171, 730	3, 229, 030	3, 531, 650	3, 951, 527
Total Education Budget (Rands)	4, 294, 790	6, 382, 910	7, 086, 290	8, 808, 497
Primary Teachers Salaries as Percentage of Education budget	51%	51%	50%	45%
Total Government Budget (Rands)	19, 000, 000	28, 470, 100	40, 334, 683	48, 905, 950
Education budget as percentage of total Government Budget	23%	22%	18%	18%

Source: Ministry of Finance and Ministry of Education, Maseru.

Primary teachers salaries increased at nearly the same rate as the total education budget until 1977/78 but substantially slower than the growth of the Governments total expenditure budget. The substantial growth in the Government Budget is mainly a consequence of the much increased customs duty revenue from the Common Customs Agreement as shown below (Table 11).

TABLE 11

ACTUAL AND PROJECTED GOVERNMENT REVENUE TO 1979/80

	75/76	76/77	77/78	78/79	79/80
	..... ( Rands ).....				
	Actual	Actual			
Customs Duty Revenue	15.3	18.9	22.7	31.4	33.9
Total Government Revenue	26.8	32.1	37.0	47.6	52.1

Total Government revenue is estimated to exceed R52 M in 1979/80, approximately double the 1975/76 level. On the other hand these projections show that teacher salaries will double in approximately 10 years from the same base 1975/76. In other words our projected primary teacher salary estimate for 1986 of R8.8 M will be a smaller percentage of total revenue than at present. This is a conservative estimate when education expenditure in most African countries is a growing share of total expenditure and in the face of buoyant Government revenues education in Lesotho may successfully argue for increased funds.

School Furniture

The shortage of school furniture throughout Lesotho's primary schools was discussed earlier in this paper. Table 4 showed that in 1975 41 per cent of pupils were seated on the floor; in some mountain districts such as Butha-Buthe and Mokhotlong as many as fifty three and sixty per cent were sitting on the floor. In order to obtain a better picture of the distribution of school furniture a small random sample of 67 schools from District Headquarters, schools at altitudes of 4000 - 6000 ft. and schools at 6 - 8000 ft. were selected from contour maps produced for the school mapping project on which all primary schools had been located. Each school on these maps has a name and code number, the latter defining the district and the mission.

The number of desks, benches, tables, chalkboards and toilets/latrines in each school has already been obtained by the Ministry of Education in a recent questionnaire so this data was used. Table 12 indicates that a relationship exists between the provision of student seating and both the altitudes at which a given school is situated and the denomination of that school.

TABLE 12

PROVISION OF EQUIPMENT, TEACHING AIDS & TOILETS:  
SAMPLE BY SCHOOL LOCATION AND DENOMINATION. 1976

	District Headquarters			Schools at 4-6000 ft.			Schools at 6-8000 ft.		
	LEC	RCM	ACL	LEC	RCM	ACL	LEC	RCM	ACL <sup>*</sup>
Percentage of Pupils without seating	66.0	33.5	34.0	85.7	49.1	45.8	67.6	68.7	-
Percentage of Pupils with desks	10.5	11.7	17.0	6.0	4.4	9.1	14.1	2.8	-
Teachers per Table & Chair	3.3	0.84	1.0	8.0	2.4	1.8	2.0	2.54	-
Chalk-boards per Teacher	0.85	1.82	1.1	0.78	1.15	1.3	1.0	1.42	-
Pupils/Lavatory	86	104	48	2430	24	15	No. Lav.	No. Lav.	-

Source: Sample data based on Ministry of Education questionnaire.

<sup>\*</sup> Sample of ACL schools at this altitude too small to be statistically significant.

Sample data indicates that schools in District Headquarters have markedly better seating facilities than schools situated elsewhere. For example, 66 per cent of pupils in LEC schools situated in District Headquarters have no seat compared with 86 per cent of pupils in LEC schools at 4-6000 ft. and 68 per cent of pupils at 6-8000. On the other hand in the case of RCM schools the percentage of pupils without a seat in District Headquarters was found to be only 34 per cent, 49 per cent at 4-6000 ft. and 60 per cent at 6-8000 ft. With ACL schools a similar pattern was found; schools in District Headquarters had 34 per cent of their students seated on the floor and schools at 4-6000 ft. 49 per cent without seats. In addition, provision of school desks is also biased towards District Headquarters and against schools in higher locations. This finding was anticipated in view of the logistical problems of transporting school furniture to difficult mountain terrain and the generally lower incomes obtaining in mountain regions (apparently individual schools are generally responsible for their own fund raising and only the Roman Catholic Mission undertakes redistribution of resources). It was also found that all locations show deficiencies, in seats for teachers, that chalkboards appear to be generally adequate and that latrines/lavatories are very scarce in schools in high 6-8000 feet mountain locations.

Returning to the pupil seating deficiency, which is a serious but remediable situation, the existing school furniture supply situation was briefly examined. The findings were as follows:

The Ministry of Education, assisted by the international agency CARE, produces school furniture in a purpose built workshop in Maseru. The current annual output of single and double desks, 4 seater tables and three legged stools is 2,200 student units. The cost ex factory, Maseru is as follows:

Single desk	R7.20
Double desk	R14.20
Four seater table	R13.50

Annual sales are quoted as 2,000 student units. Inventory storage is given as one of the major constraints on production but there are some indications that orders from schools are down and they tend to come from town and lowland schools. This is not surprising when it is claimed that the transport cost of a desk delivered to Mokhotlong approximate half the price of the desk itself. Other problem areas are as follows:

- lack of promotion of the desk project by the manufacturer and Ministry. Both parties deny responsibility for sales
- doubts about the robustness of desk design when furniture is used by adults as well as children
- the desks and tables do not adequately stack for ease of transport by truck to remote areas.

