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on the development
of education in africa
addis ababa, 15-25 may 1961

final report

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Related decisions adopted by the Executive Board of Unesco at its 59th session
INTRODUCTION

1. The Conference of African States on the Development of Education in Africa was held in Addis Ababa (Ethiopia), from 15 to 25 May 1961, in accordance with resolution 1.2322 adopted by the General Conference of Unesco at its eleventh session, by which the General Conference decided "to convene a conference of African States in 1961 with a view to establishing an inventory of educational needs and a programme to meet those needs in the coming years, and to invite the United Nations, the other Specialized Agencies and the International Atomic Energy Agency to co-operate with Unesco in the preparation and organization of the Conference".

2. The Conference was jointly organized and convened by the Director-General of Unesco and the Executive Secretary of the United Nations Economic Commission for Africa in consultation with the other United Nations Specialized Agencies.

3. The following countries were invited to send delegates: Basutoland, Bechuanaland, Belgium, Cameroun, Central African Republic, Chad, Congo (Brazzaville), Congo (Leopoldville), Dahomey, Ethiopia, France, Gabon, Ghana, Guinea, Ivory Coast, Kenya, Liberia, Libya, Malagasy Republic, Mali, Mauritania, Mauritius, Morocco, Niger, Nigeria, Portugal, Rhodesia and Nyasaland, Ruanda-Urundi, Senegal, Sierra Leone, Somalia, Southern Cameroun, Spain, Sudan, Swaziland, Tanganyika, Togo, Tunisia, Uganda, Union of South Africa, United Arab Republic, United Kingdom, Upper Volta, Zanzibar.

4. The Specialized Agencies of the United Nations and the International Atomic Energy Agency were invited to send representatives.

5. The non-African Member States and Associate Members of Unesco, as well as the Holy See, were invited to send observers. International or regional intergovernmental organizations having Member States in Africa or programmes covering Africa, international non-governmental organizations having consultative arrangements with Unesco and private foundations working in Africa were also invited to send observers.

6. The Conference brought together

- 39 governments as participants,
- 24 governments as observers,
- 10 United Nations Agencies, and
- 24 international non-governmental organizations


7. The purpose of the Conference was to provide a forum for African States to decide on their priority educational needs to promote economic and social development in Africa and, in the light of these, to establish a first tentative short-term and long-term plan for educational development in the continent, embodying the priorities they had decided upon for the economic growth of the region. It was also intended to help them arrive at decisions as to the maximum contribution to such a short-range and long-term educational plan that they could make from their national income, on the assumption that economic and social programming and development would be proceeding in each of the countries. The programme they were to establish for Africa was to conform to the quantitative targets and qualitative changes and improvements that they decided should be achieved by each of the countries.

8. The Conference realized that it was working out an educational programme on the basis of an economic and social development rate of progress for Africa over the next twenty years, without
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very firm statistical and quantitative information, and with economic and social development planning either in its very early stages or non-existent in most of the countries of the region. It noted, however, that the General Conference of Unesco, at its eleventh session, had looked forward to a further Conference of African States on Educational Development to be held in 1963, at which time it would be possible to review the present plans and decisions, compare and analyse national educational plans in the region and help to integrate them with national development programmes. It was on this basis that the Conference proceeded with its immediate task of establishing quantitative and qualitative educational goals and targets both for a short period, 1961-1965, and a long period, 1961-1980.

9. The Conference also provided an opportunity for the African States to decide on the financial and skilled manpower deficit they will face in implementing the educational programme they had decided on, over the next twenty years, after having made the maximum contribution to that programme from their national resources. There was an extensive exchange of views, both with the seven non-tropical African States and with the twenty-four observer Governments present at the Conference on how they and other non-African States of Unesco and ECA could help in closing this deficit. Out of this exchange of views came forth a call for international co-operation with Africa, in precise money and personnel terms, in helping to build the educational fabric of the economic and social development of the region during the next twenty years.

10. Lastly, with the assistance of consultants specializing in questions connected with the planning and financing of education within the framework of economic development, the Conference helped to bring out the vital importance of education as an investment in any programme of economic and social development, and the need for a close link between educational planning and overall development planning.

11. On adopting its agenda, the Conference decided to examine the following problems at plenary meetings:

- Development of education in relation to African cultural and socio-cultural factors;
- Inventory of educational needs for economic and social development;
- Education as a basic factor in economic and social development;
- Patterns of international co-operation for the promotion and implementation of programmes of educational development.

