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REPORT OF THE SURVEY TEAM

ON

EDUCATION IN MALAWI

E D U C A T I O N F O R D E V E L O P M E N T

Report of the Survey Team

on

Education in Malawi

Prepared by:
The American Council on Education
under contract AID/afe-137 with the
U.S. Agency for International Development

April 1964

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In May of 1963 a preliminary study to lay the groundwork for this report was undertaken by Messrs. Johnson and Blake, plus F. L. Wormald, Associate Director (now Vice President), Association of American Colleges, who gave invaluable service to the team.

All participants are indebted to Miss Gwendolyn Groomes, who served ably as administrative assistant, in Washington and Africa, during both the preliminary and final stages of the study.

The team was fortunate to be aided and advised by four consultants:

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The team wishes to make clear that it takes sole responsibility for the report and its recommendations.

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TERMS OF REFERENCE

1. The survey has two objectives, as stated in the contract between the American Council on Education and the U.S. Agency for International Development (US/AID): (1) "a comprehensive assessment of Nyasaland's [Malawi's] needs for educational institutions and curricular emphasis," and (2) proposals for an educational plan required for Malawi's economic and social development for the next 15 years. The contract specifications also expect "balanced attention to the educational needs of all age groups," with a view to achievement of "a closely integrated system," in the light of previous relevant surveys. Attention is given therefore to correlation with the Manpower Survey completed under Carnegie Corporation auspices and the Malawi Government's plans for social and economic development so far as available.

BACKGROUND

2. This survey is the result of the request of the Government of Malawi for external assistance in determining its educational needs for social and economic progress.

3. Through the governments of the United Kingdom and the United States of America and the personnel chosen by the Inter-University Council for Higher Education Overseas and the American Council on Education, a team of three visited Malawi from May 2 to 21, 1963, and completed in London in early June a report entitled, Education in Nyasaland: Report of Preliminary Study Team.

4. On the basis of that report, which supported the feasibility of a complete survey, identified major problems, and made tentative observations, the present survey was begun under the same cooperating auspices of Malawi, the United Kingdom, and the United States of America. To the team of four members were added four consultants concerned respectively with primary education, secondary education and teacher training, technical education, and educational finance.

5. All except Dean Twum-Barima met in Washington in the United States for three days of consultation and planning early in October, 1963. The consultants proceeded directly to London for further meetings and arrived in Blantyre on October 13. They traveled and interviewed as extensively as possible and prepared reports, both oral and written, for the use of the team upon arrival. Professor Blake arrived on November 1, after visiting Makerere College in Uganda enroute. Professor Porter and Dr. Johnson arrived on November 3, after visiting Haile Selassie I University in Ethiopia and the University College in Tanganyika enroute. Dean Twum-Barima arrived on November 12. The three team members then in Blantyre and three consultants exchanged views and conducted joint discussions during the entire week of November 3. One consultant, Dr. Hahn, remained throughout the entire study period, with additional US/AID responsibilities; and Dr. Lawrence remained until late in November because of the necessity of computing costing and advising on finance after the team had formulated tentative conclusions. Team members drafted an outline of the report, agreed on a division of further labor, and officially terminated their Malawi visit on December 5, 1963. They reassembled in Washington for the period January 31 - February 4, 1964, and revised and approved the final draft of the report.

6. Some team members or consultants were in Malawi for approximately three months in total. Although the time for the survey was necessarily short, team and consultants, sometimes individually and sometimes in groups, interviewed persons in the highest Government offices, in the civil service, in the professions, in all types of school positions, and in all

parts of the country from Chiromo in the south to Livingstonia in the north. From His Excellency the Governor and the Honourable the Prime Minister to the citizen and student, every possible courtesy and assistance was received far beyond opportunity to recognize here with proper gratitude. In facilitating travels and interviews, the able services of Mr. M.A. Chongwe were indispensable. He, as District Education Officer in Mzimba, was assigned to the survey party as Liaison representative from the Ministry of Education. Mr. A.B. Chavura earlier served the preliminary survey team in the same capacity. Throughout the period of the survey, the difficulties and frustrations of a complex assignment were more than compensated by the warm personal relations everywhere, the beauty of the country, and the ardor with which educational advance is sought.

BASIC ASSUMPTIONS

7. In a survey of this kind, with limitations of time, fact, and foresight, assumptions become unusually important. Making them explicit may be as important as what they are. In any case, certain assumptions were consciously arrived at, and are stated here as necessary companion pieces of the survey and its recommendations. They may be summarized as follows:

- (1) That a concise statement of a proposed educational plan, going only as deeply as time will permit and avoiding much implementing detail, will be most useful.
- (2) That only clairvoyance could produce a sound 15-year plan without heavy reliance on machinery established for updating both educational and manpower targets.
- (3) That the present financial limitations of Malawi should not be rigidly equated with educational limitations, however relevant they may be.
- (4) That some but a wholly unpredictable amount of assistance in human and financial resources will be forthcoming from external sources.
- (5) That since an unpalatable choice both for the team and for Malawi must be made between the mass approach of primary education and a selective approach carrying through the postprimary grades, the latter is the proper short-run choice for balanced national development.
- (6) That attention is justifiably concentrated on "investment" rather than "consumer" education in order to increase the productive resources of the country, while simultaneously recognizing that education makes invaluable ~~nonutilitarian contributions to human dignity and freedom.~~ *& doubt if the much a thing*
- (7) That after all uses have been made of quantification techniques and all aspiration to precision exhausted, the human materials of Malawi will have their own dynamics for confounding the experts.
- (8) That educational planning should start from where the Malawians are and proceed to approximate where they want to be by whatever means will be most efficacious in Malawi, however unorthodox by outside practices.
- (9) That since this report is primarily intended for official governmental use, both internally and externally, background historical knowledge can be taken for granted and omitted here except for the briefest orientation.

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8. It must be kept in mind throughout that this report was written in the transition period immediately prior to the independence date of July 6, 1964, when among other changes "Nyasaland" will become "Malawi." These two names for the nation present problems in terminology. To give the report relevance of longer duration, "Malawi" is used so far as possible.

EDUCATIONAL SETTING

9. Malawi has a population of approximately 3.7 millions rather unevenly distributed over its territory, with a heavy concentration in the south. The rate of increase is estimated at from 2 percent to 3 percent per annum. (See Table I.) This implies that the number of children needing education is increasing at an even greater percentage rate.

TABLE I

PROJECTION OF POPULATION OF MALAWI 1963 - 1980,
ASSUMING 2%, 2 1/2%, 3% PER ANNUM INCREASE

Years	2% (millions)	2 1/2% (millions)	3% (millions)
1963	3.7	3.7	3.7
1964	3.774	3.792	3.811
1965	3.850	3.887	3.925
1966	3.926	3.984	4.043
1967	4.005	4.084	4.164
1968	4.085	4.186	4.289
1969	4.167	4.291	4.418
1970	4.250	4.398	4.551
1971	4.335	4.508	4.688
1972	4.422	4.621	4.828
1973	4.510	4.736	4.973
1974	4.600	4.854	5.122
1975	4.692	4.975	5.276
1976	4.786	5.099	5.434
1977	4.882	5.226	5.597
1978	4.980	5.357	5.765
1979	5.080	5.492	5.937
1980	5.181	5.630	6.115

10. About 360,000 children (perhaps about half of the total) are in primary schools, 3,000 in secondary schools, and less than 900 are receiving instruction in technical and commercial classes either full-time or part-time. In addition, 219 students are receiving education overseas, about one-half of them in degree courses. This is twice the total for the preceding year. All totals are likely to increase rapidly.

11. Total expenditure on education is now running at the rate of about £ 1.8 million annually. This is 15 percent of all national expenditures and 3 percent of the gross domestic product (1961 figure). About one-

seventh of the total educational expenditure is shown in the report of the Ministry of Education for 1962 as being provided "from United Kingdom funds." Of the total, 81 percent comes from the central Government, 17 percent from voluntary agencies, and 2 percent from the Local Authorities. Fees are charged for equipment in the public schools and for general support in the voluntary agency schools.

12. The school system is administered by the Ministry of Education, with Local Education Authorities given special responsibility for primary education. The Ministry has a Regional Education Officer in each of the country's three geographical and administrative Regions and a District Education Officer in each of the 21 districts. Education is preponderantly supported by grants-in-aid from the central Government. While there are a few Government schools, most are operated by voluntary agencies either as governmentally "assisted" or "unassisted." In 1962 there were 40 classes or streams in Government schools, 4,992 in assisted schools, and 6,488 in unassisted schools, representing approximately 1,700, 175,000, and 151,000 pupils respectively. The influence of the unassisted school is much less at the secondary level (less than one-eighth of the student total), the role of the Government school much greater (about one-sixth), with the great majority in the assisted secondary schools. Wastage as pupils proceed through the primary grades is phenomenal--only one out of ten completes primary work in the Government schools and less than one out of 150 in the unassisted schools. Girls enter in smaller proportion than boys at the outset and suffer much heavier wastage.

13. Teacher preparation, taking all schools together, is still so inadequate that a large proportion of the primary pupils are taught by teachers only slightly better trained than the pupils themselves, with the concentration of such untrained personnel in the unassisted schools. There are 11 teacher training colleges, two Government-operated and nine run by missions. Soche Hill College, begun only in 1963, trains all secondary teachers, but there is still an overwhelming national dependence on expatriate recruits, including Peace Corps and Voluntary Service Overseas personnel.

14. The country's less than 50 college-educated citizens were trained abroad. Higher education has hardly come to the operational level, but beginnings are clear. For example, the Government has opened a junior college at Livingstonia. The U.S. Agency for International Development is financing the construction of two other institutions--an agricultural college at Bunda and a polytechnic at Blantyre.

15. In the light of these facts, the Government has given education a high priority and has made tremendous strides forward since 1960. It is determined to make education a powerful instrument for personal fulfillment and national development befitting the new state of Malawi.

PRIMARY EDUCATION

16. Malawi must undertake the seemingly impossible in education. It needs everything at once--not only primary, secondary, and higher education, but also all the noneducational requirements of economic and social development. Therefore, priorities are of the utmost importance--priorities within education and also between educational and noneducational needs. Given a few years of lead time, the educational system can be developed to produce the trained manpower required by the new and growing nation, but only at the cost of an even higher priority than education now enjoys and a larger proportion of both the national expenditures and the gross domestic product.

17. The Government's announced objective of full primary education for every child is an admirable long-term goal. It should be adhered to, although caution is required and emphasis must be on steady progress over a long period of time. Otherwise, Malawi can and will exhaust its educational resources on the kind of mass literacy which will never attain a productive level for the economy, never man the essential governmental posts, and never prepare available talent for the profession and creative pursuits. This is a painful decision, but further development of primary education is less important than further development of secondary education for the immediate future. The mere cost of maintaining present trends will be prodigious and a greater bite will be largely indigestible. By these modest standards, more than half the total educational expenditure must go to primary education. The Addis Ababa target of free primary education for all children by 1980, admirable though it is, would require in Malawi 700,000 more places for children than at present, at a capital cost of £ 2,300,000, and 15,500 more primary teachers at an annual cost of £ 2,950,000. Account must be taken of population pressure, the declining educational role of the missions and the increasing obligation of the public, the drive for a higher proportion of qualified teachers, the demands of more and more assisted schools, the qualitative defects calling for urgent remedy, the need for a larger proportion of girls in school, and both the merit and cost of balancing the educational system with more post-primary opportunities. The Government would seem well advised, therefore, to approach the development of primary education with these criteria as guides:

- (1) Provide enough new places to allow for population increase, with expansion in the proportion of school-age youth in school as financial resources will permit after higher educational priorities have been met.
- (2) Combat wastage and retain in school, both for the higher standards and for completion, a much larger proportion of those who enter and an increasing proportion of girls.
- (3) Improve instruction qualitatively by rewriting course content,

acquiring adequate equipment, increasing the number of assisted schools, and upgrading teacher preparation.

- (4) Devise means of identifying superior talent among all those caught up in the school system and encouraging them, by nonfinancial and financial means if necessary, to continue their schooling in proportion to their capacities.

18. The present heavy wastage rate obscures the fact that the total school system catches up somehow, at some time, a very large proportion of school-age youth. What the new nation, or any other nation, needs is therefore largely at hand--the means of identifying talent and giving it opportunity and encouragement in proportion to capacity for growth. This is the kind of educational democracy the new nation should seek.

19. In statistical terms, educational planning for a population increase of 3 percent calls for an expansion in the number of children in primary schools from about 365,000 at present to almost 450,000 in 1970; 560,000 in 1975; and 690,000 in 1980. (See Table II and Chart I.) This means an increase from slightly under 10 percent of the population in school to about 11.5 percent by 1980, whereas it can be assumed that so long as the figure remains below 18 percent some children will not be in school. If one out of two is now in school, three out of five may be a reasonable expectation by 1980. This proportion spread over all standards and ages disguises the fact, as noted above, that a larger proportion would be in school at some time or other.

20. The role of the Local Education Authorities in the development of primary education is most commendable. Local contributions of construction materials and labor for new schools are illustrative. Newspapers recount self-help projects in many districts, enthusiasm is high, expectations are mounting; indeed, some fears have been expressed that grass roots zeal sometimes produces buildings which will be costly to maintain and commitments difficult to finance. Local development plans which the Government requires from each district show amazing flexibility, and even daring, in rationalizing and reorganizing the school system. This skill and initiative should be encouraged. The central Government maintains sufficient control through grants and supervision, but the popular pressure for doing more and more in primary education should be tempered by increased local financial responsibility. This is a needed device to maintain proper balance between national perspective and local initiative. Local Authorities, all lumped together, put up only 2 percent of the total educational expenditures of the nation, and some districts pay nothing in cash. The establishment of a principle here is important, even if its implementation proves difficult and protracted. The Government should extend the principle of self-help, local initiative, and responsible local planning by requiring Local Authorities to bear a fixed proportion, however modest, of the rising cost of primary education. This may be done on a grant-in-aid basis requiring local matching funds at an agreed-upon ratio, perhaps with an equalization principle to take account of genuine differences in District ability to contribute. Other methods of fostering local initiative and self-help should be explored, including the merits of a contributory pension scheme for primary teachers, so operated that the public proportion

TABLE II

PROJECTION OF PUPILS AND STAFF IN PRIMARY SCHOOLS TO 1980*

Year	U	A	S	P	T	St.7.	St.8.
1962 . . .	151	175	326	3.59	4,215	10.2	9.5
1963 . . .	139	226	365	3.70	4,645	15.6	12.3
1964 . . .	125	235	360	3.81	5,222	27.4	
1965 . . .	112	258	370	3.92	5,733	28.9	
1966 . . .	99	281	380	4.04	6,244	30.2	
1967 . . .	90	305	395	4.16	6,778	30.2	
1968 . . .	82	330	412	4.29	7,333	34.4	
1969 . . .	74	356	430	4.41	7,911	41.0	
1970 . . .	67	382	449	4.55	8,489	43.6	
1971 . . .	60	408	468	4.69	9,067	46.2	
1972 . . .	55	434	489	4.83	9,644	48.8	
1973 . . .	50	460	510	4.97	10,222	51.4	
1974 . . .	50	485	535	5.12	10,778	53.9	
1975 . . .	50	510	560	5.28	11,333	56.4	
1976 . . .	50	535	585	5.43	11,888	58.9	
1977 . . .	50	560	610	5.60	12,444	61.4	
1978 . . .	50	585	635	5.76	13,000	63.9	
1979 . . .	50	610	660	5.94	13,556	66.4	
1980 . . .	50	640	690	6.12	14,222	69.4	

Key: All numbers of pupils are given in thousands.

U = Number of pupils in unassisted schools.

A = Number of pupils in assisted and Government schools.

S = U + A

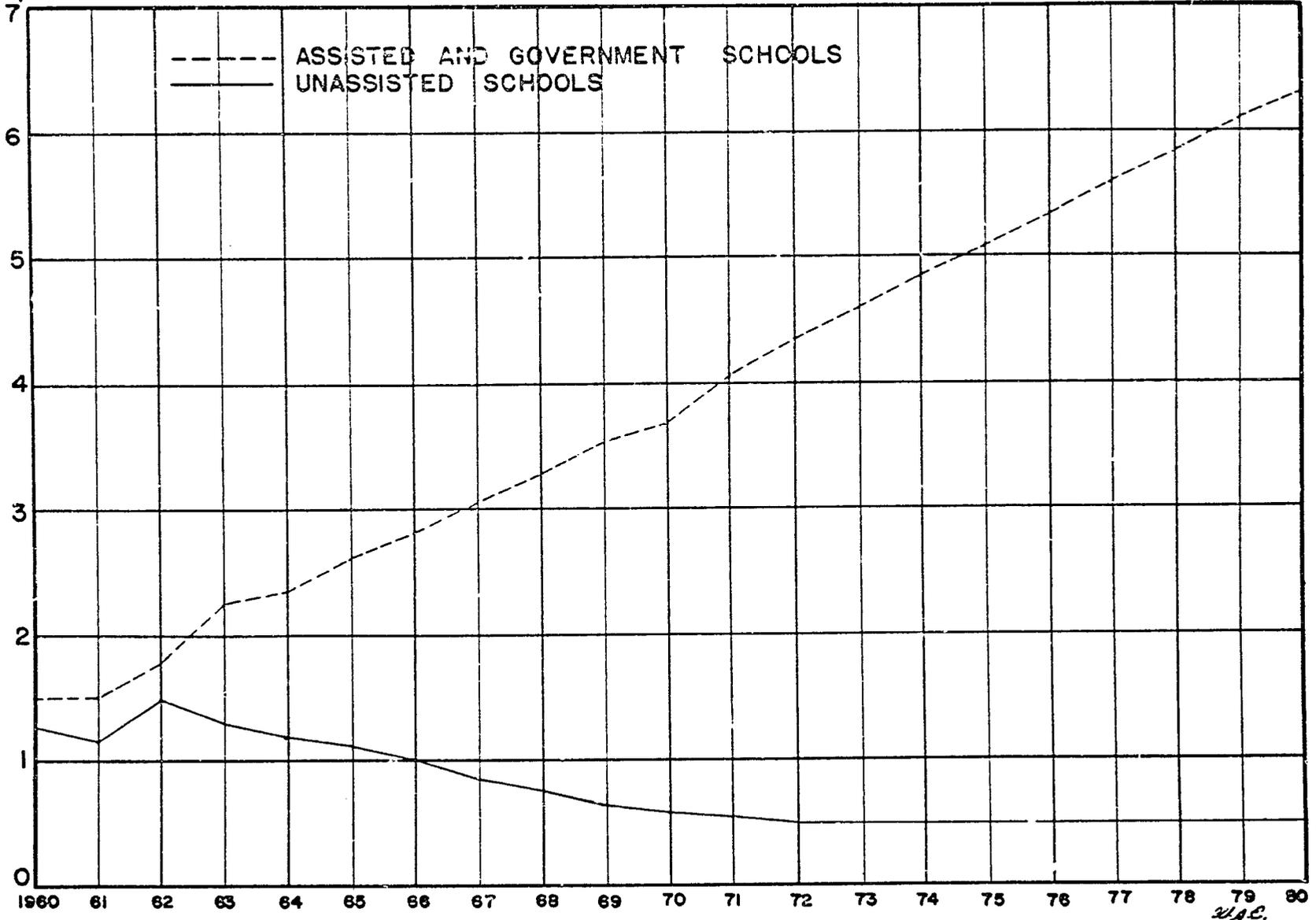
P = Total estimated population (millions).

T = Number of qualified teachers required.

NOTE: These forecasts are based on the following assumptions: (1) that the population in 1963 is 3.7 millions; (2) that the population is increasing at the high rate of 3 percent per annum and will so continue; if a lower rate (say 2 1/2 percent) should apply later, there would be considerable reductions in column P; (3) that currently not much more than half the number of children of school age attend the primary schools (the number of children not at school is unknown and so the percentage at school cannot be accurately estimated, although it is perhaps between 50 percent and 55 percent at present and in the above forecast might rise to between 57 percent and 62 percent); (4) that the unassisted schools will play a diminishing role in the primary sector and that, over the 15 years to 1980, the number of children in unassisted schools will be reduced by nearly two-thirds; (5) that one qualified teacher is required for each 45 pupils in Government and assisted schools; and (6) that for the years to 1970 the number of pupils in Standard 7 will reflect the current growth of lower forms, and, after 1970, will approximate to one-tenth of the increase in totals in assisted schools. All these forecasts are hypothetical and, for the years after 1970, subject to numerous imponderable variables.

PUPILS
100,000's

PROJECTION OF PUPILS IN PRIMARY SCHOOLS 1960—1980



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of the contribution would be borne by the Local Education Authorities. It has been suggested that greater financial effort on the part of the Local Authorities might also stimulate the development of a rural cash economy and improve the levying and collection of local rates or taxes, although this is a matter for political rather than educational determination.

