

THE WORLD BANK GROUP ARCHIVES

PUBLIC DISCLOSURE AUTHORIZED

Folder Title: Educational Programming Investment Mission - Report on Investment in Education in Ethiopia - September 1962 - November 1962 - R.A.J. Van Lier, J.J. Deheyne, L.H.S. Emerson, A.J.A. Nelson - Number 14 - March 1963 - Document Number 5

Folder ID: 19393I

Project ID: P000666

Dates: 03/01/1963 - 03/01/1963

Fonds: Records of the Africa Regional Vice Presidency

ISAD Reference Code: WB IBRD/IDA AFR

Digitized: 2/27/2020

To cite materials from this archival folder, please follow the following format:
[Descriptive name of item], [Folder Title], Folder ID [Folder ID], ISAD(G) Reference Code [Reference Code], [Each Level Label as applicable], World Bank Group Archives, Washington, D.C., United States.

The records in this folder were created or received by The World Bank in the course of its business.

The records that were created by the staff of The World Bank are subject to the Bank's copyright.

Please refer to <http://www.worldbank.org/terms-of-use-earchives> for full copyright terms of use and disclaimers.



THE WORLD BANK
Washington, D.C.

© International Bank for Reconstruction and Development / International Development Association or
The World Bank
1818 H Street NW
Washington DC 20433
Telephone: 202-473-1000
Internet: www.worldbank.org

PUBLIC DISCLOSURE AUTHORIZED

Distribution limited

UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANIZATION

EDUCATIONAL PROGRAMME INVESTMENT MISSION

Report on investment in education in Ethiopia

September - November 1962

by

R.A.J. van Lier,
Expert in economic aspects of education, and leader of the mission;

J.J. Deheyn,
Expert in agricultural education;

L.H.S. Emerson,
Expert in educational planning and Rapporteur;

A.J.A. Nelson,
Expert in adult and general education.

No. 14


RETURN TO
OPERATIONAL FILES



March 1963

WS/ 0363.56

DECLASSIFIED
WBG Archives


Archives
 The World Bank Group
 Educational Programming Investment Mission - Report on Investment in Education in Ethiopia - September 1962 - November 1962 - R.A.J. Van Lier, J.J. Deheyn, L.H.S. Emerson, A.J.A. Nelson - Number 14 - March 1963 - Document Number 5
 A1965-009 Other #: 382
 193931
 1173398
 Doc # 5



I N D E X

	Paragraphs
Foreword	
I SOCIO-ECONOMIC CHARACTERISTICS	1 - 13
A. Population and Economy	1 - 4
B. Finance and Trade	5 - 7
C. Educational Expenditure	8 - 10
D. Education and Social Development	11 - 13
II CHARACTERISTICS OF THE EDUCATIONAL SYSTEM	14 - 41
A. Size of the Educational System	15 - 21
B. Age-range of pupils	22 - 26
C. Topographical Distribution of Schools	27
D. Pupil-Teacher Ratios	28
E. Drop-out Rates	29 - 30
F. Girls' Education	31
G. Non-Government Schools	32
H. Ethiopian School Leaving Certificate	33 - 36
I. Secondary School Leavers proceeding to Higher Education	37 - 38
J. Language Problems	39 - 40
K. Teachers' Qualifications	41
III ECONOMIC DEVELOPMENT PLANS	
A. The First Five-Year Plan	42 - 43
B. The Second Five-Year Plan	44 - 54
IV MANPOWER REQUIREMENTS AND OUTPUT	
A. Manpower Requirements of the Second Five-Year Plan	55 - 58
B. Manpower Output from Higher Education	59 - 74
C. Output from Secondary Education	75 - 87
D. Output from Primary Education	88 - 94

V	INCREASING THE SUPPLY OF PRIMARY SCHOOL TEACHERS	
A.	Regular Training Courses	95 - 96
B.	Emergency Training Courses	97 - 101
VI	EXPANDING THE EDUCATIONAL SYSTEM	
A.	Expansion of the Primary School System	102 - 123
B.	Expansion of the Secondary School System	124 - 134
C.	Training of Teachers	135 - 141
D.	Training of Training College Staff	142 - 143
E.	Inspection, Supervision and In-Service Training	144 - 145
F.	Training of Inspectors and Supervisors	146 - 148
G.	Textbooks and Teaching Material	149 - 150
H.	Study and Research	151 - 152
I.	Administration	153 - 154
J.	Institute of Education	155
K.	Rural Community Development	156 - 162
L.	Training Staff for National Parks	163 - 165
VII	SUMMARY AND CONCLUSION	166 - 173

T A B L E S

1. Major Export Commodities
2. Age Distribution of Population (Addis Ababa)
3. Gross National Product, 1949-59 (1956-67)
4. Distribution of Gross National Product, 1954-59 (1961-67)
5. Revenue and Expenditure, 1950-53 (1957-61)
6. Balance of Trade
7. Classification of Imports
8. Educational Expenditure, 1950-53 (1957-61)
9. Distribution of Educational Expenditure
10. School enrolment compared with school age population and Addis Ababa Conference targets
11. Age and sex distribution in Addis Ababa schools, 1954 (1961-62)
12. Series of classroom units, 1953 (1960-61)
13. Enrolment of Girls
14. Government and Non-Government Schools
15. Manpower Requirements of the Second Five-Year Plan
16. Higher Education: Present Enrolment and Expected Output
17. Higher Education: 4th Year Output Required and Enrolment needed to produce
18. Higher Education: Maximum Numbers of Students who could at present be accommodated
19. Higher Education: Distribution of Estimated Enrolment, 1955 (1962-63)
20. Secondary Education: 12th Grade Output Requirements
21. Secondary Education: 7th-12th grade Promotion Study (Government Schools)
22. Secondary Education: 12th Grade Output Requirements (revised)
23. Secondary Education: Enrolment Required to Produce Specified 12th Grade Output

T A B L E S (Continued)

24. Primary Education: Estimated 6th Grade Output compared with 7th Grade Intake Requirements
25. Percentages of total numbers of pupils, by grades, in different types of schools
26. Primary Education: 6th Grade Output. Requirements (for entry to employment)
27. Primary Education: Total 6th Grade Output Requirements
28. Primary Education: Promotion Study in Government Schools 1945-53 (1952-61)
29. Primary Education: Promotion Study, adjusted to include estimated enrolment in non-government schools
30. Primary Teacher-Training: Estimated enrolment in and output from training
31. Secondary Education: Leavers expected from 10th and 11th grades
32. Primary Teacher Training: Estimated costs of 2-months emergency course
33. Primary Teacher Training: Estimated costs of 10-months emergency course
34. Primary Education: Numbers of pupils per 100 in 6th grade
35. Primary Education: Projected Growth of 1st Grade Enrolment
36. Primary Education: Capital Expansion costs
37. Primary Education: Recurrent Costs of Expansion
38. Secondary Education: Estimated Enrolment, 1955-59 (1962-67)
39. Secondary Education: Additional classrooms and teachers needed to reduce class sizes
40. Secondary Education: Capital Costs of expanding system
41. Secondary Education: Additional recurrent costs of expanding system
42. Secondary Teacher Training: enrolment and staffing
43. Secondary Teacher Training: costs of a Higher Teacher Training College
44. Secondary Teacher Training: estimated costs of training teachers for senior secondary schools
45. Training of Training College Staff: estimated costs

T A B L E S (Continued)

46. Inspection, Supervision and In-Service Training: costs of project
47. Textbook Production: estimated costs
48. Community Development: Costs of mobile unit project
49. Radio Transmitters: installation and operating costs
50. Training of National Park Staff: enrolment and teaching staff
51. Training of National Park Staff: estimated costs
52. Summary of Costs of Projects
53. Summary of Financial Resources available and needed

Needs for Investment in Education in Ethiopia

Report of the UNESCO Mission to Ethiopia

23 September to 2 November 1962

FOREWORD

The UNESCO Mission to Ethiopia on Educational Investment was provided by UNESCO at the request of the Ethiopian Government to report to the latter on the country's needs for investment in education. Special attention was to be paid to the extent of external financing which would be necessary to provide the education and training facilities required to produce the skilled manpower needed for the implementation of the country's Second Five-Year Development Plan. Members of the Mission were in Ethiopia from 23 September to 2 November 1962.

It was not part of our task to assist in drawing up educational plans, although it was open to us to make suggestions for any extensions or modifications of existing plans which we might think desirable. However, as it was only during our stay in the country that the Second Five-Year Development Plan was published, there had not been time for the Government to work out and adopt a detailed educational plan. In many instances, therefore, rather than leave gaps which might distort the picture we have had to anticipate possible Government policy and planning by making assumptions as to aims and courses of action.

In some sectors, considerable difficulty was experienced in getting adequate data for the formulation of conclusions. This, of course, is to be expected in a developing country and is in no way a reflection on the officials or services concerned; on the contrary, in many ways the supply of information was much better than might reasonably have been expected. The result, however, is that frequently our conclusions have had to be expressed in a less precise and quantitative form than we should have wished.

In the circumstances, substantial further study and project preparation will be necessary before investment action can be taken. Nevertheless, even though optimum precision as to the amounts of investment necessary could not be attained, we believe the Mission to have been of value, in that we were able to identify the areas and, as will be seen, they are several, in which early and substantial educational investment is indispensable if the economic objectives of the Development Plan are to be attained.

In making our Report, we have limited ourselves strictly to examining the investment in education necessary to enable the educational system to play its proper part in contributing directly to the country's economic growth. This it will do by providing the skilled and semi-skilled manpower postulated by the Second Five-Year Development Plan. This does not, of course, mean that we regard education solely as a direct instrument for promoting economic growth: far from it, and powerful arguments can be

adduced in support of investment in education on the grounds both of the less direct economic benefits thereby accruing and of the value of the individual development ensuing.

Among such less direct - but none the less substantial - economic benefits may be mentioned the value of a sense of responsibility, respect for persons and property, a sense of community and a capacity for cooperation, all of which may be promoted by education. As for the value of the individual development achieved through education, this cannot be assessed in economic terms. Nevertheless, it is common human experience that, once the minimum needs for maintaining life and health and for providing some modest comfort have been met, the pleasures of intellectual activity and aesthetic sensitivity outweigh those of the mere material well-being with which economic plans are associated. Since, therefore, the object of such plans is to promote human well-being, they should clearly provide for forms of the latter other than the material, even though the attainments may not be measurable in economic terms.

While, however, we wish to make it clear that our conception of the needs for education is not confined to the production of skilled and semi-skilled manpower for economic development, we have not thought it necessary to extend our consideration of Ethiopia's educational needs beyond these confines. There are two reasons for this. Firstly, our terms of reference so limit us; secondly, the needs for skilled and semi-skilled manpower so far exceed the present output from schools and other educational institutions that, argued on purely economic grounds, there is an overwhelming case for the most rapid development possible of education in Ethiopia at all levels. Since our Report is addressed to the Government of Ethiopia, we have not thought it necessary to attempt any comprehensive descriptions of the educational situation or of other relevant national conditions, of which the Government will already be well aware. However, to make the issues clear, we have summarized such of the main characteristics of the Ethiopian economy and educational system as seem to have a significant influence upon the prospects for development.

We wish to express our grateful thanks to His Imperial Majesty Haile Selassie I for the interest he graciously showed in our work, to the Minister of Education and the other Ministers who so readily facilitated our enquiries, and to the numerous officials of the Government and of international and bilateral organisations for the active and effective assistance they rendered.

R.A.J. Van Lier

L.H.S. Emerson

J.J. Deheyn

A.J.A. Nelson

I. SOCIO-ECONOMIC CHARACTERISTICS

A. Population and Economy

1. Ethiopia is an emerging country still in the initial stages of development. About 90% of the population depends on agriculture, primarily of a subsistence character, or on nomadic pastoral activities. The urban population is certainly not greater than some 6% of the total population, and the only large city is Addis Ababa, with a population of 449,000 inhabitants. Export goods other than those produced directly by agriculture or by animal husbandry are negligible. (Table 1). Industry is largely dependent on the processing of raw materials from agriculture, and mining contributes little to the economy. Modern education is limited to a small part of the population.

2. As a result of these factors per capita income is low. The domestic saving ratio does not exceed an average of 5% of the national income, which is manifestly insufficient to provide for the social and economic development of a population expanding at an average rate of growth of an estimated 1.6% per annum. The economy is particularly vulnerable, since it depends for its foreign currency earnings mainly on one crop, coffee, and for its growth on the import of foreign capital, enterprise and technicians. The country has, however, rich potentialities. The excellent climate and the soil are favourable to the development of agriculture, additional farm land can still be brought under cultivation, the mining resources have hardly been touched, and there is labour, though unskilled, in abundance. The country is, moreover, self-sufficient in food.

3. Although Ethiopia has still a long way to go to achieve a satisfactory level of living, it is undeniable that the country has progressed during the last decade. It is not, however, easy to determine quantitatively the volume of growth, since statistics are insufficiently developed. As a result, socio-economic planning has to proceed largely on the basis of estimation. Even with regard to population figures one is in the realm of guess work: estimates vary from 12 to 22 million people. The National Planning Office works on a basis of 21 millions in 1954 (1961-62)* and of a present annual growth rate of 1.6%, rising to 1.8% in 1959 (1966-67). Figures for the national product and the national income will, of course, vary with the estimates of the total number of the population.

4. The age-distribution of the population is unknown. Only for Addis Ababa, where a census was taken in 1954 (1961), will figures be shortly available. The age distribution calculated on the basis of a census taken in Addis Ababa in 1944 (1951) is given in Table 2. It should, however, be kept in mind that the age-distribution of Addis Ababa could

* The Ethiopian calendar has been followed when referring to dates, but the corresponding date according to the western calendar has been mentioned in brackets. Since the Ethiopian year covers portions of two consecutive years in the western calendar (from early September to early September) the date given in brackets may vary according to whether the activity takes place in the early or later part of the Ethiopian year or is continuous throughout it. Thus the current year - 1955 in the Ethiopian calendar - may be variously represented by (1962), (1963) or (1962-1963). The Ethiopian school year falls wholly within the calendar year.

vary significantly from the total age-distribution in the country because of sociological factors making for a greater urbanisation of certain age-groups as compared with others. The active population is estimated to form about 53% of the total population. On the basis of 21 million people, the active population is 11.2 million.

B. Finance and Trade

5. The gross national product in 1954 (1961-62) on the basis of 1953 (1960-61) prices, according to the National Planning Office, may be estimated at Eth.\$2,165.8 million.* Out of this total about 67% is contributed by agriculture and about 5.3% by industry (Table 3). National per capita income, according to the same source, is estimated at Eth.\$97. Of the total of the gross national product in 1954 (1961-62), 89.2% was expended on consumption (Table 4). Figures on the supply of money demonstrate, if the rather small increase in price levels is taken into consideration, that Ethiopia shows a considerable tendency to change from a subsistence to a monetary economy (Table 5). This is a hopeful sign for future development.

6. Imports and exports showed an upward trend during the period 1945-54 (1952-1961), imports developing, however, faster than exports. Since 1949 (1956) there exists a negative balance of trade (Table 6). Although a large part of this increase consists of capital goods for development there exists also a trend to an increase of consumption goods (Table 7). The negative balance of trade is also partially explained by the development of the terms of trade in an unfavourable direction, agricultural prices decreasing while the prices for industrial goods were on the increase. From 1946-1950 (1953-1958) export prices remained practically constant whereas import prices rose by more than 20%. After 1950 (1958) the export prices show considerable decrease, whereas the import prices remain more or less constant. Under these conditions the balance of trade deteriorated considerably, the deficit being largely financed from foreign loans and grants. This last factor contributed also, together with small government budget deficits, to the remarkable internal price stability. This was further supported by restriction on credit for imports of a non-developmental character.

7. It is stated that Ethiopia's total foreign debt is US\$65 million. The debt-service is between US\$7 million and US\$6.5 million a year for the next four years, 6 - 7% in 1967 of foreign exchange earnings, with an additional service payment of US\$246,000 a year for loans. This debt situation can be considered as favourable for a country like Ethiopia. An average of 9% of total government expenditure was provided by foreign loans and an additional 5% by war-reparation payments, which will come to an end in the near future. Foreign financial sources, therefore, play an important rôle in Ethiopian development.

* Eth. \$1.00 equals US\$0.40.

C. Educational Expenditure

8. During the period 1950-1953 (1957-61), for which reliable figures are available, there was a steady increase in the ordinary revenue of the government (see Table 5). The rate of growth during the last ten years amounts to 10% per annum. Out of the ordinary revenue an average of 12% has been spent on education; of the total government expenditure 10% has been spent for this purpose (Table 8). If the ordinary revenue is taken as the most secure basis for an estimation of the available financial resources for the next five years, it seems reasonable to expect that the same percentage of the revenue will be spent on educational purposes in the future. Out of the average total increase per annum of Eth.\$26 million about 12%, or about Eth.\$3 million per annum, should as a result be available for the increase of educational expenditure.

9. Part of the expenditure for the provincial primary schools is covered by an educational tax, levied on land. Over the period 1943-1952 (1950/1960) there was no perceptible increase in this tax. An important part of the costs for provincial education was paid by the central government. In 1954 (1961/62) the contribution of the central government to provincial education amounted to Eth.\$4.56 million and the educational tax amounted to Eth.\$4.55 million, each covering therefore about 50% of the total cost of education in the provinces. All costs for secondary education are paid from the central government budget. It is possible to raise locally, by appealing to the voluntary effort of the provincial population, contributions both in money and kind for the building of schools and teachers' houses. In one province the provincial educational officer was last year able to obtain a sum of Eth.\$50,000 for the construction of three schools.

10. The distribution of the expenditure on education for the years 1951-53 (1958-61) is summarized in Table 9. It will be noted that capital expenditure varies considerably from year to year, and that in the schools personal emoluments - of which teachers' salaries will form the major part - account for some 60% of the total expenditure. It is understood that the sharp drop in emoluments in the Addis Ababa schools between 1951-1952 (1958-59 and 1959-60) is to be explained by the replacement of substantial numbers of expatriate staff by less expensive national staff. The form in which the figures are available does not permit of an analysis of the expenditures on primary and secondary education, nor of the costs of administrative staff (apart for the Head Office) and teaching staff. Maintenance costs are included under capital expenditure, so their extent cannot be ascertained. There appears, however, to be good reason to believe that too small a sum is spent for this purpose. It would appear advisable to make a substantial investment during the next year on maintenance so as to stop further deterioration of existing facilities, resulting in serious unnecessary depreciation and capital loss, and to establish in the future a suitable balance between expenditure for maintenance and other expenditure.

D. Education and Social Development

11. The Ethiopian society is a plural one, centred in a monarchy, with charismatic attributes, which binds together large groups of people with differing cultures. There is a wide variety of language, family structure, economic institutions and religion among the different groups. The society is based on authority and hierarchy; tradition and a legalistic attitude are strong factors. The monarchy provides leadership in a gradual change to modern life, the introduction of constitutional forms in the whole organisation of the country being one of the changes attempted. The army and the Church are important factors, the former having a modernising influence, while the latter is strongly connected with the past. There are, however, attempts to introduce modern reforms in the Church, and a theological faculty has been created at the University College.

12. The society evidences a stratification based on birth and property, especially large landed property, the upper classes forming a dominant factor. There is some social mobility. A middle class is in formation, but is still undeveloped. Although there is a beginning of local enterprise, the entrepreneurial spirit is undeveloped. The traditional Ethiopian society, being an aristocratic warrior one, based on authority, has a great transition to make if it is to change to a modern industrial society with habits of continuous effort and saving. The rural population is still for the greater part outside the process of change.

13. An important factor for the future will be the rate of change in attitude. The values of the past will need to be reviewed in a process in which some will be rejected, while others will be retained and adapted to provide a distinctively Ethiopian character to the modern development of the country. The idea of public service will need to be developed and the public spirit of the people reinforced. Institutional changes will largely condition future growth, and in promoting efficiency of administration the establishment by the Government of centralized and comprehensive planning is an important step. In bringing about the necessary changes of attitude on the part of the various social groups, education will be a factor of primary importance.

II. CHARACTERISTICS OF THE EDUCATIONAL SYSTEM

14. The Ethiopian educational system has several important characteristics which are directly relevant to the system's ability to produce the skilled manpower required for the country's economic development. These will be referred to from time to time and, while it is not proposed to give here any general account of the educational system, for reasons explained in the Foreword to this Report, it will be useful to consider briefly the more notable of these characteristics. These are:

- a) The smallness of the system as compared with the size of the population;
- b) The age distribution of pupils;
- c) The topographical distribution of schools;
- d) The pupil-teacher ratios;
- e) The drop-out rates;
- f) The low percentage of girls among the pupils;
- g) Non-government schools;
- h) The School Leaving Certificate results;
- i) The high proportion of 12th grade graduates proceeding to higher education;
- j) The language problems;
- k) The high proportion of unqualified teachers in primary schools.

A. Size of the Educational System

15. The educational system is undoubtedly very small compared with the size of the population. Just how small is not, however, easy to determine. In the first place, as mentioned earlier, the size of the population is not known with any exactitude, nor is its age distribution. Assuming, however, the total of 21,000,000 used by the National Planning Board, it would be reasonable, on the demographic basis of comparable countries, to assume that half of this, or 10,500,000 would be under 20 years of age. Since the age of normal school attendance (say 7-14 in the case of an 8-year attendance, or 7-12 in that of a 6-year one) falls about midway between 0 and 20, it would probably be not far from the facts if one were to assume an average of 1/20 of the foregoing 10,500,000 - that is 525,000 - as the number of children in each annual age group. This rough calculation accords very closely with the age distribution analysis of the population of Addis Ababa given in Table 2. According to this, on the basis of a life expectation at birth of 35, the age group 7-12 comprises 15.27% of the population, and the group 7-14 20.16%. At these rates, in a population of 21,000,000 the groups would contain 3,227,700 and 4,370,100 respectively, giving annual averages of 537,950 and 529,300.