12. It set up four Commissions to consider, respectively: the financing of education; educational planning, the content and method of school education, and the training of teachers; prerequisites in general education for specialized, technical and vocational training; and adult education. Each African delegation assigned at least one of its members to serve as a member of each Commission. In addition, Commission meetings were attended by representatives of the Specialized Agencies of the United Nations and the International Atomic Energy Agency and by observers sent by non-African Member States and Associate Members of Unesco, international intergovernmental and non-governmental organizations and foundations. Especially selected consultants sat with each Commission.

13. At the closing meeting the Conference unanimously adopted an "Outline of a Plan for African Educational Development" which had been drafted by a Report Committee composed of six African States elected by the Conference to produce, out of the decisions and recommendations of the plenary meetings and Commissions, a synthesis of the educational demands, goals, targets and qualitative attainments during the next twenty years decided on by the African States. The Plan, after approval by the Conference, was signed by the Ministers of Education and Heads of Delegations who were members of the Conference as a form of transmittal both to their Governments and to governmental and private agencies interested in Africa throughout the world. The ceremony at which the Plan was approved and signed was a memorable moment of emotion and of dedication to the cause of African progress - a moment represented by 13.00 hours on 25 May 1961.
CHAPTER 1

INVENTORY OF EDUCATIONAL NEEDS FOR AFRICAN ECONOMIC AND SOCIAL DEVELOPMENT

1. The first plenary meetings of the Conference of African States on the Development of Education in Africa were devoted to two aspects of serious concern: the development of education in relation to African cultural and socio-cultural factors and an inventory of educational needs for economic and social development.

2. From statements made on these subjects, it was clear that leaders of education in the countries and territories of Africa knew their needs and their problems. The meeting of these needs, though costly and difficult in the extreme, is urgent in this period of rapid social, political and economic change in Africa. The scale of the problem can be seen from the following: today for the African States as a whole, only 16 per cent of the children of primary and secondary school age combined are enrolled in school. The situation varies, ranging from 2 per cent of the school age group in several States to nearly 60 per cent in others. In the majority of cases, the proportion of children out of school exceeds 80 per cent of the school age population.

3. Against this general background, statements of delegations of African States gave realistic and fact-filled summaries of needs. These statements were honestly critical of shortcomings and specific in their recital of handicaps of educational development. Statistical descriptions of existing educational systems and projections of development gave evidence of systematic planning of education in relation to broader economic and social objectives. Certain statements stressed the necessity however, of improved statistical services for more effective articulation of educational plans; others indicated a need for thorough study of the requirements for middle grade and high grade manpower. But in general, all of the African States were optimistic as to their future. The voice of Africa was clear, frank and impressive - the needs for education in Africa were made known and not obscured.

4. Each delegation stressed those needs which were of paramount concern to the development of education in its area. There was a variation in these needs from country to country, as would be expected from an Africa which has strength through diversity, but there was a striking recurrence of statements of similar needs from place to place. In the following paragraphs there is represented an epitomization and illustrative summary, though not in the colourful and striking phrases often made by the speakers, of the major expressed needs. It should be stressed that not all of these needs are found in any one country, but at the same time each country has some of these needs.

1. NEEDS OF A GENERAL CHARACTER

5. First and perhaps foremost is the need for the educational system within the country or territory to satisfy the fervent desire of the people for an expansion of education of quality. Education is desired at all levels, but particularly by and for the youth of the country. The citizens of Africa see in education a means by which their aspirations may be met. They are willing to sacrifice for the attainment of this means for gaining economic and social development. They realize that a quantitative advance in education must be accompanied by a qualitative improvement, and wish to provide for more and more of their people, education suited to their desires.

6. The leaders of education speaking of their countries' needs, have stressed a second major aspect - the desire to accelerate the reorientation of the education patterns and systems to the economic and social needs of their individual areas. They wish to give proper stress in education at all levels and by all possible means to their own culture. As the students of Africa are exposed to the scientific and cultural aspects of the outside world, they need to be thoroughly grounded in a firm knowledge of their own cultural heritage. The education for the future citizen of Africa must be a modern African education.
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7. Thirdly, modern African education must be open to all without discrimination. It must not be the right of only the few. In particular, there is a major need for the expansion of educational facilities and opportunities for the girls and women of Africa; in the desire to develop and expand systems of formal education for the youth of Africa, particularly in the lower levels, they form a large group of citizens who must not be neglected. In too many countries the rates of illiteracy are high. Adult and youth education, therefore, can do much to improve the status and opportunities of the present populations. Emphasis must be laid not only on formal schooling of children and young people, but also - and in particular through techniques well suited to mass education - on education for Africans of other age groups.