21. Missionary groups, chief among the so-called voluntary agencies, have in large measure made education in Malawi what it is. Their historical contribution has been immense. This great indebtedness should never be overlooked. The contribution continues and will for many years. One inheritance, however, presents a serious problem to be overcome as rapidly as possible. That is the unassisted school. It does not qualify for Government grants-in-aid; hence its teaching staff is often inferior in training. Most of the nation's untrained teachers are concentrated there. Wastage is appalling as pupils progress through the ascending standards. Many schools offer only a truncated program, with the top of the ladder missing. Pupils, as they advance, have to transfer elsewhere or quit. Mere reading has often been the traditional goal. Such schools are generally smaller and often disadvantageously located. Their upgrading, and the eventual elimination of the "unassisted" category, should be the long-term goal of the Government, with all steps to be taken to that end as quickly as feasible. Recent progress has been excellent and should be continued, with such improvement incentives as the Government can supply. One technique might be the use of uncertified teachers in the assisted schools for a period of upgrading in the company and under the tutelage of trained colleagues, with return to the unassisted schools after such experience. Another device is the "planting" of Government-assisted teachers in schools otherwise not yet assisted, providing at least a leavening influence on which improvement can be built later. Whatever the best devices to be employed, it is recommended that the number of pupils in unassisted schools be rapidly reduced from the present figure of approximately one out of three to one out of ten by 1973. (See Table II, Column U.) Assuming that some unassisted schools are inevitable, here arbitrarily set at a residual capacity of 50,000 after 1972, the proportion of pupils in assisted schools will steadily rise, so that by 1980 only one pupil out of 14 would be dependent on unassisted facilities. This is the direction in which the Government should vigorously move.

22. Other aspects of the mission schools and their heritage must also be taken into account in educational planning for the future. Trends are obvious. The role of the voluntary agency in education is both changing in nature and shrinking in scope. Curricular content and qualitative standards have become public responsibilities. Assisted church schools are public instruments, and can no longer serve children of their own denominations only. The capacity of the mission school to maintain its independence with competent staffing, often dependent on low pay or volunteer service, is becoming increasingly difficult. Voluntary agency proprietorship of schools will continue, but the educational and financial responsibility of the Government is bound to rise sharply and steadily. In this transition, which the voluntary agencies are prepared to accept, their spokesmen often express the desire for policy "clarification" and "stability." Even

if some of this may be a lingering desire for a different policy rather than a clearer policy, the Government should exert itself in two directions: (1) to work out with the voluntary agencies an orderly progression toward the Government's educational goals as they impinge on the voluntary agencies, with a clear understanding of what will lie in the public realm and what will remain in the private realm, using educational quality for the school child as the criterion, and (2) to take into account realistically the mounting financial burden this will place on the Government, eventually approximating the full costs of the nation's primary education.

23. The greatest single improvement in primary education which can and ought to be made is the reorganization and modernization of the curriculum. Content needs to be re-examined in the light of both African needs and modern methods. Now is the time to rewrite all syllabuses, not merely to revise them. The occasion is at hand anyway, as a result of the shift from eight to seven standards in the primary schools (plus five instead of four at the secondary level). This necessitates reorganization. Indeed the objective is to achieve as much in the future seven as in the previous eight years. The current syllabus revision efforts should be regarded as a temporary solution until the complete rewriting can be concluded. Therefore, this propitious opportunity should be seized and a special committee named to rewrite the syllabus of each course. Each such committee should represent the teaching profession, the relevant teachers college or University department, and the Inspectorate of the Ministry of Education. Subject-matter competence and practical classroom experience should both be harnessed, regardless of where the administrative responsibility for change is ultimately lodged. As soon as possible after the syllabuses are rewritten, a teacher's companion-piece, a handbook, should be prepared. If this seems a dubious way to liberate the classroom from rote learning, it can at least be said that this is the next-best solution until the real remedy can be supplied by adequate teacher training. This much clearly should be done now. The time is also favorable because book publishers are increasingly aware of needs and opportunities in Africa and can be influenced by good syllabuses to produce the kind of textbooks so desperately needed. The potential gains are so great that no time should be lost and no effort spared to enlist aid from external sources, either in personnel or finance. The interest of UNESCO might be explored, for example.

24. Science content in the curriculum needs a thorough examination. It should be greatly strengthened. The scientific and technological underpinnings of the nation must be built here. It is futile to talk about improved farming and the mastery of machines--to say nothing of planning for many professions, for industrialization, or for the advancement of research relevant to the problems of Malawi--without a rudimentary understanding of nature and the scientific method. In a world not yet engulfed by machines and technical gadgets, school children have farther to travel in their comprehension of the present and emerging worlds. More depends on the school. Education should prepare to accept the challenge. Pupils need to know that nature is capable of comprehension, indeed capable of control and use; that it is governed by principles which can be learned; that its secrets can be unlocked; and that it is not a devil which wilfully resists, initiates, or fights back. This fundamental understanding is far more important than

premature educational limitation to nature study, to rural science, or to vocational training. Indeed it can lay the foundation for such agricultural or technical training as the home, farm, or career may later require. This is more important than that the boy or girl now learn to do better subsistence farming or homemaking, or now pick up the how-to-do-it of a job which may not be there when he or she is ready. The need is for general science, not rural science. Concentration still can be, and should be, on the phenomena of everyday life and on materials and illustrations readily at hand. Therefore, the present efforts in science should be replaced by, or reincorporated in, a strong new science component introduced into the curriculum, with special emphasis on Standards 6 and 7. While it may have a descriptive element, as in nature study, it should emphasize analysis, problem-solving, experimentation, demonstration, and understanding of relationships within the recognized limits of a classroom which can become even a rudimentary "laboratory" only with teaching ingenuity. This is the goal to be approximated as best it can. It is a new nation's gateway to the modern world.

25. Two other curricular matters call for attention. For the great majority of primary school leavers who will have no further education, some opportunity must be provided, as an elective if nothing else, in technical and vocational education. This is discussed in the special section on that subject. Another problem already yielding to official concern and action is the teaching of English, with the possible adoption of the Peake system, or something like it, adjusted to local needs. Efforts to begin such instruction successfully at the earliest opportunity, and to do so with improved methods, deserve commendation and extension. Much elementary education involves the mastery of the skills of communication. Indeed this is the most important single tool the pupil can acquire. The indigenous languages have obvious and continuing importance. English has a nationwide scope not restricted by region, and it also opens up extensive channels of communication with Africans and with the world at large. Continuous evaluation of language in the schools is, therefore, worthy of strong support, with the aid of outside consultants as necessary. In addition, a well equipped and well staffed laboratory and training program in English as a foreign language should be established. It should appropriately be attached to the College of Education in the University, which should also provide remedial instruction to primary and secondary teachers already in the classroom. The aim must be to make English a living language for the people as well as an instructional vehicle.

26. Commendable progress has been made in the past and recently in "Africanizing" the curriculum and otherwise making it relevant in the lives of children. This is, however, a matter for constant scrutiny and struggle for improvement. Responsibility should reside somewhere, subject to ultimate approval and implementation by the Ministry of Education. It is a logical function to be assumed by the new College of Education to be established in the University. It calls for research, experimentation, and evaluation--all peculiarly appropriate for the noninstructional responsibilities of the new College, which also needs this opportunity for an intimate tie-in with the entire school system.

27. Qualitative improvement of primary education is of more immediate importance than the mere provision of more places. This is the responsibility of the Inspectorate of the Ministry of Education. The Inspectorate should be looked upon as the watchdog of academic quality, assuring the Government that its educational funds are productive and assuring parents and children that the education received is the best that available resources can buy. Therefore, the Inspectorate should be organized and staffed to discharge its responsibility fully. Keeping these positions of academic concern filled, both at the center and in the field, is no less important than keeping the positions of administrative concern filled. There is also need at the center for relief from the excessive pressure of administering examinations. A separate division adequately staffed for this latter function would be desirable and is recommended. The Inspectorate should also be given, indeed assured, sufficient independence to encourage constructive criticism and advice. It should be considerably strengthened--perhaps even doubled by 1970--and given responsibility, with the use of the committee machinery described above, for rewriting all syllabuses and preparing teacher's handbooks. It should also cooperate in seeing that all schools are fitted out with at least the minimal equipment, including textbooks and libraries, for satisfactory instruction.

28. In fact, the equipment problem is of sufficient prevalence and the gains from improvement of sufficient importance to justify the immediate attention of the Ministry. Children should not be expected to learn amid the material handicaps which some schools impose. This refers not only to shortage or absence of furniture, but also to the same deficiencies in books and other minimal classroom supplies. Consideration should be given to the means by which minimal equipment standards can be set and maintained in all Government and assisted schools, whether by prescription of a minimal list, the use of a per capita equipment grant, or some other device deemed efficacious.

29. Education in the developing nations is generally imported, excessively academic, deadly passive, and addicted to rote learning. This is the result of external dynamics which still linger and internal proficiency which has not yet come into being. It will remain so long as the education of teachers is not much more advanced than that of pupils--so long as teachers have not been given intellectual elbowroom and a mental separation from pupils which cultivates perspective, flexibility, and instructional alternatives. The inordinate emphasis on preparation for examinations is another contributing factor. There is little time for thinking, problem-solving, or activity. Learning is repetitive, mechanistic, and regurgitative. It proceeds from hearing, not from doing. It is a bookish academic exercise of disembodied intellect. While full remedy must await adequate teacher training in both subject matter and methodology, partial remedies need not be so long postponed. The rewritten syllabuses, the Inspectorate, the school officials and headmasters, and the teachers colleges and University can all encourage more emphasis in the primary schools on activity and learning-by-doing; on pupil participation at a creative, questioning, thinking level; on a visual, tactile, and manipulative approach as well as mental drill; on a multiplication of the dimensions or avenues by which learning can be reinforced; and on a striving for relevance to learning

rather than to examinations, to living rather than to passing. The primary standards are not too soon to begin. Not only will learning be improved but interest and motivation will be heightened. The flexing of the mind must become habitual before secondary education has done its best and before higher education can be contemplated.

30. An educational system is a nation's means of developing its human resources. Opportunity for development commensurate with ability is the keystone. As implied earlier, this is a democratic objective Malawi can reach long before it can attain the egalitarian goal of seven years of education for everyone. If not all can immediately be kept in school for seven years, those with unusual motivation and talent can. The nation cannot afford to lose the services of adults who, as children, showed great capacity for personal growth and therefore for eventual national service. Thus, responsibility should be fixed on every teacher and school official, as a primary part of his duties, to identify and encourage those pupils who show promise and whose loss from school now would mean a loss to the nation later. A system which cannot reach everybody must make sure it is reaching those who can turn opportunity to best account. Strenuous effort should be exerted to prolong the schooling of talented pupils in proportion to their capabilities.

31. To the same end, Local Education Authorities should be encouraged, through matching Government grants sufficient for a modest number of pupils, to establish bursaries, scholarships, or fee remissions for talented youngsters whose education would otherwise be terminated for financial reasons. All other incentives, including the noneconomic, should be employed as well--counseling, extra challenge, stimulation, and personal encouragement. Undeveloped talents are like unmined mineral resources. Malawi needs prospecting and full resource utilization.

32. Two other problems relating to educational opportunity arise from the recent reduction of primary education to seven years and from the use of school fees.

33. The reliance on seven years of primary education (plus five of secondary) is an accomplished fact. It is in line with developments in other parts of Africa; indeed a six-year system has sometimes been employed although usually accompanied by some special, compensating postprimary opportunities. The Government should make the most of its new policy. The policy is more economical and not educationally disadvantageous if commensurate qualitative improvement is made in the seven years which are retained. This enhances the opportunities and importance of secondary education. However, it must be recognized that the new policy means a year less for the great majority who will not go on to the secondary level, that the labor market and the communities will have children thrown upon them a year younger, and that the Government consequently takes on a correlative long-run responsibility for some improved postprimary opportunity for those whose education may otherwise be shortened. The Polytechnic and the technical and trade schools are a partial answer.

34. Regarding fees, parental contribution to their children's educa-

tion is an appropriate device for financing education under difficult circumstances, provided it does not become an artificial means of restricting educational demand according to parental capacity to pay instead of pupil capacity to learn. This is a matter the Government will have to decide, but it would seem in the national interest to contemplate reducing rather than increasing school fees. Taxes are the most equitable means of sustaining school costs, which are public rather than private obligations. It is difficult to avoid the suspicion that there is some correlation between pupil wastage and the sharp increase of fees from 15 shillings a year to 35 shillings after Standard 5. School fees are a survival from the past, when the missions shouldered almost the whole burden of primary education, as is no longer the case. At the same time, the Government cannot immediately contemplate the abolition of fees in the light of its enormous financial burdens for education. It is recommended, therefore, that the Government keep the matter under review and consider the wisdom of establishing by 1970 a schedule under which fees may be gradually reduced to the point of eventual elimination. But what is more important, assurance should be given that no child will be denied educational opportunity solely because of parental inability to pay school fees.

35. In summary regarding primary education, the time is propitious for several of the proposed changes to be begun at once. No later time will be so favorable. After 1967, all energies will go into keeping up and into staying ahead of the rising tide of enrollment. With the shift to seven rather than eight years of primary education, the enrollment in 1964 will be less than in 1963 and only 5,000 more in 1965 than in 1963. (See Table II, Column S.) This is a "breathing spell" which should be capitalized on and employed as a period of consolidation, regrouping of forces, and qualitative improvement. This is the time to rewrite syllabuses, prepare the teacher's handbooks, equip all classrooms to minimal level, acquire adequate textbooks, develop libraries, get the Inspectorate in order, and rationalize the organization of the teachers colleges on which primary education depends for its staffing. The time will never be more favorable. A goal could hardly be more fitting for a newly independent nation.

SECONDARY EDUCATION

36. Secondary education in Malawi has been too long neglected. The price is now being paid. However, recent gains are impressive, thoroughly commendable, and worthy of rapid extension. In fact, this section of the report can have a brevity belying the immense importance of its subject, because there is no need to dwell on current Government policies which, in the main, only need strengthening and acceleration. The proposed new changes, beyond changes of growth and organization, chiefly involve improved selection methods for admission and a broader variety of courses. This is a concerted effort to accommodate more pupils, to educate the right ones, and to do it better.

37. The Phillips Report recorded in 1962 that only four schools in the entire country offered opportunities to the School Certificate level and only 22 streams existed in 17 secondary schools. In response to the recognized needs, the Government gave secondary education the highest priority, added ten new streams to the intake in 1962, and embarked on a radical program of building 21 new day secondary schools to be phased out to 1966, when one would exist in each of the country's Districts. This courageous policy trebled the intake between 1961 and 1964:

<u>Year</u>	<u>Intake</u>
1961	595
1962	949
1963	975
1964	1,520 (without reorganization intake)

The magnitude of the gain, however, only shows the magnitude of the problem. To this "normal" figure of 1,520 in 1964 must now be added an equal number, doubling the already swollen total, because of the Government's recently announced policy of terminating primary education after seven rather than eight years and expanding secondary education to five years instead of four. This laudable step has the potential effect of throwing into secondary school in 1964 all those qualifying pupils who would otherwise have gone into Standard 8. Yet, indicative of the need for secondary school growth, there were in 1962 more than 120 times as many pupils in primary as in secondary school and 12 times as many boys in the last year of Government and assisted primary schools as in the first year of such secondary schools. Beyond this and the annual increase of the population by 2.5 or 3 percent must be added the rising pressure of manpower requirements for educated talent. A large and expanding supply of middle-level skills must undergird the growing economy. Further demand for high-level manpower calls for a steadily increasing output from the secondary schools for university admission. Teacher supply for the secondary schools itself depends on both new secondary and higher education opportunities. Therefore,

the expansion of secondary education should continue to have the highest priority during the next 15 years.

38. It should be made clear that such a priority, dictated in part by chronological priority in a pupil's education, does not detract from the importance of a later recommendation for the immediate founding of a new University. The latter might be called the top priority except that it will involve a much smaller number of students and teachers, and make a smaller demand on the financial resources of the country. In qualitative terms and in meaning to national growth, the University can lay claim to primacy of influence and need. But more important than the meticulous weighing of priorities in this case is the objective of educational balance. Both secondary and university opportunities are indispensable and indeed interdependent. Neither level of education should be developed with such emphasis as to threaten the acceptable quality of the other.

39. There is no magical method of determining what proportion of youth ought to be in secondary schools or what proportion should go there from the primary level. Even if the ideal were known, it obviously would be unrealistic as an early goal. The only helpful course of action seems to be the suggestion of a guideline, with the realization that the Government will do better and move faster if it can. Balancing off the magnitude of the task and the probable resources available, a 15 percent goal by 1980 seems realistic--15 percent of all pupils who complete primary education. This would by no means fit the ideal of many, including the survey team, but it would represent steady progress (stepping up the total enrollment by almost twentyfold), supply qualified students for the University, and go a long way toward meeting the manpower goals geared to the secondary school level. Even so, this goal will be difficult and costly in attainment. If the nation can find the resources to do better, preserving both quality and educational balance, it should by all means do so.

40. In attaining the 15 percent goal by 1980, two possible developmental plans have been devised as shown in Projection A and Projection B. (See Tables III A and III B and Chart II.) The chief difference is that A provides for a slower rate of expansion until 1970, with an additional intake of 500 in alternate years between 1965 and 1970, whereas B assumes 500 additional every year. Thereafter, the two projections tend to converge on the 1980 target. However, the different rates of increase till 1970 become critically important when attention is focused on the teachers required. After the abnormal swelling of 1964 because of a combination of pupils from both the old Standard 8 and the new Standard 7, there is likely to be a critical shortage of secondary teachers, at least until 1970. Success in tackling this shortage is likely to dictate which of these two projections, or indeed some other, ought to be or has to be followed.

41. These projections also show the magnitude of the task of planning the physical facilities required--a task which should be begun at once with all vigor. To shift from 3,000 pupils at present to approximately 40,000 by 1980, the Government may have to build 100 new schools while expanding the existing ones. Increased accommodation in existing schools should be the immediate, urgent objective. Even with improvisation, acute congestion

TABLE III A

PROJECTION A OF SECONDARY SCHOOL PLACES TO 1980

1 Year	2 Intake	3 Size of Standard 7 or 8 in previous year		4 Intake as Percentage of Standard 7 or 8		5 Total in Secondary Schools	6 Teachers Required (1 to 25)	7 Notes Actual Staff
		<u>7</u>	<u>8</u>	<u>7</u>	<u>8</u>			
1960	572		4,614		12.4	1,276	51	77
1961	593		5,792		10.2	1,449	58	73
1962	949		6,829		13.8	2,190	88	94
1963	970		9,470		10.2	3,041	122	170
1964	1,520		12,308		12.3	4,032	161	(of these
1964	1,520	15,655		9.7		5,552	222	170, about
1965	1,520	27,400		5.5		6,459	258	60 percent
1966	2,000	28,900		6.9		7,510	300	were
1967	2,000	30,200		6.8		8,540	342	expatriates,
1968	2,500	30,200		8.2		9,520	381	including
1969	2,500	34,400		7.3		10,500	420	missionaries
1970	3,000	41,000		7.3		12,000	480	and Peace
1971	3,500	43,600		8.0		13,500	540	Corps)
1972	4,000	46,200		8.6		15,500	620	
1973	4,500	48,800		9.2		17,500	700	
1974	5,000	51,400		9.7		20,000	800	
1975	5,500	53,900		10.2		22,500	900	
1976	6,000	56,400		10.6		25,000	1,000	
1977	6,500	58,900		11.0		27,100	1,084	
1978	7,500	61,400		12.2		30,500	1,220	
1979	8,500	63,900		13.3		34,000	1,360	
1980	10,000	66,400		15.0		38,500	1,540	