16. If, therefore, an annual average of 525,000 is assumed, there will be 4,200,000 children aged 7-14. According to the 1953 (1960/61) School Census, there were in all, counting government and non-government schools, 239,829 pupils enrolled in grades 1-8. At first sight this appears to give a school enrolment of 5.5% of the school age population. In grades 1 - 6 there were 224,015 pupils enrolled, an apparent 7% of the corresponding age group. There are, however, two factors to be considered, which affect these figures in opposite ways.

17. First, the census does not cover those Ethiopian Church schools which do not follow the Ministry of Education's curriculum. How numerous these schools are, or what their enrolment is, is not clear. However, there are churches even in the smallest villages, and it is usual for them to have schools attached. It is stated that these contain as many as 600,000 pupils, or over three times the total of those in Government schools. If this is so, this vaguely-delineated mass enrolment would completely invalidate any calculations made on the basis of the published statistics, and would appear to raise the enrolment to 20% of the age group. Even this, of course, would still be very low.

18. There is, however, a good reason for not including these schools, even if data were available, and that is that the education given in the vast majority of them is said to be extremely limited and, indeed, not to exceed, or even cover, the 1st grade. Some support for this view seems to be given by the fact that, even in the Church schools which follow the Ministry's curriculum, there are 53 grade 1 classroom units, 27 grade 2, 21 grade 3 and 11 grade 4. For the remaining four grades the numbers are 7, 5, 3 and 3. This shows that the emphasis in the Church schools is on grade 1.

19. The second factor is that the pupils enrolled are not all of the appropriate age range. As shown in paragraph 24 below, if the age distribution in Addis Ababa schools is applicable to the country as a whole, only 4% of school age children are actually in school. This exiguity of enrolment is found also at the secondary level. The total of pupils in secondary schools (grades 9 - 12) of all types was in 1953 (1960-61) 9,689, or less than .5% of a four-year age group. (What proportion of the total is formed by pupils of an appropriate age the data are insufficient to show). Not only is this figure low in itself: the enrolment in secondary schools is relatively low even compared with the already low primary enrolment. The Addis Ababa Conference in 1961 considered a reasonable ratio of secondary school to primary school enrolment would be 23%. The 1953 (1960-61) figures for Ethiopia of 19,965 pupils in grades 7-12 as against 224,015 in grades 1-6 give a ratio of only 9%. Table 10 shows enrolment compared with school age population and Addis Ababa Conference targets.

20. That this extremely low rate of school enrolment is not accompanied by the degree of absence of knowledge and culture on the part of

the people that might have been expected is presumably due to two main influences. First, there is that of the ubiquitous Church schools, already mentioned, and of the Orthodox Church itself, as well as, in the Moslem areas, of the Islamic mosques and schools. From these sources there filter through the populace the teachings and traditions of two great religions, together with their concomitant literary, historical and artistic riches. Second, there is the stable continuity and the self-sufficiency of the small communities, which have enabled traditional knowledge, crafts and customs to be passed on in full measure to children and young people, within the home and village circle, so that they have grown up in a rich cultural heritage. The people's degree of education and culture is not to be judged by the paucity of formal schools, official or non-official. Education has long been highly and widely prized in Ethiopia, but it has been an education adapted to settled conditions and ways of life, with its roots in the past, and one which did not require formal schooling on a large scale.

21. Nor does the present inadequacy of the school system result from lack of interest in education on the part of the Government. On the contrary, a lively concern has long been manifested, at the highest level, in providing for an increasing number of the country's inhabitants an education which would help them to effect the transition to the modern world without disrupting the valuable links with the past. Unfortunately, the pace of change sweeping the world has outstripped the country's resources in adapting its educational system to meet the needs: and the existing extent and some of the forms of education are no longer adequate for a nation which wishes to keep up with the present day march of progress. Though Ethiopia wisely exhibits caution about abandoning too rapidly or on too large a scale her traditional ways of life, she is inevitably committed to a rate of change and development which is speedy, judged by comparison with that achieved by western nations during their history. For this purpose, new schools, new teachers, new methods and new curricula are indispensable. Systematic schooling, as widespread as possible, has become an urgent necessity if the country is to adapt itself to the modern world and assume a fitting position among the nations. If so far only 4% of Ethiopia's primary school age population is in school this fact alone would justify every effort being made by the nation to increase its school enrolment and by external aid organisations to assist the country in this task.

B. Age-range of pupils

22. Full data are lacking on the age distribution of pupils, but a study made in 13 government and 11 non-government schools in Addis Ababa, covering some 21,000 pupils in grades 1-8, or two-thirds of the city's enrolment in these grades, reveals a striking pattern. As will be seen from Table 11, the age and sex distribution in these schools swells from a base of 217 boys and 243 girls aged 6 or less to a maximum bulk of 2897 (1825 boys and 1072 girls) aged 13 before tapering off to 34 males over 21.

23. In grade 1 of the Government schools, instead of the age of 7-8 which might have been expected, the median age for boys is 10.2 and for girls 9.8: in grade 2, instead of 8-9, it is 11.9 and 11.2; in grade 3, instead of 9-10, it is 12.6 and 12.5; in grade 4, instead of 10-11, it is 13.4 for both boys and girls, and so on. In the non-government schools the median ages for boys and girls were: grade 1 - 8.9 and 8.6; grade 2 - 10.9 and 10.3; grade 3 - 12.3 and 10.5; grade 4 - 11.8 and 13.1. (Some surprising things seem to have happened here, if the figures are in fact correct).

24. Two grave considerations emerge from this study. First, there is the very low percentage of children of school age actually enrolled in schools. As stated in paragraph 16 this at first sight appears to be 5.5% in respect of enrolment in grades 1 - 8, or 7% in respect of that in grades 1 - 6. However, the age distribution pattern of the Addis Ababa schools examined shows that of the total of 21,047 pupils in grades 1 - 8 only 16,057, or 76%, were actually of school age, if this is taken as being 7 - 14. Of the 18,343 pupils in grades 1 - 6 of these schools only 10,276, or 56%, were of school age, if this is here taken as being 7 - 12. If this age pattern is valid for the whole country, of the total enrolment in 1953 (1960-61) of 239,831 pupils in grades 1 - 8 only 182,291, or 4.3% of the total of 4,200,000 in the appropriate age-group, were of school age. Similarly, of the 224,015 pupils the same year in grades 1 - 6 only 125,448 or approximately 4% of the total of 3,150,000 in the age-group, were of school age.

25. The second serious point connected with the age and distribution is that it appears that in the government schools the children are some three years behindhand with their studies, and not much less in the non-government schools. (It may in passing be noted that the girls seem mostly ahead of the boys.) The survey is not dated, and it is of course possible that the lag is less than this if the ages were noted towards the end of the school year. Nevertheless, if this situation is general throughout the country - and there seem no obvious reasons why the capital should lag behind the provinces - not only is the proportion of children receiving education very small, but only a fraction of those who are in school are up to the standard to be expected of their ages. Of children in the 1st grade of the government schools only 13.2% of the boys and 18.4% of the girls were below the age of 8; in grade 2 only 14.8% of the boys and 27.9% of the girls were below 9. In grade 3, 21.5% of the boys and 20.9% of the girls were below 10, and in grade 4, 22.7% of the boys and 22.3% of the girls were below 11.

26. Educationally this tardiness is undesirable: if the child's mind is to develop he or she should be exercising it systematically and on more advanced material earlier, and the advanced age at which pupils reach the secondary schools drastically reduces the numbers both of those completing a full secondary course and of those proceeding to higher studies. Economically it is wasteful as it retards the entry into pro-

ductive life of those pupils who pursue an education of some length, and contributes to a high drop-out rate on the part of others, at stages at which very little return is received for the effort and expense incurred.

C. Topographical distribution of schools

27. Another characteristic of education in Ethiopia is the disproportion in the distribution of schools as between the capital, Addis Ababa, and the provinces. Addis Ababa has a population of some 450,000, little over 2% of the total population of the country, if this is taken as being at present something over 21,000,000. Yet in 1953 (1960/61) there were enrolled in grades 1-8 of government schools 26,185 pupils in Addis Ababa as against 148,541 in the whole of the rest of the country, including Eritrea. If non-government schools are included, there were 32,012 pupils in the capital as against 207,817 elsewhere. In the former case the capital had some 15% of all school places, in the latter 13%. In secondary education the distinction is far more marked. In government schools there were in grades 9-12, 790 pupils in schools in Addis Ababa against 1609 elsewhere. If non-government schools are included, there are 2216 pupils in the capital against 3410 elsewhere. Thus in the former case the capital had 33% of all secondary pupils, in the latter no less than 39%. Of course, not all the pupils in the Addis Ababa schools belong to the capital, since an unascertained number come from other parts of the country to enrol. Figures showing the demographic distribution in the country are not available nor is a full topographical survey of the distribution of schools (although one is in hand). It appears certain, however, that the great majority of schools are located in urban areas, or large villages, and that there are few to be found elsewhere.

D. Pupil-teacher ratios

28. The average sizes for classroom units, as given in the School Census for 1953 (1960-61) are shown in Table 12. In the 4th grade - in which the average size in government schools is 35 - and onwards, these figures are sufficiently low to give grounds for expecting that the pupils will make satisfactory progress. In grade 3 also the average of 37 for all government schools is not excessive, though difficulties are to be expected in classes with many more pupils than the average. In grades 1 and 2, however, - especially in the former, in which the average for all government schools is 58, or 65 if Eritrea is excluded - the numbers are clearly exorbitant. Unfortunately, class-size distribution tables are not available, so one cannot say how often the average is exceeded, nor by what extent. It is said, however, that classes of 80, 90 or even 100 and more are not uncommon in grade 1. When this overcrowding is allied with lack of equipment, textbooks and other teaching material, and with poor teachers - and it is said to be common practice to send the worst teachers to these low and overcrowded classes - satisfactory progress is not to be expected, and it is no fortuitous coincidence that the highest drop-out rate occurs between grades 1 and 2.

E. Drop-Out Rates

29. The retention and drop-out rates calculated by the Ministry of Education to be currently in force for government schools show a high drop-out rate of 45% between grades 1 and 2, and the absence of any drop-out between grades 7 and 8. Likely reasons for the 45% drop-out between grades 1 and 2 have already been advanced - over-age pupils, overcrowded classes, lack of equipment and teaching material, and unskilled teachers. This high drop-out is a most wasteful business: the pupils who abandon school after one year have learnt virtually nothing - except perhaps that schooling is a waste of time - while their presence has overcrowded the classes and impeded the progress of those who do stay on. It is likely, moreover, that the rate is even higher than the figure given. This has not, it appears, been obtained by a follow-up of individual pupils, but by comparing the grade 2 enrolment for the past year with the grade 1 enrolment of the previous year, the figures being given as 34,537 and 61,917 respectively. But it is stated that each year a number of pupils from non-government schools - data are lacking on how many - enter grade 2 of government schools. This means that the actual drop-out rate in government schools between grades 1 and 2 is in fact higher than the 45% it appears to be, the true extent being concealed by enrolment from outside sources. Clearly, every effort should be made to lower this excessive rate.

30. A similar transfer to government schools from other schools seems likely in part to account for the retention rate of 100% between grades 7 and 8, the other reason for it being the unascertained number of repeaters trying for the 8th grade leaving certificate. That some such causes are at work is obvious from the fact that the retention rate between these grades is in fact just over 100%, coming out, on the basis of a 7th grade enrolment in 1953 (1960-61) of 7,135 against an 8th grade one in 1954 (1961-62) of 7,190, at approximately 100.8%. It is likely that the same causes - namely transfers from non-government schools and repeaters - also raise the apparent retention rates between intermediate grades above their true level, and caution needs therefore to be exercised in basing any calculations upon the supposed rates.

F. Girls' Education

31. If the total percentage of the school age population actually in school is low, that of girls is even lower. Of the total of 239,831 pupils given in the 1953 (1960-61) School Census as being in grades 1-8, only 55,938, or some 23%, were girls. This means that, if the calculations in paragraph 24 above are correct, the 4% of the school age population enrolled in schools is made up of about 3% boys and 1% girls. Moreover, the percentage which girls form of the total school enrolment declines rapidly with the increase in grade, ranging from 24.7% in 1st grade to 14.8% in 8th, 8.7 in 12th, and only 2.2% in the 4th year of higher education (see Table 13). This last figure means that only about one girl in every 120,000

in her annual age group graduates from an institute of higher education in the country. (It may be that a similar number graduate from institutions abroad, but no breakdown by sex of higher education students abroad is available). Even when all allowance is made for the education which girls may receive in the home, these figures clearly call for a large-scale campaign to secure the enrolment and continuance in school of far more girls. Apart from the direct contributions to economic growth made by educated women, the less direct contributions made by educated mothers in promoting the educational development of their families would alone require and justify this course.

G. Non-Government Schools

32. As already mentioned in paragraph 17, it is stated that there are some 600,000 pupils attending the Orthodox Church Schools, against a recorded 177,749 attending government schools (grades 1-8) in 1953 (1960-61), giving an overwhelming predominance to the former. If only non-government schools which follow the Ministry of Education's curricula are taken into account, the proportion of pupils in non-government schools falls to a much lower, but still significant, figure. As will be seen from Table 14, of the total of 239, 831 pupils in grades 1-8 in 1953 (1960-61), 63,105, or 26%, were in non-government schools. It may be noted that almost half of all the primary schools in the country are non-government ones. The percentage of pupils in non-government schools declines from 33% in grade 1 to just under 14% in grade 8. This trend is reversed in the secondary schools, where the percentage of non-government school pupils rises from 11% in 9th grade to 20% in 12th grade.

H. Ethiopian School Leaving Certificate

33. It is stated that in 1954 (1962) a total of 1,482 candidates sat for the Ethiopian School Leaving Certificate examination, of whom 861 were receiving full-time instruction in secondary schools. Of these latter, only 108 candidates, or 12.5% passed. (Of the remaining 621, only 3 passed). Among the subjects taken by a majority of the candidates, the poorest showing was in the English language, in which only 174, or 21% out of 830 passed - and half of these, it appears, through their original mark being upgraded. Passes in other subjects taken by a majority were: mathematics: 393, or 49%, out of 807; Amharic: 462, or 58%, out of 794, and general science: 359, or 50%, out of 715.

34. There is need for some wariness in making deductions from this situation since it is not clear whether the figures for candidates include those appearing only for supplementary subjects, who might not be included in the pass list. In the previous year, there were 529 candidates from schools, of whom 36 did not offer a complete set of subjects, and 175 passed, or 36% of the full candidates. In the year before that, the percentage was 41. In 1953 (1961), of 362 private candidates, of whom only 49 offered a full set of subjects, 17 passed, a percentage of 35 - (that of the previous year was 27).

35. There is clearly a discrepancy between the standards set by the examiners and those achieved in the schools. This should be removed, and if the award is to justify its appellation of the "Ethiopian School Leaving Certificate" and not be merely a qualifying examination for entry to higher education, it seems the examiners must adjust their standards so as to accord better with the work done in the schools and to permit a reasonable percentage of passes. This is not to say, however, that the examiners are wrong in their opinions, and it is a disquieting possibility that they are merely applying to the examination standards which would be normal in other countries, and finding the pupils, and therefore the system in which these are educated, deficient. If this is so, it is unlikely that the weakness lies wholly in the secondary schools; it will almost certainly be found also in the primary schools which supply the foundation upon which the secondary schools build.

36. Though it may be only to state the obvious, emphasis may here be placed upon the need for adequate quality, as well as quantity, in education. By this term are meant two things: standard of attainment, and speed with which the attainment is reached. Higher attainment results in higher potentialities for economic return. This is particularly important in developing countries, in which a much larger proportion of secondary school pupils than elsewhere will subsequently assume leading posts in the government and economy of their countries, and will be required to make plans and decisions which may result in national gains or losses involving very substantial sums. Speed of attainment results not only in economy in operation on the part of the educational system, but also in the ability to reach a higher attainment in a given time, increased opportunity to pursue education farther, and the possibility of the person educated entering into productive employment at an earlier date. The importance to the national economy of the difference between a person who has received an education of high quality and one who has not lies in their respective capacities for work, just as the significant difference between a high-speed drill and any ordinary one lies in the fact that the former can do work which the latter cannot do - and which, in its lack, will have to go undone. This need for quality, though its effects will be most apparent at the secondary and higher levels of education, applies equally to the primary schools, which not only give the pupil his educational grounding, but must send him up to the secondary school at an appropriately early age.

I. Secondary school leavers proceeding to higher education

37. Despite the high failure rate in the Ethiopian School Leaving Certificate examination, the Ministry's figures show a retention rate of 43% between 12th grade leavers and entrants to the 1st year of higher education, the national institutions setting their own criteria for entry. This is an extremely high rate, and causes grave doubts as to the possible fitness for a four-year course of higher education on the part of many of those embarking on it. If it were established that, with the high drop-

out rates obtaining during the school course, only the intellectual élite got through to the 12th grade, the acceptance of such a high proportion might be academically justifiable, whatever the inconveniences it might mean in the way of shortage of entrants to occupations for which a complete secondary education is a requisite. Opinions, however, are far from unanimous on this point. Some say it is only the élite who get through to 12th grade; others say that, on the contrary, it is the duller pupils who get through, the brighter ones being offered employment and falling out by the way. The truth, no doubt, lies somewhere between these two views, but in the absence of evidence to the contrary, the assumption cannot be justified that the distribution of intelligence among those who continue schooling until the 12th grade is other than fairly normal.

38. If this is so, on the basis of practice elsewhere it would appear desirable to adjust the 12th grade output and the 1st year higher education intake (including both national and external institutions) so that the latter is not more than 20% of the former. Otherwise, there appears grave danger of failing to reach adequate standards in higher education. This adjustment may be made either by increasing 12th grade output or by limiting the higher education intake. The country's needs for highly-skilled manpower described later will make it clear that the former is the solution which should be preferred.

J. Language Problems

39. In common with children in many other countries, the Ethiopian school-pupil has serious language problems to face. If Amharic is not his mother tongue, he must master its elements before he can make progress with his studies in the primary school. On entry to the secondary school (i.e. in 7th grade), all pupils face the same problem: that of gaining a sufficient mastery of English to pursue their studies through this medium. The inherent difficulties of this situation are increased by the conditions under which they have to tackle them.

40. In the first place, only a minority of their teachers are native speakers of English, and even among these there are frequently sufficiently wide variations of accent, pronunciation and even vocabulary as to cause serious difficulties to young learners. The competence in the language of the teachers who are not native speakers of it is commonly excellent, but the inevitable variations they too introduce add to the confusion. Secondly, the textbooks and other material for teaching the language are often deficient in quantity, while books and teaching material for other subjects may also be lacking and are rarely adapted to present the material required for the courses in language suited to the pupils' command of English. Add the fact that classes are large - the average 7th grade class in Addis Ababa schools numbers 38, and 8th grade 39, which means that classes may reach 40 or more - and it is not to be wondered at that progress is inadequate and that the School Leaving Certificate examination shows great weakness in English. This is a serious matter, since weakness in the

language medium through which secondary and higher studies are pursued must inevitably hamper the progress of these studies. It is clear that high priority needs to be given to the study of these language problems and to their solutions, which will include the training of teachers in the techniques of teaching English as a foreign language, the evolution of corresponding techniques for teaching Amharic and training in them, the provision of suitable teaching material, extensive use of modern teaching aids, and reduction in size of language classes.

K. Teachers' qualifications

41. The education and training of primary school teachers is not continued beyond the level of 12th grade. It appears that many teachers have not themselves studied beyond 9th or 10th grade, and it is stated that 40% of the teachers in schools have had no training at all for their profession. There is also, it appears, a very high wastage among trained teachers: it is stated that of over 600 qualified teachers produced from one training college in the last nine years, less than 200 are still teaching. The need for quality - i.e. high attainment and high speed of attainment - in the primary schools as well as subsequently has already been emphasized. Such quality is unlikely to be achieved by the pupils if it is absent in the teachers, especially in the very adverse conditions, such as overcrowding and lack of equipment, books and teaching material, in which much of the country's primary schooling takes place.

III. ECONOMIC DEVELOPMENT PLANS

A. The First Five-Year Plan

42. Planning for development in Ethiopia started some years ago and resulted in the First Five-Year Development Plan, covering the period 1950-54 (1957-62). Great emphasis was given in this Plan to investment for transport and communications. Of the total anticipated investment of Eth.\$637.6 million, 35.6% was allocated for this purpose, 20.5% for industry, mining and power, 27% for agriculture and property, and 8.5% for education, health and community development. The actual total investment of Eth.\$837.6 million made surpassed the anticipated figure by 24%, but the actual investment in education, health and community development fell short of the already low target by 35%. By contrast, the anticipated investment in transport and communications was surpassed by 20% and the investment in housing by as much as 69%. This heavy investment in the non-directly productive sectors explains partially the reason why, according to the Planning Office, even with an investment much higher than expected at the beginning of the period of the plan, only 95% of the original national income aimed at was achieved. Shortage of the necessary foreign resources has also been considered as responsible for this effect. It is, however, likely that obstacles of an institutional character were largely responsible for the economy growing more slowly than anticipated.

43. It has been estimated that of the investment of Eth.\$839.6 million, Eth.\$150 million was made in kind by the rural population, and Eth.\$170 million was supplied by foreign resources. During the period of the plan there was an estimated increase of production in the agricultural sector of about 10%. Exports of agricultural products, according to the Planning Office, increased substantially, the exports of coffee by more than one-fifth, of hides by more than one-half and of lentils by more than 2.8 times the quantity at the beginning of the five year period. Gross industrial output, although increasing from Eth.\$73 million to Eth.\$116 million during the same period, has still not reached a level sufficient to make an important contribution to the national economy.

B. The Second Five-Year Plan

44. In 1962 a Second Five-Year Plan covering the period 1955-59 (1962-67) was drawn up and accepted by the Ethiopian Government as the basis for future development. Planning has been done on the basis of a twenty-year period of development; the Second Five-Year Plan will be followed by three more plans, each of five years, during this period. The total investment envisaged by the Second Five-Year Plan amounts to Eth.\$1.684 million. This is more than twice the sum invested during the First Five-Year Plan, and provides for an average annual investment of Eth.\$330 million. About 14% of the total consists of investment in kind. The share of foreign sources in the net monetary investment is set at an estimated total of 45%. The rate of growth during 1954-58 (1961-65), is estimated at 4.6% per annum, the total revenue being expected to increase from Eth.\$199 million in 1953 (1961) to Eth.\$332 million in 1958 (1966). As a result the average increase per annum will amount to some Eth.\$ 26 million.