8. The expansion of education at a rapid rate, regardless of whether priority is given to rapid extension of primary school education, secondary and technical or higher education imposes, in the opinion of all speakers, increasing financial burdens on the States concerned. This relates to expanding costs for the payment of teachers, construction of new buildings, production and supply of textbooks and teaching aids. All African States are giving a large proportion of their national budgets to the financing of educational expansion. Speakers, referring to the financial commitment of their governments to the development of education, indicated that 18 per cent, 20 per cent and even 23 per cent of their national budgets was being devoted to education and that these figures might be increased by taking into consideration the allocations in other ministerial budgets for training or extension programmes. There is unanimous agreement that, if the wish for expansion in quantity and improvement in quality is to be accomplished, international financial assistance must be continued at the current important levels but at greatly increased levels. International financial assistance is needed to supplement national budgets, particularly to accelerate building construction, to pay the salaries of expatriate teachers and the expenses of students studying abroad, for expanded teacher training, and for growth in the field of science and technology at the higher education level.

II. NEEDS OF A MATERIAL CHARACTER

(a) School building

9. Whatever the financial resources available (national or extra-national), accomplishment of plans are conditional on drastic expansion of school buildings of all types. At the primary level, there is an extreme shortage of classrooms and many existing buildings do not meet minimum requirements. To meet targets of primary educational expansion, drastic methods have been employed, and in many areas there have been dramatic contributions of voluntary labour to build necessary classrooms. In the secondary schools and in higher education, there is the added need for student dormitories, housing for teaching staff, laboratories and other facilities.

10. Current and future requirements go far beyond the resources in finance, material, and technical knowledge, on problems of school building construction now available in the African States. The accelerated spread of educational facilities to new areas and the building of new institutions, represent a challenge to the development of quick and economic methods of school building construction and of building designs and patterns more adequately adapted to educational needs. The need for research on building materials was emphasized with references to such activities currently under way in certain countries - another need for international co-operation in research and experimentation related to African conditions. The proposed Unesco project for a regional bureau for studies on school construction was welcomed.

(b) Equipment

11. Whatever the level of education, the need for equipment of all types is urgent. The problem is crucial in technical, vocational and higher education, in laboratories and shops, where at present many requirements can only be met abroad. In addition, as curricula and teaching materials are progressively changed to meet new conditions and the needs of an expanding number of students, there is an urgent need for audio-visual and other teaching aids.
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(c) Production of textbooks

12. The problem of the production of textbooks adapted to new curricula requirements and African conditions is crucial. On the side of content, scientific and technological books, in many cases produced for non-African consumers, must be adapted to African teaching conditions. For history, literary and social studies subjects, there is an urgent need for adaptation of textbooks more relevant to African life and culture. This poses important production problems - the material facilities, printing presses, distribution processes - necessary to meet the expanding African demand. It also requires the training of textbook writers with the needed skills and knowledge to make possible the necessary transformation of textbooks to meet the new conditions.

III. NEEDS FOR TEACHERS

(a) Primary education

13. The massive expansion in primary education which has been undertaken by many States in the past few years and the targets proposed in their educational plans for the coming five to ten years, poses a tremendous need for the expansion of the supply of trained teachers. Achieving the goal of universal primary education by 1980 in one country, will require the training of 20,000 teachers in the next 20 years. In another meeting the projected targets between 1961-1964 will require the training of over 2,000 new teachers.

14. Considerable activity in the expansion of secondary education and teacher education to meet the urgent need for primary teachers is under way. This activity includes programmes of re­freshers training for inadequately trained teachers and of expansion of secondary and normal school establishments. Finally, if the problem is to be met adequately, measures should be taken to improve the status of the teaching profession and the strength of teachers' organizations.

(b) Secondary education

15. On the speedy growth of secondary education depends not only the expansion of primary education, but - more important - the urgently needed increase in the numbers of graduates from secondary schools qualified to undertake higher academic or technical studies and become the necessary cadres of high-level manpower. Targets indicated by many African States are impressive, for example "to double the secondary school intake in the next five years", "to triple the secondary school intake by 1970".

16. The current operation of secondary education and technical education at the secondary level is dependent on a supply of expatriate teachers to supplement the growing programmes to train African teachers through higher education in Africa and through training abroad. An expanding supply of expatriate teachers is crucial in coming years to meet expansion plans, in addition to the massive efforts now being made by certain non-African governments and non-governmental organizations, especially missionary groups. The shortage is particularly acute in areas of technical and agricultural instruction included in new secondary curricula.