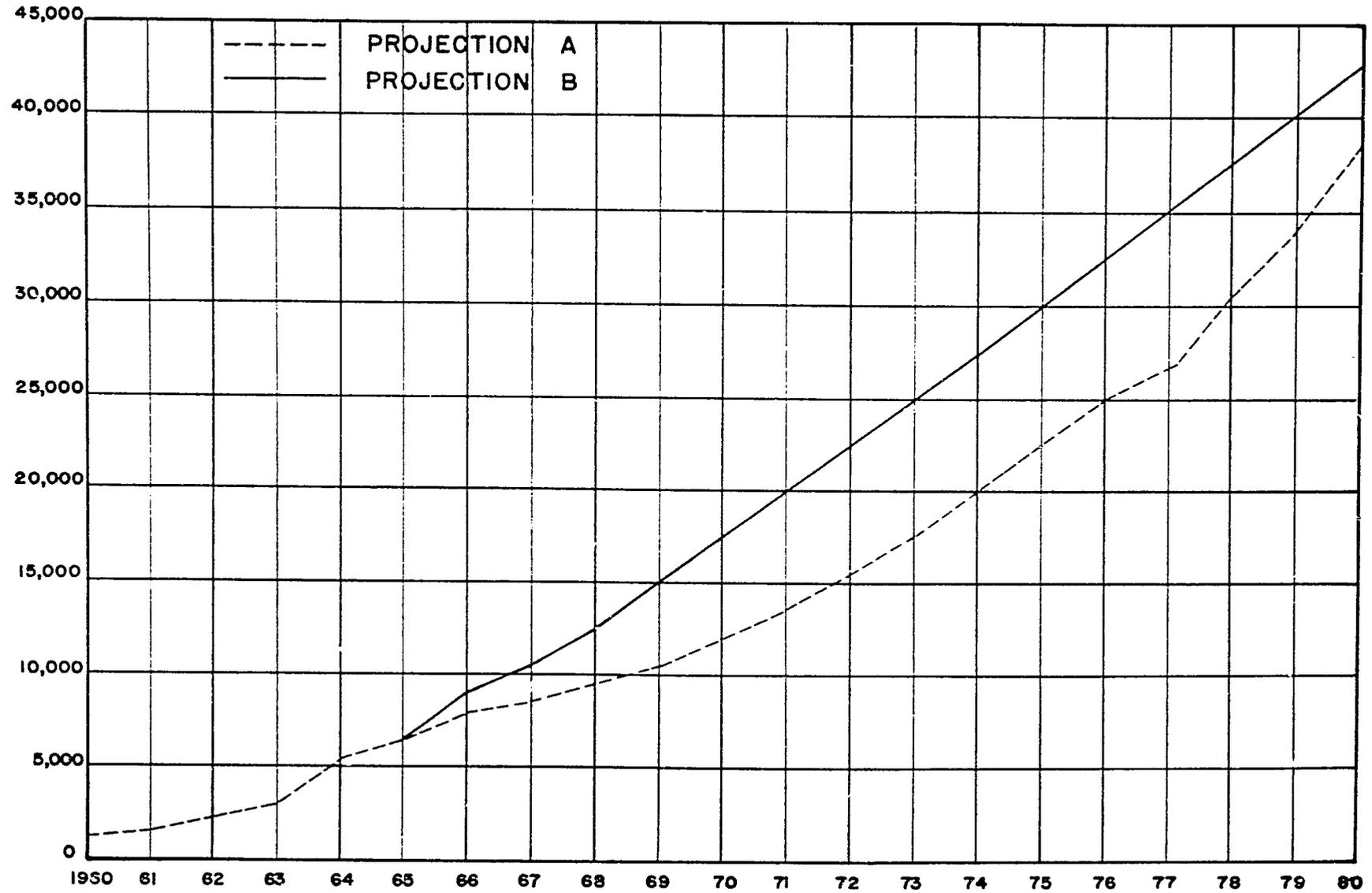
TABLE III B

PROJECTION B OF SECONDARY SCHOOL PLACES TO 1980

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
Year	Intake	St. 7 & St. 8 Previous year	Intake As Percent of 3	Total in Secondary School	Teachers Required (1:25)	Notes
		<u>7</u>	<u>8</u>			
1960	572		4,614	12.4	1,276	51 * A.S. - 77
1961	593		5,792	10.2	1,449	58 * A.S. - 73
1962	949		6,829	13.8	2,190	88 * A.S. - 94
1963	970		9,470	10.2	3,041	122 * A.S. - 170 (28 Peace Corps)
1964	1,520		12,308	12.3	4,032	160
1964	1,520	15,655		9.0	5,552	222
1965	2,000	27,400		7.3	6,959	278
1966	2,500	28,900		8.7	8,510	341
1967	3,000	30,200		9.9	10,540	422
1968	3,500	30,200		10.2	12,520	501
1969	4,000	34,400		11.6	15,000	600
1970	4,500	41,000		11.0	17,500	700
1971	5,000	43,600		11.5	20,000	800
1972	5,500	46,200		10.8	22,500	900
1973	6,000	48,800		12.3	25,000	1,000
1974	6,500	51,400		12.6	27,500	1,100
1975	7,000	53,900		13.0	30,000	1,200
1976	7,500	56,400		13.3	32,500	1,300
1977	8,000	58,900		13.6	35,000	1,400
1978	8,500	61,400		13.8	37,500	1,500
1979	9,250	63,900		14.5	40,250	1,610
1980	10,000	66,400		15.1	43,250	1,730 * Actual Staffing

PUPILS

PROJECTIONS OF SECONDARY SCHOOL PLACES 1960—1980



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will seize existing schools before relief can come. Given the clarity of the ultimate outcome of present trends, it also will be wise simultaneously to absorb the voluntary-agency schools into the public system on terms mutually satisfactory to proprietors and Government.

42. Whatever the merits of the debate about the optimum size of secondary schools, it is clear that forces in Malawi may tend to conspire to produce schools which are too small. There is an understandable desire to reach pupils where they are, regardless of resulting inadequate school size. The drive toward more and more day schools, highly desirable as it is, can unwisely run in the same direction. Schools close to home, "our school," is a universal cry which rarely heeds any logic about size or quality. Yet it is hoped that Malawi will be wise enough to avoid the mistakes of developed countries, where badly needed school consolidations often still face formidable odds. This poses a serious problem for a nation of scattered population with widely varying density from hill to valley, north to south, district to district. The temptation to build small schools, even with a few score pupils, in remote or isolated parts of the country will be accentuated by the alternative of accepting a high proportion of boarding places in the secondary school plan. Recognizing this dilemma and opposing heavy reliance on boarding schools, the survey team strongly urges that, so far as practicable in the light of these considerations, pupils be concentrated in larger schools and the use of transport to carry day pupils to and from school be carefully considered before the large-size standard is abandoned. Large schools, ranging from 500 pupils to 1,000 or any other likely upper limit, can and should be built in the more densely populated urban areas. Dogmatism about size is folly. A small school can be good. The point is that it is harder and takes special effort, plus higher unit cost. A larger school can offer a varied pattern of courses, attract teachers who want to concentrate on the subject matter in which educated, have specialized facilities (e. g. technical shops) and adequate laboratories, and turn out its educational product with maximum economy. It is for these reasons that a country-wide minimum size of 300 (divided into five standards) is recommended for constant consideration, with larger sizes wherever possible. Economy of size, in this case, happily coincides with quality of education.

43. Until almost the present moment, or until the new day schools are actually occupied, the boarding principle has dominated secondary education. Indeed pupils were once deliberately assigned to schools in an away-from-home region as a means of fostering national consciousness. Even the new day schools find themselves immediately under pressure to add a few hostels for pupils whose interest is aroused but whose residence is too far for walking or cycling. Boarding schools have come to have prestige. So both for practical and traditional considerations, the boarding principle will last a long time. How long is obscured by conflicting opinion and expert judgment, with the estimated proportion of required boarding places for the future ranging from four-fifths of the total to one-quarter. But because of the elitist emphasis, the much greater cost, and the reduction in total number of places which could otherwise be made available, Government policy should strive to keep the number of boarding places to a minimum and day school places to a maximum. It can be assumed that as new day

schools are built and as concentrations in the most populous areas permit some pupils to live with relatives and friends, the proportion of boarding places will decline steadily and greatly. This is a desirable means of making resources go further, while educational opportunity is being extended.

44. As this policy is carried forward, a correlative problem arises. Parents and children and teachers are already discussing whether they would prefer association with a boarding school or a day school. The boarding school has all the advantages of tradition, snob appeal, imitation of a coveted image--advantages which could lead to no invidious comparisons in the past but which invite exploitation now that day schools have been established. Where will the best teachers go? Where will the amenities both of superficial appeal and of academic merit be more attractive for pupils? Where will preferred faculty housing exist? Where will library and laboratory be superior? Where will buildings and grounds be more imposing? All these questions are relevant in the construction, staffing, and support of secondary facilities. The Government can either permit, if not foster, a dual standard of high quality schools amid the common lot or insure a parity in opportunity, quality, and esteem among all schools. A powerful argument can be made for the first alternative--schools for the best brains, for the best jobs, for the best national service. A counterargument says this is undemocratic and ultimately divisive of national unity. It seems likely, in any case, that if invidious comparisons are built in at the outset, for whatever understandable short run purpose, the system will become entrenched beyond correction in the future. The policy the Government should pursue from the beginning is that of striving to assure equal, or comparable, educational opportunities at all secondary schools in terms of curriculum, equipment, teachers' amenities, grounds, staff, and prestige, whether existing or new schools, day or boarding schools. Whatever qualitative differences come to exist should exist for reasons unrelated to day school or boarding school type.

45. Competition for admission to secondary school is bound to be keen. Even with the greatly expanded number of places, only a maximum of 15 per cent of the primary school leavers can be admitted by 1980. Selection, therefore, becomes a matter of the utmost urgency. Under such circumstances, since the nation cannot educate all, it must make sure it is educating the best qualified persons. Merit must be the sole standard. This principle has been rigidly followed in the past, but the standard has been based on examination marks exclusively. There has been a single Primary Leaving Certificate Examination. This has now given way to another, but improved, instrument aimed directly at secondary admission rather than primary leaving, with emphasis on aptitude and potentiality rather than subject-matter knowledge alone. This is an excellent advance which should be perfected. The result might be more accurately entitled the Secondary School Entrance Examination.

46. But the sheer problem of numbers to be examined will still be formidable--close to 40,000 potentially in 1970 and 70,000 by 1980. This is another reason for the earlier suggestion that a separate examinations branch be created in the Inspectorate of the Ministry of Education, already

burdened with other responsibilities which should not suffer from the mounting examination pressure. Indeed the Government should give careful consideration to linking this change with an Examinations Council, actively representing teachers and modeled on the West African Examinations Council. This would be a costly operation and a burden which might be ideally shared with other cooperating countries; but in any case, staff and secretariat will have to be found to organize and conduct the examinations. Furthermore, an educational system with a steep-slope pyramid depends on the efficacy and integrity of the selection system. With these qualities unattained or undermined, the nation has the worst of both worlds--limited educational opportunity and inequitable selection. The former, while it lasts, can be and should be mitigated by a top-notch system of examination and selection.

47. To this end, it is also recommended that further attention be given all possible means of reducing the inordinate emphasis on "preparing for examinations." Persistent testimony was heard throughout Malawi against this distortion of the goals of education, and both comic and critical examples were presented in great abundance. Therefore, the selection process should not wait until a single, definitive examination is given; instead, the process should begin in the primary standards, with a series of diagnostic, aptitude, or assessment tests (such as the Moray House Test suitably adapted) spread over the last two or three years. These test results, coupled with improved academic record-keeping throughout the primary years, should be joined with the Secondary School Entrance Examination to form the basis for selection for postprimary education. "Selection" is a much broader process than "examination." It is true that the more complex or varied the basis of selection, the more danger of a subjective element. Integrity should be paramount and selection by merit held inviolate, but this should not become an excuse for taking into account nothing but marks earned at a single sitting.

48. The secondary school curriculum needs a radical reorientation. The classical type of academic education found in the traditional grammar secondary school is inappropriate in Malawi. It misses the largest manpower targets and it misses relevance for African schoolboys. For the African schoolgirl, it misses the difference based on her sex and the status of her sex. The orthodox approach simply is not enough. A revitalized curriculum should make the traditional vie with the practical and technical. It should be comprehensive, as life is comprehensive. Specifically, it should include a variety of subject options, among them technical, commercial, handicraft, and home-art courses--what is relevant to work and to personal and national life, as well as preparatory for advanced study. It can be sound, rigorous, and self-disciplining and still be varied, stimulating, and highly relevant. It ought to be both. For their own sake and the nation's, children should be able to develop their aptitudes, exploit their interests, and exercise their creativity. With curricular opportunity and teacher consultation, they can do so wisely and profitably. Concentration of these new approaches, particularly the vocational, in special schools is not an adequate answer because of the restricted and localized opportunity; yet if these specializations are thinly spread, they create problems of teacher recruitment in the ordinary secondary school. The

answer must be specialist teachers, some employed in schools large enough to use them fully and others employed on an itinerant basis to serve more than one school. This is an advantage to be sought, not a disadvantage to be shunned. Indeed the Ministry of Education will need to recognize this specialization, as it will all other broadened areas of the curriculum, in staffing its Inspectorate.

49. An enlarged offering of courses in the secondary schools proceeds on the assumption that several purposes can be served simultaneously and that the pupils do not all enter with clear vision of their future. They need to find out what life offers and to be able to change both minds and careers. They need to learn some things so fundamental that there is no choice and to learn other things only by choice. With larger schools, broader curricular offerings, and five instead of four secondary school years, latitude exists. If desired, the basic core of knowledge and skills could be concentrated and required in the first two years, with increasing opportunity for choice in the later years. As in the primary standards, language and science should have a solid place. But most importantly, the broadening must take place in those options called technical, practical, and vocational--the industrial arts, home arts, and commercial subjects. Boys and girls who want to prepare for useful work should be able to do so. Employers who want to look to the schools for trained help should be able to do so. The long-range objectives of youth who are preparing for advanced study should not deprive other youth of the realization of their shorter-range goals. Secondary schools can serve both. This innovation is further stressed in the section on technical and vocational education.

50. Curricular adaptation also calls for continuous scrutiny. Change begets change. Manpower needs change. Required skills change. The roles of girls and women change. Urban-rural relationships change. Citizenship demands change. National and personal expectations change. The bounds of the possible change. Education must be kept flexible and dynamic. It is important, therefore, as with primary education, that the secondary curriculum and techniques of teaching be made the special objects of scrutiny, experimentation, and evaluation by competent personnel. Such personnel should be found in the new College of Education in the University, and they, with the use of such consultative machinery as thought desirable for access to teaching experience and outside expertise, should be assigned the task.

51. The Sixth Form presents a special problem, which must be faced squarely. While this type of advanced work, extended beyond secondary school or as an intermediate stage before university, has its ardent advocates and its own logic, it has barely a toehold in Malawi at present. All such work is new and all, in a sense, struggling. Indeed in June of 1962 there were only two streams of Form V in the country and only one stream of 14 boys in Form VI. The question therefore becomes one of whether, essentially, to establish Sixth Form work now or to leave it out, much as in the past. It is the survey team's judgment that some of the essentials which justify Sixth Form work elsewhere do not exist in Malawi and that meeting such essentials can be done in alternate ways better suited to the country. Specialist staff is expensive and can be better utilized when

concentrated rather than scattered. The same can be said of science laboratories, as illustrated by the woefully inadequate ones now being employed in some Forms V and VI. The preparatory and undergirding function for specialized university study can be provided in other ways--indeed within the University itself. It is recommended, therefore, that studies beyond the School Leaving Certificate be concentrated, preferably within the environment of a university, and that Sixth Form work cease as soon as alternate opportunity becomes available. Pupils already in the Fifth or Sixth Form should be encouraged to complete their studies and be given, if they so desire, fitting exemptions for admission to the new University, with appropriate academic standing. This entire recommendation is made with some reluctance because of the exemplary dedication and enthusiasm seen in Sixth Form teachers, plus their capacity to inspire and set the pace for their schools. However, no doubt is held about the wisdom of the proposal for this setting at this time.

52. As proposed in other sections of this report, two other steps are highly desirable in secondary school development: (1) the introduction wherever feasible of the workshops, equipment, and specialist staff required to give substance and reality to the technical and vocational opportunities newly provided, and (2) the drastic acceleration of the training of secondary school teachers and the stepped-up recruitment of teachers from abroad until Africanization can be carried out. This puts demands on Soche Hill College at once and shifts the burden to the University as soon as construction will permit. It creates demand for more teachers from the Peace Corps, the Voluntary Service Overseas, and other expatriate sources. Manning the secondary education establishment will be a gargantuan task--from any source. Almost 1,600 will be needed by 1980 in contrast to 122 (1:25 teacher-pupil ratio) in 1963, when Soche Hill College contributed only three new teachers to the supply. Secondary education will flourish or languish as the teacher-supply problem is met.

53. It cannot be too often emphasized that tremendous strides have been made in secondary education in the last two years. The Government is to be complimented on its foresight, determination, and sacrifice. Nothing said here is in derogation of the progress and the promise. All that is said is intended to speed the improvement.

54. Given the crucial role of the secondary school in the economy and its pivotal intermediate position in the educational system, attention and resources applied to it will be richly rewarded.

TECHNICAL AND VOCATIONAL EDUCATION

55. Technical and vocational education cannot be entirely separated from the regular schools and their curricula, either in analysis or practice; nevertheless, a separate section may provide clarity without risking the obfuscation of the recommendations made solely for the regular primary, secondary, and higher education levels. These latter recommendations necessarily have a technical and vocational component, too. Therefore, some cross references may be necessary.

56. Like much of African education, primary and secondary schools in Malawi are largely geared to the preparation of the pupil for university education, even where it does not exist. Those who cannot succeed by such standards, or otherwise drop out, must either return to subsistence farming, seek employment as clerks, or be absorbed into services for which school offered little or no preparation. This traditional emphasis on strictly academic subjects is outmoded. It neither fits the individual nor the world. It unduly restricts education as a means of self-discovery and self-realization and ignores the increasing dependence of the modern world on science and technology. For self-discovery, the pupil should be exposed to as many spheres of influence as possible and the best in him identified and nurtured, so that he can, after his formal schooling, give his best capabilities to the community and thus achieve the highest expression of himself. In a world where man is rapidly subduing his environment and mastering the material world for personal and social betterment, scientific and technological competence should command at least equal respect with traditional learning. Science and technology have so successfully encroached on the position of time-honored education that a developing country may, only at its peril, continue in the academic blinkers donned in an era of classical education. That is why the time has come for Malawi to infuse scientific and technical content into courses at all educational levels and also establish some special schools with special curricula for concentrated effort.

57. The present annual output of technical trainees in Malawi has been estimated at 188--less than .02 percent of the population and 6.4 percent of the enrollment in Standard 8. This is in violent contrast to the estimates of some economists that almost as many should be enrolled in technical training as in secondary school. Except on the farm, the only practical arts training open to 99 percent of the people as a whole and 93 percent of the primary school graduates is by the "pick-up" method of trial and error. Such methods are inadequate for a nation in a hurry.

58. No attempt is made here to capitalize on the forced distinction between education and training. No apology need be made for developing the skills and knowledge required for the nation's manpower requirements, for inculcating the idea of productive work, for raising the level of life in

its material aspects, or for producing what is wanted or what can be exchanged for what is wanted. This means useful, satisfying lives as well as national service. It means the multiplication of efficiency by the use of tools and mechanical power. Therefore, technical and vocational education or training are here used in the widest connotation, embracing the technical, commercial, agricultural, or home-related. "Vocational" is used not so much as a kind of course but, rather, as a kind of pupil aim--immediate employment, not to be invidiously compared with the university student's aim of long-run employment.

59. The economy of a developing nation poses difficult educational problems. Unemployment abounds at the lowest level of skill and education, and opportunity for work exists at the middle and highest levels--just the reverse of the output of the schools. Society can least absorb what the schools most produce. The economy depends on agriculture, but youth flee from the farm, and education divorces the two still further. The urban areas, despite unemployment and overcrowding, are still the seemingly irresistible magnet for the shifting population. Because of its relative scarcity, education has an exaggerated relation to employability and pupils have inflated expectations of employment which increased school output can only depreciate. It is essential that the changing rural-urban relationships be accepted, understood, and related to educational planning--both at the farm end and at the urban end of the relationship. On the rural end, this means education for increased productivity of the farm population through extension methods, farmers institutes, and special postsecondary agricultural schools and courses. It also means utilization of research and improvement in land tenure systems, investment of adequate capital resources and encouragement of entrepreneurship in relation to farmer attitude and education. On the urban end, it means education which prepares those syphoned off from the farm, and those already in the urban areas, for gainful employment in providing the goods and services for an improved standard of life. Beyond the long-term goals of shaking off the traditional shackles of peasantry and lifting farming from the subsistence to the commercial level, the problem is not how to stop the rural exodus but how to prepare youth for employment and how to create work opportunities in the urban areas. This is where technical training becomes important. It has a role of varied significance in all three educational levels.

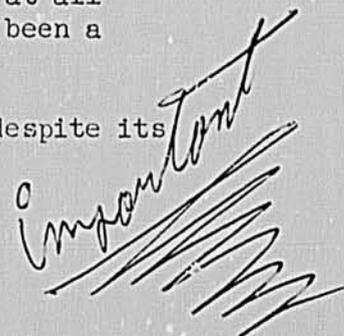
60. At the primary level, a start in this direction has already been proposed through new attention to instruction in science, with emphasis on everyday applications and use of materials most readily at hand. If in the judgment of the planners of the new syllabuses, more time can be allocated, another course in addition to the science course should be introduced. Pupils in the last two primary years should be exposed to some form of technical education--woodwork, leathercraft, other handicrafts--for the development of manual dexterity and creative imagination. The physical requirements can be simple--chiefly space under a thatched roof with a locked place for the storage of models, materials, and tools. Some exposure of this kind for the identification of interests and talents and for the acquisition of some rudimentary practical skill, plus the development of a "technical feel," should be accommodated in the curriculum somehow, even if a major block of time cannot be spared. If the squeeze for time is thought

excessive, then consideration should be given to the introduction of this practical opportunity on an optional basis for those interested or those for whom it is thought most relevant in the judgment of the head of the school. Sharp cognizance must be taken of the fact that many children have had inadequate access to training and that the great majority of primary school pupils will not go on to secondary training, even of the vocational, special-school type. They will go back to their homes or enter employment wherever their schooling is found to fit them. These youngsters must be reached somehow with the rudiments of useful, practical training which can be applied out of school. This can be done both by a course or option of the kind here envisaged and by informal means.