45. The Plan is an essay in comprehensive planning in the sense that due attention has been paid to the relation of the different sectors and to the role of the infra-structure and of education in the development process. It appears, however, that the relation between the agricultural, educational and community development plans might benefit from a closer study so as to bring about a closer co-ordination between them and a more economic use of the available human and material resources. It is possible that the rate of economic growth during this period may prove slower than expected, but even so the growth in government revenue aimed at might well be achieved because of recently-introduced tax regulations, the improvement of tax collection, and a certain increase in national income.

46. As compared with the First Five-Year Plan, the emphasis in investment policy in the Second Five-Year Plan has changed from transport and communications, which now receive 18.9% of the total investment, to the agricultural sector, which receives 27.5%, and to industry, mining and power, which also account for 27.5%. Although the anticipated investment for the social services (Eth.\$90.3 million) is more than twice the amount spent during the First Five-Year Plan period, it has dropped to a lower

place in the total investment scheme, with 5.3% of the investment as compared with 8.5% during the earlier period.

47. It is expected that industry and mining will act as the propulsive sectors for the Second Five-Year Plan. It is envisaged that the manufacturing industry will aim at a better utilisation of livestock, oil seeds, fibres, etc; that industries for the production of building materials and consumer goods will be developed and that an iron and steel complex, consisting of iron mines, power plants and iron and steel works, with a final production capacity of 80,000 tons of steel per annum, will be established in Eritrea. In addition, a chemical industry, based on minerals, raw materials, wood and the by-products of the projected Assab oil refinery, is to be developed.

48. Since nearly half the industrial projects are for the production of consumption-goods, especially food, textiles, leather and shoes, industry relies on the development of the agricultural sector as well. It is expected that by the end of the Second Five-Year Plan agriculture will supply 50% of the cotton and 100% of the coarse fibres needed for industry. It is anticipated, however, that a faster development of industry as compared with growth of the available agricultural raw materials will create during the coming years a need for the import of these materials. This will strengthen the negative trend of the balance of trade and result in an increased deficit at the end of the period covered by the Plan. Further growth of agricultural production in later years will, of course, make for a better balance between the demands of industry and agricultural output. With regard to the role of the development of industry, much will depend on the present state of preparedness of the projects and the willingness of foreign enterprise to invest in Ethiopia.

49. The targets further set for agricultural development are the provision of sufficient food for the growing population, the elimination of imports of agricultural raw materials and the increase of exports. Much is expected in this last respect from improvement in quality, especially in that of coffee. The target set for the exports of coffee demands an increase in volume of 34%. An effort will be made to develop the meat industry to an annual 600,000 to 700,000 animals for domestic consumption and for export. The increase of agricultural output is to be reached not only by the development of peasant agriculture, but also by the establishment of large-scale farms by domestic and foreign enterprise. The Plan clearly shows that the development of agriculture will be largely conditioned by institutional provisions, such as research and experimental stations, extension work, co-operatives, credit facilities and land reform.

50. In the field of mining priority is to be given to surveys and prospecting, with a view to increasing the value of production. It is expected that the production of iron ore and potash (which are at present not being exploited) should be developed by 1959 (1967) to 200,000 tons of the former and 300,000 tons of the latter. It is expected that the gross

value of mineral production will rise during the quinquennium from Eth.\$2,730,000 to Eth.\$16,935,000, an increase of 620%.

51. The Second Five-Year Plan provides also for the development of electrical power output from 190 million kilowatts in 1955 (1962) to 355 million kilowatts in 1959 (1967). A considerable expansion of building and construction work is envisaged. Transport and communications are also to be developed: provision is made for the construction of 13,000kms of highways and 1,000 kms of feeder roads.

52. The figure allocated for investment in education is Eth.\$26,600,000, made up of Eth.\$11,800,000 (sic) for capital expenditure, mainly on the provision of 2,040 new primary school classrooms and 425 secondary school ones; and Eth.\$15,000,000 - Eth.\$8,000,000 of which is envisaged as coming from external sources - for capital expenditure on the Haile Selassie I University. The investment foreseen in education thus comes to 1.6% of the total.

53. This percentage is not impressive, but the Government's estimate of the importance of education should not be judged by this figure, for two reasons. Firstly, the Plan's investment figures related mainly to constructional work, provision of equipment, and other pre-operational activities. With the exception of specific fields, such as scientific and technical education, which form only a small part of the total effort, education is not an activity which requires an expensive investment of this nature: simple buildings and inexpensive equipment are for the most part adequate, especially in primary education. The major cost of education comes in the operational expenses: for these the Government has allocated Eth.\$106,300,000, or 10.6% of the total recurrent expenditures of Eth.\$1,001,000,000, during the quinquennium. It may further be noted that the recurrent expenses of education are themselves a form of investment, designed to provide greater productivity in the future. In this respect they are to be compared, not with operating costs in industry, but rather with the investment costs in such an activity as afforestation and, in fact, in development plans they are not infrequently classed wholly as investment.

54. The Planning Office expects that Gross National Product will increase by an average rate of growth of 4.6% per annum, the greatest growth taking place in manufacturing and mining. In view of the time involved in making the necessary institutional improvements in the case of agriculture, in preparing the industrial and mining projects, and in attracting large foreign financial contributions it is likely that the implementation of the Plan may take place somewhat more slowly than expected.

IV. MANPOWER REQUIREMENTS AND OUTPUT

A. Manpower requirements of the Second Five-Year Plan

55. The manpower requirements of the Second Five-Year Development Plan have been completed by the National Planning Board in three categories, highly-skilled, skilled and semi-skilled, and summarised in two groups, the requirements for productive activities, and those for social and economic services. It was not practicable to examine in detail the data upon which the computations were made, but it was evident that, in the requirements for productive activities at any rate, great care was exercised in arriving at the figures, not by global estimates, but by sectors and projects.

56. In the calculations of the manpower required for the manufacturing industries, for example, a meticulous study of the needs was made in over 100 different activities. Admittedly the requirements for the social and economic services were made on a less analytic basis. Nevertheless, it appears that the quantities of manpower required as stated by the National Planning Board may reasonably be accepted as reliable estimates of the requirements imposed by the projected economic development.

57. The conversion of the manpower requirements into terms of quantities of personnel with specific educational attainments presents considerable difficulties. In developed countries certain levels and types of education have generally come to be recognised as requisite for specific categories of manpower. It would, however, be unrealistic to expect that in a developing country comparable educational standards for the various categories could always be reached. If the quantities of manpower required are to be supplied as needed, some lowering of the prerequisite educational standards will often be inevitable. It is, however, a very difficult problem to determine how far the requirements could safely be lowered without seriously impairing efficiency.

58. The manpower requirements of the Second Five-Year Plan as converted by the National Planning Board into terms of educational attainment, are given in Table 15. (The figures for economic and social services, which were group estimates, have been modified by adding estimated defence requirements and by subtracting teachers, needs for whom will be considered later). It was not practicable to examine in detail the bases on which these conversions were carried out. However, in view of the careful attention given by the Planning Board to this matter, the requirements as stated may be accepted with some confidence as indicating the minimum demands which the economic development aspired to will make upon the educational system. These requirements may therefore be taken as a starting point for computing the size of the educational system which will be needed to meet them and of the investment in education necessary for its establishment. It is clear that if the manpower requirements cannot be met, the economic development envisaged will be imperilled.

B. Manpower Output from Higher Education

59. During the years 1955-59 (1962-67) the additional manpower needs for personnel who have completed 4 years of higher education are estimated by the National Planning Board to be 135 in 1955, and in successive years 226, 336, 423, and 444. These figures do not include graduates needed for teaching in institutions of higher education or in secondary schools. As will be seen from Table 16, with the exception of the current year, these requirements will not be met by output from national institutions, though they will be covered, with some surplus of graduates for the requirements of the other sectors mentioned, by the addition of graduates returning from abroad.

60. It is not very clear how many graduates are to be expected to return annually after pursuing higher studies abroad. The 1953 (1960-61) School Census shows a total in August 1961 of 979 students abroad; 83 had gone abroad in 1961, up to August; 238 were expected to leave in 1961 (it is not clear whether this figure includes the 83); 202 returned during the period March 1960 - August 1961, and 415 were expected to return in 1961 (from the size of this figure it must presumably include those already returned during that year). Later figures are not available. In Table 16, therefore, a nominal 200 has been given as the annual number expected to return: this figure will need adjustment when the situation is clarified.

61. The present retention rates, in the national institutions, of 85% between 1st and 2nd year, 77% between 2nd and 3rd, and 93% between 3rd and 4th, resulting in an overall rate from 1st to 4th year of approximately 60%, are quite high, and little increase in 4th year output can therefore be looked for by improving them. Any increase must thus come chiefly from an increase in 1st year intake. How far this is necessary or possible will depend upon the size of the output requirements, the capacity of the institutions to accept more students, and the number of potential entrants available.

62. It is important to have long-range forecasts of the higher education output required, however difficult this may be to foresee, since it will condition the minimum size of the educational pyramid needed. Forecasts are needed for a long time ahead since, if the output required involves adjustments to the bases of the higher, secondary and primary educational systems, these will not show their effects on higher education output until 4, 10 and 16 years later respectively.

63. Since long-range forecasts of economic development and of the manpower involved can only be highly tentative, it would be preferable to base the forecasts upon a reasonable correlation between economic growth and increase in the high level manpower required. The rate of economic growth foreseen in the next quinquennium is 4.6% per annum, and it would not be unreasonable to expect the high level manpower requirements to rise

by 2-3 times this figure - say 10-15%. Unfortunately, no data are available of the quantities of high level manpower now employed, to which these percentages could be applied. The figure might perhaps be estimated at somewhere around 2,000, in which case an initial rise of 200-300 annually would be needed, continuing to rise by 10-15% annually.

64. The future higher education output requirements, both long term and short term, merit careful study. Among matters needing immediate clarification are the exact numbers of Ethiopian students pursuing courses of higher education abroad, their subjects of study, their expected dates of return, and the possibilities of their employment in suitable posts. With this information, the University authorities will be in a better position to judge how far they may expand or augment their institutions to accommodate students who might otherwise go abroad.

65. As for the implications for education at a lower level, merely to adjust the ratio of 1st year higher education intake to 12th grade output from the highly dangerous one of 1:2 to the generally accepted one of 1:5 would require 12th grade output to be raised by no less than 150%. For demonstration purposes the needs for higher education output have in Table 17 been projected on the basis of an arbitrary and nominal 15% annual rise. This is almost certainly much too low, but the resultant figures will serve to show that, even with this modest rate of increase, the consequent demands upon the outputs of the secondary and primary schools will be for many years far beyond the capacity of these to meet.

66. Table 18 shows the maximum number of students who could, it is estimated, be accommodated in the national institutions of higher education without an increase of staff, the overall increase possible over the present enrolment being one of some 32%. Such an increase would, of course, have to start with the first year's intake and, with an overall retention rate from 1st to 4th years of approximately 60% this would mean that next year just double the number of 1st year students could be admitted without either increasing staff costs for that year, or adding extra accommodation. Subsequently, of course, staff and accommodation costs would increase.

67. A breakdown by colleges and faculties of the present estimated higher education enrolment is given in Table 19. The University authorities are at present formulating their development plans, with special regard to the part which the University can play in the economic and social development of the country. It would therefore be premature to express any opinions upon sectors and degrees of future development or upon the costs involved. However, a few of the more urgent needs may here be mentioned.

68. In the first place, there is clearly a great need for an increased output of science graduates, only about 90 of whom will be produced during the quinquennium. There is a pressing need for geological surveys in the country, as a preliminary to mining activities, but the

University cannot produce the necessary graduates. It is proposed to develop a chemical industry, but again the graduates are lacking. Trained biologists are needed in connection with the development of the country's agriculture, forestry and wild life conservation and exploitation programmes, as well as for the promotion of health services, but they are not to be found. If account is taken also of the scientists required for engineering and manufacturing developments, the shortage is acute.

69. Secondly, Ethiopia's total force of qualified doctors is only about 170, or approximately one to every 125,000 inhabitants. Such a number is manifestly quite inadequate to promote and maintain good health, and it is no surprise that in the age distribution of the Addis Ababa population (Table 2) the life expectancy figures used were 35 and 37.5 years. Yet there is at present no medical school established in the country. There is a grave shortage of qualified pharmacists, but present training facilities can supply less than ten per year. There is no need to stress the loss to the economy which results from short life expectancy, which drastically reduces the ratio between productive years and those of dependence, and from low standards of health and vitality, which are inevitably reflected in low productivity.

70. Thirdly, there is a great shortage of secondary school teachers. No less than 474, or about half, of the present teachers are expatriates. Only about 70 persons are expected to graduate from the present course during the next five years. At this rate the output will not even balance retirement on the part of the existing 500 odd national teachers, assuming a 5% annual loss, let alone suffice to replace expatriates and supply new teachers for an expansion of the secondary system. It may be noted that the situation is particularly acute in respect of science teachers, of whom it appears none are to be looked for from national sources.

71. Additional needs are to equip the Engineering College to carry out the more advanced of its undergraduate work; to improve the library facilities - the University College library is inadequate to meet the needs of either the arts or science faculties; to provide students with textbooks of their own - at present they borrow them; to send Ethiopians abroad for post-graduate study designed to equip them on return to replace foreign staff - the University is over-dependent on such staff and their high rate of turnover endangers continuity; and further to develop the active and successful University extension services. These are already offering over 90 courses, with enrolments totalling over 1,000. They are, however, confined to the Addis Ababa area, and to general studies and certain professional subjects. If Ethiopia is to develop its economic potential a vigorous programme of adult education will be needed, in which the University will have an important part to play. It appears, therefore, that its extension services should be expanded by taking in the activities and using the resources of other colleges, and by serving wider areas of the country.

72. Until more specific plans for the development of the various higher educational activities are available, no estimates can be given of the magnitude of the expense involved. Certainly, however, the Eth.\$7,000,000 from the national budget which the second Five-Year Development Plan provides for capital expenditure on the University, and the Eth.\$8,000,000 from external sources which it proposes to allocate to University expenditure, may be regarded as conservative figures compared with the needs.

73. For a long time to come the country will have to rely heavily upon higher educational facilities abroad. This situation should, however, be remedied as rapidly as possible by developing national institutions since, apart from the extra expense incurred in educating students abroad rather than in the country, the increasing pressure everywhere upon higher educational facilities may well result in the number of places available for non-nationals becoming increasingly reduced. However despite the urgent need for expansion, the University authorities are very much alive to the dangers to standards which might result from over-rapid development. It would be disastrous if any ground were given for ranking a degree from the University as in any way inferior to one obtained elsewhere, for if once such an opinion were formed it would be extremely hard to eradicate. A rate of development consistent with the maintenance of proper standards is therefore of great importance.

74. This raises the question of how fast the University can safely expand. Here the key factors will be the availability of staff, funds and students. Of these, the last will be for some years the crux of the matter. Reference has already been made to the very high proportion of 12th grade leavers now going forward to higher studies. Despite the needs for more graduates it would appear desirable to refrain from increasing total 1st year University intake until such time as the ratio of this to 12th grade leavers has been reduced at least to 1:3, and preferably to 1:4. Even this would be significantly different from the normal 1:5. This does not, of course, mean that the national institutions could not expand for a time; this they could do, without increasing the total number of entrants, by enrolling students who would otherwise have gone abroad. To determine the intake possible, within such limitations, it will first be necessary to examine the size of the 12th grade output from the secondary schools and the possibilities of increasing this.

C. Output from Secondary Education

75. The needs for output from secondary education fall into two main categories: the numbers required for entry into higher education, and those needed for immediate employment (possibly combined with or preceded by some vocational training). As shown in Table 17 the needs for entry to higher education are expected to rise from 813 in 1956 to 3247 in 1966 (1973). These needs do not include those for future teachers in institutions of higher education or in secondary schools.

76. Table 20 shows the needs for 12th grade output to meet the Development Plan's manpower requirements (reproduced from Table 15) plus the needs for 12th grade output required to supply the 1st year higher education intake (reproduced from Table 17). It would be unrealistic to expect that the total 12th grade output would either go on to higher education or take up employment in one of the sectors covered by the Development Plan. In the absence of any data on what the wastage might be, a nominal loss of 10% has been included to cover this. The Table does not include 12th grade output requirements for future primary or secondary school teachers.

77. Table 20 gives also the 12th grade output foreseen during the quinquennium, and the disparity between requirements and output is such that, to meet the manpower requirements set by the Development Plan, 12th grade output would need to be raised to six times its present level by 1959 (1967), an impossible target to reach. It follows, however, that immediate action should be taken to increase the output as fast as possible. How fast this will be will depend on how far retention rates between grades can be improved, and how much 7th grade intake can be increased. Since it is only the former of these courses which could show any effect upon output during the current quinquennium, it may be considered first.

78. It is not easy to determine what the present retention rates are during the secondary school period. Table 21, which is an extract from Table 37 of the school census for 1953 (1960/1961), shows that 792 pupils were in that year in 12th grade as compared with 2,230 in 7th grade five years previously, giving at first sight a retention rate of approximately 29%. However, it will be observed that the enrolment for the 8th grade shows an increase over the 7th and that for the 9th grade an increase over the 8th, probably to be accounted for by repeaters trying for the 8th grade leaving certificate and by transfer from non-government schools. These rises, of course, completely invalidate any calculation of an overall retention rate based upon these enrolments. It will be noted that the retention rate between 5th and 6th grades is approximately 79%, and that between 6th and 7th is approximately 97% (it is probable that the effect from transfer from non-government schools has already made itself felt in this stage). It would be not unreasonable to assume that the true retention rate from 6th to 9th grade is somewhere about 80% per year, and on this basis the overall retention rate from 7th to 12th would be in the region of 20%.

79. It may here be mentioned that basic calculations necessary to determine the present position and to assess developments are not infrequently made difficult by lack of adequate source data and by changes in progress. Some of the figures available which might serve as a guide include Eritrea, while others do not; some include non-government schools, while others omit them. Again, Ethiopia is in the process of changing from a system of 8 years of elementary education followed by 4 of secondary to one of 6 years of primary education followed by 3 years of junior

secondary and another 3 years of senior secondary, and the effects of this on retention rates are a matter for speculation. There appear no strong reasons why the overall retention rate should increase in the near future. In fact, if the economy develops and brings increased opportunities for employment, and if the numbers proceeding from primary to secondary education increase, it may even drop. In the absence of specific plans for improving the retention rates it would appear unwise to make calculations on the assumption of a retention rate from 7th to 12th grade of more than 20%, or to pin hopes for a rise in 12th grade output on a possibly chimerical improved retention.

80. How the drop-out will in future be distributed is a matter for conjecture. One might expect a noticeable drop between 6th and 7th grades and another one between 9th and 10th, with the drop-out fairly evenly distributed over the intermediate ones. However, it is possible that some time may elapse before the 6th grade becomes generally recognised, instead of the 8th, as terminating a stage of education, with a consequent drop in retention. It would appear not unreasonable to assume that over the next ten years there will develop a marked drop-out between 9th and 10th grades (i.e. between junior and senior secondary) and that between other grades the retention rate will be fairly steady. In subsequent calculations, therefore, the following retention rates have been assumed: from 7th to 8th - 80%, from 8th to 9th - 80%; from 9th to 10th - 50%; from 10th to 11th - 80%; from 11th to 12th - 80%. This would give an overall retention rate of approximately 20% between 7th and 12th grades.

81. As regards the second possibility of increasing 12th grade output, that is, by increasing 7th grade intake, any action taken to do this will show its first results in 1961 (1969). If the 12th grade output requirements shown in Table 20 are projected on the basis of, say, an annual 15% rise, the figure for 1961 (1969) would be 5837. At an overall retention rate of 20% from grade 7 to 12, this would mean a 7th year enrolment in 1956 (1963) of 29,185. How far this will be possible will, of course, depend upon the output from the 6th grade of the primary schools. Before proceeding to consider how far this might be raised, two of the implications of the present situation may perhaps be examined.

82. First, since 12th grade output will for some years to come be well below requirements, priorities for its use need to be established. At any level adequate manpower is necessary for economic development, but the higher the level the more serious are the effects of shortage likely to be. Every effort should therefore be made to send forward to higher education enough 1st year university entrants to meet, so far as possible, the demands foreseen for the highest level manpower. At the same time, as urged above (paragraph 72) an excessive ratio of university entrants to 12th grade leavers must be avoided if proper standards of higher education are to be maintained.

83. Secondly, there is the question of what will happen to the various development schemes contained in the Second Five-Year Plan if the

required output of 12th grade leavers is not reached. In some cases this might mean that schemes would have to be deferred. More frequently, it is likely to mean that the schemes will still be attempted, but with less well-qualified personnel. This would be likely both to slow up development and to make its achievement, and the production resulting from this, more expensive, since efficiency might be expected to be lower. Further quantitative demands on already scarce manpower might then result, in order to make good deficiencies.

84. Undoubtedly, if sufficient numbers of 12th grade leavers are not available, many projects will still be attempted with leavers from lower grades, and there are in any case great difficulties, as described earlier (paragraph 57) in relating manpower requirements exactly to educational attainment. It would therefore be relevant to consider how far the manpower requirements, stated in Table 15, for persons with 6 years of secondary education might reasonably be replaced by persons with a shorter period of education, and what effect this would have upon the size of the school system required to produce them.

85. Here, of course, no positive assumptions can be made, and opinions of what might actually happen in specific projects when manpower shortage is encountered are likely to vary widely. Several hypotheses would therefore be equally reasonable. One, which would not go to extremes, would be to assume that, if the required numbers of 12th grade leavers are not available, the majority of the development projects envisaged could still be fairly efficiently conducted if:

- a) 50% of the 12th grade manpower needs specified may be met by persons with only three years instead of six of secondary education:
- b) of the remainder 70% have received the full six years of secondary education while the other 30% need have reached only grade 10 or 11.