The number of student units required in 1976 together with additional demand by 1985 were estimated at cost (ex transport) in terms of current prices. Given a current primary school enrolment of 222,000 and assuming 60 per cent of pupils are seated on the floor the number of student seat units currently required is approximately 133,000. With the present output the CARE project would take nearly 65 years to supply current needs. Even at the quoted potential output of 7,000 student units per year the task of providing each child with a seat is still physically unattainable. There are also financial constraints on schools, particularly in the rural and mountain areas. For example, a school of 150 pupils will require, say, 120 student units costing R860 excluding transport for which one might add a further R400. It is doubtful if this sum, which amounts to an additional school fee of R8 per pupil, is realistic or equitable.

Using R7.20 per unit the estimated cost of supplying current needs is just under R1m. Estimated growth in enrolments between 1976 and 1985, of approximately 33,000 will require a further R242,500 that is, a total of approximately R1,240,000 by 1985 (excluding replacements and transport).

There is clearly a need for additional school furniture secured through external aid or other sources. Part of the supply might be provided through factories established under Bedco to manufacture suitably designed equipment including alternative designs such as stackable wooden table tops with "knocked down" tressles and benches for mountain schools.

#### School Classrooms

The following table from the project memorandum of the proposed EEC/British primary school classroom building and improvement project represents the number of new classrooms and improvements estimated by the Ministry of Education to be required to house the present 222,000 enrolment at a P:T ratio of 40:1. The Government estimates that 1,828 classrooms require repair and 2,602 new classrooms need to be built.

TABLE 13  
ESTIMATED NEW CLASSROOM AND CLASSROOM  
IMPROVEMENT REQUIREMENT

Type of Classroom	Present Number	Satisfactory Classrooms	Classrooms needing repairs	New Class-rooms needed	Needed R value
a) Standard	2,948	1,120	1,828	1,123	9,791,950
b) Church	1,018	-	-	1,018	4,733,700
c) Other	221	-	-	221	1,027,650
d) Open air	240	-	-	240	1,116,000
<u>Total 40:1 ratio requires</u>		1,120	1,828	2,602	16,669,300
5500 class-rooms					

Source: Ministry of Education: European Economic Commission Education Project Memorandum.

At the time of writing approximately 125 schools have been identified for assistance by the Government under this project. There are a number of observations to be made on the selection process.

The following table shows the distribution of funds between the missions compared to the percentage of classrooms owned by respective denominations.

TABLE 14

A COMPARISON BY DENOMINATION OF ALLOCATED FUNDS  
FOR CLASSROOM BUILDING AND IMPROVEMENT

	RCM	LEC	ACL	AME	Comm- unity	Total Amounts Allocated
	R	R	R	R	R	R
Funds Allocated Rand	1,404,393	448,874	397,512	201,902	9,354	2,462,035
Funds Allocated as % of Total	57%	18%	16%	8%	1%	
Number of Class- rooms owned by Missions as per- centage of total	51%	32%	13%	1%	1%	

Source Ministry of Education: Memo to Education Secretaries 13 Sept. 1977.

The table shows that the allocation of funds to Missions is not proportional to the number of classrooms owned by respective missions. The Roman Catholic Mission is allocated 57 per cent of funds while owning 51 per cent of classrooms, but the Lesotho Evangelical Church has been allocated 18 per cent of total building funds but its ownership of classrooms is 32 per cent.

The selection of schools in one District, Mafeteng, was examined and it was found that out of 16 schools selected for new classroom building only one school was LEC while 8 were RCM. The LEC school furthermore was found to be ranked thirty-second on the list of schools arranged by pupil:classroom ratio. In other words this was probably not the most needy LEC school. Using the Ministry's list of all Mafeteng schools ranked by pupil:classroom ratio the priority of 16 schools breakout as follows: 2 RCM, 2 ACL, 12 LEC. It should be noted however that this list includes mountain schools while the project is specifically for lowland schools.

The usefulness of the school mapping data is apparent in the process of determining priority needs in the location of new schools or additions to schools. Geographical disparities (see next section) should also figure prominently in the location of new schools in order to lessen the spatial disparities that presently exist.

In the administration of certain self-help projects, for example, latrines, it was found that mountain schools do not always respond to letters and circulars from the Ministry advising them of such projects. Consequently the Ministry tends to select schools which respond to information circulars irrespective of the location of these schools or their ownership. A more balanced development of self-help projects might be achieved through developing other methods of identifying priority needs.

### Location Factors in Resource Allocation

Lesotho's topography consisting of a relatively small western lowland plateau rising fairly abruptly to rugged mountainous terrain is conducive to the concentration of capital infrastructure.

Maps 1, 2 and 3 show agricultural and irrigation projects, woodlots, electricity and telephone, mines and the boundary of the Basic Agricultural Services Project which approximates to the demarcations on the topographical map between the (4-6000 ft.) lowland and the mountains. (see Appendix Map 1 particularly).

The location of capital infrastructure and development projects in the western lowland corresponds with the population density found in this region. (see Appendix Map 3).

However the respective populations of the western lowlands and mountains was unknown, although most officials seemed to think that 75 per cent of the population lives in the lowlands. The 1966 and 1976 population census was used to estimate the lowland-mountain populations and at the same time detect the magnitude and location of any migration which had occurred over this period.