61. For children out of school, whether they were left out or dropped out, and for the great majority who will not go beyond Standard 7, informal means of continuing their education should be provided. This can serve several ends: worthy use of time otherwise misspent, useful service within and for the family, and improved employment capabilities. Indeed for the large number who never got to school or did not stay long, this can mean a modicum of communication and measurement skill, citizenship knowledge, and labor technique. It is too much to expect in the foreseeable future a complete, nationwide system of technical and vocational training through either regular schools or special schools. Therefore, the next-best alternatives should be explored, including experience in other countries, both in Africa and overseas. The rural institutes in Sierra Leone and the folk schools in Denmark may be suggestive. So may youth organizations where the purpose is sufficiently related to personal development and community service. Clearly, much can be done through informal means, by voluntary effort, and at costs inexpensive in staff and capital. The thirst for knowledge and skill is great in Malawi at all ages and levels. It should evoke a satisfying response by every conceivable means at the disposal of the Government, the voluntary agencies, community self-help groups, and individuals who possess competence and skills which can be shared. The spirit is already in evidence in some schools where teachers have conducted after-hours classes for those who could not otherwise qualify or attend. Until Malawi can do better through formal schooling, its people can do much through informal alternatives.

62. Also in the upper primary grades, girls should have the option of simple work in the home arts and techniques. Recognition should be made of the fact that in tropical African countries, girls assume mature responsibilities at an early age and most, as in all countries, will become homemakers. The Phillips Report correctly proposed that "education should aim at a sound training in the arts of living, the care of children, the fundamentals of health education and food values all closely related to their home environment." It should be added immediately, however, that this is in no way at odds with other recommendations in this report which contemplate an expanding role for women in commerce and the professions and which propose more emphasis on their admission and retention in school at all levels, including the University. Indeed women in the past have been a great undeveloped national resource.

63. The view taken by the survey team is that agriculture, despite its

Important


overwhelming importance, is not a subject best approached by direct and heavy instruction in the schools (as distinguished from extension methods, farmers institutes, short courses, and research). The training required of the formal type should be in special schools or programs and, therefore, should make important demands on the regular schools only for the basic sciences. Training required of the informal type should be done by extension workers among the farm population, which again makes chief demand on the schools for fundamental grounding in the ways of nature and the rational methods by which nature can be harnessed for man's benefit. Aggressive direct inculcation of vocational "agriculturism" may have negative effects, particularly when the underlying problems have not been attacked and the limitations of agrarian life have not been ameliorated. For all these reasons, therefore, it is suggested that the exposure to agriculture in the primary grades, and awareness of its importance, be achieved by the infusion of agrarian relevance into the courses generally, including the science courses. School gardens, with hard repetitive labor, should be avoided, although demonstration plots may be usefully employed in arousing curiosity, supplying classroom materials, and (if hired labor is employed) illustrating the profit and marketing element.

64. Likewise, agriculture may be excluded from the regular secondary school curriculum and left to the special postprimary or postsecondary agricultural training institutions, such as the Colby School of Agriculture and the new College of Natural Resources. What underpinning such specialized work needs is better provided in one or two straightforward science courses than in the so-called "agricultural science" offered in some African schools. Agricultural training which aspires to something above the how-to-do-it level should not rest on a cheap option in place of the rigor of general science, physics, chemistry, botany, zoology, or biology.

65. At all educational levels, these technical efforts will depend on adequate quantity and quality of teaching staff. In fact, special training will be needed. Therefore, the problem should be attacked as proposed in the section on teacher education and improvement.

66. Also as proposed elsewhere, secondary education should be revised to introduce a comprehensive curriculum in which serious technical education can be taken up boldly, occupying an equal place with academic education for further study or general education for citizenship. Since not all schools can be made comprehensive at once and both specialized and costly facilities and staff are required for the technical component, patience may be called for in gearing this innovation into the pace of supplying workshops and specialist teachers.

67. Giving technical education an equal place with traditional education is easier said than done. Prestige and popular psychology are involved. What the examining bodies will honor, or examine for, wields great influence--far too much most of the time. Nevertheless, the fact is there. The Government and school officials should attempt, therefore, to persuade the proper examining bodies to allow the more important technical and commercial subjects to be offered as School Certificate options. This would give the courses their deserved status and eloquently convey that appraisal

to examination-conscious pupils. In a somewhat similar way, Malawi should strive through its own examination boards and those abroad to work out suitable standards of proficiency in all technical and commercial fields at all levels. Overseas boards should be prevailed upon to accept subjects and local variations dictated by the needs of the country's own institutions. London City and Guilds examinations exist for the crafts and technical subjects and the London Chamber of Commerce examinations for the commercial subjects. Various professional bodies offer examinations in their fields, often with considerable rigidity and parochialism. These and similar evaluating and certificating bodies elsewhere, perhaps including the Commonwealth and the United States, should be investigated and necessary arrangements made with reputable bodies which show willingness to accord more weight to the needs of Malawi than to the inapplicable traditions of a foreign culture.

68. Leisure-time activities of pupils should be harnessed to technical education in the secondary schools. Hobbies ought to be provided, even on a compulsory basis at an early stage and optionally later, to develop and sustain interest in the more practical subjects. Dressmaking, tailoring, wickerwork, leatherwork, woodwork, metalwork, pottery, motor mechanics, printing, and weaving are all possibilities for introduction in secondary schools without large capital outlay or recurrent costs. Skilled artisans from the community, not qualified teachers, could be employed as part-time instructors.

69. To effectuate the earlier recommendations for the secondary schools, special facilities will be required--workshops, equipment, and consumable materials. The costs are formidable if good quality is attained. Workshop construction costs might be cut about a third if local materials and local workmanship were used, but there would be some offsetting higher costs of maintenance and earlier replacement. Furthermore, the equipment is the chief expense. This may force some delay in making all secondary schools comprehensive, with technical courses, although it is hoped that the new schools will have shops included from the outset. As a planning target, outfitting 40 secondary schools is proposed, with the use of local materials and self-help on the construction. The estimated costs would be:

40 shop buildings	£78,000
Equipment	143,000
Initial supplies of consumable materials	14,000
	<u>£235,000</u>

A beginning should be made in schools in the most populous areas, while teachers are being prepared or found abroad, moving on as funds and staff permit until all secondary schools are included and all pupils at this level are given access to these new course options. If a desperate but much less costly alternative is needed, consideration should be given the use of a cadre of trained teachers, working with community youth, for the local construction of tools and equipment, thus reducing the equipment costs for the 40 schools to approximately £ 41,500. This improvisation should be viewed as a last resort, however.

70. Neither the interests of individual nor nation can be adequately served by technical and vocational opportunities confined to the regular secondary schools. Special schools and programs, catering to persons in varied and sometimes unorthodox educational situations, are also required. Therefore, careful attention should be given this pattern of specialized institutions--what is in existence and what planned, and their relation to the regular schools. This involves the farmers institutes, the training programs of the various Ministries, the Colby School of Agriculture, the College of Commerce and the Further Education Center in Blantyre, the six trade and technical schools, the proposed correspondence program, and most important of all, the new Polytechnic in Blantyre.

71. As the keystone of this special system, the new Polytechnic should be pressed to completion with all possible speed. Financed by funds from the U.S. Agency for International Development, this facility, now nearing the construction phase, can perform an indispensable service to the economy and to students who gain access to its opportunities. The many useful and urgent tasks to be done prompt the recommendation that actual instruction be begun in temporary quarters, without awaiting the formal opening which apparently cannot occur earlier than 1966. The means appear to be at hand: the facilities of the Further Education Center (and possibly some reliance on the Soche Technical School) and a US/AID contract under which instructional and administrative staff can be supplied.

72. The most troublesome question about the Polytechnic from the beginning has been its precise role and the nature of the educational opportunities it should attempt to provide. These should be much clearer, now that appraisal can be made in the light of a total nationwide system of education for all ages and purposes. Planning now will inevitably be somewhat different from that which seemed appropriate when the Polytechnic could be conceived of as possibly the top-most educational institution in the land, with responsibility for picking up neglected academic areas and supplementing the total school system. It might even have become the foundation for a university later. In this spirit, one of the first conceptions of the Polytechnic envisaged extraordinary academic versatility, ranging from primary level work of a remedial nature to service as the national library. It is clear now, however, that the Polytechnic must be conceived of as a specialized institution with a particular role related to what exists both above and below it. In the nature of things, it will still have great versatility as a kind of "opportunity school" for persons outside the regular schools and as the present national center for technological training. It should also be said on the latter point, that in the long-run planning of the Polytechnic, without compromising the more obvious immediate and continuing goals, attention should be given the possibility and desirability of integrating appropriate parts of the Polytechnic facilities into the long-term science and engineering development of the University. This will be influenced, if not determined, by the location of the University. It must finally depend on the developmental plan as conceived and decided by the Vice-Chancellor and the University. If any such scheme is contemplated, closely integrated planning will be required (e.g., in constructing laboratories) to avoid duplication and to move smoothly, later, from one level of operation to another.

73. Despite this possibility, it should be reiterated that the Polytechnic has a task to be done and one which will be required indefinitely. It should not be diverted unwisely or prematurely. Indeed some philosophy of academic containment may well save it from the inherent temptations of its widespread opportunities.

74. The curricular planning of the Polytechnic should tool it up for the combined role of a technical and vocational school and a continuing education center, catering to full-time and part-time students, to persons of all ages, and to individuals eager to recoup their educational losses. This includes study at all postprimary strata up to the university level. The technical work at the secondary level can be clear-cut, but the continuing education goals make for a diffuse and seemingly disorderly curriculum. In terms of persons, it should be designed to reach those in the populous Blantyre-Limbe area (or who can find accommodation there) whose education has been prematurely terminated, or who want to prepare for useful employment, or who seek professional upgrading, or who aspire to a variety of examinations. This is a far more important mission in a country with irregular educational development, and among a people with many learning discontinuities, than in a society long affluent in educational opportunity.

75. In terms of courses and levels, it should be unusually responsive to pupil demand, which presumably will also reflect, or can be encouraged to reflect, the manpower demands of the economy. It should provide a recovery route for those lost at the primary level, for those who change objectives during secondary education, and even for those who voluntarily or involuntarily drop university work at the end of the first year and desire another route to useful lives and profitable livelihood. Appropriate courses should be offered in all kinds of commercial subjects, including accountancy at all levels and principles of management, technical courses of the widest variety, domestic science, handicrafts, and such academic subjects as required for the General Certificate of Education. These would enable some students to reach the School Certificate level, some the General Certificate of Education at either the Ordinary or Advanced level, and some the highest level, for example, of the Royal Society of Arts or the London City and Guilds examinations.

76. As recommended later, the Polytechnic should also operate the extramural department of the new University, at least in the early years. This is a way to tie similar or related functions together under one administrative head, maximizing both the instruction and the community service of the University and the affiliated Polytechnic. Benefits might range from university courses offered off-campus to consultative service in the planning of villages and rural communities.

77. Likewise, a correspondence branch should be set up within the Polytechnic to teach interested persons not otherwise reached because of place of residence, shortage of school opportunities, conflicting employment, or lack of means. The course choices might again be determined by manpower needs ultimately checked and tested by pupil demand. Such a plan can democratize educational opportunity for everyone, yet also serve the

special needs of particular groups and occupations, including teachers. An immensely useful and successful model in one field is the technical correspondence program operated by the Government of New Zealand. It should be studied, adapted, and put into use as another service of the Polytechnic.

78. Still a third method of combined instruction and community service is the use of all kinds of low-cost mass means of communication--radio, television, films, tapes, and other new teaching devices. Technological advances in this field should be harnessed and put at the nation's service somehow. The Polytechnic can best do this, both to promote and extend its own programs and to share its relevant technical knowledge with other parts of the school system using such mass techniques.

79. In physical terms, the original plan to incorporate the College of Commerce (housed in commercial property in Blantyre) and the Further Education Center (a refurbished industrial building in another part of Blantyre) into the new Polytechnic should be carried out. Better facilities are needed and economies of operation will follow in the long run. Likewise, if there are functions performed at the nearby Soche Technical School (especially involving costly equipment) which would otherwise now constitute duplication, they should be absorbed. The same applies to the several technical programs and facilities which some of the ministries of Government operate on an inservice training basis. The feasibility of such mergers will have to be negotiated on their merit, but the impression now exists that ministries originally developed their programs out of understandable necessity--nothing else then existed to be used or built upon. An alternative will soon be available. Therefore, the Government's training programs, sometimes with extensive residential facilities, can now be reassessed and eventually rationalized with likelihood of improved results for the funds spent.

80. As additional but lower-level technological institutions, the six existing technical schools and trade schools should be coordinated and related to the Polytechnic, so the latter can offer professional leadership, guidance, and inspiration. It was beyond the time and competence of the survey team to decide, but the roles of the technical schools and the trade schools appear to need re-examination, particularly in the light of the several new technical training emphases here proposed. Some parts of the existing schools will obviously be due for change.

81. Finally, concerning this specialized segment of the educational system, attention must be given to the existing and planned agricultural training institutions--the Colby School of Agriculture, the new College of Agriculture planned at Bunda, and the farmers institutes. The obvious risk of confusion and duplication is accentuated by recommendations in this report for the establishment of a College of Natural Resources within the new University. However, Malawi's needs at the formal educational level can and should be met by two, rather than three, types of institutions--one of the Colby type for subprofessional agricultural workers, particularly for the extension services, and one of the university type for advanced, degree, or professional study. Which two, and what relations between them, is partially dependent on locations, and particularly the location of the

new College of Natural Resources. This may or may not be at the site of the main University campus, desirable as one location would be. The immense advantage of educating agricultural students in the midst of all the other disciplines, students, and facilities is partially offset by the practical difficulties of making Bunda into a satisfactory location for the new College of Natural Resources. These are the result of current Bunda plans which are already far advanced toward objectives below the university level, yet the relation to the Colby School and its type of training is not entirely clear. The greatest complication arises out of the proposed siting of buildings for a more limited purpose. The result commits the heart of an adequate site to such mixed functions that conversion to facilities appropriate for the College of Natural Resources, both academic and residential, would be difficult. But what are the possible alternatives? The temptation to suggest an entirely new location for the College of Natural Resources is tempered by realization that suitable large sites are not readily available in the Blantyre area (as an alternate university site) and that still another new location runs counter to the desire for maximum unification in the University. Therefore, the survey team comes to the conclusion that the best will have to be made of the present situation, at least for the present--and once the commitment is made in costly buildings, that is likely to mean for the future, too. Clearly, therefore, the new College of Natural Resources in the University should be located on the Bunda tract and should completely absorb the currently planned College of Agriculture, both academically and physically. This may result in some less-than-ideal physical planning, and it may mean that the buildings now about to be constructed will have to be used for some special part of the new College's enlarged responsibilities (maybe simply the function as originally conceived); but there is no superior alternative available, and the attractive Bunda site can undoubtedly be made into a planning challenge. With this site and layout commitment, the only question remaining is the relation between the new College of Natural Resources and the Colby School of Agriculture.

82. Having absorbed the academic objectives of the currently planned College of Agriculture, quite appropriately, the new College of Natural Resources will begin with one of its programs largely duplicating the training being done at the Colby School of Agriculture. Such duplication can be justified but only so long as the needs of the nation call for the combined output of agricultural assistants or subprofessional extension workers. Eventually, hopefully in less than ten years, the Colby School program should be absorbed and that School closed. Meanwhile, it should continue under the Ministry of Natural Resources and be coordinated with the University through the Delegacy for Education and Research in Natural Resources (as further explained in the University section of this report).

83. The farmers institutes are an existing device for the training of farm families. They can be further used to supplement the educational opportunities available through the schools, informal means, and extension services. Short courses in domestic science, handicrafts, and hygiene, and district agricultural exhibits, rural sports competition, and literacy and citizenship classes are among the activities which might be developed. Like all other specialized training, these institutes should be kept in

balance with other parts of the total educational system. This is again, in this area, the function of the Delegacy for Education and Research in Natural Resources.

84. With the updating and broadening of educational opportunity in Malawi in these technical and vocational ways, commerce, industry, agriculture, and the professions will benefit; women will have new opportunities; the overaged and educationally underprivileged will gain another chance; manpower planning and education can cooperate productively; and the scientific and technological dependence of the modern world will be educationally recognized.

TEACHER TRAINING AND IMPROVEMENT

85. The teacher training problem must be described as desperate. Nothing more moderate will convey what needs to be done.

86. One unfamiliar with Africa in general and Malawi in particular would be agreeably surprised at the number of schools and teachers to be found. Both run into thousands. On looking closer, he would become aware of the marginal character of their existence. He would be impressed by what is needed at the qualitative level to match what has been achieved at the quantitative level. The sheer numbers are a monument to the determination of the people and their Government to catch up, to lift up their children, and to harness education to national development. The foundation is now there. Building upon it is desperately needed.

87. The largest problem is not schools without teachers, but schools without sufficiently qualified teachers. The gap between teachers and pupils is often virtually nonexistent; and the gap which exists lies in their positions rather than their training. According to the 1962 report from the Ministry of Education, 87 percent of the primary teachers reported have eight years or less of education. One-third have no professional training at all. As a result, there is a large and paradoxical category called "experienced but unqualified." The teacher cannot teach beyond his knowledge. Whatever he knows of English, or science, or history is his absolute outer bound; and whatever he knows of methodology is his practical outer bound. The pupil is made captive with him, too. This lies at the root of the pervasive problem of rote learning. It is an inevitable consequence, not a deliberate method.

88. The national problem is to break up the syndrome of inadequacy--inadequate training, deficient teachers, poorly educated pupils. This must be done, unfortunately, while the problem of quantity--more and more of everything--also cries for attention merely as a keeping-up exercise. Just where the cycle can best be broken by a remedy is puzzling, but improved teacher training is a strong candidate for adoption. The training colleges must turn out both "the more" and "the better," if it is to be done at all. The national harvest is dependent on the seed corn of teacher supply.

89. Back to sheer quantitative terms again, the output of primary and secondary teachers must be stepped up drastically, and at once. The number of primary teachers must almost double by 1970 and not quite treble by 1980. (See Table II, Column T.) Secondary education is more demanding. The 1963 total of teachers must be increased more than fourfold by 1970 and twelvefold by 1980, on a conservative basis. (See Table IIIA, Column 6.) If a faster rate of growth in secondary education is contemplated, but still not in any sense unrealistic in terms of the nation's needs, the

present teacher total would have to be increased almost sixfold by 1970 and more than fourteenfold by 1980. (See Table IIIB, Column 6.) Stated differently, this means that to carry out the development plan here contemplated for primary education, the total number of primary teachers must increase (assuming one teacher for 45 pupils) from 4,645 in 1963, to 8,489 in 1970, and to 14,222 in 1980, with annual increments which appear to require approximately 700 new teachers each year, allowing for replacement. This 700 figure contrasts with the estimated output of the 11 primary teacher training colleges as follows:

1963	234
1964	380
1965	405
1966	390
1967	420
1968	390

To implement the secondary education plan, the 122 teachers in 1963 must be stepped up to 480 in 1970 and 1,430 in 1980 on the more conservative projection; and to 700 in 1970 and 1,730 in 1980 by the more ambitious projection.

90. It is clear from these statistics that the teacher training colleges may become the bottlenecks which restrict not only the whole educational system but also the whole economy. Furthermore, what they do not produce must be recruited from outside the country, unless grave consequences are to ensue. To avoid these results, it is recommended that plans be made to increase the primary teacher output to the required 700 annually. (Secondary teacher training is discussed later.)

91. In the interim, resort to "crash" programs of recruitment should be employed in all the ingenious forms the Government can devise--to get not only enough teachers but better ones. National policy can be employed to attract good minds and to prevent "leakage" to other occupations. The Government might well launch a campaign by press, radio, television, and platform to present the teaching profession as a new and exciting challenge. Incentives which have the effect of determining the status of teaching as a career ought to be re-examined. In-service programs should be devised all over the country to retrain new recruits as needed or to upgrade incumbents for a "better fit" at a higher teaching level, making for easier recruitment at the lowest levels. Special short-term institutes in conveniently located schools, even if some time were required from school work, might prove useful and also not so crowd the teachers colleges that they cannot do the more important full-time training. Emergency foreign aid projects also appear logical and peculiarly appropriate, as is teacher recruitment overseas so far as the shortfall of home supply dictates. Emergency needs must be met by emergency methods.