86. If these assumptions are made, the requirements for manpower with six years of secondary education may be reduced to 35% of the figures given, and the requirements for persons with 3, 4 or 5 years of secondary education would be met from the drop-outs if the retention rates assumed in paragraph 78 are in fact experienced. Table 22 shows the resultant totals of 12th grade leavers required for entry to higher education and to immediate employment. The figures do not include leavers required for primary school teaching. As will be seen, even with this severe scaling down and with the needs for future primary teachers omitted the present 12th grade output would still need to be trebled during the quinquennium if a deficit were to be avoided - a rate of growth which appears prima facie unattainable. The 7th grade enrolment which takes place next year - 1956 (1963) - will not, of course, affect 12th grade output until 1961 (1969). No figures are available for the 12th grade output requirements in this and subsequent years. In Table 22, therefore, projections have been made for

the year 1960 (1968) onwards on the assumption of a 15% rise per annum - which corresponds closely to the rise during the current quinquennium.

87. The secondary school enrolment during the rest of the current quinquennium, i.e. 1956-59 (1963-66), needed to produce the required 12th grade output for the period 1961 - 64 (1968-72), on the basis of the retention rates envisaged in paragraph 78, is given in Table 23. As will be seen, by reference to Table 24, which shows the 6th grade output expected during the current period, the 7th grade intake requirements exceed the expected 6th grade output by some 30% in 1956 (1963), rising to over 120% in 1959 (1966). Since it is already evident, as shown in paragraph 81, that any increase in the seriously deficient 12th grade output must come from an increase in 7th grade enrolment, the rate of expansion of the secondary school system possible to provide the manpower needed for the proposed economic development will be governed by the rate at which the 6th grade output can be increased. This, therefore, is the next matter to be considered.

D. Output from Primary Education

88. The Ministry of Education's estimates of what the 6th grade output will be from government schools during the period 1955-59 (1963-67) are given in Table 24. These figures are based on present enrolment and retention rates. To them must be added the output from non-government schools. As may be seen from Table 25, these in 1953 (1960-61) accounted for 16.2% of 6th grade enrolments, the number of pupils in them thus being 19.3% of those in government schools. To get the approximate total output, therefore, the Ministry's figures may be increased by 20%. As already mentioned, the total output foreseen is inadequate to cover the needs for 7th grade entry.

89. The deficiency is far more serious when the manpower needs for those who have completed 6th grade are taken into account. The National Planning Office's figures for these have already been given (Table 15). It may, of course, be argued that these manpower requirements may be scaled down, on the same grounds as those given in paragraphs 80 and 81 for reducing the 12th grade output requirements. This possibility raises again the difficult question of how much education on the part of how many people manpower needs are going to imply. In Table 26 the requirements have been scaled down, for the sake of example, in the proportion of 3 6th grade leavers to 1 from 5th grade and 1 from 4th. With the retention rates assumed (which are discussed in paragraphs 91 and 92 below) the 4th and 5th grade output requirements would be covered by the drop-outs. Even so, as Table 27 shows, there would be an enormous disparity between requirements and 6th grade output.

90. It is thus necessary to consider ways of raising this output, and the speed with which this could be done. The two possibilities of effecting such an increase are the same as those considered in respect of

secondary education, that is, an improvement in the retention rates between grades and an increase in 1st grade enrolments. The former would, of course, give quicker results, and therefore may be considered first.

91. The retention rates between grades in the government primary schools is said to be of the following order:

Grades 1 to 2 : 55%	Grades 4 to 5 : 75%
" 2 to 3 : 78%	" 5 to 6 : 80%
" 3 to 4 : 75%	" 1 to 6 : 21.7%

As already indicated, however, the situation is obscured by repeaters and by transfers from non-government schools. Table 28 is an extract from a promotion study in government primary schools. Similar figures for non-government schools are not available, but it is known a number of transfers take place from them to government schools. In 1953 (1960-61) pupils in grade 1 of the non-government schools formed 33.5% of the total grade 1 enrolment, and for grade 6 the figure was 16.2%. If it is assumed these percentages were much the same in previous years, and the 1st and 6th grade figures in Table 28 are adjusted accordingly to show the estimated total enrolments, the overall retention rate becomes reduced as shown in Table 29 to 13.7%, 13.4% and 14.2% in the three years 1951-53 (1958-61). Even these figures do not take into account the unknown number of repeaters.

92. With retention rates like these, there is clearly every scope for improvement. Two points here, however, merit consideration. First retention rates cannot be improved merely by making calculations on the assumption that they will be improved. The causes for the high drop-out must be ascertained and remedied. Some obvious contributory factors, such as overcrowding, lack of equipment, and poor teaching, have earlier been mentioned. Still, the matter needs thorough investigation and the remedies must be methodically planned and implemented, and their effects assessed. Second, the main loss is between 1st and 2nd grades: between the others the drop-out rates are not excessive, and though efforts should be made to lessen them large quantitative effects cannot be expected from this course. The main expansion of the primary school system must therefore come from lessening the drop-out between grades 1 and 2, or increasing the 1st grade entry, or both. From the point of view of time, there is not much to choose between them: the former course would affect 6th grade output after 5 years, the latter after 6.

93. From the foregoing argument it is apparent that from the point of view of meeting the manpower requirements given as necessary for the economic development foreseen in the Second Five-Year Development Plan, there is a grave quantitative deficiency running from the output requirements from the 12th grade down to the intake in 1st grade. The output from 12th grade is insufficient to supply the needs for entrance to higher education and to employment; the existing secondary education pyramid is inadequate to supply the needs for entry to secondary education and to

employment and the primary education pyramid is inadequate to increase the 6th grade output. The deficiencies are so great that it seems inevitable that economic development will be seriously hampered for lack of skilled and semi-skilled manpower. Further, this lack must inevitably continue for several years to come. In fact, steps taken now to increase the output for higher education cannot take effect until the last year of the present quinquennium; steps taken to increase the output from 12th grade, based on an increased intake in 7th grade, will not take effect until the next quinquennium and steps taken to increase the 6th grade output, upon which the 7th grade intake itself will depend, and based on an increased 1st grade intake or an improved 1st to 2nd grade retention rate will not take effect until the quinquennium after that.

94. It is therefore necessary to plan for as rapid an expansion as possible of the primary education system so as to increase the output from the 6th grade and progressively to eliminate the very considerable gap foreseen between this output and the estimated requirements necessary to produce the skilled and semi-skilled manpower required for the implementation of the economic development plan. The output, as observed from Table 27, is expected to fall short of requirements by nearly 12,000 at the end of the current year and the deficit is expected to increase to 36,000 at the end of the quinquennium. For the remainder of the quinquennium there is little possibility of materially raising the 6th grade output, since this latter will be conditioned by present enrolments in grades 2 to 6 and the retention rates are not so low as to offer any considerable hopes of raising them rapidly, especially in the absence of specific plans to achieve this by means of smaller classes, better teachers, more and better teaching materials and possibly curriculum revision. The chief limiting factors upon the speed with which the primary school system can be expanded will be finance, building, equipment and availability of teachers. Of these the last is that likely to cause the longest delay and therefore in the following section consideration is given to the speed with which primary teachers could be supplied.

V. INCREASING THE SUPPLY OF PRIMARY SCHOOL TEACHERS

A. Regular training courses

95. In 1953 (1960-61) there was a total of 6,761 teachers in primary and secondary schools in the country. No figures are available of how many of these were teaching grades 1 - 6. However, since there were 5,576 classroom units in grades 1 - 6 out of a total of 6,573, or 84.8%, it appears that teachers so engaged might amount to about 85% of the total, or 5,750. Table 30A shows the output envisaged during the quinquennium from the existing training institutions. (It may be noted that the proposed quintupling of the output of the Harar Training College is of very doubtful practicability). The total net output foreseen amounts to 1,886 additional teachers.

96. If these new teachers were to be employed, with no change in the existing teachers - pupil ratios or drop-out rates, they would result in

the 6th grade output being increased by some 950 persons in 1961 (1969), and some 3,000 in 1964 (1972). This addition would not go very far towards filling the gap between 6th grade output and requirements, and it is clear that some emergency means of increasing the output of teachers must be sought.

B. Emergency Training Courses

97. The main factors which will determine the extent to which such emergency means may be employed will be the degree of availability of:

- a) persons with the prerequisite educational qualifications who are available for training;
- b) teacher-trainers;
- c) premises and equipment;
- d) teaching-practice schools;
- e) finance.

Of these, it is assumed any deficit in teacher-trainers may be made good, as an interim measure, by recruitment from abroad. Premises and equipment present no serious obstacles; there are sufficient schools available for teaching practice, and the question of how far finance would be an obstacle is the problem this consideration is designed to solve. Thus, the main question at this stage is the numbers of persons available for training with the necessary minimum educational requirements.

98. The Ministry of Education considers these latter may be stated to be normally as follows:

- a) for grades 1 to 6 (i.e. primary schools) teachers should have completed the 9th grade, followed by three years of combined academic and professional education;
- b) for grades 7 to 9 (i.e. for junior secondary schools) teachers should have completed 12th grade, followed by two years of combined academic and professional education;
- c) for grades 10 to 12 (i.e. senior secondary schools) teachers should have a university degree.

99. It is clear, however, that unless some modification of these standards is accepted for the next few years, the development of the school system will fall so far below that required to produce the skilled manpower likely to be postulated by future development plans as to render impossible attainment of many of the aims of the latter. The Government has, therefore, proposed that the following emergency measures be taken to increase the supply of teachers:

- a) that during the summer of each year in the quinquennium a brief course of some two months should be given to 300 students completing 12th grade so as to give them some

preliminary training before entering employment as teachers in the following autumn. This training would be supplemented by the in-service training described below (para. 144). In view of the scarcity of pupils completing 12th grade, this 300 could only be obtained by diverting pupils from other sectors of employment foreseen in the development plan, with consequent hindrance to the development of the economy in those sectors.

- b) that a one-year teacher training programme be instituted for persons who have completed 10th grade. For these courses attempts would be made to attract persons who may have left school some time previously and gone into other employment. Here again, of course, it is possible that enrolment may detract from other sectors of the economy. The Government considers that up to 700 candidates per year could be obtained for such courses. It was not possible to check the validity of this assumption, and at this stage it and the subsequent calculations based on it, should be regarded only as a theoretical possibility. However, as will be seen from Table 31 the expected output from 10th and 11th grades would be adequate to supply this number for teacher training.

100. The output which should result from these two schemes is shown in Table 30B. As will be seen, the net total of additional teachers thereby entering service during the quinquennium could be expected to amount to 5,756. The costs of the first project are estimated at Eth.\$1,575,000 capital costs, and Eth.\$1,281,000 p.a. recurrent costs, the former averaging Eth.\$2,250 per place provided and the latter Eth.\$1,830 per person trained. Administrative costs are not included for either project. Details are given in Tables 32 and 33.

101. The importance of the adequate training of teachers deserves especial emphasis. Some reference has already been made to the ultimate importance for economic development of high quality in education, in which the chief factor is good teaching. There are, however, also more immediate economic advantages to be had from this latter. An obvious example is the situation in which a pupil has made such poor progress that he has to repeat the year's work. Here the cost of his year's schooling has been doubled. Although the reason for such a situation may not be always or wholly poor teaching, there is no doubt that this is often a major element. An improvement in the quality of the teaching given can be confidently expected to bring a diminution of the repetition rate, with consequent monetary saving. Similarly, it is likely to bring a lessening of the drop-out rate. As previously suggested, a high drop-out rate in the early years is particularly wasteful, since the benefits accruing from a very short period of education tend to be so limited as to warrant the expenditure on such an education being regarded as virtually wasted.

VI. EXPANDING THE EDUCATIONAL SYSTEM

A. Expansion of the Primary School System

102. The degree to which the primary school system can be expanded as a result of the projected recruitment during the quinquennium of 5,756 extra teachers (Table 30B) will depend on the policy which is adopted with respect to teacher-pupil ratios. The present rates have already been noted (Table 12) as have also the facts that classes far in excess of the average are common, that ineffective teaching, lack of progress and high drop-out rates inevitably result, while the overcrowding of classes undoubtedly has a retarding effect on the progress made by those pupils who do continue in school, and this contributes to the repeating of grades and early drop-out in subsequent years.

103. There are three possibilities of utilising the new teachers entering service so as to increase the 6th grade output (which, as already seen, is the primary requisite if the skilled manpower necessary for the country's economic development is to be obtained) viz:

- a) Increase the 1st grade enrolment, establishing extra classes of similar size to the present ones, and maintaining the existing teacher-pupil ratios, with consequent high drop-out rates.
- b) Raise the retention rates by, amongst other measures, reducing the numbers of pupils per teacher. To do this would mean establishing new classes, but without increasing the first year intake until the desired reductions in ratios had been effected.
- c) Adopt a combination of the two.

Whether (a) or (b) is adopted, or what element of each is embodied in the compromise solution (c), will depend upon the relative economic, educational and political advantages afforded by the alternatives.

104. Economically, the difference between (a) and (b) would depend on the degree to which, under (b), ratios were reduced and improvements effected in the retention rates. If the 368 extra teachers expected to be available for service in 1956 (Table 30B) were used to establish new first grade classes at the present teacher-pupil ratio of 1:58, this would mean an addition of 21,344 new pupils. Assuming no change in the retention rates, this would mean an increased 6th grade output of 3842 pupils.

105. If the 368 teachers were used to improve the teacher-pupil ratio from 1:58 to 1:35, the establishment, without an increase in enrolment, of 368 new classes of 35 pupils each would mean reducing 560 classes from 58 to 35 pupils. Assuming that for the 32,480 pupils in these 928 classes, the overall retention rate from 1st to 6th grade rose from 18 to 30% - a reasonable expectation - the resultant output from 6th grade would rise from 5,846 to 9,744, a gain of 3,898 or 56 more than the increase in out-

put made by using the new teachers to establish classes for additional 1st grade entrants at the existing teacher-pupil ratio.

106. A further economic gain would come from the reduced size of the educational system necessary to produce a given 6th grade output. As shown in Table 34, an improvement of the overall retention rate from that of the 19% (approximately) used for present projections to one of 27% would result in a saving in places of about 8%. Though the saving in costs would not be at the same rate, since extra places are often provided by overcrowding and without corresponding increases in staff, space or even furniture or textbooks, it might still be significant. Another gain would be that if pupils continue their education, it requires only another five years' schooling to put them through 6th grade, whereas if they drop out their loss must be made good by new entrants in grade 1, who will need six years' schooling to emerge from 6th grade.

107. Whether it would prove more economical to use new teachers to reduce pupil-teacher ratios or to start classes for additional pupils at the old ratios, will, as stated above, depend on the reductions made and on the improvements in subsequent retention rates thereby effected. The former are discussed below (paragraph 112). The latter are at this stage a matter for conjecture. There appear good reasons for thinking, however, that the use of the new teachers to reduce class sizes would prove no less economical than using them to establish classes for additional 1st grade entrants, and may even prove more so.

108. Educationally, there seems no doubt that it would be preferable to reduce the size of classes, even though this means restricting entry, rather than to retain overcrowded classes and increase the entry. For those enrolled in the smaller classes, the benefits are too obvious to need description. It might, of course, be argued that even an inadequate schooling is better than none at all, and for the sake of those who would, if smaller classes were adopted, be excluded, it would be preferable to accommodate them, even in overcrowded classes and at the cost of reducing the benefits for all pupils.

109. This argument, however, cannot be considered valid. Carried to extremes, its acceptance could result in a teacher having so many pupils that he could give no personal attention to any of them, but would have to drill them en masse, with the pace set by the bulk of the slower pupils, or alternatively he would be forced to adopt a mechanical monitorial system. In such circumstances, some learning would take place, but real education, in the sense of stimulating and expanding the pupils' interest, aiding their acquisition and use of the tools of knowledge, and developing their individuality, combined with a sense of membership of society, would be largely lacking, if present at all. It is possible and even likely that a person who has never attended school will feel that he has missed something and will later seize chances of learning himself and will encourage his children to do the same. If he has attended school for one,

two or three years and left because of lack of progress caused by overcrowding, he may well be discouraged from further mental activity, adopt a negative attitude toward education and exercise a reactionary influence upon others.

110. Politically and practically, it is probably inevitable that an increase of 1st grade entrants be accepted, even at the cost of overcrowding. The people desire education, for themselves and for their children. Their over-riding aim is to get their children into school: though this may not guarantee later educational achievement, it is an initial sine qua non for it. The fact that classes are overcrowded does not worry them: each parent is usually confident - to begin with, at any rate - that his or her child will do well. In any case, they accept overcrowding as normal, and are not sufficiently informed to be critical. In the circumstances, it is hard for the Government to issue directives restricting entry, and almost impossible for the teachers and local officials, faced with the parents and the children in person, to enforce them. It is not till the end of the first year that disillusionment comes - with a drop-out of 45 out of every 100 pupils.

111. In the event, when the newly-trained teachers come into service, it is likely that there will be a compromise between using them to reduce pupil-teacher ratios and using them to start classes for additional entrants. This course would have the advantage of enabling comparative studies to be made of the effects on the drop-out rate of large and small classes. In the absence of any guide as to what is likely to happen, it may for the purposes of subsequent calculations be quite arbitrarily assumed that, of the additional teachers entering service, half will be used to reduce the size of 1st grade classes, and the other half to provide additional places.

112. The effect on the numbers of classroom units caused by so using half the new teachers to reduce the size of classes will depend on the pupil-teacher ratio established. No optimum ratio can be exactly stated and supported by objective evidence: so much depends upon the individual characteristics of the teacher, pupils and subject matter. In general, however, it seems agreed that an increase in class size of over about 35 pupils brings a rapid decline in efficiency of teaching and learning - and the less able the teacher, the greater the decline. A pupil-teacher ratio of 58:1 is so far too high that no small reduction would bring any appreciable improvement in results, and if a reduction is to be made at all, it should be to a figure approximating to 35:1. It should be noted that, if this figure applies to any large number of classes, it will almost certainly mean that there are frequently classes of 40-45. It is no consolation to the teachers taking such classes, and no help in learning to the children in them, to be told that there are also many classes with 25-35 pupils and that therefore the average is only 35. On the assumption that, in the classes of reduced size, a teacher-pupil ratio of 1:35 is achieved, the resultant pattern of enrolment will be as shown in Table 35.

113. As already indicated, whatever solution is adopted for the use of the new teachers, it is not likely to make any substantial difference in costs. Salaries have to be paid to the same number of teachers. Each class teacher will have a classroom of much the same size and cost, whether it contains 35 pupils in good working conditions, or 85 with another 30 looking in at the windows. If - and the word is far from pure hypothesis - any furniture at all is provided for the pupils, the number of desks is unlikely to exceed about 40: extra pupils must double up or sit on the floor. As for textbooks and other teaching materials, there are quite possibly not enough to go round a class even of 35. If, therefore, costs are calculated not on the basis of costs per pupil, but on that of teachers, classrooms and equipment needed, the question of the exact numbers of children in school need not affect the figure.

114. It should be noted that it is not possible to form a new class for every additional teacher who comes into service. Owing to the need for certain specialist teachers, in addition to class-teachers, and for some non-teaching or partly non-teaching heads of schools, the number of classroom units is at present lower than that of teachers. In 1953 (1960-61), there were, in Government schools, 4644 classroom units in grades 1-12, and 4955 teachers, giving a rate of 6.7% more teachers than classroom units. What the figures were for grades 1-6 is not clear, owing to the difficulty, previously mentioned, of separating the figures for primary staff from those of secondary. It would, however, appear wise to assume that the numbers of new classes it will prove possible to start will be at any rate some 5% less than the numbers of additional teachers coming into service.

115. The costs of the foregoing primary school expansion may be considered under the two main heads of capital and recurrent expenditure. Under the former the main items will be sites, construction and equipment, and under the latter teachers' salaries, services, maintenance and other expenses. The value of sites will clearly vary greatly according to the location and size of the schools, and the cost to the Government will vary also according to whether the ground is already in possession of the authorities or, if not, the terms upon which it can be acquired. It may also be necessary to meet costs for the clearance and preparation of sites and for approaches and services to them which are not contained in the unit construction costs assumed. In the absence of any data on what might be the average cost of a site, in subsequent calculations a nominal cost of Eth.\$200 per classroom has been assumed.

116. The Addis Ababa Conference in 1961 considered US\$1,500 (Eth. \$3,750) a reasonable figure for a primary school classroom. In Ethiopia the Government considers this figure could be reduced to Eth.\$3,000. The Conference also considered a figure of US\$7.50 per pupil reasonable for the costs of equipment for primary schools. If this figure is scaled down in proportion to the reduction of construction costs it would come to about US\$6, or Eth.\$15, per pupil. On the basis of 35 pupils per class-

room, this would mean an equipment cost of Eth.\$525 per room, a figure which might reasonably be rounded off to Eth.\$500. As mentioned above (paragraph 113) for purposes of calculation the same figure will be used for all new classrooms, since although half of them, on the assumption made, will be overcrowded, extra equipment will not in fact be provided in proportion to the increased number of pupils.

117. The needs for construction and equipment are not, of course, confined to the provision of rooms and equipment for additional classes. The existing classrooms and equipment deteriorate and need replacement. In many cases the rooms are quite unsuitable, not having been adequately constructed or adapted in the first place, and equipment may be insufficient. Firm data are not available on the condition and needs for replacement or supplementation of existing premises and equipment. However, it appears likely that the 10% replacement figure suggested by the above-mentioned Conference would be a conservative one compared with the needs. The number of classroom units in Government primary schools (grades 1-6) is given in the 1953 (1960/61) Census as 3823. This is, of course, not the number of classrooms, as in some schools the double shift system is in force. However, it may be taken as the figure on which to calculate the needs for replacement, as in primary schools the double shift system has enough disadvantages to make building to eliminate it a priority. On this basis, therefore, 382 new classrooms a year should be built for replacement purposes, at an annual cost of Eth.\$1,337,000. The annual expenditure during the quinquennium necessary to provide rooms for the additional classes and for replacement would be as shown in Table 36.