A transparent overlay map of statistical enumeration area populations and population growth in these enumeration areas was compiled. Using this in conjunction with a topographical map the (4-6000 ft.) lowland de jure population is approximately fifty per cent of the total population of Lesotho, substantially less than the 75 per cent previously quoted.

Census data indicates a four per cent overall migration to the lowland from the mountains over the past ten years. Rates of migration are higher from the mountain constituencies bordering on the lowland (4-6000 ft.) plateau and the highest growth rates are found near Maseru and other lowland urban growth centres.



The pattern of infrastructure development, population growth points and migration all have an important bearing on school planning, that is, school building and improvement and school consolidation.

There is a concentration of education resources along with all other resources taking place in the lowlands. Qualified teachers' classrooms and school furniture are not evenly distributed among the separate mission school systems - a consequence of the independence of primary schools in Lesotho and the low profile taken by the Government in centralized planning. These conclusions are based on the following information.

Two samples of primary schools were used. The first was a random sample of schools located in District Headquarters in each of the nine districts, at altitudes of 4-6000 ft. and at 6-8000 ft. The second was a sample taken from lists compiled by the author ranking all 1063 primary schools according to Pupil:Teacher, Pupil:Classroom and Pupil:Furniture ratios (for the background to this school mapping exercise see Appendix 6.)

The first sample was taken from contour maps recently compiled by the Ministry of Education on which all primary schools are located. Schools are also identified on these maps by name and by a code which denotes mission, district and school number. The results of this analysis is shown in Table 15.

TABLE 15

PUPILS PER TEACHER, PUPILS PER TRAINED TEACHER, PUPILS PER CLASSROOM BY DENOMINATION AND LOCATION

Pupils per Teacher

	District Headquarters	Location 4-6000 ft.	Location 6-8000 ft.
RCM	47	44	44
ACL	58	53	54
LEC	64	53	58

Pupils per Trained Teacher

	District Headquarters	Location 4-6000 ft.	Location 6-8000 ft.
RCM	55	83	72
ACL	64	78	89
LEC	73	84	97

Pupils per Classroom or Church Hall

	District Headquarters	Location 4-6000 ft.	Location 6-8000 ft.
RCM	59	83	102
ACL	77	86	115
LEC	96	106	116

Overall pupil-teacher ratios in schools located at different altitudes do not appear to vary significantly by denomination group. For example the average pupil/teacher ratios of RCM schools at the three locations are 47, 44 and 44; for LEC schools 64, 53 and 58 and ACL schools 58, 53 and 54. The closeness of the ratios within each mission might suggest that missions have an internal policy to maintain average pupil/teacher ratio throughout their schools. Comparing missions there is a familiar pattern. At each location and altitude the rank order of mission resources is the same; first RCM, second ACL and third LEC.

Comparison of pupils per trained teacher (Table 15) gives us a clear indication that the placement of trained teachers is a function of the location of schools: the ratio of pupils to trained teachers is much lower (better) in District Headquarters and tends to be higher in the mountains. The rank order by missions is once again found to be RCM, ACL, LEC.

The bias in the spatial distribution of the most qualified (Primary Higher) teachers and the least (Std. 6, 7 and 8) is shown in the following table (Table 16).

TABLE 16  
PERCENTAGE OF UNTRAINED TEACHERS  
AND PRIMARY HIGHER TRAINED TEACHERS BY  
DENOMINATION AND LOCATION

	<u>Percentage of Untrained Teachers</u>		
	District Headquarters	Location 4-6000 ft.	Location 6-8000 ft.
RCM	15	28	39
LEC	13	28	41
ACL	8	31	40
	<u>Percentage Primary Higher Trained Teachers</u>		
	District Headquarters	Location 4-6000 ft.	Location 6-8000 ft.
RCM	27	9	11
LEC	26	10	9
ACL	28	23	20
	<u>Percentage of Untrained Teachers with</u> <u>Standard Six, Seven or Eight</u> <u>Qualifications Only</u>		
	District Headquarters	Location 4-6000 ft.	Location 6-8000 ft.
RCM	11	19	18
LEC	1	5	28
ACL	8	19	27

The percentage of untrained teachers in schools increases dramatically with rising altitude which explains the inferior pupil trained teacher ratios in schools at higher locations. Similarly the percentage of one of the best qualified groups of teachers, Primary Higher teachers, is highest in District Headquarters 27 per cent compared with nearly 10 per cent in the case of RCM and LEC schools elsewhere. The percentage of the least trained category of teacher, those possessing standard six, seven or eight is highest in schools situated in the mountains. In summary there is a statistical relationship between teacher qualifications and location of schools. There is also a relationship between qualified teachers and the ownership and management of schools, particularly in relation to pupil trained teacher ratios.

Using the previous random sample we analysed standard seven examination results of pupils in 1977. (Table 17 - for District Headquarters and 4-6000 ft. locations only).

TABLE 17  
SAMPLE OF STD. 7 EXAMINATION RESULTS  
BY SCHOOL LOCATION AND DENOMINATION 1977

<u>Examination</u> <u>Pass Grades</u>	<u>District</u> <u>Headquarters</u>			<u>4-6000 ft.</u>		
	LEC	RCM	ACL	LEC	RCM	ACL
	%	%	%	%	%	%
Grade 1	8.9	11.7	9.8	3.6	6.0	4.2
Grade 2	17.9	28.1	26.9	14.5	16.8	21.8
Grade 3	39.4	40.4	39.8	43.3	52.1	43.0
<b>Total Passes</b>	66.2	81.2	76.5	52.4	74.9	69.0
<b>Total Number of Candidates</b>	831	775	528	166	167	165
<b>Number of Schools Sampled</b>	7	7	7	5	5	5

Source: Min. of Educ., Maseru. - Std. Seven Exam. Results, 1977.