92. Carrying the suggested national appeal a step further, careful consideration should also be given to the introduction of one year of primary school teaching as a form of national service, perhaps one of several kinds,

for those who have completed the secondary schools. This is a radical proposal, which the Government would have to weigh carefully; but it has many merits. It would bring into teaching persons of superior academic training--by present standards. It would underline the vital relation of teaching to national development. It could be made to appeal to superior motivation. Where, on the spectrum of consent-compulsion, such a program should be administered, the Government would have to decide; however, the form such service will take should avoid seeming to downgrade teaching as an occupation of such lowly status that recruits must be forced into service. It should be a kind of home service of high civilian significance, rather than anything suggesting compulsory military-type duty. It might be made more attractive by permitting the year spent in this way to count as a year of civil service experience, in case the teacher should later enter the civil service, or as a plus factor of agreed weight in competition for postsecondary education scholarships. It is assumed that this would not handicap the youth who had his heart set on Government service, yet it would not attract teachers away from teaching if (as later proposed) conditions of employment in civil service and in teaching are comparable. Despite some obvious objections to this idea, it should be carefully evaluated as a limited type of manpower direction justified by a crisis which may, in fact, not yield to any other solution for at least the next five years. Other outside experience illustrates that this degree of occupational "direction" for a limited time can be worked out without impairing personal freedom. There is every evidence in the enthusiasm for education and in the devotion to the new state of Malawi to support the belief that an appeal to youth for service as teachers, dedicated to the production of a new generation of Malawians, would not go unheeded.

93. Another source of greater teacher supply is the women of the country. As success is achieved in retaining a larger number of girls in school and changing the tradition which has kept most girls from preparing for work outside the home, more women will be available for the instruction of children in school. Ample experience throughout the world testifies to the major and adept role women can play in the schools. Teaching can be successfully combined with marriage. It can also become the best employment source for women who persist in their schooling. In fact, a surprising 21 percent of all the teachers in Government and assisted primary schools in 1962 were women. It was 24 percent in the secondary schools. Nevertheless, women obviously still comprise a pool of potential teacher resources which, when developed, can add significantly to the nation's educational service. With the need so serious and the opportunity so logical, more young women should be persuaded to enter the teaching profession.

94. Closely related to the problem of adequate supply of teachers are questions about how the teachers should be trained--how much emphasis on academic content and how much on professional training? Or an earlier question: how much education before they enter teacher training at all?

95. With few exceptions, primary school teachers have only primary education themselves, plus professional training. In subject-matter knowledge, they are seriously handicapped. In the past, the teacher training

colleges provided a two-year course. Hereafter, it will be three years. This supplies a fortunate opportunity to introduce more academic content into the program. It should be done. Teachers ought to have more than one class preparation between their knowledge and that of their pupils. They need a different level of understanding and enough intellectual latitude to inspire, draw out, and really teach, rather than merely drill. They need general knowledge into which to fit the basic work they will teach. This is so crucial, and has been so neglected, that pains should be taken to make sure that the additional year now added to the program will represent a content gain, not another professional addition. To put the problem in different perspective, it is unfortunate that teacher training in Malawi is generally regarded as inferior to secondary education. Indeed those who fail to gain entry to secondary school often populate the teachers colleges. As in many other African countries, it is often said that failure of admission to secondary education is the normal entry route to the teachers college. This is a terrible blight on the prestige of the profession, but it is also a reflection of the difference in academic content and rigor between the secondary school and the teachers college, both actually and as viewed by the public. The job of teaching ought to challenge the best minds, but it never can until it puts more emphasis on what the best minds find challenging--namely, the basic academic disciplines into which men have divided human experience for analysis and understanding.

96. In the long run, a more dependable way of injecting an appropriate amount of academic content into the program is to push up the formal education of the candidate before he enters the teachers college. This needs to be done. Here again is the familiar compounding of problems--the need for prolongation of the training process at the time output needs to be speeded up. Therefore, the solution, clear and desirable as it is, must be arrived at gradually over some years. The objective ought to be completion of secondary school, to which professional training should then be added. One year of the latter would suffice, initially, when grounded on the greater maturity and the greater knowledge. Twelve years of schooling, plus a thirteenth year of teacher training, would make a reasonable age for beginning teachers, too. Therefore, qualifications for admission to teacher training colleges should be advanced progressively, with due regard to the supply problem also, until this goal is reached. Teacher competence would be elevated greatly.

97. The extreme importance of the teachers college is apparent at another point--classroom methods. The training colleges, in a real sense, make the schools. If the schools are to be reformed, the colleges will play a key role. The mechanistic methodology of the passive student and the authoritarian teacher poring over rigidly prescribed materials will not be changed until teachers are trained to a different approach. Effecting this methodological revolution ought to be one of the highest priorities of the teachers colleges. Changes in content and in method must go hand in hand, both in the primary schools and in the teachers colleges. With the broadening of the curriculum goes less dependence on "boning up" for traditional examinations. With more latitude for what to know should go more latitude for how to learn. When an end is put to learning a mass of

unconnected and unrelated facts on situations foreign to the child, an end should also be put to memorizing and to merely "telling them and testing them." The teacher training colleges should take the lead in redefining the nature of the teaching tasks, and thereby in substituting problem-solving for drill, replacing passivity with participation, and opening opportunity for creative expression. If the teacher can have this improved training, the pupil will have improved education.

98. Still another modification must be made in the content of teacher training. If technical and vocational education is to be provided, teachers must be properly trained, too. The teacher training college curriculum must recognize this new responsibility with proper content, workshops, and specialist teachers. The new three-year training program at the primary level should provide enough technical content for election by those who will teach such material. This should be joined with workshop facilities where needed to acquaint teachers with the planning and making of useful objects and the use of readily available materials. To the teachers college should be attached a specialist teacher who can teach the subject matter, operate the workshop, and supervise the making of tools and devices the students can take back to their own schools. Until better can be done, long vacations should be used to speed up the required training. It is, therefore, recommended that a technical instructor be employed at once to operate such short programs in one college, properly equipped, aiming at the preparation of 175 teachers in three vacation periods (or three instructors producing the same result in three colleges in one such period). In addition, use should be made of correspondence follow-up and the resources of the Polytechnic and its staff through in-service training possibilities. This will make a significant impact on the needs in the assisted schools, if the trained teachers are properly utilized as specialists for Standards 6 and 7.

99. At the secondary level, special teacher training will also be required. Soche Hill College and its University successor will need so to plan; however, in the interim, reliance on expatriate teachers will be necessary because the more advanced training required does not lend itself to short-run, emergency preparation. "Crash" solutions are not feasible.

100. To do what is properly expected of them and do it better, the teacher training colleges should be reorganized. Basically, this means reduced in number, greatly enlarged, and better fitted to the service of primary education as it is also undergoing change. Such reorganization is among the three or four most needed innovations in the educational development plan of Malawi. The present pattern of 11 colleges, two Government-controlled and nine operated by voluntary agencies, owes more to chance and missionary goals than to national purposes. They have been called "penny-packet operations." While this is too harsh as a judgment for every college, it dramatizes the problem which is commonly recognized by school people. Shortages of finance are apparent almost everywhere and opportunity for service falls far short of the devotion and willingness of principals and staff. Present colleges, generally speaking, are too small in relation to financial overhead, too small in relation to appeal for both good staff and specialized staff, and too small in relation to requirements

for library, equipment, and faculty freedom for noninstructional service. Time has altered the needs of the missions. They no longer need, or can have, the use of a teacher training college to supply teachers of their own faith for a self-contained system of mission schools of that faith. Centralized selection of students for the 11 colleges now takes no account of religion, with merit and geography taking priority. The time has come, therefore, to develop three strong teacher training colleges under Government control and to concentrate resources and students in these. There should be one in each of the three Regions, although not confined to the admission of students from that Region only. Whether the three larger colleges emerge from existing colleges selected for expanded purpose, are built new, or entail specific amalgamations should be determined by the Government in terms of national perspective.

101. The strong temptation to spread resources among all the existing colleges, and to expand them all, should be strenuously resisted by the Government. To do so would only spread and share the insufficiency. Expediency here will prove financially expensive in the long run and academically expensive from every angle. It will, also, make much more difficult the changes in content and method here proposed, and thwart the college potential for sorely needed leadership in primary education. Exactly how this transformation should take place suggests more than one solution. The present college facilities might be converted to secondary school use, if properly sited. Indeed it has been suggested that the colleges might begin secondary school work, combining it with one year of intensive professional training, working up from standard to standard until reaching the goal of secondary school completion for all, who might then add a professional year and qualify for teaching. In the interim, three colleges would be selected to become the expanded institutions and the remainder would be converted to secondary school use. Ingenious as this daring scheme is, it would decrease the teacher output of the colleges for a time and combine in them what some school officers think largely incompatible in spirit--secondary education and teacher training. While the survey team does not now recommend this solution, the Government should be aware of it as an alternative if time or circumstance commends it more highly. Another approach would be a beginning in the Southern Region, the most populous, somewhere immediately accessible to primary schools which could be used for student observation, practice teaching, and clinical service. With a suitable nucleus, where a college already exists, instruction might begin in 1966 for an intake of 100 students, rising to 200 in 1967 and 300 in 1968. Capital provision would be required in budgets now being prepared, and increased recurrent costs anticipated.

102. Thereafter, other sites would have to be chosen in the other Regions and similar development planned, perhaps expanding an existing college. Needless to say, the missions should be fully consulted. They should be given adequate notice for phasing out their students and converting the colleges to other uses. They should be left to organize or help work out a system of college chaplaincies to serve the spiritual welfare of students.

103. As implied, the teacher training colleges for primary education

should continue to function under the supervision of the Ministry of Education. They need to be built into the fabric of the total educational system, in intimate relation with all matters pertaining to primary education. The time may come when the training colleges will be more closely related to the University and its College of Education. Meanwhile, the necessary coordination can be achieved in another way--through a Delegacy for Teacher Education, as further explained in the University section. The Council, in addition to its coordinating function, should serve the Ministry of Education and the teacher training colleges in an advisory capacity on matters of admission to the colleges, organization of the curriculum, and evaluation for teacher certification.

104. In addition to the catch-as-catch-can methods earlier suggested for emergency use, in-service training for primary teachers should be regularized and built into the teachers colleges as an integral part of their services. It will be decades before initial preparation of teachers will be sufficient to take the pressure off in-service facilities. Even then, opportunities for modernization and professional refreshment will still be required.

105. To the same end, more informal and indirect methods should be used to develop professional spirit among teachers and to convert it into self-improvement and school improvement. This spirit is not something to be left to the Ministry of Education. It should permeate the profession and well up from within. The Ministry can encourage and stimulate. It might, in fact, facilitate the necessary communication within the profession by establishing a journal for the exchange of ideas and information. This could share success at one place for emulation elsewhere, give teaching suggestions to the novices, describe usefully improvised laboratories, and consciously contribute to the sense of profession. Neither should recognitions, awards, and honors be overlooked.

106. Beyond all this, teachers need to have the benefits of lifted status and improved working conditions. One possible improvement, which is recommended, is the abolition of the several present grades of primary teachers and the establishment of a single category of Certified Primary Teacher. This would emphasize the Government's objective of producing a cadre of fully qualified men and women to teach in the primary schools, would make the only distinction needed except for salary increments, and would abolish the existing grades which have become outmoded and largely meaningless. An analysis of the standards of entry and grades of certificate will illustrate:

Standard of Entry

Primary School Leaving Certificate	Teacher Grade IV (T4)
Nyasaland Junior Certificate Examination	Teacher Grade III (T3)
School Certificate	Teacher Grade II (T2)
(or Form IV qualification)	

The Junior Certificate Examination midway through secondary school has now been abolished, cutting the ground from under the T3 Grade. A T5 category

not shown above persists as a historical remnant and refers to the teacher products of a now discontinued system which accepted for training persons with adequate qualifications below Standard 6. The T categories, in other words, have become inapplicable and also confusing.

107. The entire question of conditions of service for teachers, secondary as well as primary, is so basic and yet so complicated that a special commission should be created to study the problem and make recommendations. This has been done in other African countries and also done for civil service positions; so precedents are ample. This should be a Government-sponsored enterprise with representation of the most highly interested parties, including, among others, the Ministries of Education and Finance. Coverage should include all major conditions of service, with particular attention to equitable salaries and a satisfactory retirement system. The salary scale should be based on training and experience, entry rates in the civil service for comparable training, and a realistic view of what is appropriate for the new nation of Malawi. The balance will need to be redressed at several points: civil service and the appropriately separated teacher service, teaching in the upper standards and lower standards which should not be invidiously compared either in preparation or pay, and service in the teachers colleges as compared to the secondary schools and in the light of the responsibility required. The commission's work could be a means by which the Government can vitally affect and shape the educational system. The terms of reference for the commission can influence the future status and image of the teaching profession. As the Manpower Survey corroborates, the competencies most needed by the nation are the product of a school system manned by able teachers in stable supply.

108. What has preceded has, with some exception (including the above paragraph), been concerned with primary education. The teacher training problem in secondary education is even more acute in several ways--not in numbers, but in rate of increase demanded and in dependence on expatriates.

109. In some respects, however, the problem is more manageable because teacher training in this field is confined to one institution now, the Soche Hill College, and will be confined to one institution in the future--the College of Education in the University. This function is, however, new for Malawi. Soche Hill College opened early in 1963. Only 24 students were enrolled for the regular three-year course: 17 in their first year, four in their second, and three in their third. The last three were graduated in November 1963. Presumably four more will be graduated in 1964. This is a totally inadequate showing in terms of need and in terms of the country's almost complete dependence on foreign sources for this kind of manpower. An emergency remedy should be begun at once, reserving all Soche Hill places for secondary teachers (half are now taken up by primary teachers in an up-grading program) and finding qualified students for admission and training. Expansion of Soche Hill College is not the only, or a sufficient, solution, but it is an obvious one calling for urgent action. This recommendation is based on the understanding that a second-phase plan has been developed for the College and is awaiting implementation, and on the assumption that this would gain perhaps two years over the completion of adequate facilities at the University. Thus, 240

trainees might be accommodated--a respectable number, pending assumption of the entire responsibility by the University. In any case, construction at Soche Hill must be undertaken in the light of the University development; and an eye must be kept on later conversion of the facilities to secondary school or other public use (unless the main campus of the University should be located nearby). The twin criteria should be (1) immediate increase in the teacher supply and (2) economy by avoiding duplication.

110. In other words, through the Soche Hill expansion and the new College of Education in the University, plans for training secondary teachers should be stepped up so as to yield from 50 to 60 in 1967, with rapid progress thereafter, depending on qualified applicants, toward a goal which will not only supply the new needs and replacements but will put Malawians in place of expatriates. In terms of new positions and replacements alone, this means expansion to produce 100 diplomates by 1975 and 200 or more by 1980. The new College of Education will have a heavy responsibility.

111. Secondary school teachers and their educational products are the chief domestic source of high-level manpower. Contribution to the manpower supply must be greatly accelerated if national objectives are to be attained. The projections of the recent survey of this field indicate that, for the period July 1962 to December 1965 and from January 1966 to December 1970, the potential output of such needed personnel from within Malawi will rise from about 30 in the first period to about 455 in the second, which is one-seventh of the total required in the first and two-fifths in the second. These figures suggest a substantial acceleration, and, if continued, will reduce and eventually eliminate Malawi dependence on external sources of supply. However, the survey also shows that, notwithstanding this rapid acceleration, the requirements in the periods under review will surpass the internal output. Therefore, for the immediate future, Malawi cannot escape heavy dependence on expatriate teachers. It should make strenuous effort to recruit qualified teachers overseas and in other African countries. This is a matter of self-interest. Unfortunately, there will be added expenses for housing and for appealing amenities, plus travel allowances and salary inducements; but, again, there is no alternative without shortchanging the country and the country's youth. The Government should seek more teachers from the Peace Corps, the Voluntary Service Overseas, and similar voluntary sources; seek foreign aid for special needs (e. g. technical teachers); and move into the overseas teacher market with its own sufficiently appealing opportunities. Either timidity or lethargy at this critical point can wreck both the educational plan and the socio-economic development plan.

112. The Manpower Survey called the secondary school the fulcrum for building the high-level manpower base of the nation. Teachers are the productive and regenerative force within the structure. They should be esteemed. The nation cannot afford not to train them well and pay them well.

HIGHER EDUCATION

113. In the modern world, Malawi urgently needs university education. No nation can meet its minimal obligations and perform its essential services without university-trained talent. This applies to governmental, professional, and private sectors of society. Therefore, though the country could and will benefit from outside universities, Malawi must also have the incalculable and progressive influence of a self-regenerative, indigenous community of scholars, research workers, and consultants. True intellectual independence requires this development. The Government and the people of Malawi are alike convinced that only a national university can achieve these purposes. A junior college has already been established at Livingstonia. The secondary schools are also producing enough candidates qualified for university training. The report of the Tananarive Conference of 1962 included a new university for Malawi. The recent Manpower Survey justified it in terms of social and economic development. The survey team has given considerable time and thought to the place which higher education should have in Malawi and, for all the reasons set out above, recommends that a University of Malawi should be established. This will be the logical capstone of the country's educational system.

114. It should be immediately recognized that this adds a new, costly, and talent-demanding dimension to the educational structure and that, therefore, the development of the University should be progressive but cautious. This is the way to assure its quality. This is also sufficient for the current needs of the country. It economically combines self-help where the size of enrollment reduces cost per student and external help where specialized educational costs would be exorbitant at home. In other words, the University should begin with concentration on the hard core of higher education--the general and broadly applicable, plus those two or three specialized fields on which Malawi's immediate development depends. Precedent for this pattern exists in neighboring African countries, even where regional cooperation is strong. This means a College of Arts and Sciences, including the humanities and social sciences, at the center (staged as staff and facilities permit), with professional Colleges of Natural Resources and Education on the periphery. It cannot be too strongly emphasized that the experience of the educational world undergirds this advice for hardheaded and cautious development in contrast to the headlong plunge into professional proliferation with its risks of dissipation of energies and resources out of all proportion to gains. Also, poor professional schools detract rather than add to prestige.

115. Furthermore, few nations can be entirely independent educationally, as few can be entirely self-sufficient economically. In fact, Malawi can buy time, speed its own development, and hasten Africanization by wise use of scholarships and outside educational opportunities. Specifically, so long as scholarships and bursaries are a cheaper means of obtaining the

required high-level manpower in specialized categories through external university opportunities, the University of Malawi should put the burden of proof on those who advocate indigenous development in such fields. This applies, for example, to architecture, pharmacy, medicine and health services, engineering, and law (except preliminary courses combined with administration). None of these should be incorporated within the new University program at present. The best universities the world over are those which do not undertake too much in terms of their human and financial resources. A good small university is worth a dozen inferior big ones.

116. Executive and legislative steps should be taken at once for the establishment of the University with the customary provisions and safeguards. This should include a small Provisional Council created by appropriate executive means and, later, a larger Permanent Council established by legislation, with representation of educational and lay interests (perhaps from business and the professions, and from governmental bodies at central, regional, or local levels) and with inclusion of the Vice-Chancellor, representatives of the Senate, and two or three persons of educational distinction from outside the country. External representation (e. g. from the United Kingdom, the United States, and other African states) is one of several means of assuring satisfactory standards in the eyes of the outside world, building a system of independent consultation into the Council, and obviating the necessity of a special relationship with a foreign university. The ordinance should provide for the appointment through the Council of the necessary officers, including Vice-Chancellor, Registrar, and Bursar or Finance Officer, unless the American terminology of President, Dean, and Business Manager, or any other terminology, is preferred.

117. Likewise, the ordinance should guarantee that the University will be governed on an autonomous basis. This does not deny its obligations to the Government and people who support it, nor imply its divorce from the nation which brought it into being. On the contrary, the point is that the University can best discharge its responsibilities to the nation--evenly, equitably, year in and year out--if it is given the proper measure of independence. The appropriate and desirable balance will be struck if the ordinance provides that: (1) the University shall be a self-governing body; (2) the Council members shall be appointed with overlapping terms; (3) the control of the finances of the University shall be lodged in the Council; and (4) machinery shall exist to enable the faculty to determine all academic matters (through the Senate or Academic Board of the University, which shall include all professors and department heads, plus selected representatives from the remainder of the faculty). The functions of the Council and the Senate should be complementary--the Council to provide the financial, physical, and administrative framework within which the faculty will carry out its work and the Senate to advise the Council on all academic policies. Such safeguards are essential. They inhere in a university's unique responsibility for the transmission of what man has learned and the addition of what no man yet knows. Suffice it to say that, over its history, every country with university experience can either positively or negatively demonstrate the wisdom of these safeguards. An institution founded on a lesser basis could be a training center, but it cannot be a university.

118. Whether a special grants committee should be set up for review of the University estimates and for appropriations liaison between the Government and the University should be carefully considered. The unitary nature of the administration of higher education may not call for such machinery, yet precedent for it exists under similar circumstances. It is highly desirable that means be found to justify the appropriation of funds on a three-year or five-year basis in lump sum rather than prescribed detail. An alternative would be the appointment of a visitation committee, perhaps once every third year, to review and report on the finances and development of the University and to make recommendations to the Government.