118. It is a matter for conjecture what proportion of the cost of sites, construction and equipment can be met, in cash or in kind, by local subscription and effort. There is a considerable willingness on the part of local communities to participate in the provision of schools. In many cases these can be erected by local voluntary labour, with the use of local materials which require only labour for their provision. Basic furniture of a simple type can similarly be provided. Teachers' houses can also be so erected and equipped.

119. Such co-operation has not only the advantage of reducing, or even eliminating, costs, but it also results in the community taking a keener interest in the activities of the school it has provided or helped to provide. It therefore appears doubly desirable to encourage such co-operation, and it may well be possible to make it widespread policy for the local communities to build, maintain and equip schools and, where necessary, teachers' houses, while the authorities pay the teachers' salaries, either from the central exchequer or from the proceeds of the land tax as appropriate.

120. This type of co-operation is much more practicable in rural areas than in towns, owing partly to the greater community sense usually found in the former, and partly to the simpler standards of building acceptable. It

is also, for the same reasons, more practicable in the case of primary schools than in that of secondary schools. The degree, therefore, to which costs can be covered by such co-operation will depend largely upon the distribution of the new schools and classes as between rural and urban areas. In the absence of any indications as to what this distribution is likely to be, or of reasons why one percentage of costs rather than another should be selected, it has been arbitrarily assumed in Table 36 that 50% of the costs can be met by the local communities, in cash or in kind (above the receipts from the Land Tax) and that the other 50% will have to be met from the central exchequer.

121. It may here be noted that even though buildings and equipment may be provided partly, or even wholly, without monetary payments being made, for the purposes of assessing the value in economic terms of the national investment it is necessary to put on the buildings and equipment provided a price which would represent fairly accurately what would have had to be paid if payment had, in fact, to be effected.

122. The annual amount which will be required to pay the salaries of the additional teachers will, of course, depend upon how much these salaries are. The present salary of a primary school teacher varies from about Eth. \$120 to Eth. \$145 a month. It seems clear that this is too low, since large numbers of teachers leave the profession prematurely. As stated earlier, of some 600 teachers trained in one training college during the last nine years, only some 200 are still in service, the remainder having left, presumably for more lucrative posts. The amount by which the salaries should be raised will be a matter for study, but it seems likely that the maximum quoted above should become approximately the minimum. In calculating the costs of teachers' salaries, therefore, it would seem reasonable to use a figure of Eth. \$150 a month, or Eth. \$1,800 a year, as an average. Since this rise would apply to existing teachers as well as additional ones, it would be necessary to allow for this computing the total costs of education.

123. As regards other recurrent expenses, the total of these in 1953 (1960/61), the latest year for which audited accounts are available, was Eth. \$3,583,978, or 56% of the salaries' bill of Eth. \$6,406,797. If the rise referred to takes place in teachers' salaries this ratio may drop slightly, but if the other recurrent expenses are calculated on the basis of 50% of teachers' salaries, the estimates should be fairly accurate. On this basis the costs will be as shown in Table 37.

B. Expansion of the Secondary School System

124. As already indicated, in paragraphs 81 and 87, in order to meet the manpower requirements of the developing economy, it will be necessary to expand the 7th grade intake into the secondary school system so as to provide the 12th grade output desired. As seen from Table 23, if these requirements are to be met, there should be a 7th grade enrolment of

17,327 in 1956 (1963), rising to 26,357 in 1959 (1967). However, as shown in Table 24, the output from the 6th grade during this period is expected to remain fairly steady at around 14,000 per annum. By contrast the total needs of the economy for 6th grade output are estimated as rising from 25,220 in 1956 (1963) to 50,128 in 1959 (1967).

125. In a country in process of rapid economic growth, the absence of skilled manpower at any level will be an obstacle to development, but the higher the level at which the manpower is lacking the more serious will be the obstruction caused. It is thus of primary importance that every effort be made to secure from the secondary and higher levels of education the minimum output required to enable the development to proceed as planned. In deciding, therefore, what proportion of the limited 6th grade output should be steered towards 7th grade entry and continuance of education and what proportion should go direct into employment, the requirements for the former should have outstanding priority and the maximum number possible of sixth grade leavers should be encouraged to proceed to secondary education. The present retention rate between 6th and 7th grade is in the region of 80% and calculations may reasonably be based upon the assumption that this rate can be maintained. As will be seen from Table 39 (39), despite the great need for increased output from the 12th grade, there is little that can be done during the next quinquennium to expand the secondary school system owing to the lack of potential 7th grade entrants.

126. This situation means that every effort should be made to improve the overall retention rate between 7th and 12th grades. As indicated in paragraph 78, this appears at present to be in the region of 20%. As a target to be aimed at the Addis Ababa Conference envisaged that some 45% of 7th year entrants should finish a six year course, while the remainder stayed three years. While this would no doubt be too remote a target to hope to reach for a long time to come, it is clear that if only it were possible to raise the retention rate from 20% to 30% the 12th grade output would be increased by half.

127. As already mentioned, however, in connection with the same problem in primary education (paragraph 92) an improvement cannot be made without investigating the causes of non-retention and taking specific measures to eliminate them. Undoubtedly these causes include over-crowding, lack of equipment, and inadequate teaching.

128. From the figures in Table 12 it does not at first sight appear that secondary school classes are over-crowded. Certainly from the 10th grade on the sizes are reasonable. These data, however, obscure regional differences. As mentioned in paragraph 40, in Addis Ababa the average class sizes in 7th grade and 8th grade were 38 and 39. Further, the data refer to the year before last; this year the average class sizes in Addis Ababa secondary schools are: grade 9 - 34, grade 10 - 30, grade 11 - 28, grade 12 - 27. It is to be noted that Addis Ababa has some 23% of the country's total of grade 8 pupils, and nearly 40% of those in grades 9 - 12.

129. For effective teaching, especially in the special conditions of mastering a foreign working language which face pupils in grades 7 and 8, the class sizes in the junior secondary grades are too high. If retention rates are to be improved, the average size should be reduced forthwith to about 25. (With the existing distribution of pupils among grades, this would permit an average of say, 28 in grades 7 and 8 and of 22 in grades 9 - 12. How many extra rooms and teachers this would involve is difficult to determine without knowing whether the present Addis Ababa class sizes are also common elsewhere. If they are, the country totals will be about 150% of the Addis Ababa ones. It is not clear by what proportion the numbers of teachers in secondary schools exceed those of classes, but it would not appear unreasonable to assume that the figure is about 25%. On these bases, the additional needs would be as shown in Table 39.

130. As regards the costs of meeting these needs, the official estimate of the cost of building a secondary school classroom is Eth.\$6,000. Equipment costs are expected to vary from 15% to 25% of the construction cost, according to the type of room: a reasonable average might be 20%. Much, of course, will depend on the degree to which it may be found necessary to establish schools needing very expensive equipment. Present policy is to channel half the secondary enrolment into academic courses and the other half into courses of a more practical nature. Account will also have to be taken of the needs for regional agricultural colleges which will do for their regions work similar to that done by the Jimma College for the coffee-growing areas. On the assumptions above, the capital costs of the reform envisaged, together with those for the modest rise in numbers shown in Table 38, would be as shown in Table 40, amounting to Eth.\$2,851,000 during the quinquennium. The figures do not take into account the increase in the numbers in school resulting from the improved retention rates which the reduction in class sizes are designed to bring about.

131. Recurrent costs will initially be high, since practically the entire additional staff needed would have to be engaged from abroad. For such staff it is stated that it is necessary to pay a monthly salary of Eth.\$750 - 1,100, plus a housing allowance of about Eth.\$150, while cost of passages would average about Eth.\$110 a month. All told, a fair average would thus appear to be about Eth.\$1,250 a month, or Eth.\$15,000 a year. This is two to three times the average cost of a national secondary school teacher. The resulting costs are shown in Table 41, where it has been assumed that the teachers and classrooms necessary for the reform would be provided during the next two years. How many national teachers would be available is uncertain, and the Table shows what the cost would be if all the staff were expatriates. The difference in salaries has been taken into account when calculating the other recurrent expenses by reducing the figure to 20% of the salaries, as compared with the 50% used in Table 37. The total additional recurrent costs during the quinquennium amount to Eth.\$8,706,000. These do not include recurrent costs resulting from the expansion which reduction in class size is designed to effect.

132. As regards the other causes of high drop-out mentioned in paragraph 127, namely lack of equipment and inadequate teaching, it appears likely that a substantial sum should be added to the capital costs for secondary schools to provide equipment. It is stated that development of technical teaching in the newly-designated comprehensive schools is being held up for lack of even simple tools and equipment. In view of the importance of mastering English, this being the medium of instruction, modern aids, such as recording equipment, should be standard issue to the schools. For all subjects a variety of learning aids - including of course, text books and libraries - should be everywhere available. Data on the needs are inadequate for any estimates of cost to be given, but it appears that a nominal figure of some Eth.\$500,000 at any rate should be included in the immediate investment requirements for these purposes.

133. The inadequate teaching given in the secondary schools is attributed largely to the conditions under which it has to be done. If class sizes were reduced and adequate equipment and teaching materials provided, a considerable improvement might confidently be expected. These reforms, however, should be coupled with an improved inspection and supervision system to help both the national teachers who may not have had much experience in practical problems of the classroom, and the expatriate teachers, who will naturally encounter difficulties of adjustment. The form such a system might take, and the possible costs, are discussed below (paragraphs 144-5).

134. If the country has to wait for its urgently-needed increase in 12th grade output until increased numbers become available from the primary schools for 7th grade intake, the projected economic development dependent upon such output may have to be deferred until the quinquennium after next. If the 12th grade output can be raised by improving the present retention rates in the secondary schools, the development can take place earlier. Such improvement can be effected only by measures such as those described, and it is therefore of primary importance that they be put into effect without delay.

C. The Training of Teachers

135. The needs for the training of primary school teachers have already been considered (paragraphs 95-101). As shown in paragraphs 126-134, and Table 41, it is estimated a total of 483 additional secondary school teachers will be needed during the quinquennium. This figure does not include extra teachers needed for the expansion of the secondary system, through the improvement of retention rates between grades, which it is envisaged will result from the proposed reduction in class sizes. Nor does it include new teachers needed to replace those who leave the service, either on retirement, illness etc. or on transfer to other employment. At a rate of, say, 5% of the present total of secondary school teachers - which is given as 502 nationals out of a total of 976 - 25 new teachers a year would be required to replace those retiring. No data are available to indicate how many secondary teachers annually might be expected to transfer to other employment.

136. As implied above, of the 976 teachers in secondary schools, no less than 474 - or very nearly 50% - are foreigners. This cannot be regarded as satisfactory, other than as an interim measure. In some subjects - notably the teaching of foreign languages - the use of expatriate staff can be most beneficial, and a moderate sprinkling of them in other subjects as well is advantageous in preventing the development of a too narrowly nationalistic system of education. Nevertheless, the schooling given is rightly directed to educating the members of the new generation to live and work in Ethiopia as Ethiopians. They must acquire, preserve and develop their nation's cultural heritage, reconcile it with modern conditions and enrich it by a wise and measured introduction of external thought, science and technology. For guiding pupils to develop such abilities, national teachers are needed who have themselves already advanced by the road along which they will lead their pupils.

137. Three further weighty arguments in favour of expatriate teachers forming only a small minority of the total teaching staff are based on economy, continuity and availability. Expatriate teachers are much more expensive than national ones. If salary, housing, travel and other allowances are taken into account, the cost of an expatriate teacher may be more than double that of a national one. Continuity is lacking because turnover is usually high, teachers coming for a few years, possibly only one or two, and then leaving for other parts. This means a continual loss of teachers who have become adjusted to the country and an influx of newcomers whose efficiency is bound to be somewhat restricted until they have found their feet. Further, it is becoming more and more difficult to get good teachers in quantity from abroad. The demands of expanding systems of education, in the countries from which teachers come as well as in a growing number of rapidly-developing countries, are resulting in good teachers for export becoming in very short supply.

138. If the output from the secondary schools is to be increased during the next quinquennium, it will be necessary still further to increase the already large proportion of expatriate teachers by adding the 483 shown in Table 41; expatriates will thus outnumber nationals by nearly two to one. This is clearly a situation which demands that immediate action be initiated to produce a remedy.

139. It is therefore urgent that the training of teachers for secondary schools should be developed as rapidly as possible. This will need to be done at two levels. Teachers for grades 7 and 8, in subjects other than English, would need to have at least completed 12th grade, followed by a 2-3 year course of further study and training. These qualifications might be adequate also for about half of the 9th grade teachers. Those teaching grades 10 - 12 would need to be graduates, who had received a one-year course of training.

140. The training of the former group would involve the establishment of a Higher Teachers Training College. The numbers to be trained annually in such a college would be a resultant of the number of new teachers re-

quired for replacement of those leaving the profession on retirement or for other reasons, of the number required to replace expatriate teachers at a rate to be determined, and of the number of entrants available with 12th grade qualifications. An output of some 50-60 a year would be a modest figure to aim at. To achieve this, the enrolment and staffing necessary would be as shown in Table 42, and the approximate costs might be as shown in Table 43. These total Eth.\$2,719,000 for the quinquennium.

141. The training of the graduate teachers for the higher secondary grades would need to be done by a University Department, or Institute of Education. As will be shown later, there are also other important tasks which such an Institute would be needed to perform. On the assumption that some 60 graduates a year would pursue a 1-year course of professional training, the staffing and costs might be expected to be of the order shown in Table 44. In both this project and the preceding one provision would need to be made for the training of teachers for both the academic and the technical courses in the secondary schools.

D. Training of Training College Staff

142. For the training of both primary and secondary teachers it will be necessary initially to rely very heavily upon external staff. The disadvantages of such staff - expense, lack of continuity, unfamiliarity with the country - have already been mentioned, and steps therefore need to be taken to train national staff to take over the key duties of training college staff.

143. The numbers of these required will depend upon the numbers of students in training, the length of training, and the teacher-student ratio. The training colleges run courses of varying lengths, but it may be assumed that for all the courses (with the exception of the 2-month emergency course envisaged above) the professional content, for giving which special training is needed, will be equivalent to about one academic year. Table 30 shows that in 1959 (1967) 1755 students (excluding the 300 in the short emergency course) are expected to graduate. This means that at an average of 17.5 students per teacher 100 teachers would be needed. (Actually, as their work would be done partly in other years than the last one of the course, and classes in these would be larger, the true ratio would probably be nearer 20:1). If an annual course for 20 experienced teachers a time were instituted, to equip them for posts in training colleges, the latter should be able to count on very competent national staff by the end of the quinquennium. The approximate costs of such a course are given in Table 44.

E. Inspection, Supervision and In-Service Training

144. Closely linked with the need for the training of teachers is that of the inspection and supervision of their work in school, especially during the first two years after they begin their careers. This period

would be one of combined probation and in-service training. Such inspection, supervision and training is particularly necessary in respect of the 40% of present primary school teachers who have received no training at all, and of teachers entering service after the proposed two-month emergency training course. It is only by introducing a greatly strengthened system to help the teachers, in both primary and secondary schools, that any real hopes can be held out of improving retention rates and raising the efficiency of the schools.

145. To enable such inspection, supervision and training to be effectively performed it is proposed that the present Inspectorate be strengthened by the addition of 40 specialists from abroad, who would, together with their Ethiopian colleagues, undertake the work on a combined functional and regional basis. It is envisaged that this group should be retained in its entirety for three years: thereafter the expatriates might be replaced by national staff at the rate of some six per year. The estimated costs involved are shown in Table 46, and amount to Eth.\$3,263,000 during the quinquennium.

F. Training of Inspectors and Supervisors

146. If the 5756 additional teachers shown in Table 30 enter service during the quinquennium, not only will the Inspectorate need to be strengthened by the introduction of the expatriate corps mentioned in the preceding section, but it will have to be still further increased by the addition of national staff - who also, of course, should eventually replace the expatriates. In view of the key importance of the Inspectorate in promoting better teaching and better working conditions, thus both raising the quality of education given and fostering a rise in the retention rates, it is necessary that the inspectors should receive an adequate training for their duties. It is envisaged that this will be given both by working alongside expatriate colleagues and by means of special courses.

147. The numbers involved will, of course, depend upon the numbers of teachers and schools, and the numbers of these for which any one inspector will be responsible. As regards teachers, there were nearly 8,000 of these in primary and secondary schools last year. This means that with the increases foreseen there would be about 14,000 in 1959 (1966-7). The ratio of inspectors to teachers would need to be carefully considered, but in view of the amount of work the latter would need to put in to assist the teachers, it would be necessary to contemplate a ratio high by comparison with countries in which the educational system is more developed and in which the teachers are better qualified. In the circumstances, a reasonable ratio would be one inspector to every 100 teachers, and on this basis a corps of about 140 inspectors would be needed. The ratio could later be progressively reduced as the proportion of trained teachers in the schools rose.

148. For training, a 1-year course of combined theoretical and field work might be envisaged, each course consisting of some 25 participants.

In view of the importance in the inspectors' work which the in-service training of teachers would assume, the theoretical content of their course might appropriately be linked with that of the course for teacher-trainers. The costs of the courses for the two groups would be very similar.

G. Textbooks and Teaching Material

149. Reference has already been made to the economic value of quality in education, in reducing the time needed for a pupil to reach a given level and to enable him to reach higher levels than otherwise possible. Emphasis has been laid on two of the chief conditions for high quality - good teachers, and a reasonable teacher-pupil ratio. There are, however, other factors, and one of the chief of these is the availability of suitable means of learning - i.e. textbooks and other teaching material. Ethiopia is in particular difficulty in this respect, owing to the lack of textbooks in Amharic for use in the primary schools.

150. The Ministry of Education has a project, worked out in considerable detail, for the production during the next five years of the principal textbooks needed. The work involves the translation and adaptation of existing works, the writing of original ones, and the printing and distribution. The estimated costs during the quinquennium are given in Table 47. It is understood that the costs of paper, machinery and photographic equipment have been underwritten by an external agency on the basis of an annual 20% of the total cost of the programme over the next five years. This leaves the country still to find financing for the recurrent personnel costs, which amount to Eth.\$118,000 p.a. for the 42 persons needed, and maintenance and other operating costs.

H. Study and Research

151. The need has already been mentioned for study of the reasons for the high drop-out rates. It is only after such study that adequate action can be taken to remedy them. There are other fields in which it is no less urgent to gather and evaluate data: language teaching, for example, and the adaptation and production of textbooks and other teaching materials.

152. The Ministry of Education already has a small research unit, and this needs strengthening. The cost would not be very great, and could undoubtedly be saved many times over by the work of the unit. It is envisaged that this would seek rather to stimulate investigations by the University, teachers and students and apply the results to specific problems of educational organization and administration rather than to undertake research itself. Costs in excess of those current would be limited to a modest increase in staff, the provision of an expatriate collaborator, and one or two fellowships - say Eth.\$150,000 for the quinquennium.

I. Administration

153. Difficulties of administration are to be expected in a developing country. Those encountered in Ethiopian education seem to spring partly from inadequate organization and partly from lack of trained personnel, especially in the middle and lower grades. As regards the former, considerable advisory resources are available in the Institute of Public Administration. It seems desirable, however, that the Ministry of Education should in addition have the services of an external adviser in educational organization and administration for a year so as to assist in drawing up a form of organization for the national educational system which would meet the country's needs and facilitate administration.

154. Such an expert could also participate in training courses for the Ministry's staff, at all levels. At present the senior officials are seriously overloaded, since they have not only to do their own work, but have to go into a great deal of detail to help their untrained staffs to perform their duties efficiently, and at the same time have to provide them with informed in-service training.

J. Institute of Education

155. Four necessary activities already mentioned, the training of senior secondary school teachers, the training of teacher-trainers, the training of inspectors and supervisors, and the conduct of research, all demand a very high level of academic qualifications and educational experience on the part of the staff conducting them. They also have many points in common, and it would be a logical step to envisage their combination in an Institute of Education. The exact form this should take would be a matter for discussion between the two bodies chiefly concerned, namely the Ministry of Education and the University, and it would be premature at this stage to attempt to estimate what the costs would be, other than those already suggested for some of the courses it might conduct.

K. Rural Community Development

156. Since some 90% of the inhabitants of Ethiopia are engaged in small scale agriculture it is clear that there can be no substantial economic development affecting the majority of the population which does not have its basis in the development of agriculture and of rural life. For this there are three main needs, namely:

- a) the development in rural areas of a cash economy in addition to the present subsistence economy;
- b) marketing arrangements for the products on which such cash economy will be based;
- c) the requisite knowledge and skills among the population concerned. Of these the last must logically come first and for this purpose it is envisaged that courses of

demonstration and instruction should be given, in selected areas, to enable the farmers to utilise improved types of seed and implements, adopt better methods of working the land and of stock-raising, and set up simple co-operative marketing arrangements. Such activities would involve the participation of a number of Departments.

157. Elsewhere, in developing these activities the village teacher is often a central figure, but in Ethiopia, unfortunately, village teachers are scarce. An obvious potential source of leadership for rural community development lies in the priests of the Ethiopian Church, who have a long and almost universal tradition of educational work in the schools attached to their churches. Inevitably, however, a Church is conservative and the guardian of tradition, and while undoubtedly invaluable leadership in promoting new developments would be given by priests in some areas, it would be unrealistic to expect that a countrywide development of the rural communities could be achieved on this basis.

158. Recourse must therefore be had to other means, and the most promising appears the system of "animators" practised very successfully elsewhere. This involves the selection from the communities of persons who appear to have the necessary enthusiasm, qualities and abilities to put into practice new ideas themselves and to propagate them among others. These persons are given short courses - of perhaps two weeks - to enable them to initiate and demonstrate projects before returning to their village as "animators". The staff who carry out the selection and the training also follow up the projects in the villages.

159. The speed at which this type of project can be developed, apart from the matter of finance, will depend chiefly upon the personnel available to scour the countryside for suitable potential "animators", train them, and follow up their activities. Clearly such personnel must first be trained themselves, and, in view of the impulse which their work would give to economic development throughout the countryside, a scheme of training should be developed without delay, embracing agriculture, health and education, to produce an adequate corps of competent community developers. At this stage, before the degree is known to which the training needs could be met by using or adapting existing facilities, it is impracticable to include any indication of what the costs of the training programme might be. However it is possible that the training, in a one-year course, of a small group of a dozen or so staff would cost somewhere around Eth.\$200,000, if the need to pay salaries during training is taken into account.