IV. NEEDS FOR CHANGES AND REFORMS

17. Many speakers made mention of important new directions and changes in educational programmes in order to meet new economic and social needs.

(a) Rural education

18. There is interest in adapting educational curricula, particularly at the primary and lower secondary level, to rural and village life. Efforts are being made to bring the school to the countryside physically and in terms of a programme more in line with rural needs and interests. This new direction will be an important factor in raising the productivity of the agricultural economy, in enriching the community life in the villages, and in increasing employment opportunities in rural areas. It will help diminish the number of school leavers who flock to the towns
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and cities for employment which, in certain areas often is almost non-existent. Concern was expressed over the problems posed by the uprooting of young people too abruptly from their rural and family surroundings, producing individuals "suspended between two worlds". In the effort to adapt educational programmes to rural conditions, consideration was given to experiments in rural school curricula combined with rural community programmes, to the potential rôle of agricultural extension services in improving rural education and to the importance of developing a new sense of the crucial rôle of agricultural activity and rural living in the productive life of Africa.

(b) Vocational and technical education

19. With the increasingly diversified development of the economy of Africa, manpower with new skills and abilities is being required. Therefore, vocational and technical education must be reinforced at various levels. In addition, primary and secondary school students must be pre-disposed to manual occupations. In the general programme of primary schools, certain pre-requisites in science, mathematics and manipulative skills must be taught. In this connexion, the illustration was given of the reform of education in one country after the primary school stage towards more practical directions through the introduction of such courses as commerce, agriculture, technical and craft training, and housecraft. Such reforms are designed to predispose school leavers to productive occupations such as farming, technical and craft work. In another country, of 15,000 candidates for the first class of secondary schooling in the current period, 10,000 were being oriented towards vocational and agricultural training centres. In view of immediate needs for technical manpower, accelerated in-service training courses are required. Vocational education is necessary to train individuals with "polyvalent" abilities, able to adapt to changing conditions. Expanded programmes of technical and vocational education, at all levels, are mandatory if the urgent needs for qualified specialists to man the existing and projected institutions are to be met.

(c) Higher education

20. Facilities for higher education at the present time are far from adequate for the training of the necessary cadres of specialists, researchers, administrators and other leaders. For example, a manpower survey recently conducted in one African State indicated that, despite drastic efforts at expansion of higher educational facilities and through training abroad, the need for men with academic and professional qualifications in the next five years would be in the region of 20,000 while the output of individuals trained locally and overseas in the same period was estimated at 3,000. To meet a similar need, the objective of another African State is to increase its university population from a present 1,000 to between 7,500 and 10,000 in the 1970's. Present and projected crucial needs require that considerable numbers of African individuals undertake advanced studies overseas and that an expanded supply of expatriate staff be provided for new higher institutions, universities, technical colleges, research institutes and laboratories. Further, the expansion of higher academic and technological institutions in Africa should be geared not only to fulfilling the training needs of the States in which they are situated, but also to the requirements of other African States, intra-African hospitality in African universities today being a notable attribute.

(d) Education for girls

21. Great need exists to increase the number of girls receiving education at all levels. Research indicates that girls make up less than 30 per cent of the present total African primary school enrolment and about 23 per cent of the secondary school enrolment. Unfortunately, the factor of conservatism in certain areas has slowed the expansion of education for girls because of its imagined effect on established traditions. The need is urgent for the increased use of educated "women power" in the working life of the community in such callings as nursing, social work and teaching. Increasing attention in school curricula and in adult education must be given to child care and domestic science. Most urgent is the need to develop a new conception of the rôle of women in the life of the community - to improve their condition as home-makers, to expand their opportunities of employment, to encourage a greater participation and leadership by women in community affairs and public life. To meet this goal an expansion and reform of education for girls is required.

6
(c) Adult education

22. The expansion and development of adult education programmes is an essential and vital foundation and complement to the advance of formal education at all levels. In a region where it is estimated that 100,000,000 people are unable to read and write, programmes of literacy among adults pose problems of enormous dimensions. Adult education programmes are essential in promoting a productive understanding of the great social and technical changes which are facing the adult members of the African community. Examples were given of experimental work in literacy, and the further education of those with a minimum of formal schooling, whose return to the countryside risks the return to illiteracy. The programmes of non-governmental organizations and their role in developing adult and out-of-school education for young people were described, with particular mention of the organization of discussions and seminars on technical problems and the training of adult education teachers.