119. The Senate or Academic Board should be given exclusive authority to recommend the granting of all degrees, diplomas, certificates, or other distinctions in higher education. This is a function peculiarly appropriate for the faculty as the custodians and evaluators of subject-matter competence. It is also a national function which must be indivisible for the preservation of standards.

120. The ordinance should provide for one unitary national university. Higher education in Malawi should be coordinated, not fragmented. In a country of such size and resources, the case is overwhelming for coordination of effort and avoidance of duplication. The University should be unitary so far as physically possible at the outset, and unitary development should be the goal for the future. Besides conserving scarce resources, this will obviate regional competition for pieces of the institution or for separate institutions. It will also make unnecessary the creation of cumbersome, duplicating, overarching special machinery for even minimal cooperation.

121. Malawi does not start with a clean slate. Incipient fragments of a university are already emerging. They should be pulled together, administratively at the outset and physically as soon as feasible, into one organization adequately staffed and headquartered at a central location and integrated with a central core development which will be the focal point for future growth. Therefore, the new University should have within it, responsible to the Council through the Vice-Chancellor, the following units:

- (1) the existing Junior College at Livingstonia;
- (2) the Polytechnic planned at Blantyre, including the existing and related Further Education Center and College of Commerce;
- (3) the existing Institute of Public Administration at Mpemba;
- (4) the existing Soche Hill College for the training of secondary school teachers, incorporated in a new College of Education;
- (5) a College of Natural Resources incorporating the College of Agriculture contemplated at Bunda;
- (6) a new College of Arts and Sciences; and
- (7) all subsequent program additions in higher education.

122. The functions represented by these units (further discussed below) are essential. Their location is secondary. They should be preserved; but some regrouping and indeed relocation will ultimately be in

order. To recapitulate, the survey team wishes to urge with all the force at its command that the fragments named above should be welded by statute into one, single, composite whole. The physical realization of this goal, commensurate with administrative realization, should proceed as fast as architectural and academic planning will permit.

123. If University classes are to begin in 1965, as recommended below, some improvisation will be required before a central site can be chosen and permanent structures built. The Vice-Chancellor and staff will have to begin planning at once, first for immediate needs and then for permanent, long-term development. What is done for the former should be adaptable and compatible with future objectives (or convertible to other public uses). Nevertheless, available facilities will have to be used temporarily--the Livingstonia site with such improvements as will meet the first-year requirements, the Polytechnic (probably after 1966) for purposes compatible with its special facilities, and the educational accommodations existing at Soche and emerging at Bunda. These arrangements should be strictly temporary and give way as quickly as possible to the unified plan here proposed and as further detailed by the University Council on the recommendation of the Vice-Chancellor and his academic and architectural advisers.

124. The nucleus of the new University should be readily accessible to the majority of the population, near good transportation facilities, suitable for great expansion, and in the mainstream of national life for enhancement of faculty influence and for enrichment of student experience. It need not be engulfed in an urban center, but the advantages of urban influence and the opportunities for urban service should not be overlooked. To be a genuine people's university, it should come to the people in every way--in extramural activities, in community service, and in location. It should start with what exists. Therefore, consideration should be given to two locations where postsecondary education is already emerging in populous and easily accessible centers--Blantyre and Lilongwe. The headquarters of the new University, the office of the Vice-Chancellor, and the site of the new College of Arts and Sciences should be located at one of these sites, building onto either the site of the Polytechnic or Soche Hill College in the Blantyre area or on the site of the newly planned College of Agriculture at Bunda, near Lilongwe. The Blantyre site has the advantage of population, commercial and industrial concentration, and an emerging educational complex. Lilongwe-Bunda is somewhat divorced from the city itself, but it is centrally located in the nation, offers large and attractive sites, and has strong appeal if there is any desire to develop an institution of the American land-grant university type. Wherever the main campus site is located, the Institute of Public Administration should be relocated there, since new facilities are sorely needed anyway and training for government and the magistracy should be related to other university studies. The Soche Hill College function should be absorbed in the new College of Education and if Lilongwe is the site, the Soche buildings should be converted into a secondary school or other appropriate educational facility. These changes would mean that regardless of the site of the main campus development, there would be at the outset only three locations for higher education functions--Blantyre, Lilongwe, and Livingstonia--and only two "pieces" left to be coordinated with the campus center. The timing of further

integration and concentration at the single central site is a question best left to the future discretion of University officials.

125. In addition to this coordination by central siting, two other integrative devices should be employed.

126. Internally, the University should be provided with an Administrative Council headed by the Vice-Chancellor, advisory to him, and composed of the administrative heads of the constituent units of the institution, whether on the main campus or off. The heads of the off-campus institutions should have titles which convey this subordinate relationship. The head of the Blantyre Polytechnic might also be made the University's Director of Extramural Studies, including those for adults and those conducted by correspondence. Attention is called to the fact that while the unitary operation of the University should obviate the necessity of special supra-University coordinating machinery, success is dependent on adequate administrative staffing for the office of the Vice-Chancellor. Managerial overloading should be avoided.

127. Externally, the University should be given responsibility for all existing postsecondary education and its future development, with the exception of a special relationship to Government-operated education for the agricultural services and to the training of primary school teachers. Although the training of agricultural instructors (in effect, extension workers) will remain a responsibility of the Government through the Colby School of Agriculture and the newly established farmers institutes will also remain under the Ministry of Natural Resources, association with the College of Natural Resources in the University will provide mutual benefits. It is, therefore, proposed that this relationship be assured by the establishment of a Delegacy for Education and Research in Natural Resources under the chairmanship of the Vice-Chancellor, with representation from the Ministry of Natural Resources, the University College of Natural Resources, private agricultural interests, and the governmental institutions which train for agricultural service. Likewise, although primary teacher training colleges should continue under the Ministry of Education, they should be closely associated with the University. It is, therefore, recommended that a Delegacy for Teacher Education be established, to consist of the heads of the primary teacher training colleges, representatives from the Ministry of Education, and the head of the College of Education in the University as chairman (the Principal of Soche Hill College in the interim). These two bodies should meet as required to coordinate the University activities impinging on these functions and to assure planned, balanced, nonduplicating development in these sectors of postsecondary education. The Delegacy for Education and Research in Natural Resources should also be used for research coordination, reviewing existing and proposing new projects in plant, animal, and earth sciences. The inefficiency of fragmentation and duplication among governmental agencies, private institutes, and the University should be avoided.

128. In addition to the immediate promulgation of the University ordinance, the Government should take urgent action to insure the earliest possible appointment, through the Provisional Council, of a Vice-

Chancellor, a Registrar, and a Bursar or Finance Officer (or equivalent titles). Thereafter, the Vice-Chancellor and the Provisional Council should appoint three or four senior faculty members representing the constituent colleges and a Librarian to begin at once the physical and academic planning on which so much of the University's future will depend. Perhaps attention hardly need be called to the existing world-wide shortage of competent and experienced university personnel. Therefore, in view of the crucial importance of these initial appointments, a most careful search should be made; existing and experienced recruitment machinery should be employed where possible; and personal interviews should be insisted upon as a final evaluation of all candidates. On the assumption that Malawi will want the assistance of the best university talent regardless of country of origin, it is suggested that vacancies be advertised overseas and that suggestions be sought through such agencies as the United Kingdom's Inter-University Council for Higher Education Overseas and the Overseas Educational Service in the United States. Quality of staff will determine quality of institution; hence this is not the place for economy.

129. For the faculty generally, how can the new University be adequately staffed: Some critics have said it cannot be done. This is quite unwarranted pessimism. Staffing the secondary schools will be much more difficult. The University needs will be small in quantity--only the figurative handful at the beginning--although demanding in quality, as in every university. The faculty will have to come at the outset largely from outside sources. This will mean abnormal expense initially for effective financial and nonfinancial attractions. Staffing by Malawians, first at the junior level and then at the senior, is also a realistic goal for which planning should begin at once. As the Government promotes the idea of a university, it should simultaneously set top priority on a program to prepare some of the most promising young Malawians for the junior University posts. This means careful selection for this specific objective and financial support of education in graduate schools abroad, with assurance to the trainee that he will be employed in the University provided his scholarly promise is vindicated in the judgment of the graduate school attended and in the judgment of the University's employing officials. It is evident that if the Government will give this objective a Number One manpower training priority, it can use the facilities and aid provided by the African-American Institute in the United States, for example, through cooperation with both a number of graduate schools and the Agency for International Development. Similar facilities and aid can no doubt be found in the United Kingdom, other Commonwealth countries, and elsewhere. Likewise, in the training interim, similar external aid programs should be sought for the recruitment of expatriate faculty. Indeed some exploration might profitably be made of an institution-to-institution relationship with a foreign university or association of universities which would involve the supplying of faculty on secondment to Malawi. The problem will not be recruitment so much as quality recruited and avoidance of instability through short term, hit-and-run tenure. These dangers should not be accentuated by reliance on the Peace Corps or other voluntary service for anything except teaching aide and interim appointments, although this source should not be overlooked for strictly supplemental faculty assistance.

130. A university serves the nation by the nature and range of its educational opportunities. These may be viewed in terms of size of enrollment, standards of admission, curricula and degrees available, attention to adult education, and programs available through the university but not administered by it (e. g., overseas).

131. The high-level manpower needs of the country are urgent. They will brook no delay. Qualified students are ready and accommodations can be provided in existing buildings while planning is going forward. Therefore, students should be admitted to the first-year course in 1965 and a new class admitted each year as these move up, thus providing the country with its first four-year degree graduates in 1969. The Vice-Chancellor and his senior colleagues should have the deciding voice in the light of their plans and assessment of feasibility, but unless and until they recommend otherwise, current planning should contemplate an initial student entry of 200 in 1965, with an increase in the annual intake to 350 to 400 during the next five years as staff and facilities will permit. This will mean a university of approximately 1,000 by 1970. Taking into consideration the manpower needs at the highest levels as well as the urgent need for large numbers of secondary school teachers (who presently need a three-year diploma and should move toward a four-year degree), an annual intake target of 750 by 1975 and 1,000 by 1980 seems reasonable. These figures must be regarded, however, as rough guidelines, to be regulated and revised in accordance with the findings of the Manpower Council.

132. The appropriate level of admission to the University depends on what precedes and succeeds admission. Pupils who complete secondary school will have had twelve years of schooling. The new pattern of seven plus five (seven primary and five secondary) contemplates primary scholastic achievement equal to the previous level attained in eight years, to which five, more productive, secondary school years may then be added (in contrast to four heretofore). This in theory should bring the level of attainment into the midstream of the Fifth and Sixth Form work or its equivalent. The question then remains whether Sixth Form completion should be a condition of university entrance. This is a somewhat academic point in Malawi because Sixth Form study is almost nonexistent and rests on extremely shaky ground where it is now attempted. The question of relevance is, in effect, whether Sixth Form work should be generally introduced, built up, and then required for university admission. This has not been judged wise for reasons partially stated under the discussion of secondary education. Since something essentially new would have to be introduced anyway, may not the new be better incorporated into the University, rather than kept as an appendage to secondary school or introduced as another layer in the educational cake? Suffice it to say, the survey team has looked at what is most relevant for Malawi--as it stands, what it needs, and where it is tending--and emerged with the conviction that the best educational combination is a four-year university degree program for which students are eligible to seek admission upon completion of secondary education. An essential part of the "package" is a common compulsory first-year course, emphasizing general studies. This will put degree-holders at an academic level comparable to that adhered to in universities in many parts of Africa and overseas, and will qualify for admission to excellent

postgraduate programs abroad. This is a test of adequacy. In other words, students should be admitted to the University after 12 years of school education on the basis of suitable performance at the "O" level of the General Certificate of Education examination or the equivalent. Further prescription or definition should be left to the judgment of University officials, who should regulate admission standards and set particular requirements for particular degree goals if thought desirable. The purpose of admission standards is not to exclude students but to identify those who can turn university opportunity into great personal growth and significant national benefit. Therefore, admission requirements should not be so rigid as automatically to exclude candidates whose merits do not fit a prescribed mold or measure. For example, persons of mature age whose background or experience does not allow them to qualify in the orthodox way should be given an alternate evaluation if there is reason to believe they possess promise. An entrance test combined with a personal interview is one possibility. The subsequent academic achievement of persons so admitted should be kept under constant review, both to adjust test standards as required and to prevent abuse. The essential point is that the nation needs developed talent; and not all talent, even of unusual promise, can be detected by rigid instruments fitted to the condition of the mass of students.

133. Course offerings in the new University should be modest in number and subject-matter variety, because the urgent national priorities demand educated young men and women for the government services, the teaching profession, agricultural leadership, the private economy, and those professions in which university degrees are preparatory training for specialized and graduate study overseas. By the standard of the world's most sophisticated and complex universities, this means only the middle segment of the curricular spectrum--a basic, hard core of general studies and major concentrations at the center of the humanities, social sciences, and natural sciences. Such flexible opportunities are appropriate for youth who can man the nation's services and mount the nation's regenerative and developmental processes. This is the crucial need. For that reason, it is here proposed that the unified first-year program should be concentrated at Livingstonia and required of all entering students, as explained below. Beyond that, in keeping with its limited institutional objectives, the University should offer in its early history appropriate courses from the humanities and social sciences, including administration and preliminary legal studies; agriculture to the diploma level; other sciences, the next priority, as the University's planning dictates and laboratory facilities will permit; and education, particularly for the preparation of secondary school teachers.

134. Both diploma courses and a general degree should be offered from the outset. The course for the first general degree should extend over four years and should be classified. Beyond the first year of general studies, the program should be gradually narrowed and intensified as to area of studies, with progressive emphasis on depth rather than breadth. Consideration should be given to the merit of grouped studies so arranged that the student can work in and through related areas of knowledge and yet concentrate on not more than two principal or major subjects (e. g., history/economics or physics/mathematics) in his last year or two. This

kind of combination commends itself not only because it is intellectually stimulating and liberalizing, but also because it is a fitting response to the current high-level manpower needs of a nation in which flexibility and adaptability are at an extraordinarily high premium.

135. Diploma courses of three-year duration should be offered in education for secondary teaching and in agriculture. A similar or two-year certificate course should be offered in public administration also. Where possible, the curriculum should be formulated so as to allow diploma candidates, either at the end of the three years, or subsequently, to proceed to degree courses in the expectation of completion by one more year of study.

136. This conception of the University of Malawi attaches special importance to the first year of basic studies to be pursued at Livingstonia. That year is related to the admission standard, to a four-year rather than three-year degree program, to the emphasis on a broad and liberal curriculum instead of a professionalized one, to the flexible needs of a new nation, and to the opportunity afforded at the historical site of Livingstonia. It should be emphasized at the beginning that this year is an integral part of the University program, is administered by the University, and will be integrated and merged with the total University program to an increasing extent as the unitary nature of the institution is realized. Stating it differently, this year is not a disguised substitute for the Sixth Form. It is especially tailored to fit the needs of all Malawi youth who have already been admitted to the University. It begins where they are. It proceeds from there to all of Africa--providing a conspectus of their continent, its history and its cultures--and to the world at large, emphasizing critical understanding, essential common knowledge, the seamless web of learning, and the African student's personal relation to past, present, and future. Its intention is not parochial but international, not merely personal but also human. It represents a philosophy of education and not expediency, although it happens also to fit the expedient circumstances of the Government's present commitment to Livingstonia as the site of the beginnings of an incipient university.

137. The precise organization of the course will have to be left to the professionals. It is recommended, therefore, that a Director of General Studies should be appointed both to serve as administrative head of the Livingstonia institution, coordinating and supervising the faculty there, and to plan the first-year course. He should decide what course components are to be required, set the broad outlines, and establish the principles to govern the entire program and its instruction. He should be enabled to employ one or more consultants to assist him in fields other than his own, relying on the faculty to work out the detail in each course under the organization and philosophy prescribed. This appointment requires action at once because the program should be well worked out before the University opens. It will be a most challenging assignment for the Director and his aides to produce something peculiarly appropriate for African students beginning study in an African university. The program should take cognizance of the sciences of man, the sciences of nature (with laboratory experience), the fine arts, and English. Planning should also make the course complete in itself for those students who do not or cannot go on, and yet a sound and stimulating foundation for further study. It should

encourage more mature choice of career or further study by postponing such choice until the end of the first university year. It should also be diagnostic and coupled with career counseling. Fear of wastage is unwarranted. Obviously this pattern means less wastage than a higher admission level would have imposed. Also, even those who drop by the wayside academically will be better prepared both for life and for other kinds of post-secondary training. Fear of unreasonable demands on the student are also unwarranted. Quality of mind and ability to think, analyze and understand relationships, rather than the mere amassing of information, will be the touchstone; but these are the indispensable requirements for university work and cannot be begun too soon. The first-year course may indeed be difficult to devise and implement because it is unorthodox (although by no means without suggestive likenesses elsewhere), but it can be a relevant and exciting response to the needs of the new nation.

138. Two other curricular developments call for attention: education and agriculture. These are the only two professional areas which in the immediate future justify the creation of colleges within the University for their special service. Public administration can be managed as a part of the College of Arts and Sciences, as can preliminary legal training.

139. The demand for teachers will be the greatest of all high-level manpower requirements in Malawi for many years. The need for secondary teachers will rise phenomenally, from 40 new ones each year at present to more than 120 annually by 1980, making no allowance for replacements. These are at present overwhelmingly expatriate. They should become overwhelmingly African. There is also need for educational leadership, guidance, and in-service training at all levels--services the University can and ought to supply. Therefore, it is recommended that a College of Education be established in the University to offer (1) a three-year diploma course for secondary teachers; (2) a four-year general degree course for secondary teachers and administrators; (3) educational research and experimentation relevant to the special problems of the nation; and (4) conferences, institutes, and in-service training for the up-grading of the teaching profession in all ways. The curriculum should allow flexibility, taking account of the requirement that all first-year students must take the basic general studies course of the University and that the majority will terminate their education with the three-year diploma, but that those who wish should be permitted to complete the fourth year later, either internally or externally (perhaps by correspondence), and thereby qualify for the four-year degree. While it is an unrealistic objective now, the eventual aim should be graduate teachers for all new secondary school positions--perhaps attainable by 1980. Finally to avoid confusion, perhaps it should be stated that the conception of the College of Education is that it will directly, or in conjunction with the Delegacy for Teacher Education, also perform all the functions and services normally assigned to an Institute of Education.

140. Agriculture is the economic lifeblood of Malawi. A large proportion of the population is actively engaged in farming and derives a livelihood from it, even if generally not a money income. The total value of agricultural produce, consumed and exported, is roughly estimated at

£ 31,000,000 a year, with two-thirds that amount of capital invested in agriculture. Competent husbandry investigations show that an effective advisory service can easily double agricultural output. Forest products also have both extractive and industrial potentials which need exploration and development. Therefore, Malawi sorely needs improved agricultural practices and better farmers. It is illusory, however, to assume that a university is meant to produce farmers. The best it can do is to advance agricultural knowledge by research, train government agricultural specialists, and educate leaders, some of whom may apply their leadership talents to agrarian life and its improvement. Quantitative manpower requirements do not call for great emphasis on agricultural education at the university level. Agricultural research is another matter. It is sorely needed. It lies at the base of the nation's economy and social advancement. Through research, the University can grapple with the problems which are submerged but underlie the superficial ills about which there is general complaint. Without attempting to make young men and women content to return to subsistence farming, it can attack the fact of subsistence--the fact that farming is not profitable and not competitive with other pursuits--and identify the means by which agriculture can be revolutionized and farmers brought into the market economy.

141. For these reasons, it is recommended that a College of Natural Resources be established in the University, incorporating or making use of the presently planned facility at Bunda. The name "Natural Resources" is chosen to elicit a stronger scientific base, to lift the sights above mere "farming" and to leave a broad enough connotation for reasoned and relevant expansion in future years. The new College should be empowered and staffed to (1) conduct and coordinate all agricultural and natural resources research undertaken by the Government, with emphasis on practical applications to problems of urgent need, and (2) offer a three-year diploma program, based on a strong scientific structure with emphasis on improved agricultural practices, and defer till later the matter of a four-year degree program for high-grade professional careers in agriculture.

142. This means that the Government should transfer to the new College all relevant public research stations in the country and place agricultural and related research, wherever located now or in the future, under the sole supervision of the University. Because of the size of the program and the administrative complexities involved, a similar transfer of the extension or agricultural advisory function of the Government is not now recommended. Coordinated research under the University umbrella is an economy of staff and facilities, as well as an appropriate mutual reinforcement of teaching and research. The kind of men needed for the task are competent scientists whose intellectual strength ought to be built directly into the University. Through this unification, the other scientific resources of the University can, in the same way, feed back benefits and services to agriculture.