In terms of total passes schools situated in District Headquarters obtain better results than schools in the lowlands. Also inter-denominational comparison shows that 81 per cent of pupils at RCM schools obtained a pass grade in 1977 compared with 76 per cent from ACL and 66 from LEC schools. At the 4-6000 ft. locations an identical ranking of missions was found; RCM schools had a 75 per cent pass rate followed by ACL 69 per cent and LEC 52 per cent.

Having identified from the sample that significant variation in resources existed between types of school ownership and between schools located in the lower (more accessible and probably more desirable) locations and mountain locations, the analysis incorporated some of the data compiled for the school mapping exercise in the Ministry of Education. This consisted of four lists of all primary schools ranked by school reference code, pupil:teacher ratio; pupil: classroom ratio; and pupil:furniture unit ratio. (5)

Appendix Tables 2, 3 and 4 show the highest, medium and lowest 20 schools in terms of pupil/teacher ratios; pupils per classroom; and pupils to seating. The data for each district was analysed by mission denomination.

Appendix Table 2 shows that if one selects the 20 schools with the highest pupil/teacher ratios in each district the majority of these schools will be LEC schools in 8 out of 9 districts. Inversely, if one selects the 20 schools with the lowest pupil/teacher ratio in each district, the RCM schools are the majority in 9 out of 9 districts. Similarly in Appendix Table 3 of the most overcrowded 20 schools in each district, in terms of pupil classroom ratio, the majority were LEC schools in all nine districts while in 8 out of 9 districts the majority of the least crowded schools were RCM schools.

In 7 out of 9 districts the LEC schools were clearly worse off in terms of school furniture. On the other hand the RCM had better school furnishings in 8 out of the 9 districts (Appendix Table 4).

In terms of the above measures the RCM have better resources than the LEC schools in most districts.

### Summary and Conclusions

This study has utilized earlier work done on school enrolments projections for the primary or elementary system. These projections show that enrolments will expand at the rate of approximately 1.6% per annum from 221,400 in 1976 to 254,700 in 1985. Using estimates of the growth in qualified Teacher supply and a residual supply of non-qualified teachers the analysis provides costs projections of total teacher salaries through to 1986. These projections indicate that salary cost of primary teachers will nearly double from 1977 to 1986 increasing from R4.4M to approximately R8.8M. In the face of the Government's projections of total revenues education's share of total Government expenditures will decline unless salaries and other education expenditures increase beyond the possible conservative assumptions used in this analysis.

---

(5) The number of student seat units was computed for each school. A single desk was rated as one unit, a double desk two units. A five seat bench five units and eight units for a bench seating more than five pupils. Total enrolments in each school were then divided by the number of seat units.

One of the principal findings of this study is the consistent differences between education resources as measured by pupil:teacher ratio, pupil to furniture and pupils to classrooms which are exhibited among the three major denominational groups which manage 95% of the primary schools in Lesotho. The Roman Catholic mission schools consistently showed superior level of resources than the Anglican and Evangelical mission schools. The mission schools generally ranked in this order RCM; ACL; and LEC in terms of resources from better to worse. In terms of "output" as measured by a sample of Standard Seven exam grades the same rank order is observed with RCM's schools receiving the highest pass rates followed by ACL's and LEC's.

Another principal finding is the spatial pattern of resources allocated to primary schools. Generally there is a concentration of education resources along with all other resources (e.g. capital and social infrastructure) in the lowlands of the western plateau of Lesotho. In terms of pupils per trained teacher and pupils per classroom the highland locations fared worse. Similarly, the percentage of the best qualified teachers is highest in District Headquarters while the percentage of the least qualified teachers is much larger in the mountains.

Given these inter-denominational and spatial variations in the allocation of primary education resources the Ministry of Education in Lesotho should allocate resources in the future so to reduce these disparities by establishing priorities on the basis of needs. The information from the school mapping study should provide a valuable basis for the assignment of trained teachers, the provision and improvement of school buildings and school furniture. This will require a larger role for the Ministry of Education both in planning for future growth in the education system and likely a more direct role in the allocation of resources among the mission schools and on a spatial or geographical basis.

APPENDIX TABLE 1

Teacher Wastage

	No. of Qualified Teachers (a)	PTC and PH Teacher Output of Previous Year (b)	No. of Teacher Adjusted for Previous years Teachers (c) (c) = (a) - (b)	Annual Change in Teacher Stock = (a) - (c) <sup>t+1</sup>	Qualified Teacher Annual Wastage Percentage
1967	2116		2116		
1968	2151	181	1970	146	6
1969	2329	198	2131	20	1
1970	2615	203	2412	83 (net gain)	-
1971	2470	164	2306	309	12
1972	2619	240	2379	91	4
1973	2823	203	2583	36	1
1974	2924	180	2744	79	3
1975	2948	144	2804	120	4
1976	2975	108	2867	81	3
1977	2974	none	2974	1	-
				av. 1972 - 1977	<u>2.5</u>

Source Ministry of Education Statistics, Maseru.

Note: Comparing the year to year change in teacher stock after, first deducting from each year the number of new teachers who qualified in the previous year. Thus annual teacher stock changes were computed as a percentage.