23. In the further development of adult education, there is great need for expanding library services, creating suitable reading and audio-visual materials, and increasing educational programmes on radio to reach isolated areas. The training of adult education teachers is also an important element in this area.

V. THE NEED OF DEVELOPMENT OF AFRICAN CULTURE

24. Against this description of urgent needs and plans for the expansion and modernization of education in Africa and the progressive Africanization of teaching personnel, there is major concern that curricula and teaching materials be adapted to African conditions and interests. This can only be brought about through the development for all levels of education of textbooks and teaching materials which illuminate the familiar environment of the pupils and reflect their cultural history. In adult education programmes as well, materials of instruction can be more thoughtfully adapted to local cultural needs. At the higher levels of instruction, there is need for the training of specialists in African history, languages, culture and art.

25. Whether in the field of adult and civic education, in formal education, or in the broad and important area of the creative arts, the growth of a wider consciousness and understanding of African cultural values, will only be effectively developed by a greater study and knowledge of the sources of African culture and by an expansion in each nation of programmes of research on the traditions, the ways of thought and living particular to each country. From this will grow a larger conception and appreciation of African culture as a whole and of its contribution to the common cultural heritage of mankind.
CHAPTER II

EDUCATION AS A BASIC FACTOR IN ECONOMIC AND SOCIAL DEVELOPMENT

1. The Conference having made an inventory of the needs of education in Africa, in the light of economic and social development as well as African cultural and socio-cultural factors, turned to the shaping of a programme to meet those needs. It was obvious that considering the magnitude and complexity of those needs, some new approaches are required for the development of programmes. In particular the interrelationships of economics and education appear a fertile field for exploration. Members of the Conference had been furnished with some background papers prepared by economists and educators on the problem, a synthesis together with the summary recommendations being presented to the Conference by the Assistant Director-General. During the course of the plenary sessions, various statements were made both by educational leaders and by economists and financial experts on this subject.

2. Members of the Conference attending this session of the plenary noted the value of this new approach; it provided for a meaningful conversation between educators and economists, too often isolated from each other's thinking. There evolved a line of reasoning which, though complex in many ways, has real significance in giving an economic basis for the meeting of the need for expansion of quantity and improvement of quality of education in Africa. This "doctrine" is summarized in the following paragraphs. As is noted in the conclusion, this line of reasoning requires further study and research and cannot be considered static, but it is of value for all who wish to support the development of African education in a new and realistic fashion.

I. EDUCATION AS PRODUCTIVE INVESTMENT

3. Education does not have for its primary purpose a greater production of goods and services. The purpose of education is to broaden understanding, so that men may make the fullest use of their innate potential, whether spiritual, intellectual, or physical. Education would therefore have value even if it contributed nothing to economic development. Education is listed among the universal human rights; it is necessary for the full development of the human personality, and is grounded in respect for human rights and fundamental freedoms.

4. The economic aspect of education consists on the one hand of its cost, which limits the amount any country can afford, and on the other hand of its effect in increasing productive capacity, which justifies large expenditures on education even in purely economic terms. Economists have always recognized that increases in the national income are attributable not merely to the accumulation of physical capital, but also to the improvement of human capacity through research, education, inventions, and the improvement of public health, as well as to better organization of human relations, whether in business, social or public institutions. Recent statistical calculations have shown that the accumulation of physical capital explains less than half of the annual increase of production in developed countries. The rest is due to increase in human skills and to better organization of production. It is difficult to isolate the proportion of the increase in production which is due to education, since the factors which contribute to the improvement of human capacity cover a much wider area than is usually included in "education", as defined for budgetary purposes. Nevertheless, there is no disputing that expenditure on some forms of education is an investment which more than pays for itself even in the narrowest economic terms.

II. THE NEED FOR PLANNING AND HIGH-LEVEL MANPOWER SURVEYS

5. The Conference notes that education cannot make its fullest contribution to economic development unless it is particularly geared to needs of economic development, which themselves differ at different stages of economic development and at different places and in different times. Education more than pays for itself, but only if it is of the right kind and is mixed quantitatively in the
right proportions. It is possible to have too much education in the sense of producing more of some types than the economy is able to absorb in the current phase of development. This can happen at any level of education. A country may find itself producing more university graduates or more primary school leavers than its economy can currently absorb, and may well as a result be faced with intractable economic, social or political problems. The balance between primary, secondary and higher education; between general, technical and vocational studies; between humanities and sciences; or between institutional and in-service training — all these require careful analysis if education is to be a help rather than a hindrance to development.