143. While basic research is not a luxury even if the benefits are not immediate, the University of Malawi will be well advised to husband its limited resources and concentrate on the application of fundamental knowledge to local problems, with a view to early national benefits. This is much easier to justify in a developing than a developed country. It is

the best way to conserve limited resources, borrowing basic knowledge not yet applied locally. Malawi needs the services of a College of Natural Resources which will dedicate itself at once to the solution of the country's major problems of land use. It will, therefore, differ from the other parts of the University in the reversal of priorities between teaching and research.

144. The instructional program needed in the College of Natural Resources at present is largely for government employment in the junior agricultural capacities, both for extension and research, and mindfully for private employment. Therefore, the three-year diploma program seems adequate at the beginning and until the demand for top agricultural officers of professional grade justifies a general degree. The timing is a matter for the appropriate faculty and administrative officers of the University to decide in the future. The professional-grade need is a qualitative factor deserving urgent attention, but the number involved suggests that careful consideration should be given to overseas education as an alternative to indigenous development so long as cost is a crucial factor.

145. Educational opportunities through the University need to be supplemented in other ways also--by overseas opportunities in many specializations, by extramural activities, and by part-time and correspondence study opportunities.

146. The conception of the University, it will be recalled, contemplated two parallel sets of opportunities--the basic and larger one in Malawi and the professionalized and smaller one in universities abroad, the one reached by direct at-home enrollment and the other reached by scholarship or bursary for overseas study. It is important that the University be the means of access to both kinds of opportunity, because the complementary pieces make up the totality of university education available to students in Malawi. It is also important that the University be in a position to see each set of opportunities in the light of the other, particularly since avoidance of duplication and economy of operation are desirable. Therefore, the present scholarship practice should be extended and a Scholarships and Bursaries Fund be established under the administration of the University for the assurance of those foreign study opportunities elsewhere in Africa and overseas which will supplement and extend the home curricula. A special University committee should be set up, with representation also from the Ministry of Education and the Manpower Council, to select those to whom financial assistance should be given and to coordinate all activities, so far as possible, whether domestic or foreign, which encourage students to study in universities abroad. Appropriations to this Fund should be closely correlated with the high-level manpower requirements in those professional and graduate areas which are not covered in the curricula of the University of Malawi. Neither scholarships supplied by Government funds nor by outside grants for overseas study should duplicate what is available domestically; therefore, donors should be approached in the hope that available funds can be channeled into nonduplicating scholarship uses. In some fields of great need, such as medicine, the uncertain opportunity of laissez-faire admission to foreign universities should not be relied on exclusively. Instead,

formal agreements should be sought with other universities, preferably African, for the admission of a number of qualified Malawians on clearly specified and mutually satisfactory terms. This technique has been employed with excellent results between state universities within the United States. It would enable the University of Malawi to offer its qualified students assured opportunities, which is the only satisfactory long-run alternative to the University's offering the subject matter itself. Regional cooperation among universities, so popular and useful elsewhere, should not be neglected in Africa.

147. To maximize its usefulness to Malawi, the University should open its diploma and degree programs to part-time pursuit, both for the convenience of the population and for the extension of the University's service beyond those fortunate students who can spend three or four years on the campus. The spirit of the University and its curriculum as contemplated cannot be adhered to by the University nor entered into by the degree-seeker if the two never meet; therefore, wholly external degrees are not proposed. However, means should be provided for part-time nonresidential pursuit of diplomas or degrees through prescribed exemptions and minimal attendance requirements set by the Senate or Academic Board.

148. To the same end, a Department of Extramural Studies should be set up within the University to offer formal courses at locations off the campus, to sponsor numerous means of bringing University faculty and influence into the lives of the public at large, and to administer a correspondence study program. It is logical at the outset that this Department should be a part of the Blantyre Polytechnic after the latter absorbs the Further Education Center. It should, wherever its location, serve the whole University and the whole country. In the beginning, consideration should be given to the wisdom of making the Principal of the Polytechnic the Director of Extramural Studies, until alternative means of administration is proved necessary. The Director should also have membership on the Senate or Academic Board.

149. Provision should be made for the use of external examiners. This is a desirable way of keeping in touch with academic standards and trends outside and a way of giving qualitative reassurance to students, faculty, and the academic world at large. In the same spirit, the Vice-Chancellor should be enabled to bring in academic and administrative consultants as desired on major issues of University development and to use the informal advisory services of those Council members who come from other universities.

150. Every university debates the proper balance between teaching and research. Resolution of the issue is clearer and easier for the University of Malawi. It will be overwhelmed with birth and growing pains. It will have quickly reached limits on what it can do and do well. The nation needs qualified manpower above all else. The University teachers, once found, will be hard pressed to carry the load of instruction. Therefore, the University in its early years should devote its major effort to undergraduate teaching (with the exception already noted in the College of Natural Resources). This is not to deny the importance of research as an

enlivening influence in teaching or as a productive factor in the economy, and certainly not to deny that the advancement of human knowledge is a cardinal purpose of a university. Rather, this is an admonition to keep priorities straight--to recognize that teaching needs are so urgent that research needs should unhesitatingly be put in second place. This should apply both to individual staff members and to institutional effort, with emphasis on limitation rather than elimination. Organized research should be limited to two or three growing points, perhaps one in natural resources, another in education, and possibly a third in some branch of African studies. For example, the new University might emphasize Development Economics and investigate with great profit the techniques by which development takes place in communities which do not respond on economic grounds alone or with a rationale for social change. Study of this kind would have the advantage of bringing to useful focus most of the social sciences and natural sciences, with a technological gloss as well. Serious attention paid to Lake Studies, or ecological investigation of the lakes, would also yield heavy dividends both in terms of knowledge and economic gains. The University, in its full role in the development of the nation, can and it is hoped will give serious consideration to building up a fund of useful knowledge which will promote the national industries based on agricultural and forest resources. Related research could also be conducted with profit in pulp and wood products, wood preservation and timber pest control, food technology and allied industrial processes.

151. The collection and deposition of historical material in a public archives center is an intellectual and cultural function in which a university must necessarily be interested. Whether it should assume the function is a debatable point. One view is that the function should be part of the library complex of the new University, where use can be made of highly interested faculty members. Another view is that the archives should be located away from the University because the review of materials, preceding selection and deposition, may involve access to top secret documents and a kind of sensitive evaluation best entrusted to an official with clear obligations to the Government as a civil servant. A Public Archives Committee should be appointed immediately to make recommendations for the national archives of Malawi.

152. A university is expensive. Precisely what should be contemplated for capital and recurrent outlay cannot be scientifically calculated. It is the best judgment of the survey team that planning should proceed on the basis of £ 1,500,000 for capital expenditures over the seven-year period 1965-72 (or five-year period if feasible) and £ 200,000 rising to £ 500,000 for recurrent costs over the same period. It is therefore recommended that the Government make such sums available, or guarantee their availability to the University, and that the Vice-Chancellor, Council, and Senate proceed with development plans on this scale. The services of an outside architect experienced in university design should be employed for assistance in the preparation of the plan. In view of the pleasing effects noticed in local buildings set in landscapes of great natural beauty, the survey team cannot resist offering the gratuitous suggestion that consideration be given to the widest use of local brick, stone, and timber. With a happy combination of such striking natural settings as are abundantly available and such

architectural design as can be planned, the University of Malawi can easily have great beauty to match its great utility.

COSTS

153. The important question of costs has generally been segregated in this report and left for consolidated treatment. An educational development plan commensurate with the objectives of the nation will be costly. What is proposed here, however, is not beyond the reach of the economy and the Government. In other words, projections for the economy, whether the more optimistic of the Government or the less optimistic of the Manpower Survey, will permit these expenditures. It will mean, however, that the Government will have to be willing to commit to education a higher proportion of the national income and national budget than heretofore. This may become the test of the will to achieve national development. Since education is the activating force for the nation's productive resources, some needs for today may have to defer to investment for tomorrow.

154. With the aid of the officers of the Ministry of Education, cost figures were estimated and compiled in terms of the development goals here envisaged. The results and the assumptions on which they rest are set forth in detail in the Appendix. Both capital and recurrent costs are presented.

155. Costs for recurrent purposes in primary education rise from £ 965,000 in 1964 to double that figure in 1970 (£ 1,992,000) and almost five times in 1980 (£ 4,584,000). Capital costs rise at once to £ 230,000 annually and remain between that figure and £ 260,000 for the entire period.

156. In secondary education (assuming Projection B), recurrent costs will rise from £ 226,000 in 1965 to £ 568,000 in 1970 and £ 1,406,000 in 1980. Capital costs will move up gradually from £ 281,000 annually to half a million in 1970, with an increase in the late 1970's to about £ 600,000 at the end of the period.

157. Putting all educational costs at all levels and for all purposes together (omitting boarding costs and the cost of the special program for technical training in secondary schools), the total recurrent cost rises from £ 2,000,000 in 1965 to £ 3,500,000 in 1970 and £ 7,600,000 in 1980. Capital costs rise at the same dates from £ 800,000 to £ 1,000,000 and then £ 1,100,000.

158. These figures are the gross orders of magnitude which should be used in educational planning and budgeting, subject to revalidation and modification under the planning machinery elsewhere suggested.

EDUCATIONAL AND MANPOWER PLANNING

159. It would be the height of folly for the survey team to assume it has been foresighted enough or wise enough to lay out a precise undeviating course for educational development until 1980. This cannot be done in an older and more stable society. It certainly cannot be done in Malawi, where one informant referred routinely to "the old days before 1960." In view of what has happened in education, and many other spheres, in the last few years, present predictions or assumptions may be made to look ludicrous in a short time. Human will is unpredictable. Outside aid is unknown. Demographic information is unreliable.

160. It is imperative, therefore, that this report not be regarded as a final Master Plan which puts every educational piece into its exact place for the next 15 years. It should not be regarded as something finished and etched in unalterable words and figures. On the contrary, it will be infinitely more useful if it is regarded as the first phase of a continuing task--as the best way to begin, as a guideline at the outset, as directions in which to go, and as rates of progress which make sense by present judgment of future needs. It is useful and necessary to make some assessment of the future 15 years hence in order to act farsightedly now, but obviously the validity of the assessment is subject to the changes and stresses of time. The present judgment, therefore, needs periodic revalidation. Future plans should be present plans modified. Some method of updating is necessary.

161. Two closely related methods should be devised and employed. Both personnel and machinery should exist to refit the present plan to new situations. For example, available resources may prove inadequate at some point to sustain the planned rate of educational development. This will distort, and should also reorder, many other parts of the plan. Or the Government may decide it is willing to press development of secondary education at a faster rate for closer approximation of manpower goals or for more rapid localization, but this cannot be done without consequences elsewhere--stepped-up cost, accentuated teacher-supply problem, reduced admissions to teachers colleges, and demand for enlarged University capacity. It may still be done. The important point is that it should not be done without modification of the educational plan at other points, too. It is recommended, therefore, that an educational planning function be assumed by the Ministry of Education and by the University, the latter for all post-secondary education. This may be manned by existing staff, by specially recruited staff, or by the use of outside consultants whose tenure assures continuity--or by a combination of methods. Much can be said for the employment of an Educational Adviser to the Government, directly responsible to the Prime Minister, or, as a second choice, two or three specialized advisers to work on particular segments of the educational system. This person, or these persons, should work closely with the planning personnel

in the Ministry and the University, strictly in an advisory capacity. This device should become the bridge between this report and the future, between its words and its consummation, between its assumptions and unforeseen realities. To repeat, persons should be designated to make continuous educational planning their special responsibility.

162. Such planning cannot take place without access to information and decisions which lie completely outside the educational realm. Likewise, policy questions outside education are likely to be in some measure dependent on education. Therefore, educational planning and social and economic planning must be brought together. It is recommended that education be represented on the Manpower Council proposed by the Manpower Survey or in whatever overall planning machinery is created for the nation. This entails representation of both the Ministry of Education and the University. If national planning is to involve consensus regarding goals and assessment of means, then education must be brought into the consensus and the assessment, both to influence and to be influenced. The interdependence of education and manpower planning is so well presented in the Manpower Survey that it need not be repeated here, except to reiterate what was said about the indispensability of educational means to national ends and the corresponding national dependence on the inherent time lag between input and output in the educational process. Education must be wired directly into the planning process, and the national planners must be in continuous communication with education.

163. One caveat--education cannot be reduced to terms of the marketplace and it cannot be a mechanical response to manpower statistics. It may be a tool, but to think of it as exclusively a tool is the first step toward abuse and misuse. The Manpower Council should expect, therefore, that its educational analyses and information will come from the planning personnel in the Ministry of Education and the University and that such personnel will perfect their educational plans in the light of shifting manpower targets and national economic goals as they become known through the Council.

164. The survey team has been keenly aware of its fleeting character, in contrast to the continuity of the officials and civil servants who man the educational posts in Malawi. The team has the advantage of a different perspective, not superior wisdom. What it proposes, or what any of its planning successors propose, will have to be implemented by the competence found in the continuing educational positions. Nothing should be done to weaken, bypass, or destroy confidence in that competence.

RECOMMENDATIONS

Primary Education

1. Continue the Government policy of steady progress toward the long-term goal of universal primary education, with due regard to the requirements of educational balance which give higher immediate priority to the rapid expansion of secondary schools and the introduction of higher education. (para. 17)

2. Plan the development of primary education on the basis of a 3 percent population increase annually, therefore, an expansion of school places from 365,000 at present to approximately 450,000 in 1970, 560,000 in 1975, and 690,000 in 1980. (para. 19)

3. Extend the principle of self-help, local initiative, and responsible local planning by requiring local governments to bear a fixed proportion, however modest, of the rising cost of primary education on a grant-in-aid basis with local matching funds, perhaps with an equalization principle to take account of genuine differences in District ability to contribute. (para. 20)

4. Further reduce the role of unassisted schools, looking forward to their eventual elimination, by providing improvement incentives, upgrading some of their uncertified teachers, and "planting" Government-assisted teachers in schools otherwise unassisted. (para. 21)

5. Work out with missionary groups an orderly, clearly understood progression toward the Government's educational goals as they impinge on the voluntary-agency schools and take into account realistically the resulting public financial burden, eventually approximating the full costs of the nation's primary education. (para. 22)

6. Review and modernize the content of the curriculum by the immediate rewriting of the syllabuses (and thereafter, the preparation of a teacher's accompanying handbook) by a special committee for each course, consisting of representation from the teaching profession, the relevant teachers college or University department, and the Inspectorate of the Ministry of Education, with external aid sought if necessary in both finance and personnel. (para. 23)

7. Replace the present efforts in science by introducing a strong new science course, with special emphasis in Standards 6 and 7, concentrating on everyday life phenomena and materials readily at hand, to lay the foundations for understanding nature as capable of rational control and for such agricultural or technical training as home, farm, or career may later require. (para. 24)

8. Provide technical training as recommended in the section on technical and vocational education.

9. Extend present efforts to improve English instruction, to begin successfully at an earlier level, and to evaluate with a view to improvement in all language instruction, including the indigenous. (para. 25)

10. Assign to the College of Education in the University the continuing responsibility for improving and modernizing the curriculum through experimentation and evaluation. (para. 26)

11. Strengthen the Inspectorate of the Ministry of Education by:

- a. recognizing it as the special organ for improving the educational value received by the pupil;
- b. keeping District Inspectorate positions filled, utilizing officers of imagination and teaching experience;
- c. assuring such officers an independent status which will facilitate their critical and advisory role; and
- d. providing relief from pressure in administering examinations. (para. 27)

12. Consider the immediate means by which minimal school equipment standards can be set and maintained. (para. 28)

13. Reduce the inordinate emphasis on preparation for examinations and introduce by every possible means classroom activity, or learning by doing as well as by book, to supplement and balance the passive, rote methods which now predominate--with a view not only to improved learning but also to heightened pupil motivation and interest. (para. 29)

14. To combat wastage of human resources, charge every teacher and school official with responsibility for identification and development of pupil talent, for giving encouragement and incentive, and for attempting to assure educational continuation in proportion to the pupil's capacities. (para. 30)

15. Encourage Local Education Authorities, through matching Government grants up to a fixed number, to establish scholarships, bursaries, or fee remissions for talented pupils whose education would otherwise be terminated for financial reasons. (para. 31)

16. Recognize need for provision of improved postprimary educational opportunity as a correlative long-run responsibility now that the primary school has been shortened from eight to seven years. (para. 33)

17. Establish by 1970 a schedule under which school fees may gradually be reduced and eventually eliminated, and assurance may be given that no child will be denied educational opportunity solely because of parental inability to pay fees. (para. 34)

18. In anticipation of the greatly enlarged enrollment after 1967,

use the period prior to that time for an emergency program of consolidation and qualitative improvement by rewriting syllabuses, preparing teacher's handbooks, equipping classrooms to minimum level, acquiring adequate textbooks, developing libraries, strengthening the Inspectorate, and rationalizing the organization of the teachers colleges. (para. 35)

Secondary Education

19. Give the highest priority to the expansion and staffing of secondary education during the next 15 years. (para. 37)

20. Plan to increase progressively the proportion of primary-school leavers who attend secondary school, with 15 percent as the goal for 1980. (para. 39)

21. Rapidly expand existing secondary schools and build new ones to accommodate a growth from 3000 pupils at present to 40,000 by 1980. (para. 41)

22. Concentrate such schools in the more populous areas, with larger enrollments in fewer schools, with size large enough (from 300 upward, and preferably from 500 upward) to realize the advantages of varied curriculum, specialized staff and facilities, and economy of operation. (para. 42)

23. So far as compatible with the size criterion, and considering the possibilities of pupil transportation, construct day secondary schools and keep boarding schools and places to a minimum. (para. 43)

24. Strive to provide at all secondary schools equal or comparable educational opportunities in terms of curriculum, equipment, teachers' amenities, grounds, staff, and prestige, whether existing or new schools, day or boarding schools. (para. 44)

25. Revise, improve, and constantly review the process of selection for secondary school, with emphasis on multiple rather than single evaluation and on aptitude and creativity as well as scholastic marks. (para. 45)

26. Set up a new examination system, with a separate examination branch in the Inspectorate of the Ministry of Education, with careful consideration of the merits of establishing an Examinations Council modeled on the West African Examinations Council. (para. 46)

27. Enlarge the basis for pupil evaluation by combining the use of a new Secondary School Entrance Examination and primary school assessment consisting of academic records and the results of a series of diagnostic, aptitude, and assessment tests spread over the last two or three primary years. (para. 47)

28. Make the secondary school curriculum flexible and comprehensive, with the introduction of subject options in technical, secretarial and commercial, handicraft, and home economics courses and the use of specialist teachers, both residential and itinerant. (para. 48)

29. With the aid of the College of Education in the University and such consultative machinery as thought desirable, continuously scrutinize the curriculum for adaptation to the needs of a new African nation and the complicated and changing demands of preparing simultaneously for vocations, further study, and citizenship. (para. 50)

30. Terminate Sixth Form work as soon as postsecondary opportunity is available elsewhere and permit present pupils to complete their studies and be given, if desired, fitting exemptions for admission to the new University with appropriate academic standing. (para. 51)

31. As proposed in other sections, provide in each school so far as feasible workshops, equipment, and specialist staff required for technical and vocational opportunities; and drastically accelerate the output of secondary teachers with a view to the complete Africanization of staff, but, in the interim, vigorously recruit from the Peace Corps, the Voluntary Service Overseas, and other expatriate sources. (para. 52)

Technical and Vocational Education

32. Develop as a part of the educational system carefully planned opportunities for technical and vocational education, with the appropriate development of technological knowledge and skills: (1) through special schools and (2) by infusion or incorporation into regular schools at the primary, secondary, and higher education levels. (para. 56)

33. Accept the fact of rural exodus among youth and plan to train them for gainful employment in new locations, while also improving technical opportunities for youth remaining in the rural areas. (para. 59)

34. Introduce in the later primary school years some form of technical training, emphasizing manual dexterity and creativity, with special attention to the needs of the great majority of pupils whose formal education will terminate at the primary level. (para. 60)

35. For children out of school, for whatever reason, devise a variety of informal out-of-school means of using their time and developing their communication and labor skills. (para. 61)

36. Prepare for the early maturity of girls and the future role of women by providing domestic science in the top standards of the primary school. (para. 62)

37. Provide exposure to agriculture in the primary standards by infusion of awareness and agrarian relevance into the courses generally, including the science course, omitting reliance on hard, repetitive manual labor in school gardens. (para. 63)

38. Exclude agriculture from the secondary school curriculum and rely on the basic science courses and the special postprimary or postsecondary agricultural training institutions. (para. 64)

39. Consider providing in both primary and secondary schools the required special teacher competence by means described in the section on teacher training and improvement.