160. Emphasis has repeatedly been laid on the scarcity of educated manpower in the country, and it is therefore important that, wherever possible, all available types of equipment are used to enable people such as teachers and community leaders to do their work as effectively as possible and to permit their efforts to have the most far-reaching effect possible. If the provision of a jeep permits one school inspector or community developer

to do the work of two, by saving time on the journeys, it should be provided. Not only will it bring the immediate benefit of enabling the inspector or developer to work in an area which otherwise might have had to go for years without such services, owing to shortage of staff, but even when that shortage ends it will still prove cheaper, as a rule, to pay the costs of the equipment than to pay additional salaries.

161. Applied to community development, this means that adequate equipment in the form of transport, projection apparatus and demonstration material must be supplied so as to allow the necessarily scanty staff to extend their activities to the full. Allied with the activities of "animators" and travelling staff should be a generous use of radio. In view of the wide linguistic variations in the country and the great variety of rural conditions this would need to be based on a number of small stations of limited range rather than on a central transmitter. Battery-operated transistorised receiving sets, possibly set to fixed wave lengths, would need to be distributed to responsible persons who would operate them at the time of broadcasts and possibly conduct discussions upon these. The radio stations would also, of course, be used for school broadcasting.

162. Since Ethiopia is so predominantly agricultural, even a small growth of the rural economy could have a significant impact upon economy of the country as a whole. The adult rural population can receive rapidly the knowledge and stimulus which would give rise to growth - and growth in a form which would not involve a sharp break with their traditions - only through activities such as those described. The expansion and reinforcing of the present schemes for rural community development therefore demand high priority. As regards costs, until revised proposals have been worked out in some detail, it is not practicable to indicate with any definiteness what these might be. As a guide, however, in Table 48 is given a rough outline of the costs of a possible scheme for mobile units, and in Table 49 are given some figures recently prepared for an African country on the costs of setting up and operating radio transmitters. Perhaps the establishment of two such transmitters during the quinquennium might be envisaged, in which case the capital costs would amount to Eth.\$3,950,000 and recurrent costs - assuming one station operated for four years and the second for one - would come to Eth.\$1,750,000, a total of Eth.\$5,700,000.

L. Training Staff for National Parks

163. The Government has designated certain areas of the country as future national parks and wild life reserves. The contributions which these could make to the country's economic growth are potentially both very great and possible of early realisation. The climate, the scenery and the abundance and variety of wild life, added to the relative proximity of the country, in these days of air travel, to large populations in countries lacking these advantages, render Ethiopia potentially the centre of a thriving tourist trade. Further substantial economic returns are to

be expected from game-cropping, the sale of live and mounted specimens, and the establishment of centres of scientific research.

164. For the successful operation of the Parks as sources of revenue, in which the principal contributions would, to begin with, come from tourists, it is necessary to have trained staff able to cater for these. Such staff would need, among other qualifications, to have a fluent command of English - preferably French as well - and a thorough knowledge of the country's flora and fauna, and to be adequately versed in the history, literature, art and current affairs both of their own country and, in general outline, of the main countries from which visitors are to be expected to come.

165. For the training of such staff a 3 years course might be envisaged, with an entry of some 25 persons a year. The students would need to be of mature age and sense of responsibility, with a good educational grounding, preferably 12th grade, though no doubt other candidates could be found. The possible staffing and approximate costs of this project are given in Tables 50 and 51.

VII.

SUMMARY AND CONCLUSION

166. As shown in Table 52, the total costs during the quinquennium of the foregoing projects amount to approximately Eth.\$76,000,000, almost equally divided between capital and recurrent expenditure. Too much reliance, of course, cannot be placed upon these figures: in many cases estimates have had to be made on very slender bases indeed, and serve little more than to give a very general idea of the magnitude of the sums involved. Nevertheless from the study made, two points emerge clearly.

167. The first point is that, as stated several times before, the present educational system in Ethiopia is inadequate to supply the manpower needs postulated by the second Five-Year Development Plan, and will continue to be inadequate unless immediate steps are taken to expand and improve it. It is too small at all three levels, higher, secondary and primary. At the higher level, deficiencies may be made good by sending students for studies abroad, but this solution is partial, inadequate and uneconomic. It is partial because in the future no large proportion of the expanding demands of the country can be met by this means. It is inadequate because national teaching and research institutions need to be developed, capable of relating their work to local problems, and it is uneconomical because, except in special instances, it is cheaper to educate undergraduates in their own country than to send them abroad.

168. In secondary education, the numbers are so small that nearly half of those completing 12th grade go on to higher studies - a situation which seriously imperils University standards and which fails to provide anything like the requisite number of persons with middle-level education who are

needed for various sectors of the national economy. There is so great a shortage of secondary teachers that about half the teaching force comes from abroad. This is expensive and open to many objections. Nevertheless, the system could be expanded rapidly by engaging still more foreign teachers if there were enough potential secondary pupils coming up from the primary schools, but there are not. The conditions in which classes are conducted not infrequently are such as to militate against quality, and there are grounds for believing that this is often lacking. A foreign language is used as the medium of instruction, but facilities for mastering it are insufficient to prevent a high percentage of failures.

169. In the primary schools, the lower grades are grossly overcrowded, and it is no surprise that nearly half the pupils fail to stay the course beyond the first year. Nearly half the teachers are untrained, and there is a very heavy wastage of those who are. Only a tiny percentage of children go to school at all, and the majority of those who do so appear to be some two or three years behind the standards to be expected of their ages. Equipment and teaching material is limited in quantity and often ill-adapted in quality.

170. The inadequacy of the educational system is not the result of neglect by the authorities, who are keenly alive to the needs, but of the rapidity of change in the modern world, which outmodes ways of life faster than traditional societies can adapt themselves. The governing factor in the expansion of the school system will be the pace at which teachers can be provided. For the primary schools foreign teachers, mainly owing to the lack of Amharic speakers among them, cannot be used.

171. The second point which clearly emerges from this study is that the investment required to achieve even the modest developments in education envisaged in the projects described is going to be well beyond the financial capacity of the country to meet. Of the approximate Eth.\$76.5 million needed (which does not include University development) nearly Eth.\$12 million is provided for in the Development Plan. The Eth.\$106.3 million allocated for recurrent expenses clearly conceals no surplus since it is less than Eth.\$4 million in excess of five times the recurrent expenditure of Eth.\$102,482,875 for 1953 (1960-61). These two additional allocations appear to absorb the expected Eth.\$3 million p.a. available for education, referred to in paragraph 8, which would, over five years, provide Eth.\$15 million. No doubt something like another Eth.\$13,600,000 might be provided in kind or raised in cash from local communities. The national resources thus appear to amount to some Eth.\$25.5 million for the quinquennium, or about one-third of the sum required. Clearly, therefore, substantial assistance from external sources is needed. If the Eth.\$1.75 million (approx.) understood to be already offered for textbook production is taken into account, in round figures some Eth.\$50,000,000, or US.\$20,000,000, is required in external aid during the next five years. (Table 53).

172. In this connection there is one observation which may perhaps be made, although this is not the place to consider the matter in detail. External financing agencies often tend to restrict their aid to those parts of projects which relate to the provision of equipment materials and expertise from abroad, and show some reluctance to extend it to local expenditures. While this procedure is admirably suited to industry, education suffers under it, since imported equipment and material are needed only for a minority of schools, and the most expensive machine-cum-production tool used - namely, the teacher - is produced in the country. Further, there is a longer time lag in education than in industry between investment and returns: it is likely to be some 12-15 years after expenditure is first incurred on a child's education before any return starts coming in, and perhaps 25-30 years before the investment is wholly recovered.

173. With the ever-increasing recognition of the importance of education in promoting and making possible economic development it is to be hoped that financing agencies will give increasingly sympathetic consideration to the problems which developing countries, such as Ethiopia, encounter in financing the expansion of their educational systems as a prerequisite to economic growth, and will evolve formulae which will enable adequate funds to be made available to assist in supplying teachers, without whom expansion cannot take place, and in meeting the costs incurred during the period which must elapse before the investment made can be recouped.

Table 1.

Ethiopia's Major Export Commodities, 1957-1960

(Source: Ministry of Commerce and Industry)

(Years ending Dec. 10th)	Quantity (1000 tons)				Value (in Eth. \$ millions)				Per cent
	1957	1958	1959	1960	1957	1958	1959	1960	1960
Coffee	50.2	39.1	45.1	51.0	122.9 ^x	89.9 ^x	81.1 ^x	91.7 ^x	51.2%
Hides	4.1	4.4	10.1	9.1	2.8	3.5	8.8	7.7	4.3%
Skins	4.3	4.3	5.3	3.8	12.4	12.0	16.0	11.7	6.5%
Oilseeds and nuts	57.8	40.0	28.3	47.1	17.9	11.5	9.9	16.7	9.3%
Pulses	54.8	33.3	46.4	66.6	9.7	6.4	15.3	22.1	12.3%
Cereals	5.2	2.3	0.5	1.5	0.8	0.5	0.2	0.4	0.2%
Chat	1.1	1.9	2.6	2.5	4.4	5.1	7.6	7.0	3.9%
Vegetables & fruits fresh	8.1	10.8	11.5	10.1	2.2	3.3	3.5	3.2	1.8%
Beeswax	0.5	0.5	0.4	0.5	1.3	1.0	1.2	1.5	0.8%
Meat frozen & canned .....	...	...	...	...	2.1	2.0	3.2	4.4	2.4%
Others .....	...	...	...	...	15.5	14.4	15.6	13.0	7.3%
Total, Exports & re-exports, Adjusted :					192.0 ^x	149.6 ^x	162.6 ^x	179.5 ^x	100.0%

^x The Customs Administration over-valued Ethiopian coffee exports by an estimated Eth. \$7.2 million for 1958, Eth. \$16.0 million for 1959, and Eth. \$ 13.1 million for 1960. Consequently, the original figures have been adjusted as shown above in order to get a more accurate percentage distribution of exports by commodity for 1960.

Table 2.

Age Distribution of Population, on the basis of the 1944 (1951) Addis-Ababa Census

Note: a) Mortality and fertility assumed constant.
 b) Alternative calculations have been made on the basis of expectation of life of 35 and 37.5 years.

Age-Groups	Percentage distribution	
	e^0_{35}	$e^0_{37.5}$
0-1	3.73	3.70
1-2	3.33	3.32
2-3	2.93	2.96
3-4	2.87	2.89
4-5	2.82 (15.68)	2.82 (15.69)
5-6	2.74	2.77
6-7	2.68	2.72
7-8	2.61	2.66
8-9	2.59	2.64
9-10	2.58 (13.20)	2.62 (13.41)
10-11	2.55	2.61
11-12	2.53	2.59
12-13	2.51	2.58
13-14	2.50	2.56
14-15	2.48 (12.57)	2.55 (12.88)
15-16	2.45	2.53
16-17	2.44	2.52
17-18	2.43	2.50
18-19	2.34	2.39
19-20	2.26 (11.94)	2.29 (12.23)
20-24	10.05	9.87
25-29	8.60	8.45
30-34	7.19	7.06
35-39	5.90	5.79
40-44	4.40	4.32
45-49	2.76	2.71
50-54	1.83	1.80
55-59	1.52	1.49
60-64	1.17	1.15
65-69	0.88	0.86
70-74	0.92	0.90
75 and over	1.41	1.38
Total	100.00	100.00

Table 3.

Gross National Product 1949-1959 (1956-1967)

(Eth. \$ million, 1953 prices)

(Source: Second Five Year Plan)

	1949 (1956-57)	1954 (1961-62)	1959 (1966-67)	Index No. 1959-54 (1966-7/61-2)	Rate of Growth
Agriculture	1,328.0	1,453.6	1,632.3	112	2.3
Forestry	18.3	23.3	28.6	121	3.8
Fishing and Hunting	1.1	1.8	2.9	161	10.1
Mining	1.0	1.4	11.6	829	52.6
Power	4.4	7.5	18.2	243	19.4
Manufacturing	24.7	34.9	116.7	334	27.3
Handicrafts & Cottage Ind.	60.9	77.0	93.1	121	3.9
Building & Construction	24.2	44.5	72.4	163	10.2
Transport & Communication	69.7	109.3	151.1	138	6.7
Trade and Commerce	110.3	136.1	171.1	126	4.7
Catering and Tourism	20.8	25.0	33.2	133	5.8
Financial Intermediaries	10.5	15.4	26.6	173	11.6
Education and Culture	11.2	28.0	48.0	171	11.3
Health	6.0	14.0	22.5	161	10.0
Community Development	-	0.9	7.4	822	42.8
Other Services	2.3	4.9	6.0	123	4.1
Government	63.3	95.4	119.4	128	4.6
Housing	19.6	25.8	35.4	137	6.5
Others	26.0	31.6	36.0	114	2.6
Gross Domestic Product	1,802.3	2,130.4	2,632.0	123	4.3
Rest of the World	- 30.1	† 35.4	† 85.5	-	-
Gross National Product	1,770.2	2,165.8	2,717.5	125	4.6

Table 4.

Distribution of the Gross National Product 1954-59 (1961-67)

(Source: Second Five Year Plan)

U s e	1954 (1961-62)		1959 (1966-67)		Rate of Growth (%)
	Eth. \$ million	%	Eth. \$ million	%	
Private Consumption Expenditure	1,750.9	80.8	2,056.8	75.6	3.3
Government Consumption Expenditure	181.0	8.4	259.7	9.6	7.5
Gross Fixed Capital For- mation of Government & Private Enterprises	151.1 ⁽¹⁾	7.1	246.0	9.1	9.8
Gross Fixed Capital For- mation of Government & Public Enterprises	73.2 ⁽¹⁾	3.4	138.0	5.1	13.5
Increase in Stocks	6.6	0.3	15.0	0.6	17.8
Total	2,165.8	100.0	2,717.5	100.0	4.6

(1)

Including savings and depreciations carried over from 1953 (1960-61).

Table 5.

Revenue and Expenditure, 1950-53 (1957-61)

(in Eth. \$)

(Source: Ministry of Finance)

	1950 (1957-58) (12 months)	1951 (1958-59) (12 months)	1952 (1959-60) (10 months)	1953 (1960-61) (12 months)
Ordinary Revenue	140,367,927	147,060,058	133,148,696	183,804,404
Ordinary Expenditure	<u>146,117,480</u>	<u>162,621,013</u>	<u>136,087,700</u>	<u>176,523,219</u>
Surplus	-	-	-	7,281,185
Deficit	5,749,553	15,560,955	3,739,004	-
Extraordinary Revenue	841,304	18,504,865	4,360,456	887,232
Extraordinary Expend.	<u>29,418,687</u>	<u>50,316,106</u>	<u>30,706,286</u>	<u>36,616,748</u>
Deficit	28,577,383	31,891,241	26,345,830	35,729,516
Total Deficit	34,326,936	47,452,196	30,084,834	28,448,331

Table 6.

Ethiopia's Balance of Trade
(In millions of Ethiopian dollars)

	Exports ^(1,3)	Imports ^(1,4)	B.T.	Unadjusted Gross		B.T.
				Exports	Imports	
1952	115.1	111.0	† 4.1	106.5	110.7	- 4.2
1953	177.8	133.0	† 44.8	169.4	131.3	† 38.1
1954	166.7	154.7	† 12.0	160.3	152.8	† 7.5
1955	168.4	170.1	† 1.7	162.2	160.2	† 2.0
1956	156.1	157.7	- 1.6	150.6	149.1	† 1.5
1957	198.5	179.4	† 19.1	192.0	166.4	† 25.6
1958	148.7	186.9	- 38.2	143.5	186.9	- 43.4
1959	163.5	198.5	- 35.0	157.5	197.4	- 39.9
1960 ⁽²⁾	189.5	187.8	† 1.7	182.2	207.7	- 25.5
1961	194.9	204.2	- 9.3	188.6	234.3	- 45.7

Source: State Bank of Ethiopia

- (1) As reported in the Balance of payments after adjustments for freight and insurance have been made
- (2) Both exports and imports are reported on F.O.B. valuations basis as of this year and after.
- (3) F.O.B. basis.
- (4) C.I.F. basis

Adjusted Trade Valuations, 1957-1960
(for years ending Dec. 10th)
(in Eth. \$ millions)

	<u>1957</u>	<u>1958</u>	<u>1959</u>	<u>1960</u>
Adjusted Exports and re-exports f.o.b. border	195.5	152.6	166.4	183.9
Adjusted Imports c.i.f. border	166.8	181.9	195.4	205.5
Adjusted trade balance (Surplus, †)	†28.7	-29.3	-29.0	-21.6
Balance of international payments (surplus †)	†14.7	-44.0	-29.2	-15.4
Increase (†) or decrease (-) in State Bank's foreign exchange holdings during year.	†17.1	-19.3	-17.0	†12.1

Table 7.

Classification of Ethiopia's Imports into Investment and Consumption Goods

(Years ending December 10th)

(in Eth.\$ million)

(Source: Ministry of Commerce and Industry)

	<u>1955</u>	<u>1956</u>	<u>1957</u>	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>Percentage Distribution 1960</u>
Investment goods ..	42.8	36.0	41.3	58.1	67.7	61.6	28.1%
Industrial raw materials	7.0	4.5	6.5	3.9	3.9	9.5	4.3%
Consumers' goods:							
Durable	11.8	10.1	11.3	12.1	12.5	12.7	5.8%
Non-durable	106.4	106.4	119.3	119.6	124.7 ^x	135.4 ^x	61.8%
Total	168.0	157.1	178.4	193.6	208.9	219.3	100.0%

x

The increases in the imports of non-durable consumer goods in 1959 and 1960 were in part explained by increased imports of food grain.

Table 8.

Educational Expenditure

1950-53 (1957-61)

(Source: Ministry of Finance)

Expenditure for Education	1950 (1957-58)	1951 (1958-59)	1952 (1959-60)	1953 (1960-61)
Ordinary Revenue	146,117,400	162,621,013	136,887,700	176,523,219
Educational Expenditure	17,080,833	22,801,962	16,083,283	21,270,585
Educational Expenditure % of total revenue	11.6%	12.8%	11.7%	12%
Total Govt. Expenditure	175,563,167	212,937,111	157,593,981	213,139,967
% spent on Education	9.7%	10.7%	10.2%	9.9%

Table 9

Distribution of Educational Expenditure

1951 - 53 (1958 - 61)

	1951 (1958-59) Eth. \$	1952 (1959-60) Eth. \$	1953 (1960-61) Eth. \$
<u>Head Office</u>	<u>1,825,767</u>	<u>1,802,875</u>	<u>1,452,235</u>
Personal emoluments	1,228,545	943,610	1,235,525
Capital expenditure	357,200	73,611	12,882
Other charges	240,022	785,654	203,828
<u>Schools in Addis Ababa</u>	<u>8,706,034</u>	<u>4,729,138</u>	<u>6,498,683</u>
Personal emoluments	5,200,521	3,481,072	4,423,751
Capital expenditure	789,094	137,217	158,245
Other charges	2,716,419	1,110,849	1,916,687
<u>Provincial Schools</u>	<u>2,660,820</u>	<u>2,711,762</u>	<u>4,253,240</u>
Personal emoluments)	Personal)	Personal)	1,983,046
Capital expenditure)	emoluments:)	emoluments:)	602,903
Other charges)	1,202,007)	1,128,816)	1,667,291
	Capital)	Capital)	548,809
<u>Adult Education</u>	expenditure)	expenditure:)	511,223
Personal emoluments)	399,493)	622,138)	-
Capital expenditure)	Other charges:)	Other charges :)	37,586
Other charges)	1,059,320)	960,808)	1,634,144
<u>Grants to students abroad</u>	<u>1,453,179</u>	<u>1,404,932</u>	<u>1,634,144</u>
<u>Provincial Schools expenses covered by Education Tax</u>	<u>5,322,747</u>	<u>3,304,280</u>	<u>4,412,370</u>
<u>Grant in aid to University College (including Eth. \$ 83,333 for Scholarships)</u>	<u>1,612,410</u>	<u>1,490,500</u>	<u>1,930,355</u>
<u>Contribution to the activities of UNESCO, Ethio-Swedish Joint Fund etc.</u>	<u>1,161,314</u>	<u>516,699</u>	<u>419,368</u>
<u>Archeological Department</u>	<u>59,691</u>	<u>123,097</u>	<u>121,381</u>
Personal emoluments	23,036	53,025	56,170
Capital expenditure	36,655	2,876	-
Other charges		67,196	65,211
Total Expenditure	<u>22,801,962</u>	<u>16,083,283</u>	<u>21,270,585</u>

Table 10

School Enrolment Compared With Population and Addis Ababa Conference Targets.