6. For this reason, education needs to be planned continuously in relation to economic development. The manpower needs arising out of the development plan should be surveyed and the supply of skills of various kinds integrated with expected needs. The Conference recognizes that manpower planning is still itself an underdeveloped science whose factual basis and techniques are rudimentary. Much more research needs to be done on the quantities of different kinds of skills which relate to different patterns of development, matters now being studied by research workers in universities and in other institutions. The Conference hopes that Unesco, in collaboration with the Economic Commission for Africa and the International Labour Organisation, will promote intensive studies of manpower needs in Africa. At the same time, rudimentary though current techniques may be, the results they yield are sufficiently valuable to justify the conclusion that every African country should have a manpower unit, operating jointly between the Ministry of Education and the central planning authority, to assess current needs and plan to match demand and supply.

III. EDUCATIONAL CONTENT AND ECONOMIC DEVELOPMENT

7. One of the principal deficiencies of most education systems is their tendency to give too little weight to studies based on the natural sciences. At the university there are usually proportionately too many students of arts, law and social science, and too few students of science, engineering, agriculture or medicine. At the secondary level there is a deficiency of technical institutes and farm schools, and the great majority of general secondary schools fail to make adequate provision for teaching the natural sciences. In the same way, the primary schools tend to neglect mechanical and biological studies. The chief reason for this is that the institutional patterns of education were formed many centuries before the modern technological revolution occurred, with its dependence on science. Education has therefore inherited its traditions and prejudices from a pre-scientific age. If education is to be integrated with economic development and to pay its way in purely economic terms, one of the principal changes must be a shift in curricula away from philosophic and literary studies towards natural science and its various applications. Entire substitution of one for the other is not in question; but a shift in relative proportions is of great importance.

IV. PRIORITIES

(a) Secondary and higher level

8. It was noted that some African countries have unduly neglected secondary and higher education in proportion to primary education. Economic development is highly dependent on skills of the sort which are taught in institutions to students of 15 years of age and upwards. It is of the highest priority to ensure that an adequate proportion of the population receives secondary, post-secondary and university education; this should be put before the goal of universal primary education if for financial reasons these two are not yet compatible. Plans for economic and social development depend upon an adequate supply of teachers, technicians, agricultural assistants, nurses, book-keepers, secretaries, medical technologists, clerks and other secondary level skills. Whereas the numbers required at the university level are so small that deficiencies can be met by external recruitment at relatively small cost, the numbers required at the secondary level are so large that deficiencies seriously handicap development.
(b) Primary level

9. It is at the level of primary education that integration with economic development proves to be most difficult. The skills on which primary education concentrates - reading, writing and counting - must have some value in any occupation whatsoever, and the habit of analysis which any kind of education must stimulate, is of special value in occupations whose technology is revolutionized by development, and not least in agriculture, which is the family occupation of the vast majority of children in primary schools. Primary education is difficult to integrate only where and to the extent that primary schooling creates among the great majority of children, expectations of a way of life and a standard of living which the economic system is not yet able to give them.

10. Integration of primary education is only partly a problem of adjusting curricula. The subject matter taught in primary schools is obviously important, but the problem would exist even if all rural schools taught exactly the skills needed in rural areas. The real problem is that any good primary school will widen children's horizons beyond what can be satisfied by the economy of three- acres-and-a-hoe. The school leaver expects a higher standard of living than his farmer father, a better house, pure water and easy access to medical and other public services. He is willing to drive a tractor or a lathe, but can hardly be expected to respect the back-breaking energies with meagre output yields, which are forced upon him by lack of modern equipment. In other words, the boy whom the primary schools turn out is ready for an economy in which technological revolution is occurring rapidly, in agriculture as well as in urban occupations. So, when the primary schools turn out large numbers who are expected to accommodate themselves to a three-acres-and-a-hoe civilization, what can be expected but frustration and exasperation?

11. Economic integration requires that primary education, like any other level of education, should keep in step with the stages of economic development, and that rural schools especially should gear their numbers to the rate at which agriculture is adopting new technologies into which the primary school leaver can fit. This is too drastic a restriction, partly because a drift from agriculture to urban occupations is part of the natural pattern of economic development, partly because having a surplus of educated people stimulates economic change, and partly because the right of young people to acquire education and understanding must never be completely sacrificed to economic needs.