40. Introduce serious, well-planned, and well-equipped technical and vocational training into secondary education as a part of the new emphasis on comprehensive course options, as rapidly as workshops and specialist teachers can be supplied. (para. 66)

41. Lift the status and utilization of the more important technical and commercial subjects by persuading examination bodies to offer these subjects as options for School Certificate examinations. (para. 67)

42. Provide facilities for hobbies in secondary schools to encourage the use of leisure by learning useful crafts. (para. 68)

43. Provide as a planning target, for realization as soon as funds, facilities, and staff will permit, the construction and equipping of 40 workshops in the same number of secondary schools at an estimated cost of £ 235,000. (para. 69)

44. Give attention to the balanced and coordinated development of the several special technical and vocational schools and programs outside the regular primary, secondary, and higher education institutions (e. g., the Polytechnic, technical schools, farmers institutes, Colby School, etc.). (para. 70)

45. Press with all vigor the construction and opening of the Polytechnic planned in Blantyre, using temporary facilities for the beginning of part of the program in the interim. (para. 71)

46. Without prejudice to its present function, keep in mind as the Polytechnic is planned that it might, subject to the University's location and its officers' judgment, become an integral part of the long-term science and engineering development of the University. (para. 72)

47. Develop the curriculum of the Polytechnic to meet the full-time and part-time day and evening needs of persons whose education has been interrupted, are employed or over-age, need specialized training, or for other reasons cannot be served in the regular schools. (para. 74)

48. Include in the Polytechnic curriculum continuing education opportunities, technical and commercial courses, and preparatory subjects for School Certificate and General Certificate of Education (including Advanced Level). (para. 75)

49. Also include (1) the operation of the extramural program of the University under the direction of the Polytechnic's administrative head (para. 76); (2) a correspondence program, with particular emphasis on technical opportunities patterned after the New Zealand experience (para. 77); and (3) all feasible means of mass or low-cost communication--by radio, television, and other new teaching media. (para. 78)

50. For these purposes, incorporate the College of Commerce and the Further Education Center, both in Blantyre, within the Polytechnic, plus whatever functions need to be absorbed from the Soche Technical School to avoid duplication of effort and equipment and, so far as feasible, the several technical training functions now performed by the various ministries. (para. 79)

51. In the light of these changes, re-examine the technical schools and trade schools and link them with the leadership and professional guidance of the Polytechnic in order that a rational system of technical and vocational opportunity will be generally available without duplication. (para. 80)

52. Completely absorb the currently planned College of Agriculture, both academically and physically, into the new College of Natural Resources of the University, converting the attractive Bunda site and the buildings now approaching construction into the broader new service. (para. 81)

53. Merge the Colby School of Agriculture with the College of Natural Resources as soon as the latter can supply the Government's needs for sub-professional agricultural personnel. (para. 82)

54. Continue to use the farmers institutes to supplement formal and informal educational opportunities by offering farm families short courses of a practical nature, leisure-time activities, and literacy and citizenship training. (para. 83)

Teacher Training and Improvement

55. Take immediate and drastic action to step up the output and improve the quality of primary and secondary school teachers. (para. 89)

56. Aim at a primary school teacher supply accelerated quickly to 700 new teachers a year, to keep pace with population growth and school increase. (para. 90)

57. Use emergency measures of all kinds--national appeal, incentives, in-service training, special institutes, expatriate help--to augment the teacher supply sufficiently. (para. 91)

58. Carefully consider the establishment of one year of teaching in the primary schools as a form of national service, with whatever degree of choice or use of incentives the Government deems desirable, for secondary-school leavers. (para. 92)

59. Exert every effort to train and utilize a larger number of women as a source of teacher supply too long neglected. (para. 93)

60. Increase the academic as distinguished from professional content of the primary teacher training program by making use of the opportunity afforded by the additional or third year of training now to be required. (para. 95)

61. Move progressively toward the long-term goal of the completion of secondary school as the academic standard required of primary school teachers, to be followed by a year of professional training. (para. 96)

62. Revise the methods course in the teacher training colleges to fit the modernized curriculum, to combat rote learning, and to reduce exaggerated emphasis on preparation for examinations. (para. 97)

63. Provide technical and vocational training by employing at once a technical instructor in one of the teacher training colleges, properly equipped, to begin an emergency, long-vacation program for the preparation of 175 teachers for Standards 6 and 7 (or three such programs for completion in one year). (para. 98)

64. Reorganize the teacher training colleges into larger institutions, or create new ones, so as to have one Government-operated college in each Region (three in total), with possible conversion of the former college facilities into secondary schools. (para. 100)

65. Keep the teacher training colleges under the jurisdiction of the Ministry of Education but coordinated with the University and the total educational system through a Delegacy for Teacher Education. (para. 103)

66. Systematically plan in-service training opportunity for upgrading primary teachers qualitatively. (para. 104)

67. Develop and utilize the professional spirit of teachers for self-improvement and school improvement, including the possibility of establishing a professional journal for the exchange of information and ideas. (para. 105)

68. Abolish the present grades of primary teachers and establish a single category of Certified Primary Teacher. (para. 106)

69. Through an appropriate commission established by the Government, including representation of the Ministries of Education and Finance, study all conditions of employment of teachers in the light of the need of the country for an able and stable supply, and recommend standards and improvements, including the establishment of a new salary scale based on training and experience, entry rates in the civil service for comparable training, and what is appropriate for the new nation of Malawi. (para. 107)

70. Expand at once the capacity of Soche Hill College for secondary school teacher training, taking into consideration (1) the time advantages of implementing existing plans for the second phase of the College's development, (2) the economy required in view of the emergence of the College of Education in the University, and (3) the capability of ready conversion to secondary school or other use when the University is ready to absorb the training function as planned. (para. 109)

71. By the Soche expansion and the related University development, plan for goals of 50 to 60 secondary teachers completing courses in 1967,

100 a year by 1975, and 200 a year by 1980, with faster progress if possible toward the objective of supplying not only new replacement needs but also substitution of Malawians for expatriates. (para. 110)

72. Meanwhile, assiduously recruit overseas to meet the shortfall in secondary teacher supply, utilizing voluntary service, foreign aid programs, and direct recruitment. (para. 111)

Higher Education

73. Establish a University of Malawi. (para. 113)

74. Keep the objectives of the University limited but progressive and rely on the general core of higher education, with initial professionalization in agriculture and education, and restraint for the present from developing medicine, pharmacy, architecture, engineering, law, and similar specializations. (para. 114)

75. Establish at once a Provisional Council of the University by appropriate executive action and a Permanent Council by legislation, with representation of educational and lay interests and two or three persons from outside the country, and provision for the appointment through the Council of the necessary officers, including a Vice-Chancellor, a Registrar, and a Bursar (or equivalent titles). (para. 116)

76. Assure the University, through the ordinance, an autonomous status by making it a self-governing body, with Council members named for overlapping terms, control of finances lodged in the Council, and machinery for faculty participation and advice on all academic matters. (para. 117)

77. Consider whether a special grants committee should be established for review of University estimates and securing of appropriations. (para. 118)

78. Provide that the Senate or Academic Board shall be given exclusive authority to recommend the granting of degrees, diplomas, certificates, or other distinctions in higher education. (para. 119)

79. Make the University a unitary institution, administratively at the outset and physically as soon as possible, and incorporate within it under the Vice-Chancellor:

- a. the existing Junior College at Livingstonia;
 - b. the Polytechnic planned at Blantyre, including the existing Further Education Center and the College of Commerce;
 - c. the College of Natural Resources planned at Bunda;
 - d. the existing Institute of Public Administration of Mpemba;
 - e. the existing Soche Hill College for training secondary teachers;
 - f. a new College of Arts and Sciences; and
 - g. all subsequent program additions in higher education.
- (paras. 120, 121)

80. Make use of available facilities temporarily, giving way as quickly as possible to the unified plan detailed by the University Council on the recommendation of the Vice-Chancellor and his academic and architectural advisers. (para. 123)

81. Establish the University in either the Blantyre or Lilongwe area; build onto either the site of the Polytechnic or Soche Hill College, or the site of the new College of Natural Resources; and locate there the new College of Arts and Sciences, the Vice-Chancellor's office, other administrative functions, the Institute of Public Administration, and the Soche Hill College function (with the Soche buildings converted to other uses if Lilongwe is the University site). (para. 124)

82. Establish an Administrative Council on which all heads of major University units, whether on the main campus or off, shall serve under the chairmanship of the Vice-Chancellor. (para. 126)

83. To assure coordinated development, give the University responsibility for all postsecondary education except that for the Government's agricultural services and for primary teacher training, and in these areas create coordinating councils representing the University, the appropriate Government Ministries, the training institutions, and relevant private interests--namely, a Delegacy for Education and Research in Natural Resources and a Delegacy for Teacher Education. (para. 127)

84. Expedite the appointment of a Vice-Chancellor, a Registrar, a Bursar, and a Librarian (or equivalent titles), and three or four faculty members distinguished in their fields and representing the constituent colleges, to hasten the beginning of both physical and academic planning of the University. (para. 128)

85. To assure adequate staffing, give top scholarship and employment priority to young Malawians for overseas education for university careers and, as an interim measure pending Africanization, use external agencies and aid to recruit well-qualified expatriate staff. (para. 129)

86. Subject to progress in the University development plan, admit 200 students to the first-year course in 1965 and gradually increase the annual intake to 350 to 400 during the next five years, to 750 in 1975, and to 1,000 in 1980. (para. 131)

87. Admit students to the University after the completion of secondary education on the basis of suitable performance at the "O" level of the G.C.E. Examination or the equivalent for a four-year degree program, the first year of which shall be a compulsory common program of general studies, plus appropriate alternate entrance channels for persons of promising but unorthodox backgrounds. (para. 132)

88. To assure both academic quality and economical operation, limit University programs to the common first year of general studies and to major concentrations in the humanities, social sciences (including education, administration, and preliminary legal studies), and natural sciences including agriculture. (para. 133)

89. Offer both general degree and diploma courses, with progressive emphasis on depth while still preserving the broader grouped studies approach to the general degree. (para. 134)

90. Offer three-year diploma courses in education for secondary teachers, and in agriculture, and a similar or two-year certificate course in administration, with an optional arrangement for the diploma candidate to complete a degree program after an additional year of study. (para. 135)

91. Provide as a required basis for all University work a common first year of basic studies at Livingstonia, emphasizing the common knowledge, critical understanding, and human and physical relationships required of Malawi youth in the modern world. (para. 136)

92. Appoint a Director of General Studies to head the Livingstonia program and, with the use of such consultants as required, to plan the common first-year course before the opening of the University. (para. 137)

93. Establish a College of Education within the University to offer:

- a. a three-year diploma course for secondary teachers;
 - b. a four-year degree course;
 - c. educational research and experimentation; and
 - d. in-service training and professional upgrading and leadership.
- (para. 139)

94. Establish a College of Natural Resources in the University, incorporating or making use of the presently planned agricultural facility at Bunda, and empower it to:

- a. conduct and coordinate all agricultural and natural resources research undertaken by the Government, with emphasis on practical application to urgent problems; and
 - b. offer a three-year diploma program, with scientific and practical grounding, deferring the degree program for future decision.
- (paras. 140, 141)

95. Transfer to the new College of Natural Resources all relevant public research stations in the country and place agricultural and allied research, wherever located now or in the future, under the sole supervision of the University. (para. 142)

96. Give high research priority within the College of Natural Resources to the application of basic knowledge to local problems with a view to early national benefits, without omitting basic research. (para. 143)

97. For future development, judge the adequacy of the diploma program and the need for a degree program in terms of appraisal by appropriate University officials and the merit of alternate overseas opportunities for professional-grade agricultural education. (para. 144)

98. Incorporate within the University the administration of a Scholar-

ship and Bursaries Fund to make foreign study opportunities elsewhere in Africa or overseas an integral part of the University itself, with (a) co-ordination and student selection entrusted to a special University committee including representation from the Ministry of Education and the Manpower Council; (b) appropriations to the Fund to be closely correlated with high-level manpower requirements in the professional and graduate areas not covered in the University; and (c) an effort to conclude formal agreements, on specified terms, with other African universities for specialized professional degree opportunities. (para. 146)

99. Extend University usefulness by opening degree and diploma programs to part-time pursuit, but not to wholly external degrees. (para. 147)

100. Create a Department of Extramural Studies within the University as a part of the Polytechnic at Blantyre, with consideration of the wisdom of making the Principal of the Polytechnic also the Director of Extramural Studies. (para. 148)

101. To maintain high quality, provide for the use of external examiners and for the Vice-Chancellor to employ academic and administrative consultants as desired. (para. 149)

102. Except in the College of Natural Resources, give teaching priority over research in the University's early years and concentrate a modest organized research program on two or three growing points, perhaps in natural resources, education, and African studies. (para. 150)

103. Immediately appoint a Public Archives Committee to make recommendations on the collection and deposition of the archives of Malawi. (para. 151)

104. Plan on the basis of £ 1,500,000 for capital expenditures over the seven-year period 1965 - 1972 (or five-year period if feasible) and £ 200,000 rising to £ 500,000 for recurrent costs over the same period, combining the services of an outside architect experienced in university design with the use of attractive local building materials. (para. 152)

Costs

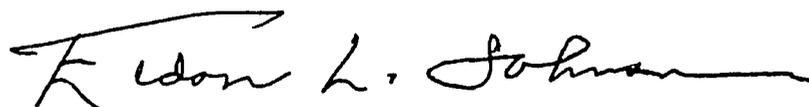
105. Plan and budget for educational development according to the general magnitudes of costs expressed in the Appendix, with such modifications as periodic reassessments dictate over the next 15 years. (para. 158)

Educational and Manpower Planning

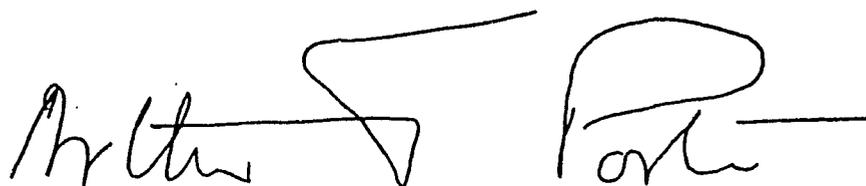
106. Establish an educational planning function within the Ministry of Education and the University, the latter assuming responsibility for postsecondary education, to help implement and update this report and its recommendations, with consideration given the wisdom of also naming, for assured continuity, an Educational Adviser directly responsible to the Prime Minister. (para. 161)

107. Provide for the representation of the Ministry of Education and the University on the Manpower Council (or equivalent planning machinery), with close coordination of manpower needs and educational means. (para. 162)

This report is respectfully submitted by:



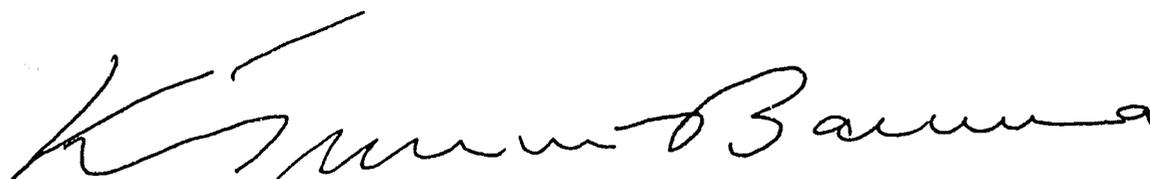
Eldon L. Johnson
(United States) Chairman



Arthur T. Porter
(Sierra Leone)



John W. Blake
(United Kingdom)



K. Twum-Barima
(Ghana)

APPENDIX

EDUCATION COSTS - IN £ 000's

<u>I</u>	<u>Primary</u>		<u>II</u> <u>Secondary</u>				<u>III</u>		<u>IV</u>		<u>V</u>	<u>VI</u>		
							Teacher Training Colleges		Higher		Recurrent Admin. Costs		TOTALS	
							Rec.	Cap.	Rec.	Cap.	Rec.	Cap.	Rec.	Cap.
<u>Year</u>			Projection A	Projection B	Projection A	Projection B								
1964	965	90									111			
1965	1110	230	210(73)	226(73)	180(90)	281(141)	350	59	200	200	120	2006	770	
1966	1263	230	245(86)	277(97)	210(105)	310(155)	360	88	250	200	130	2280	828	
1967	1427	240	277(97)	342(120)	206(103)	406(203)	370	59	300	200	141	2580	905	
1968	1603	250	310(108)	407(142)	196(98)	396(198)	380	30	350	250	152	2892	926	
1969	1793	260	341(119)	487(170)	196(98)	496(248)	380	0	400	250	165	3225	1006	
1970	1992	260	438(153)	568(199)	300(150)	500(250)	380	0	450	200	178	3568	960	
1975	3138	250	800(266)	975(325)	400(200)	500(250)	360	0	750	200	230	5453	950	
1980	4584	250	1200(400)	1406(408)	500(250)	600(300)	390	36	1000	200	280	7660	1086	

1. "Rec." refers to recurrent costs
2. "Cap." refers to capital costs

APPENDIX

Commentary on Total Costs

(References are to columns in the table on page 78)

COLUMN I - PRIMARY EDUCATION

Costing is based on the following assumptions:

1. One qualified teacher is required for a class of 45 pupils.
2. The mean annual recurrent cost of one qualified teacher is £ 190, and an estimated 5 percent of this is added for pensions and increments.
3. The capital cost of one new class of 45 pupils is £ 150, and the capital cost of a new house for one teacher is £ 300.
4. The Projection of Pupils and Staff in Primary Schools, 1963-1980 (Table II) is taken as the basis of the calculation of the number of teachers and classes required. No cognizance is taken in these estimates of the unassisted schools, whose pupil population is assumed to fall from 151,000 in 1962 to 50,000 by 1980.
5. The number of qualified teachers in 1963 was 4,645.

It is submitted that a large proportion of the capital costs and a fraction of recurrent costs (the building and maintenance of schools) would be carried by the Local Education Authorities. But roughly 90 percent of the total recurrent cost takes the form of teachers' salaries, which at present are wholly charged to the central Government. If the Government continues to employ pupil teachers and temporarily licensed teachers who are otherwise unqualified, the recurrent cost would be much reduced.

COLUMN II - SECONDARY EDUCATION

The assumptions on which the estimates shown in the table are based are as follows:

1. The annual recurrent tuition cost per pupil is £ 32 10s. (£ 40 minus the fee of £ 7 10s.). An additional £ 23 (£ 33 minus the parental contribution of £ 10 per annum) is the boarding cost. Staff salaries are the major items in this issue, and these figures were accepted after discussions with the Ministry which included consideration of the probable ratio of graduate teachers and nongraduates, expatriates and Malawians, Peace Corps and Voluntary Service Overseas, etc., during the next five to ten years. Therefore, the net recurrent cost to the Government is taken to be £ 32 10s. for a day pupil, plus £ 23 for a boarder.

2. Half of all the pupils will be boarders. However, the cost of boarding is shown in parenthesis and not included in the totals, because the report recommends a minimum of boarding, but with unknown balance.

3. The capital cost of one additional place for a pupil is £ 200. If half the pupils are boarders, the cost will be increased by 50 percent.

Projection B of the secondary population has been used in adding totals. Boarding costs have been ignored in this exercise, as have the costs of the special program for technical training in secondary schools proposed in the section on technical and vocational education.

COLUMN III - PRIMARY TEACHER TRAINING COLLEGES

The assumptions on which these figures are based are:

1. The recurrent cost of training one teacher per year is £ 200. Officials of the Ministry of Education reported that the current cost of training a primary teacher at Soche Hill is £ 250, the cost at Domasi is £ 180 per head, and at a voluntary-agency training college the cost might, as far as was known, be of the order of £ 90 per head--therefore the compromise of £ 200 per head.
2. One trainee undergoes a three-year period of training in a teacher training college before being qualified. If the training period were raised to four years or more, the recurrent cost would be proportionally higher.
3. The capital cost of providing one additional place for a trainee in a teacher training college is £ 1,200. Current cost at Soche Hill is about £ 1,400. Present costs are lower because the missions which run many of the teacher training colleges themselves contribute a proportion of costs which are not assessable here.

For the purpose of these estimates, recurrent costs assume a quality of staff judged to be desirable and a reasonably good standard of building, probably more expensive than the present building standards of most teacher training colleges. Lastly, it is necessary to point out that if unqualified, or pupil, or temporarily licensed teachers are used during the critical years 1965-70, the costs, both recurrent and capital, would be lessened.

COLUMN IV - HIGHER EDUCATION

This relates to the University and the various institutions of which it will be composed. The figures given are national, on the assumption that recurrent costs will rise from some £ 200,000 in 1965 to some £ 450,000 by 1970 and that £ 1.5 million will be spent on capital development during the seven-year period 1965-72. University expenditures include the cost of training teachers for the secondary schools.

COLUMN V - RECURRENT ADMINISTRATIVE COSTS

These are rough estimates, difficult to achieve, and were made after careful discussions with officials of the Ministry. Administration costs include staff at Central and Regional offices, the Inspectorate, and

miscellaneous hidden recurrent expenditures, either actual or envisaged under expansion.

COLUMN VI - TOTALS

These totals do not include boarding costs for secondary pupils, which are indicated in parenthesis in Column II. The costs of Projection B of the secondary school population have been preferred to those of Projection A, in aggregating the totals, and for the reason that it would seem to be sensible to move toward the target of 15 percent of all those who complete primary schooling by 1980 as fast as possible. If the costings for Projection A were preferred, the totals would be less.