(It is assumed that the grades correspond to annual age groups, beginning at age 7)

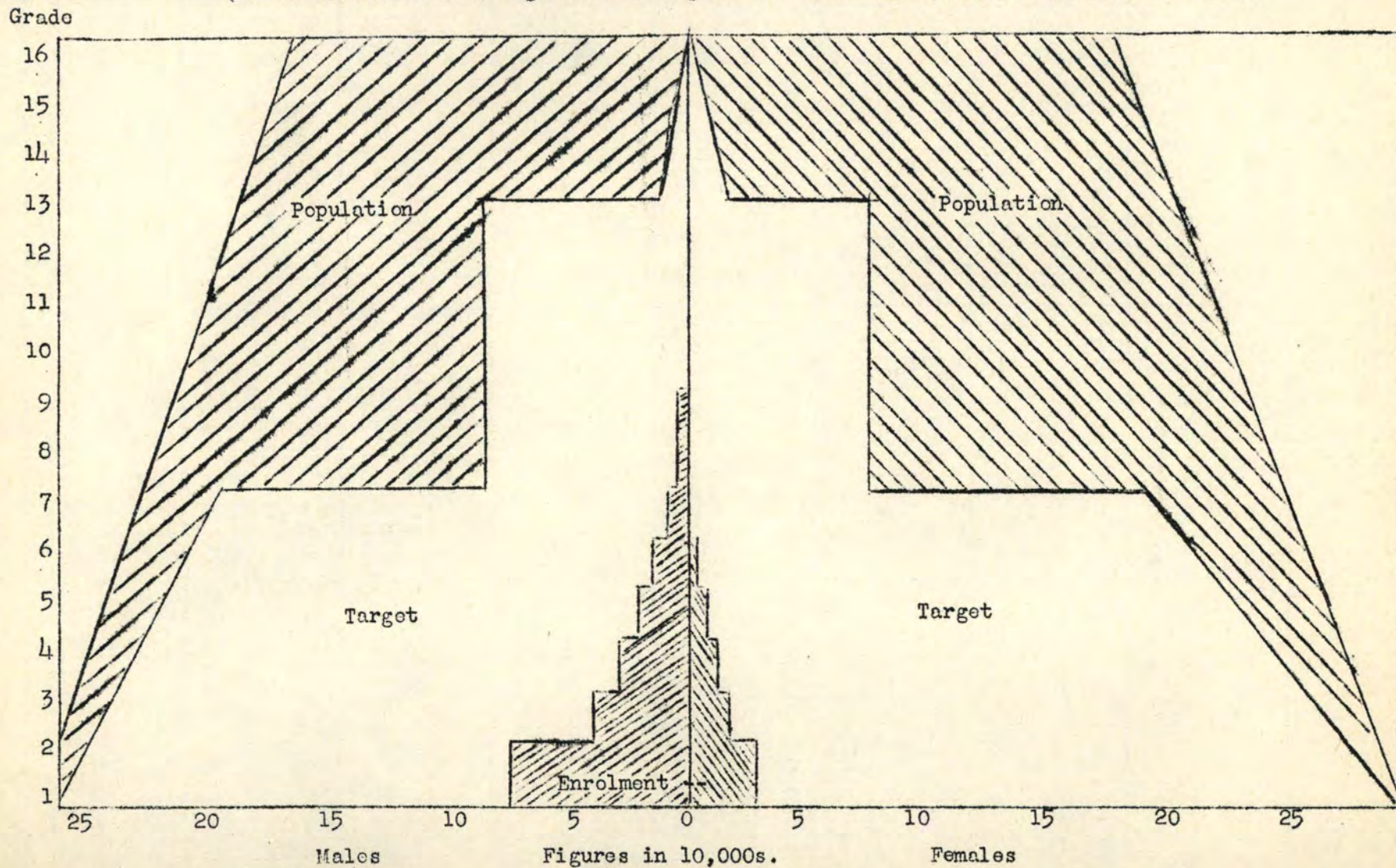


Table 11.

Age & Sex Distribution: Addis Ababa Primary School.

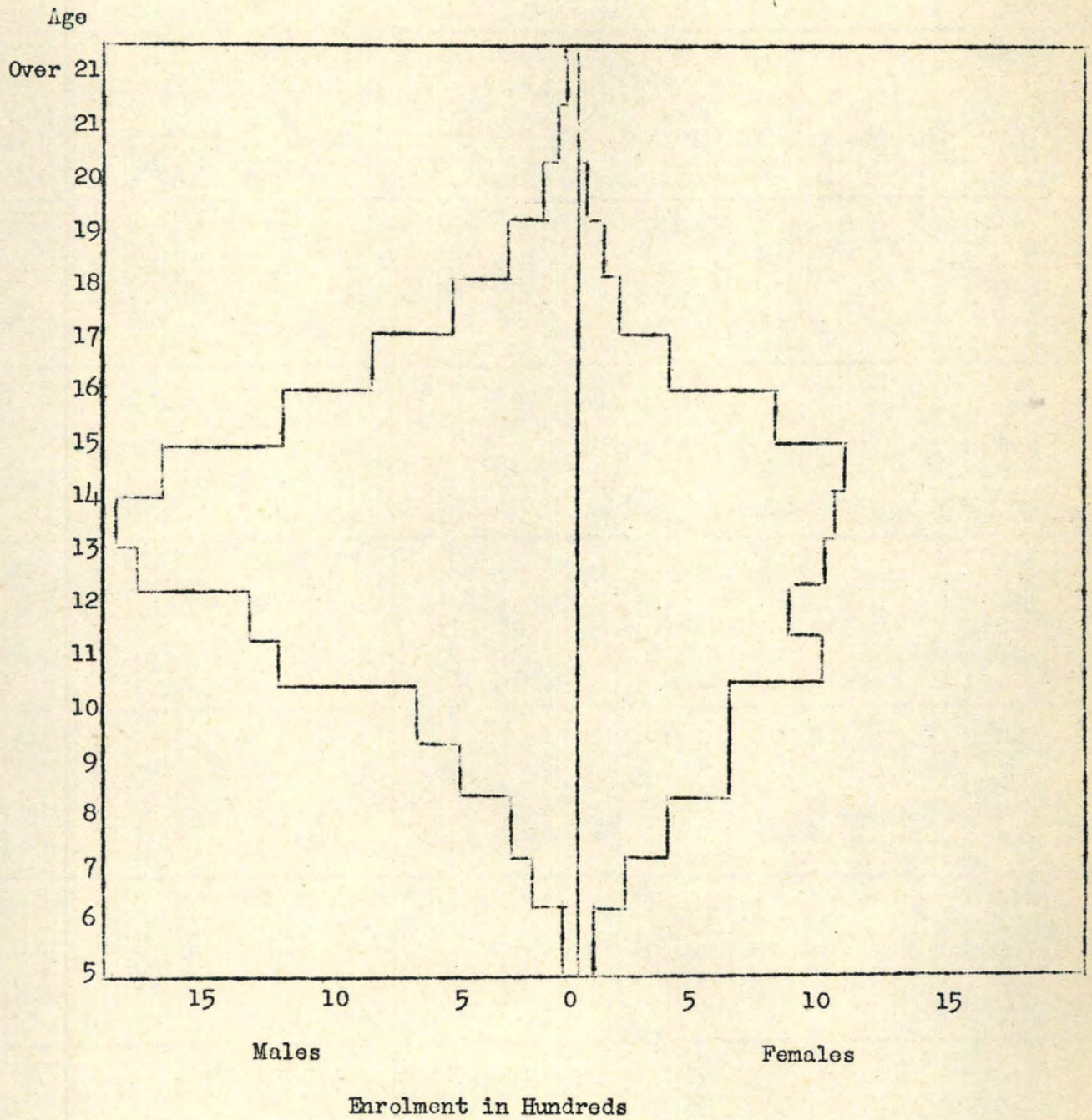


Table 12

Average Sizes of Classroom Units, 1953 (1961-62)

<u>Grade</u>	<u>Government schools excluding Eritrea</u>	<u>Government schools including Eritrea</u>	<u>All types of schools</u>
1	65	58	55
2	46	43	39
3	39	37	33
4	35	34	31
5	32	32	30
6	30	30	28
7	27	28	26
8	29	29	27
9			27
10			23
11			22
12			19

Table 13

Current Retention and Drop-out Rates

Grades:	1-2	2-3	3-4	4-5	5-6	6-7	7-8
Retention rate (%)	55	78	75	75	80	80	100
Drop-out rate (%)	45	22	25	25	20	20	0

Table 14.

Enrolment of Girls: percentages of total enrolment, 1953 (1960-61)

		<u>Government Schools</u>	<u>Mission Schools</u>	<u>Private Schools</u>	<u>Church Schools 1)</u>	<u>Community Schools</u>	<u>All Types of Schools</u>
Primary Schools	Grade 1	25.7	29.0	23.4	14.1	19.8	24.7
	2	23.6	24.6	30.4	21.5	16.7	23.7
	3	23.7	26.2	30.2	19.4	11.5	23.9
	4	22.9	27.1	33.6	18.9	8.2	23.6
	5	19.8	33.7	37.7	12.8	9.4	22.2
	6	17.6	33.8	30.0	7.0	-	19.7
	7	15.0	35.8	35.6	6.7	-	17.8
	8	13.1	24.1	29.8	7.2	-	14.8
	Total	22.9	27.9	27.6	15.7	17.7	23.3
Academic Secondary Schools	9	8.2	26.8	22.6	-	-	9.9
	10	8.9	31.0	24.6	-	-	11.6
	11	8.1	61.5	26.4	-	-	11.1
	12	4.1	4.1	29.0	-	-	10.1
	Total	7.8	30.3	25.1	-	-	10.8
Special Schools	I	14.8	-	-	-	-	14.8
	II	11.0	-	-	-	-	11.0
	III	16.9	-	-	-	-	16.9
	IV	6.5	-	-	-	-	6.5
	Total	13.1	-	-	-	-	13.1
Inst. of Higher Learning	13	7.1	-	-	-	-	7.1
	14	8.4	-	-	-	-	8.4
	15	3.3	-	-	-	-	3.3
	16	2.2	-	-	-	-	2.2
	Total	6.0	-	-	-	-	6.0
	Grand Total	22.2	28.0	27.6	27.1	17.7	22.8

1) Only schools of the Ethiopian Orthodox Church following the curriculum of the Ministry of Education

Table 15

Government and Non-Government Schools 1953 (1960-61)

	<u>Government Schools</u>	<u>Mission Schools</u>	<u>Private Schools</u>	<u>Church Schools</u>	<u>Community Schools</u>	<u>Total</u>
A. Primary schools (Grades 1-8)						
Number of pupils	176,726	24,071	19,639	7,753	11,642	239,831
Percentage of total of pupils	74	10	8	3	5	
Percentage of schools	51	15	11	11	12	
B. Secondary schools						
Number of pupils	8,532	327	762	67	-	9,688
Percentage of total of pupils	88	3	8	1	-	

Table 16

Manpower Requirements of Second Five-Year Plan

	Up to 6 years' primary education					With 6 years' secondary education						
	Total	1955	1956	1957	1958	1959	Total	1955	1956	1957	1958	1959
<u>Productive Activities:</u>		(62/3)	(63/4)	(64/5)	(65/6)	(66/7)		(62/3)	(63/4)	(64/5)	(65/6)	(66/7)
Agriculture (Forestry and Hunting)	3159	200	300	500	900	1259	859	52	83	169	250	305
Mining	2150	300	350	400	500	600	80	10	12	15	20	23
Electricity	695	100	120	140	160	175	120	15	20	25	30	30
Manufacturing Industry	26980	2880	4900	5550	6500	7150	11440	150	250	300	350	390
Commercial (Trade)	6900	900	1200	1400	1600	1800	200	30	35	40	45	50
Building and Construction	35700	3800	5900	8000	8600	9400	600	80	110	140	130	140
Transport and Communication	7037	569	780	1400	2060	2228	510	56	80	104	126	144
Catering	2150	300	350	400	500	600	70	10	10	15	15	20
Total	84771	9049	13900	17790	20820	23212	3879	403	600	808	966	1102
<u>Social and Economic Services</u>												
(Finance, Banking, Public Health, Social Welfare, Community Development, Government Defence.	10040	1800	1900	2000	2100	2240	7019	1009	1145	1425	1575	1865
Note: Primary and secondary teachers not included)												
Grand Total	94811	10849	15800	19790	22920	25452	10898	1412	1745	2233	2541	2967

(Contd.....)

Table 16 (Cont/d.)

With 4 years' higher education

<u>Productive Activities</u>	Total	1955	1956	1957	1958	1959
		(62/3)	(63/4)	(64/5)	(65/6)	(66/7)
Agriculture (Forestry and Hunting)	142	18	22	27	35	40
Mining	48	5	8	10	12	13
Electricity	80	10	12	15	20	23
Manufacturing Industry	342	28	52	75	88	99
Commercial (Trade)	36	4	6	7	8	11
Building and Construction	220	29	46	68	52	25
Transport and Communication	73	10	13	16	18	16
Catering	43	6	7	8	10	12
Total	984	110	166	226	243	239
<u>Social and Economic Services</u>	580	25	60	110	180	205
(Finance, Banking, Public Health, Social Welfare, Community Development, Government Defence. <u>Note:</u> Primary and secondary teachers not included)						
Grand Total	1564	135	226	336	423	444

Table 17

Higher Education: Present Enrolment and Expected Output

A. Ethiopian Institutions

	1955 (1962/3)	1956 (1963/4)	1957 (1964/5)	1958 (1965/6)	1959 (1966/7)
1st year	521	510	629	646	892
2nd year	320	443	433	535	549
3rd year	232	246	341	333	412
4th year	188	216	229	317	310

B. Institutions abroad

4th year output expected, say:	200	200	200	200	200
-----------------------------------	-----	-----	-----	-----	-----

C. Total 4th year output expected	388	416	429	517	510
--------------------------------------	-----	-----	-----	-----	-----

- Note:
1. Enrolment has been calculated on the basis of the retention rates of 85% from 1st to 2nd year, 77% from 2nd to 3rd, and 93% from 3rd to 4th, which correspond to those currently experienced.
 2. The 1955 (1962/63) 1st year enrolment has been calculated on the basis of 43% of the previous year's 12th grade output, and does not accord with the estimate given in Table 21 of the actual enrolment in 1st year.
 3. Output has been assumed to be 100% of 4th year enrolment.

Table 18. Higher Education: Needs for Personnel with 4 years' Higher Education and Enrolment Required to Supply Them.

1955-69 (1963-77)

(excluding needs for those destined for teaching in institutions of higher education and in secondary schools)

Note: 4th year output figures for 1955-59 (1963-67) are the manpower requirements as given by the National Planning Office plus an assumed 10% wastage between 4th year and employment in a sector covered by the Development Plan. Projections for subsequent years have been obtained by assuming a 15% annual increase in output requirements. An evenly-graduated holding rate, amounting to 60% over the 4 years' course, has been assumed. It has been further assumed that graduation from 4th year will be 100%, or alternatively that failure to graduate will not affect eligibility for employment.

	1952 (59/60)	1953 (60/61)	1954 (61/62)	1955 (62/63)	1956 (63/64)	1957 (64/65)	1958 (65/66)	1959 (66/67)	1960 (67/68)
1st Year	247	415	617	775	813	935	1075	1237	1405
2nd Year	-	208	350	520	654	686	789	907	1044
3rd Year	-	-	176	295	439	551	579	665	765
4th Year	-	-	-	148	249	370	465	488	561
Total	247	623	1143	1738	2155	2542	2908	3297	3775

	1961 (68/69)	1962 (69/70)	1963 (70/71)	1964 (71/72)	1965 (72/73)	1966 (73/74)	1967 (74/75)	1968 (75/76)	1969 (76/77)
1st Year	1615	1857	2135	2455	2823	3247	-	-	-
2nd Year	1186	1363	1567	1802	2072	2383	2740	-	-
3rd Year	880	1000	1149	1321	1519	1747	2009	2310	-
4th Year	845	742	843	969	1114	1281	1473	1694	1948
Total	4526	4962	5694	6545	7528	8658	6222	4004	1948

Table 19.

Maximum Numbers of Students that might be accommodated in
Institutions of Higher Education without increasing staff

	<u>Maximum</u>	<u>Enrolment 1961/62</u>	<u>Increase Possible</u>	<u>% of Increase</u>
University College	600	466	134	28.8
Building College	150	111	39	35.1
Engineering College	200	145	54	37.0
Agricultural College	235	195	40	20.5
Public Health College	70	46	24	52.2
Theological College	40	14	26	185.7
Total	1295	978	317	32.4

Table 20

Higher Education: Distribution of Estimated Enrolment, 1955 (1962-63)

Institution	Year				Total
	1st	2nd	3rd	4th	
Engineering College	51	41	44	25	161
Building College	35	27	25	28	115
Agricultural College	72	55	49	35	211
Public Health College	11	9	13	13	46
University College: Faculty of Arts	113	113	73	72	371
Faculty of Science	<u>47</u>	<u>27</u>	<u>16</u>	<u>15</u>	<u>105</u>
Totals	<u>329</u>	<u>272</u>	<u>220</u>	<u>188</u>	<u>1009</u>

Table 21

Secondary Education: 12th Grade Output Requirements

	1955 (1963)	1956 (1964)	1957 (1965)	1958 (1966)	1959 (1967)
For entry to Higher Education (see Table 18)	813	935	1075	1237	1405
For employment (see Table 16)	<u>1412</u>	<u>1745</u>	<u>2233</u>	<u>2541</u>	<u>2967</u>
	2225	2680	3308	3778	4372
Wastage: say 10%	<u>222</u>	<u>268</u>	<u>331</u>	<u>378</u>	<u>437</u>
Total output needed	2447	2948	3639	4156	4809
Output foreseen	<u>821</u>	<u>949</u>	<u>965</u>	<u>1468</u>	<u>1223</u>
Deficit	1626	1999	2674	2688	3586

Note: These figures do not include needs for future primary and secondary school teachers, nor output from training colleges.

Table 23

Secondary Education: 12th Grade Output Requirements (Revised)

	1955 (1963)	1956 (1964)	1957 (1965)	1958 (1956)	1959 (1967)	1960 (1968)	1961 (1969)	1962 (1970)	1963 (1971)	1964 (1972)	1965 (1973)
For entry to Higher Education (see Table 21)	813	935	1,075	1,237	1,405						
For employment	494	609	731	889	1,035						
	1,307	1,544	1,806	2,126	2,440						
Wastage: say 10%	131	154	181	213	244						
Total Output needed	1,438	1,698	1,987	2,339	2,684	3,086	3,549	4,081	4,693	5,397	6,206
Output foreseen	821	949	965	1,468	1,223						
Deficit	617	759	1,022	871	1,461						

Notes: 1. Projections for 1960 (1962) to 1964 (1972) have been made by assuming a 15% annual rise in requirements.

2. The employment requirements in B have been scaled down from those shown in Table 21 by assuming that (a) instead of 6 years of secondary education being required in all cases, for entry to employment, in 50% only 3 years will be needed, and that (b) of the remainder 70% should have had 6 years while the remaining 30% need have only 4 or 5 years of such education.
(c) Requirements for future primary teachers are not included.

Table 24

Secondary Education: Enrolment Required to Produce Specified 12th Grade Output

Grade	Retention Rates	1956 (1963-4)	1957 (1964-5)	1958 (1965-6)	1959 (1966-7)	1960 (1967-8)	1961 (1968-9)	1962 (1969-70)	1963 (1970-71)	1964 (1971-72)	1965 (1972-73)
7		17,327	19,962	22,914	26,351	30,300					
8	80%		13,862	15,970	18,331	21,081	24,240				
9	80%			11,090	12,776	14,665	16,865	19,392			
10	50%				5,545	6,388	7,332	8,432	9,696		
11	80%					4,436	5,101	5,866	6,746	7,757	
12	80%						3,549	4,081	4,693	5,397	6,206

Table 25

Primary Education: Estimated 6th Grade Output, 1955-1959 (1963-67) compared with 7th Grade Intake Requirements.

	1955 (1963)	1956 (1964)	1957 (1965)	1958 (1966)	1959 (1967)
Government Schools	11,134	11,863	11,696	12,122	11,335
Non-Government Schools (at 20% of Government Schools)	<u>2,227</u>	<u>2,373</u>	<u>2,339</u>	<u>2,424</u>	<u>2,267</u>
Total output	13,361	14,236	14,035	14,546	13,602
7th grade intake requirements for following year (from Table 25)	<u>17,327</u>	<u>19,962</u>	<u>22,914</u>	<u>26,351</u>	<u>30,300</u>
Deficit	3,966	5,726	8,879	11,805	16,698

Table 26

Percentages of Total Numbers of Pupils, by Grades, in Different types of schools, 1953 (1960-61)

	<u>Government Schools</u>	<u>Mission Schools</u>	<u>Private Schools</u>	<u>Church Schools 1)</u>	<u>Community Schools</u>	<u>All Types of Schools</u>
Primary Schools						
Grade 1	66.5	9.8	10.5	5.3	7.9	100
2	74.2	10.9	6.9	2.5	5.5	100
3	75.8	11.3	6.8	2.4	3.7	100
4	79.5	10.5	6.1	1.8	2.1	100
5	81.6	9.6	7.1	1.4	0.3	100
6	83.8	8.8	6.4	1.0	-	100
7	85.3	7.4	6.6	0.7	-	100
8	86.3	6.4	6.4	0.9	-	100
Total	73.7	10.0	8.2	3.2	4.9	100
Academic Secondary						
Schools 9	84.0	6.3	9.3	0.4	-	100
10	83.1	4.9	10.9	1.1	-	100
11	86.9	2.6	9.3	1.2	-	100
12	70.0	3.5	24.3	2.2	-	100
Total	83.0	4.8	11.2	1.0	-	100
Special Schools and Higher Institutions	100	-	-	-	-	100
All Grades	<u>74.5</u>	<u>9.7</u>	<u>8.1</u>	<u>3.1</u>	<u>4.6</u>	<u>100</u>

1) Only schools of the Ethiopian Orthodox Church following the curriculum of the Ministry of Education

Table 27

Primary Education: 6th Grade Output Requirements (for entry to employment)

	1955 (1963)	1956 (1964)	1957 (1965)	1958 (1966)	1959 (1967)
Requirements as shown in Table 16	10,849	15,800	19,790	22,920	25,452
Requirements as scaled down x	6,509	9,480	11,874	13,752	15,271

x On the assumptions that requirements may be met by leavers from 4th and 5th grades, as well as 6th, in the proportions 1 : 1 : 3 and that if retention rates from grades 4 to 5 and 5 to 6 are each 75%, the 4th and 5th grade leavers needed will be supplied by those who drop out.