12. The attainment of universal literacy cannot be given the highest priority in the earliest stages of economic development as compared with the expansion of other skills at secondary and higher levels, but it is an objective in its own right, and every country should aim at having every child in school within two decades. If primary school leavers cannot be integrated into the economy, this is equally a challenge to revolutionize the economy.

(c) Adult education

13. It is also agreed that most African countries should accord adequate priority to adult education, especially in the countryside. Experience in other continents has shown that even among illiterate farmers agricultural extension can effect substantial increases in yields. In general, the quickest way to increase productivity in Africa today, in any industry, is by on-the-job training of adult workers. This form of education is the most closely geared to economic development, and yet the most neglected. Except for in-service training of teachers, responsibility for most of this kind of education rests not with the Ministry of Education but with the Ministries more directly concerned with production.

14. The Conference also notes a tendency to transfer to full-time trade schools training of a kind which is more adequately and cheaply done by on-the-job apprenticeship training (e.g. in building skills) with or without part-time attendance at institutions. In view of the scarcity of resources, underdeveloped countries should avoid unnecessary prolongation of formal schooling in this manner.

V. COSTS AND FINANCING OF EDUCATION

15. While recognizing that a well-designed system of education pays for itself, the Conference also realizes that some forms of education take a long time to yield results. It also recognizes
that the ratio of teachers' salaries to per capita national income is so much higher in Africa than it is in Europe or North America (4 to 7:1 in Africa, compared with 1.1/2 to 2.1/2:1 in Western Europe or North America) that the cost of producing any given quantity of education is three or more times higher in Africa, as a percentage of national income, than it is in Europe or North America. The expansion of education will itself reduce this gap, since the ratio of teachers' salaries to per capita national income is a function of the relative supply of educated persons. All the same, the cost of providing the quantity of education which economic development requires is so high that every means of reducing the burden must be explored.

16. The Conference notes the following possibilities for reducing costs which are further elaborated under Financing of Education in Chapter IV:

(i) Reduction of school building costs by setting less elaborate standards, and by using cheaper materials of local origin;
(ii) greater reliance on self-help building, especially in rural areas, in association with community development agencies;
(iii) greater reliance on apprenticeship and in-service training, rather than on vocational schools, where this is feasible;
(iv) research into new techniques of teaching which reduce either student hours or the teacher/student ratio. It is agreed that considerable economies were within sight as a result of new approaches to the teaching of various subjects, and the Conference considers that it is urgent to establish in Africa one or more development and research institutes concerned with the technology of teaching and learning.

17. Finally, the Conference discussed the implications for financial policy of the fact that, if carefully planned, education may be regarded as an investment which pays for itself. Traditionally, governments meet their expenditures on education out of recurrent revenue; loan finance has not been available for public education expenditures. The reason for this is that loan finance has been based on investments which yield monetary returns to the investor, which can be used to meet interest and capital charges. Education is not in this category. Since its benefits are diffused to the public, its cost has ultimately to come from taxes whether the money comes immediately from taxes or it is borrowed. Moreover, at current rates, borrowing increases by about two-thirds the amount which has ultimately to be raised in taxes, since this is the ratio of total interest to total amortization payments. The question whether to incur taxes now or higher taxes later is one of general financial policy. In this context, there is a case for developing countries examining tax revenue, school grants and loan financing as sources for educational budgets and expenditures - recurrent and non-recurrent. At certain stages of development and for certain forms of educational investment, loan finance may be appropriate. In applying for a loan, the input cost of skilled manpower for a project can be calculated to include the cost of the section of the educational pyramid that produces the skilled manpower needed.

18. The Conference notes that education loans have been available from the International Development Association on easy terms, such as low interest rates, long periods of repayment, and possibility of repayment in local currencies with little drain on foreign exchange reserves. It is noted that loan financing would also provide a built-in guarantee that the educational authority will concentrate on priorities in educational investment. The Conference agrees that it would be appropriate to borrow on these terms for some forms of educational expenditures.

VI. CONCLUSIONS AND RECOMMENDATIONS

19. In the light of this analysis, the Conference declares:

(a) That the development of human resources is as urgent and essential as the development of natural resources;
(b) that educational investment is of a long-term nature but, if properly planned, obtains simultaneously a high rate of return;
(c) that the content of education should be related to economic needs, greater weight being given to science and its applications;
(d) that in Africa, at its present level of development, the highest priority in education should be accorded to ensuring that an adequate proportion of the population receives at secondary and post-secondary levels the kinds of skills required for economic development;

(e) that African countries should aim at providing universal primary education within two decades; at the same time, special attention should be given to adult education and on-the-job training;

(f) that low or no-interest loans repayable preferably in local currencies over long periods (in addition to tax revenues and grants) are a suitable source of finance for some forms of educational expenditure, recurring as well as non-recurring.