APPENDIX TABLE 2

High, Medium and Low Twenty Schools<sup>x</sup>  
In each District: Pupil/Teacher Ratio

		LEC	RCM	ACL	AME	Other	Communi
		%	%	%	%	%	%
Butha Buthe	High	75	10	15	-	-	-
	Median	40	35	25	-	-	-
	Low	30	45	15	5	5	-
Leribe	High	75	10	15	-	-	-
	Median	50	30	10	5	-	5
	Low	15	50	35	-	-	-
Berea	High	60	20	15	-	-	5
	Median	30	55	15	-	-	-
	Low	25	40	30	-	5	-
Maseru	High	75	20	-	-	-	5
	Median	50	45	5	-	-	-
	Low	10	45	30	-	-	15
Mafeteng	High	70	15	10	5	-	-
	Median	45	30	20	5	-	-
	Low	15	60	10	5	5	5
Mahales	High	70	20	5	-	5	-
	Median	55	30	15	-	-	-
	Low	15	65	20	-	5	5
Quthing	High	55	25	15	-	-	-
	Median	50	35	10	5	-	-
	Low	25	40	35	-	-	-
Qacha's Nek	High	45	45	10	-	-	-
	Median	65	30	5	-	-	-
	Low	15	55	30	-	-	-
Mahotlong	High	60	35	5	-	-	-
	Median	35	65	-	-	-	-
	Low	15	45	20	-	-	-
<u>All Districts</u>	High	59	27	11	1	1	1
	Median	47	39	11	2	1	-
	Low	24	45	24	2	2	3

<sup>x</sup> Ranked in order of Pupil/Teacher ratio from High to Low.

APPENDIX TABLE 3

High, Median and Low Twenty Schools  
in Each District by Pupil-Classroom Ratio

		LEC	RCM	ACL	AME	Community	Other
		%	%	%	%	%	%
Butha Buthe	High	70	15	10	5	-	-
	Median	50	40	5	5	-	-
	Low	30	55	10	-	-	5
Leribe	High	70	10	15	-	-	-
	Median	35	25	35	-	-	-
	Low	5	75	20	-	-	-
Berea	High	60	25	15	-	-	-
	Median	65	20	15	-	-	-
	Low	15	60	15	-	5	-
Maseru	High	60	35	5	-	-	-
	Median	40	40	15	-	-	-
	Low	20	60	10	-	-	-
Mafeteng	High	70	20	10	-	-	-
	Median	40	35	15	-	5	5
	Low	25	60	-	15	15	-
Mohaies	High	65	25	5	-	5	-
	Median	50	35	5	-	5	5
	Low	30	50	15	-	5	-
Quthing	High	50	45	5	-	-	-
	Median	55	20	25	-	-	-
	Low	50	25	25	-	-	-
Macha's Nek	High	50	45	5	-	-	-
	Median	40	60	-	-	-	-
	Low	30	65	5	-	-	-
Mopotlong	High	55	40	-	-	-	5
	Median	25	45	25	5	-	-
	Low	40	45	5	5	-	-
<u>All Districts</u>							
High	179	57	31	9	1	1	1
Median	179	45	37	15	1	1	1
Low	180	31	52	11	2	3	1



APPENDIX TABLE 4

High Median and Low Twenty Schools in Each District  
by Pupil-Seat Ratio

	Range of Pupil: Seat Unit Ratio		LEC	RCM	ACC	AME	Community	Other
Eutha Euthe	22-365	High	50	30	20	-	-	-
	13-25	Median	40	35	20	5	-	-
	3-14	Low	35	45	15	5	-	-
Leribe	29-399	High	50	30	20	-	-	-
	14-19	Median	35	50	5	-	-	10
	8-10	Low	25	35	40	-	-	-
Fereca	28-168	High	55	30	-	-	5	-
	11-20	Median	40	50	10	-	-	-
	2-7	Low	15	50	30	-	-	5
Masaru	36-130	High	65	30	5	-	-	-
	9-11	Median	40	40	20	-	-	-
	1-5	Low	25	45	15	-	15	-
Mafeteng	28-109	High	60	35	-	-	5	-
	12-17	Median	45	30	20	5	-	-
	5-9	Low	20	45	30	5	-	-
Maraleshoek	35-93	High	65	35	-	-	-	-
	11-9	Median	40	50	10	-	-	-
	6-10	Low	20	55	15	-	5	5
Muthing	32-216	High	40	40	20	-	-	-
	11-22	Median	65	20	15	-	-	-
	6-9	Low	30	45	25	-	-	-
Qacha's Nek	14-112	High	80	15	5	-	-	-
	6-9	Median	40	50	10	-	-	-
	1-4	Low	-	70	30	-	-	-
Molotlong	25-202	High	35	55	10	-	-	-
	10-15	Median	35	45	15	-	-	-
	2-10	Low	20	60	15	5	-	-

APPENDIX TABLE 5

A Comparison of Standard Seven Examination  
Results of Ten Schools in Each District  
having the Highest P.T. Ratios with Ten having the lowest