Table 28

Primary Education: Total 6th Grade Output Requirements (compared with output foreseen)

	1955 (1963)	1956 (1964)	1957 (1965)	1958 (1966)	1959 (1967)
For 7th grade entry in following year (See Table 24)	17,327	19,962	22,914	26,351	30,300
For employment (see Table 27)	6,509	9,480	11,874	13,752	15,271
	<u>23,836</u>	<u>29,442</u>	<u>34,788</u>	<u>40,103</u>	<u>45,571</u>
Wastage between 6th grade and 7th grade entry or employment: say 10%	2,384	2,944	3,479	4,010	4,557
	<u>25,220</u>	<u>32,386</u>	<u>38,267</u>	<u>44,113</u>	<u>50,128</u>
6th grade output foreseen (Table 25)	13,361	14,236	14,035	14,546	13,602
Deficit	<u>11,859</u>	<u>18,150</u>	<u>24,232</u>	<u>29,567</u>	<u>36,526</u>

Table 30

Primary Education: Promotion Study, 1945-53 (1952-61) adjusted to show estimated total enrolments and overall retention rates between grades 1 and 6

Year	grade:	1st	6th	Overall Retention Rate (grades 1 - 6)
1945 (1952-3)		43,731		
1946 (1953-4)		53,766		
1947 (1954-5)		60,856		
1951 (1958-9)			6,020	13.7%
1952 (1959-60)			7,206	13.4%
1953 (1960-61)			8,659	14.2%

Table 31A Primary Teacher-Training: Estimated enrolment in and output from training institutions

	1955 (1962-3)	1956 (1963-64)	1957 (1964-65)	1958 (1965-66)	1959 (1966-67)	Total
<u>Regular Training Institutions</u>						
Harar (3 year course)	90	115	260	240	450	
Addis Ababa (4 year course)	45	55	53	56	64	
Addis Ababa (1 year course)	120	125	125	125	125	
Asmara (1 year course)	45	80	80	120	120	
Delse Berhan (2 year course)	64	140	120	70	100	
				70	70	
				126	126	
	<u>364</u>	<u>515</u>	<u>638</u>	<u>807</u>	<u>1,055</u>	
Less 10% wastage	36	57	64	81	105	
Less numbers needed to replace teachers retiring ^x	<u>230</u>	<u>230</u>	<u>230</u>	<u>230</u>	<u>230</u>	
Increase to teaching force	98	228	344	496	720	1,886

^x Calculated as 4% of the present teaching force, estimated at 5,750

Table 31B
Emergency Training Institutions

Output	300	1,000	1,000	1,000	1,000	
Less 10% wastage	30	100	100	100	100	
	<u>270</u>	<u>900</u>	<u>900</u>	<u>900</u>	<u>900</u>	<u>3,870</u>
Total increase to teaching force (A & B) for following year	368	1,128	1,244	1,396	1,620	5,756

3,000

Table 32

Secondary Education: Leavers expected from 10th and 11th grades

Grade	1955 (1963)	1956 (1964)	1957 (1965)	1958 (1966)	1959 (1967)
10	771	1,063	1,168	1,224	1,318
11	789	810	1,118	1,227	1,285
	<u>1,560</u>	<u>1,873</u>	<u>2,286</u>	<u>2,451</u>	<u>2,603</u>
Less employment requirements ^x	148	183	219	267	310
Total	<u>1,412</u>	<u>1,690</u>	<u>2,067</u>	<u>2,184</u>	<u>2,293</u>

^x As result of scaling down of 12th grade output to include 10th and 11th grade output as well (c.f. Table 23: 30% of figures there).

Table 33

Primary Teacher Training: Estimated costs of 2-months emergency course.

	<u>Eth. \$</u>
Travel of 300 participants from and to provinces at Eth. \$ 80	24,000
Per diem: 2 months at Eth. \$ 40 per month.	24,000
Educational material at Eth. \$ 40	12,000
Salaries of 20 teachers; 2 months at Eth. \$ 750 per month	<u>30,000</u>
Total for 300 trainees:	90,000
Total costs during quinquennium (5 years)	450,000

Table 34

Primary Teacher Training: Estimated costs of 10 months emergency course for 700 students.

<u>Capital</u>	<u>Eth. \$</u>
Building	1,050,000
at Eth. \$ 1,500 per place	
Furniture and equipment	350,000
at Eth. \$ 500 per place	
Linen, working clothing, etc.	175,000
at Eth. \$ 250 per place	
	<hr/>
	1,575,000
= Eth. \$ 2,250 per place.	
<u>Recurrent</u>	
Students' travel, at Eth. \$ 240	168,000
Food, at Eth. \$ 30 per month, 700 x 30 x 10	230,000
Supplies and services, at Eth. \$ 200	175,000
Salaries:	
Teachers: 47 (at ratio of 1:15)	
of whom, say, 25 foreign at	
Eth. \$ 16,000 p.a. (including	
housing & travel)	400,000
22 national, at Eth. \$	
750 p.m.	198,000
Administrative & other	
staff	<hr/>
	130,000
	<hr/>
	728,000
	1,281,000
= Eth. \$ 1,830 per place	
Total recurrent costs during quinquennium: (4 years)	5,124,000

Table 35

Primary Education: numbers of pupils in schools required for 100 pupils to reach 6th grade, at present and proposed target retention rates.

Grade	Retention rate						Grade	Retention rate					
	No. of pupils							No. of pupils					
	Years: 1	2	3	4	5	6		Years: 1	2	3	4	5	6
1	520						1	369					
2	55%	268					2	80%	295				
3	78%	223					3	80%	236				
4	75%	167					4	75%	177				
5	75%	125					5	75%	133				
6	80%	100					6	75%	100				
Total	1,421							1,310					

Tabb 36

Primary Education: Growth of 1st grade enrolment foreseen as result of additional teachers coming into service.

- Assumptions: a) that the numbers of additional teachers available will be as shown in Table 31B;
- b) that the numbers of additional classes started will be those of additional teachers less 5%;
- c) that in half the additional classes the teacher-pupil ratio will be 1:35, the pupils being drawn from those who would otherwise have gone to oversize classes. These classes will not, therefore, provide additional places;
- d) that in the other half of additional classes, the teacher-pupil ratio will be the present grade 1 ratio of 1:58.

	1956 (1963/64)	1957 (1964/65)	1958 (1965/66)	1959 (1966/67)	1960 (1967/68)
Additional teachers entering service	368	1,128	1,244	1,396	1,620
Less 5%	<u>18</u>	<u>56</u>	<u>62</u>	<u>69</u>	<u>81</u>
Additional classes started	350	1,072	1,182	1,327	1,539
Half of these	175	536	591	664	770
Enrolment in these at 58 pupils per class	10,150	31,088	34,278	38,512	44,660
Add enrolment in previous years	<u>62,820</u>	<u>72,970</u>	<u>104,058</u>	<u>138,336</u>	<u>176,848</u>
1st grade enrolment	72,970	104,058	138,336	176,848	221,508

Table 37

Primary Education: Costs for sites, construction and equipment involved
in expanding primary school system.

	1955 (1962-63)	1956 (1963-64)	1957 (1964-65)	1958 (1965-66)	1959 (1966-67)	Total for quinquennium Eth. ₤
Additional classrooms to be constructed for use the following year (see Table 36)	350	1,072	1,182	1,327	1,539	
Site costs, at Eth. ₤ 200 per room	70,000	214,400	236,400	265,400	307,800	1,094,000
Construction costs at Eth. ₤ 3,000 per room	1,050	3,216	3,546	3,981	4,617	16,410
Equipment costs, at Eth. ₤ 500 per room	175	536	591	663	769	2,734,500
Total costs for additional rooms	1,295,000	3,966,400	4,373,400	4,909,400	5,694,300	20,238,500
Costs for annual replacement of 382 rooms (& equipment) at Eth. ₤ 3,500 each.	<u>1,337,000</u>	<u>1,337,000</u>	<u>1,337,000</u>	<u>1,337,000</u>	<u>1,337,000</u>	<u>6,685,000</u>
Total sites, con- struction & equipment costs	2,632,000	5,303,400	5,710,400	6,246,400	7,031,300	26,923,500
Apportioned amounts to be met from central exchequer and from local resources (say 50% each):	1,316,000	2,651,700	2,855,200	3,123,200	3,515,650	13,461,750

Table 38

Primary Education: Additional Recurrent Expenses Involved in
Expanding Primary School System.

	1956 (1963/64)	1957 (1964/65)	1958 (1965/66)	1959 (1966/67)	Total for quinquennium
Numbers of additional teachers (see Table 35)	368	1,128	1,244	1,396	4,136
Cost of salaries at Eth. \$ 1,800 per yr.	662,400	2,030,400	2,239,200	2,512,800	7,444,800
Other expenses, at 50% of salaries	<u>331,200</u>	<u>1,015,200</u>	<u>1,119,600</u>	<u>1,256,400</u>	<u>3,722,400</u>
Total additional recurrent expenses	993,600	3,045,600	3,358,800	3,769,200	11,167,200

Table 39

Secondary Education: Estimated enrolment, based on estimated present enrolment, future 7th grade entry of 80% of 6th grade output (Table 25) and retention rates shown.

<u>Grade</u>	<u>Retention Rate</u>	<u>1955 (1962-3)</u>	<u>1956 (1963-4)</u>	<u>1957 (1964-5)</u>	<u>1958 (1965-6)</u>	<u>1959 (1966-7)</u>	<u>1960 (1967-8)</u>
(6)		13,361	14,236	14,035	14,546	13,602	14,373
7	80%	9,697	10,689	11,389	11,328	11,630	10,880
8	80%	9,159	7,758	8,551	9,111	9,062	9,311
9	80%	6,333	7,327	6,206	6,841	7,289	7,249
10	50%	3,711	3,166	3,663	3,103	3,420	3,645
11	80%	2,592	2,969	2,533	2,930	2,482	2,736
12	80%	1,693	2,074	2,375	2,026	2,344	1,985
Total 7-12		<u>33,185</u>	<u>33,983</u>	<u>34,717</u>	<u>35,336</u>	<u>36,236</u>	<u>35,806</u>
Increase over previous year			798	1,134	619	900	430

Note: Figures for the 1955 (1962-63) total enrolment have been obtained by applying to the Ministry of Education's estimates for enrolment in government schools the appropriate percentages shown in Table 26.

Table 40

Secondary Education: Additional classrooms and teachers needed to reduce class sizes to 25.

<u>Grade</u>	<u>Present Size</u>	<u>Enrolment</u>	<u>Present Rooms</u>	<u>No. of rooms needed at 25</u>	<u>Additional Rooms</u>
7	38	1987	52	79	27
8	39	1658	43	66	23
9	34	1608	47	64	17
10	30	1114	37	45	8
11	28	654	23	26	3
12	27	448	17	18	1
Total for Addis Ababa					<u>79</u>
Total for country (at 150% of Addis Ababa figure) say :					200
Additional teachers needed at, say, 125% of number of rooms:					250

Table 41

Secondary Education: Capital Costs of Expanding System

	1955 (1962-3)	1956 (1963-4)	1957 (1964-5)	1958 (1965-6)	1959 (1966-7)	
Increased enrolment the next year (see Table 39)	798	1,134	619	900	-	
Classrooms needed at 25 pupils per room	32	45	25	36	-	
Rooms needed to reduce class sizes (see Table 40)	125	125	-	-	-	
Total rooms needed	157	170	25	36	-	
Cost, at Eth. \$ 6,000	942,000	1,020,000	150,000	216,000	-	2,328,000
Equipment at 20% of room cost	188,400	204,000	30,000	43,200	-	465,600
Site costs at Eth. \$ 200 a room	31,400	34,000	5,000	7,200	-	77,600
Total capital cost	1,161,800	1,258,000	185,000	266,400	-	2,871,200

Table 42

Secondary Education: Additional Recurrent Costs of Expansion

	1956 (1963-4)	1957 (1964-5)	1958 (1965-6)	1959 (1966-7)	Total
Numbers of additional teachers (125% of new rooms: see Table 41)	195	212	31	45	483
Salaries and expenses at Eth. \$ 15,000 p.a.	2,925,000	3,190,000	465,000	675,000	7,255,000
Other expenses, at 20% of salaries	<u>585,000</u>	<u>638,000</u>	<u>93,000</u>	<u>135,000</u>	<u>1,451,000</u>
Total additional recurrent expenses	3,510,000	3,828,000	558,000	810,000	8,706,000

Table 1.3

Secondary Teacher Training: Enrolment and staffing necessary to provide 60 entrants annually to teaching.

Year	Retention Rate	1956 (1963-4)	1957 (1964-5)	1958 (1965-6)	1959 (1966-7)
1		75	75	75	75
2	88%		66	66	66
3	95%			60	60
	Total	— 75	— 141	— 201	— 201
x Teaching Staff:					
	National	2	4	5	6
	External	3	5	8	7

x Including sum of part-time services.

Table 44

Secondary Teacher Training: Approximate costs of a higher teacher training college with an output of some 60 teachers annually

	1955 (1962-63) Eth. \$	1956 (1963-64) Eth. \$	1957 (1964-65) Eth. \$	1958 (1965-66) Eth. \$	1959 (1966-67) Eth. \$	Total for quinquennium Eth. \$
A. <u>Recurrent costs</u>						
Staff (see Table 43)						
National, at Eth. \$ 15,000 p.a.	-	30,000	60,000	75,000	90,000	255,000
External, at Eth. \$ 45,000 p.a. ^x	-	135,000	225,000	360,000	315,000	1,035,000
Other expenses (at Eth. \$ 1500 per student)	-	112,500	211,500	301,500	301,500	927,000
Total	-	277,500	496,500	736,500	706,500	2,217,000
B. <u>Capital costs</u>						
Building and equipment (at \$2500 a place)	187,000	165,000	150,000	-	-	502,000
Total, capital and recurrent costs	187,000	442,500	646,500	736,500	706,500	2,719,000

^x On the basis of external agency rates

Table 45

Secondary Teacher Training: Estimated costs of training 60 graduate students annually in a one-year course.

	1956	1957	1958	1959	Total for quinquennium
Staff needed:					
National	1	1	2	3	
External	4	4	3	2	
Recurrent costs					
National Staff at Eth. \$ 18,000 p.a.	18,000	18,000	36,000	36,000	108,000
External, at Eth. \$ 45,000 p.a.	180,000	180,000	135,000	135,000	630,000
Other expenses, at Eth. \$ 1,500 per student.	90,000	90,000	90,000	90,000	360,000
Total recurrent costs	288,000	288,000	261,000	261,000	1,098,000
Capital costs 1955 (1963): 60 places at \$ 2,500					150,000
					<u>1,248,000</u>

Table 46

Training of Training College Staff: Estimated costs of a course for
20 persons annually.

	Eth. \$
X	
Staff: 2 professors at external rate of Eth. \$ 45,000 p.a.	90,000
20 Teacher-students' salaries and allowances at Eth. \$ 15,000 p.a.	300,000
Administrative and other expenses say Eth. \$ 250 per student	5,000
Total recurrent costs	<u>395,000</u>
Capital costs: at Eth. \$ 2,500 per pupil	50,000
Total recurrent and capital costs for 1956-59 (1963-67) - 4 years	1,630,000

X = sum of part-time services, the staff being occupied also with
other germane work.

Table 47

Inspection, Supervision and In-Service Training:
Estimated costs of additional team.

	1956 (1963/64) Eth. ₤	1957 (1964/65) Eth. ₤	1958 (1965/66) Eth. ₤	1959 (1966/67) Eth. ₤	Total Eth. ₤
Expatriate Staff 3 at external agency rate of Eth. ₤ 45,000 p.a.	135,000	135,000	135,000	135,000	540,000
37 at Eth. ₤ 16,500 p.a. (31 in 1959 - 1966/67)	610,500	610,500	610,500	511,500	1,731,500
National Staff 6 at Eth. ₤ 10,000 p.a. in 1959 (1966-7)				60,000	60,000
Travelling and other costs at, say, Eth. ₤. 2,000 p.a. each.	80,000	80,000	80,000	80,000	320,000
Totals	825,500	825,500	825,500	786,500	3,263,000

Table 48

Textbook Production; Estimated Costs.

	<u>No. of Titles</u>	<u>No. of Copies</u>	<u>Materials</u> <u>Eth.</u>	<u>Salaries</u> <u>Eth.</u>	<u>Total Costs</u> <u>Eth.</u>
<u>1963</u> ^x					
Elementary	5	297,700	173,636		
Secondary	6	51,900	<u>32,359</u>		
			<u>205,995</u>	118,000	323,995
<u>1964</u>					
Elementary	27	1,010,900	543,568		
Secondary	13	114,254	<u>78,159</u>		
			<u>621,727</u>	118,000	739,727
<u>1965</u>					
Elementary	11	141,600	227,720		
Secondary	16	96,000	94,176		
Dictionaries, Globes and Atlases (Secondary)			<u>15,000</u>		
			<u>336,896</u>	118,000	454,896
<u>1966</u>					
Elementary	18	524,500	383,850		
Secondary	16	75,200	<u>74,302</u>		
			<u>458,152</u>	118,000	576,152
<u>1967</u>					
Secondary	<u>33</u>	<u>73,800</u>	<u>115,576</u>	<u>118,000</u>	<u>233,576</u>
Totals	145	2,658,854	1,738,346	590,000	2,328,300
		Say	1,738,300		

x Budget in fiscal years; schedules in calendar years.

Table 49

Community Development: Outline of Costs for a Mobile Unit Scheme.

	1955 (1962-3)	1956 (1963-4)	1957 (1964-5)	1958 (1965-6)	1959 (1966-7)	Total for Quinquennium
Total No. of units in use.	5	10	15	20	25	
Capital cost at Eth. ₤ 7,000 each: 1 Eth. ₤	<u>35,000</u>	<u>35,000</u>	<u>35,000</u>	<u>35,000</u>	<u>35,000</u>	175,000
Recurrent Costs: External Staff: 1 at Eth. ₤ 45,000 p.a.	22,500	45,000	45,000	45,000	-	157,500
National Staff: Demonstrators 1 per unit at Eth. ₤ 6,000 p.a.	30,000	60,000	90,000	120,000	150,000	450,000
Drivers: 1 per unit at Eth. ₤ 1,500 p.a.	7,500	15,000	22,500	30,000	37,500	112,500
Running expenses, at Eth. ₤ 1,500 p.a. per unit/Materials, at Eth. ₤ 1,000 p.a. per unit	7,500 <u>5,000</u>	15,000 <u>10,000</u>	22,500 <u>15,000</u>	30,000 <u>20,000</u>	37,500 <u>25,000</u>	112,500 <u>75,000</u>
Total recurrent costs	72,500	145,000	195,000	245,000	250,000	907,500
Total capital and recurrent costs	107,500	180,000	230,000	280,000	285,000	1,082,500

Note: No provision is here made for administrative costs and depreciation

Table 50

Radio Transmitters: Some installation and operating costs.

	<u>Eth. \$</u>
Capital costs.	
Transmitters, covering some 50,000 sq. miles, with generators etc.	175,000
Building, studios and offices	550,000
	<u>725,000</u>
Battery receivers suitable for groups of 20-100 persons. say 10,000 at Eth. \$ 125 each.	1,250,000
	<u>1,975,000</u>
Recurrent costs	
Staff, maintenance, services, p.a.	350,000
Costs per head of reaching 1,000,000 persons:	
Capital: Eth. \$ 2	
Annual: Eth. \$ 0.35	

Table 51.

Training of National Park Staff: Enrolment and teaching staff.

	1955 (1962-3)	1956 (1963-4)	1957 (1964-5)	1958 (1965-6)	1959 (1966-7)
Students in Training		25	50	75	75
^x Staffing:					
National		2	2	3	4
External		2	3	3	2

^x Includes sum of part-time staff.

Table 52

Training of National Park Staff: Estimated costs.

	1955 (1962-3) Eth. ₤	1956 (1963-4) Eth. ₤	1957 (1964-5) Eth. ₤	1958 (1965-6) Eth. ₤	1959 (1966-7) Eth. ₤	Total for Quinquennium Eth. ₤
Recurrent costs:						
Staff:						
National at Eth. ₤ 7,000 p.a.	-	14,000	14,000	21,000	28,000	77,000
External at Eth. ₤ 45,000 p.a.	-	90,000	135,000	135,000	90,000	450,000
Students' salaries and subsistence, at say, Eth. ₤ 3,000 p.a. each.	-	75,000	150,000	225,000	225,000	675,000
Other expenses, at say, Eth. ₤ 1,500 per student	-	37,500	75,000	112,500	112,500	337,500
Total Recurrent costs	-	216,500	374,000	493,500	455,500	1,539,500
Capital costs, at Eth. ₤ 2,500 a place	125,000	-	62,500	-	-	187,500
Total, recurrent and capital costs	125,000	216,500	436,500	493,500	455,500	1,727,000

Table 53

Summary of Costs of Projects Envisaged

No.	Table No.	Paras Nos.	Project	Total Costs during 1955-59 (1962-7)	
				Capital Eth.	Recurrent Eth.
1	34	99-100	Emergency Primary Teacher Training (2 months course)		450,000 ✓
2	35	99-100	Ditto, 10 months course	1,575,000	5,124,000 ✓
3	38,39	102-123	Expansion of Primary System	26,923,500	11,167,200
4	42,43	124-131	Expansion of Secondary System	2,871,200	8,706,000
5	-	132	Equipment of existing Secondary Schools	500,000	
6	45	139-140	Higher Teacher Training College	502,000	1,908,000
7	46	141	Training of Senior Secondary Teachers	150,000	1,098,000
8	47	142-3	Training of Training College Staff	50,000	1,630,000
9	-	146-7	Training of Inspectors Supervisors + <i>School Directors</i>	50,000	1,630,000 ✓
10	49	150	Textbook production		2,328,300
11	-	151-2	Study and research, say		150,000
12			Administration, say		50,000
13	-	159-160	Training of Community Developers		200,000
14	50	160-2	Mobile Units	1,082,500	907,500
15	51	161-2	Radio transmitters	3,950,000	1,750,000
16	53	163-5	Training of National Parks Staff	187,500	1,539,500
				<u>37,841,600</u>	<u>38,638,500</u>
Total: Capital & Recurrent Costs: Eth.				76,480,100	

Table 54

Summary of Financial Resources available and
needed for quinquennium 1955-59
(1962-67)

<u>Para.</u>		<u>Available</u> <u>Eth. ₤</u>	<u>Needed</u> <u>Eth. ₤</u>
8 & 171	By allocation in Development Plan	12,000,000	
171 & Table 37	By local communities (in cash and kind)	13,500,000	
150	By external aid for textbook production	<u>1,750,000</u>	
		27,250,000	
166	Total development costs foreseen		76,480,100

Deficit for which external financial aid is required Eth. ₤ 49,230,100

Say: Eth. ₤ 50,000,000

= US ₤ 20,000,000

1871

1871

1871