District		Av. P:T	1st class %	2nd class %	3rd class %	1+2+3	No. of Candidates
Butha Buthe	Ten schools with Highest P.T. Ratio	74	13	13	29	54	311
	Ten schools with Lowest P.T. Ratio	33	8	27	45	80	338
Leribe	Ten schools with Highest P.T. Ratio	92	6	24	37	67	500
	Ten schools with Lowest P.T. Ratio	30	13	32	40	85	477
Berea	Ten schools with Highest P.T. Ratio	95	8	21	33	62	424
	Ten schools with Lowest P.T. Ratio	34	12	16	31	59	576
Maseru	Ten schools with Highest P.T. Ratio	84	6	13	38	58	485
	Ten schools with Lowest P.T. Ratio	19	11	10	35	56	466
Mafeteng	Ten schools with Highest P.T. Ratio	79	9	21	38	68	396
	Ten schools with Lowest P.T. Ratio	27	4	14	43	61	273
Mohale's Hoek	Ten schools with Highest P.T. Ratio	90	6	17	37	58	326
	Ten schools with Lowest P.T. Ratio	24	7	21	44	72	374
Quthing	Ten schools with Highest P.T. Ratio	87	6	14	36	55	387
	Ten schools with Lowest P.T. Ratio	33	15	27	38	80	396
Qacha's Nek	Ten schools with Highest P.T. Ratio	90	5	25	45	75	404
	Ten schools with Lowest P.T. Ratio	31	4	22	42	68	254
Mokhotlong	Ten schools with Highest P.T. Ratio	75	5	25	37	67	272
	Ten schools with Lowest P.T. Ratio	22	5	18	52	75	172
All Districts	Ten schools with Highest P.T. Ratio	85	7	19	37	63	3505
	Ten schools with Lowest P.T. Ratio	28	10	21	39	70	3326

APPENDIX 6

Primary School Mapping Exercise

A primary school mapping exercise was proposed in the Second Development Plan. The purpose was "to identify the area served by each school, the population of the area and the number of children expected to attend the school". Work on this project began in 1976 with enrolment projections produced by a UNESCO expert, Cheswas, and school location maps prepared by Ministry of Education staff.

With school location maps prepared a second UNESCO expert, Pernau, undertook the next stage. He investigated the feasibility of defining catchment areas for individual schools and also drafted the methodology for projecting the future enrolments of individual schools.

The Institute of Development Management agreed to supervise the actual projections and the compilation of four separate lists of all primary schools to be used to identify those schools with teacher, classroom and furniture shortages.

Mr. John Abbott of I.D.M. undertook the formulation of enrolments with the help of assistants and the full cooperation of the Ministry of Education.

The sequence of operations was as follows. Four separate lists were prepared ranked by (a) school codes (b) pupil classroom ratio (c) pupil-classroom ratio and (d) pupil-seat unit ratio. The population growth between 1966 and 1976 was calculated for each of the 60 constituencies and more than 1,000 statistical enumeration areas in Lesotho. Subsequently a transparent overlay showing all enumeration areas was drawn up and superimposed on the mapping exercise grid, referencing 60 small scale maps. The enumeration areas in which each school was located was determined. This approximated the "catchment area". The rate of total population growth in each school catchment area was then computed using the 1966 and 1976 population censuses.

Having obtained the population growth in the schools enumeration area, assuming that a constant proportion<sup>(1)</sup> of the population is enrolled in schools, the growth in enrolments to 1985 was calculated.

---

(1) Annual Growth of enrolments in each enumeration area is determined by the formula: 
$$\frac{\text{Projected rate of growth of enrolments (1.6\%)} \times \text{rate of growth of enumeration area population}}{\text{Current rate of growth of total population (2.3\%)}}$$

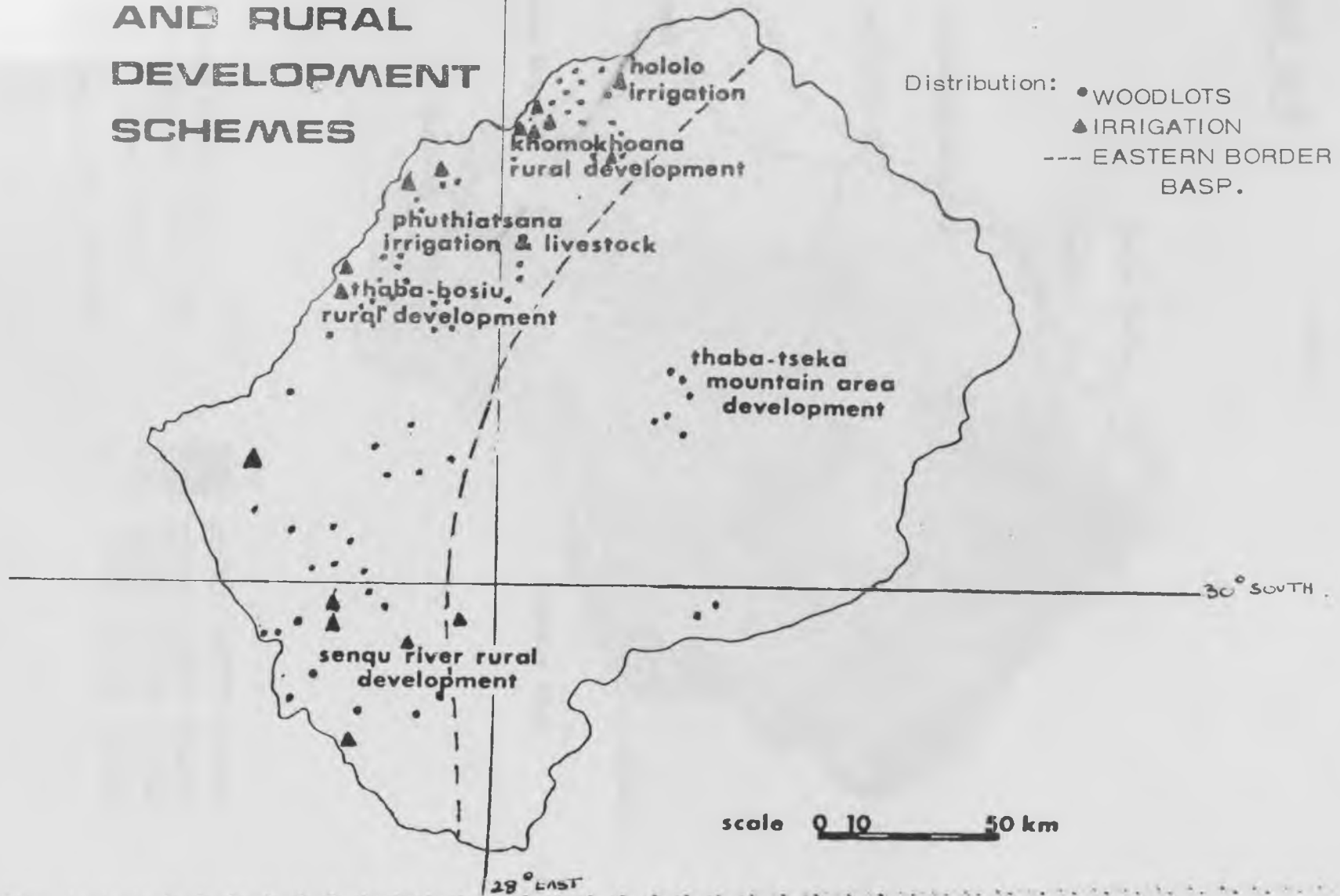
The rate of growth of enrolments (RGE) was used to project pupil enrolments using the formula: 
$$W_n = E_n \left(1 + \frac{RGE}{100}\right)^n$$

Where  $E_n$  1976 = Actual enrolments in an individual school in the base year 1976

$E_n$  1985 = Projected pupil enrolment in individual school in 1985.

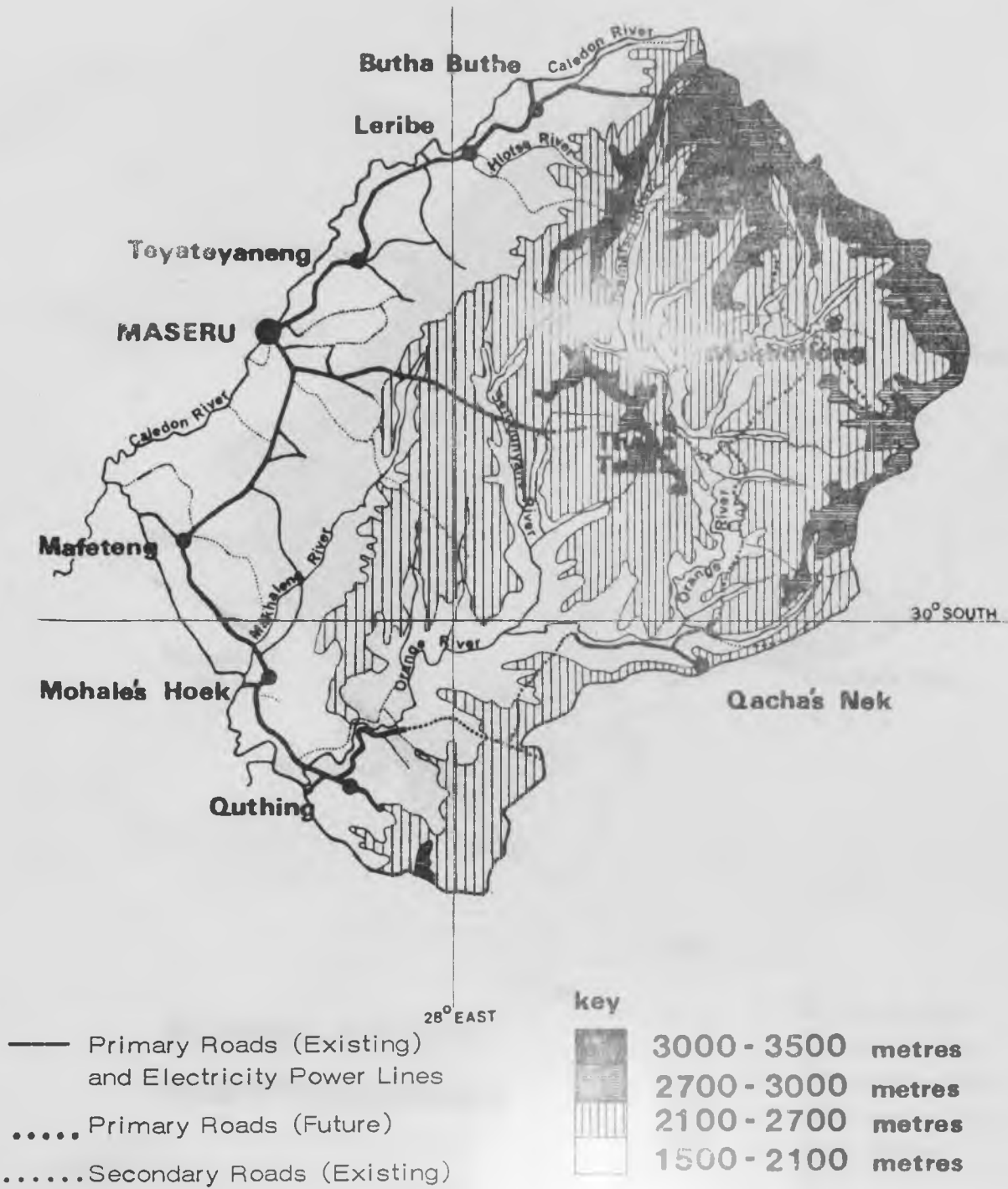
MAP 1

# AGRICULTURE AND RURAL DEVELOPMENT SCHEMES

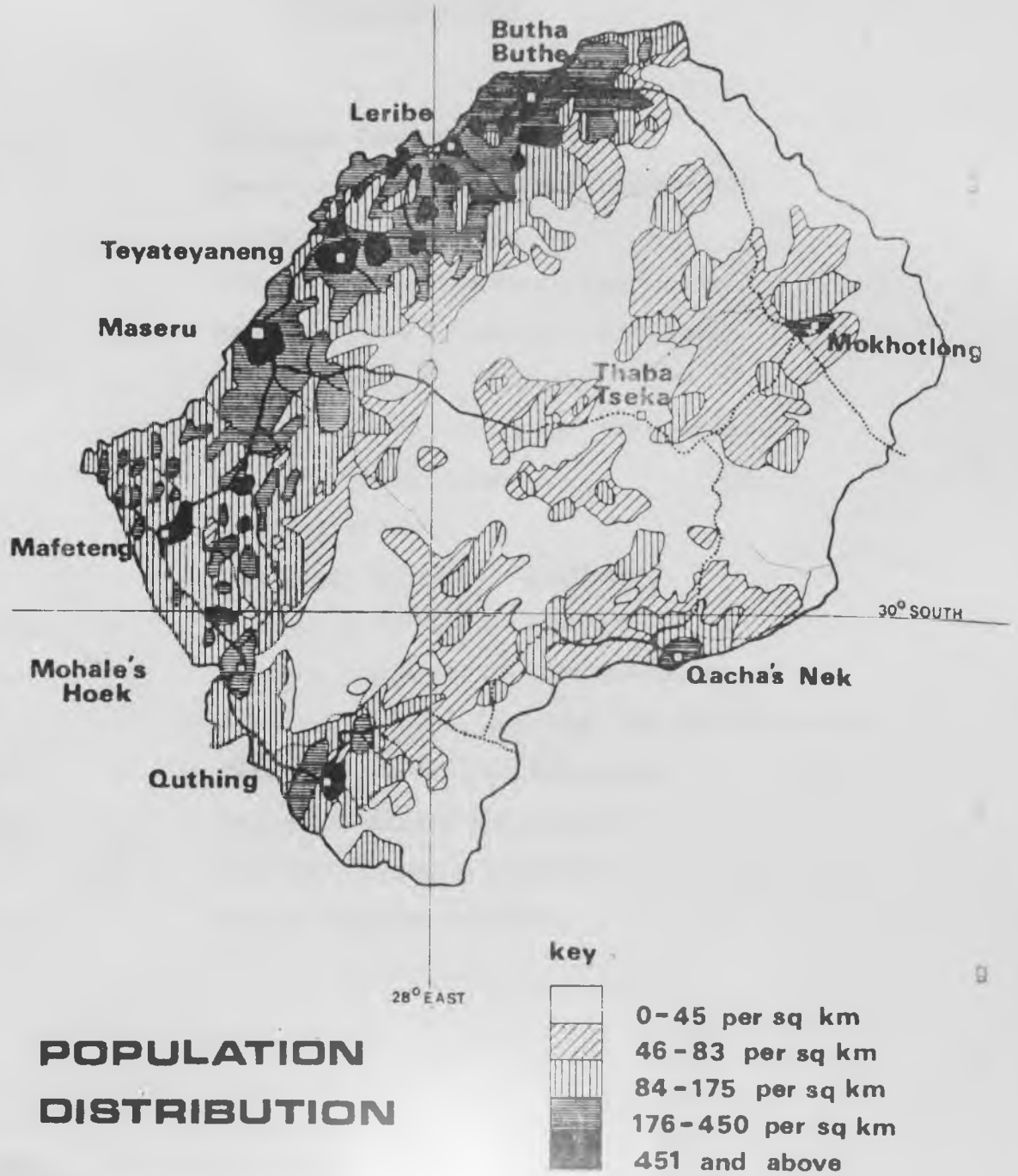


# RELIEF

MAP 2



MAP 3



## Glossary

### Teachers Qualifications Abbreviations Used

A.T.C.	-	Advanced Teachers' Certificate.
COSC	-	Cambridge Overseas School Certificate.
J.C.	-	Junior Certificate.
	-	Primary Higher Teachers' Certificate.
LPTC	-	Lesotho Primary Teachers' Certificate.
ITC	-	Infant Teachers' Certificate.
P.L.	-	Primary (Lower) Teachers' Certificate.
E.V.	-	Elementary Vernacular.
D.M.	-	Diploma of Merit.
Upgr.	-	Upgrading Teachers' Certificate.
G.C.E.	-	General Certificate of Education.
P.T.C.	-	Primary Teachers' Certificate/Course.
APTC	-	Advanced Primary Teachers' Certificate/Course.
C.P.E.	-	Certificate in Primary Education.
A.M.E.	-	African Methodist Episcopal.
A.C.L.	-	Anglican Church of Lesotho.
R.C.M.	-	Roman Catholic Mission.



This work is licensed under a  
Creative Commons  
Attribution – NonCommercial - NoDerivs 3.0 License.

To view a copy of the license please see:  
<http://creativecommons.org/licenses/by-nc-nd/3.0/>

This is a download from the BLDS Digital Library on OpenDocs  
<http://opendocs.ids.ac.uk/opendocs/>