20. The Conference also recommends for study and research, the following matters:

(a) The relationship between different patterns of development and manpower needs;

(b) timing and balance in relation to education and economic factors;

(c) priorities essential to the development of a balanced educational system;

(d) economic and social returns to be derived from investments in education;

(e) integration and co-ordination by each government of all resources available to education, including public and private, internal and external, cash and kind;

(f) problems faced by education in a phase of transition from a non-cash to a cash economy; and

(g) the technology of teaching, in order to reduce either student hours or the teacher/student ratio.

21. The Conference considers that the execution of this research programme should be undertaken by the international organization for studies of a theoretical and general character and by national governments for specialized studies.

22. The Conference also considers that it is urgent to establish in Africa one or more institutes for development and research in education. Such institutes would carry on research and experimentation in new techniques of teaching, taking advantage of new developments in technology, as well as newly-acquired knowledge in the processes of teaching and learning. Associated with these institutes would be the development of pilot projects and the wide dissemination of results.
CHAPTER III

PATTERNS OF INTERNATIONAL CO-OPERATION
IN EDUCATIONAL DEVELOPMENT

1. BACKGROUND OF INTERNATIONAL CO-OPERATION

1. Having established the inventory of educational needs and having decided that these should be met on the basis of criteria agreed upon when education is viewed as an economic investment, the Conference turned to a study and review of the broad framework of international co-operation as applied to Africa. In this task the Conference was helped with a background opening statement by the Assistant Director-General. It was pointed out that international co-operation for economic development in its present form is of recent origin and that this fact is often not realized, especially by the action-minded new States of Africa. The definition of international co-operation today is a partnership in a common undertaking between independent and sovereign States, a partnership freely entered into. The world has had to become a constellation of independent States, some rich and some poor, thrown together into a framework of interdependence, for this new phenomenon of international co-operation to arise. This newness calls for patience. International co-operation is at all times based on respect for the dignity and independence of the States involved. It requires free and mutual consent.

2. The reasons for international co-operation in economic development in recent years are two-fold. There is first the moral reason based on the recognition that the world could not exist half rich and half poor. International co-operation represents the international conscience of the post-war era.

3. There is also a second reason: international co-operation is good business. The developed countries of the world have shown a great capacity to produce wealth. Their markets are the developing countries, and these have to have the purchasing power to pay for the goods and services made available to them. For these two reasons international co-operation for economic development has become a basic phenomenon of the world today.

4. The main agents of international co-operation today are the United Nations and its Specialized Agencies, bilateral government programmes, and private business and organizations. All these sources are available to Africa today. The United Nations and its Specialized Agencies stand ready to counsel, guide and aid the development of Member States at their request. Member States in Europe, America, and Asia stand ready to assist Africa through bilateral arrangements. Many private business enterprises, foundations and agencies and religious groups are active. All of this points out the need for co-ordination by each African country of the many forms of co-operation, if confusion and duplication are to be avoided and the most effective use made of the resources available to each country. This calls for co-ordinating machinery at the national level.

5. There are several forms international co-operation may take. These may be defined as ideas, finance, personnel, equipment and fellowships. Ideas, suited to conditions in Africa but embodying the experience of other regions, are needed. Finance is also required and will be forthcoming, given preconditions for its wise and efficient use.

6. Personnel in the critical years ahead is urgently required, not only in an advisory capacity but also for the operation and execution of development projects. The bottleneck to development often is personnel, not finance. This form of aid, however, presents severe difficulties because of shortages in the developed countries. Nevertheless, international co-operation calls for the developed countries taking action to increase the future supply of personnel for service abroad.

7. Equipment needs can be met, if they are carefully and practically defined. This has probably been the greatest source of wastage in international co-operation programmes in the short years of their existence and has been caused by overly ambitious plans, lack of personnel to attend to equipment and its unsuitability to local conditions.
Chapter III

8. Lastly, fellowships may be described as the best known form of international co-operation because in this form there is not only a transfer of knowledge but also a human encounter which is priceless to co-operation itself. However, given the conditions of Africa today, the use of fellowships has to be carefully planned or they might well represent a hindrance to development, because there are so many needs at home and few people who can be spared for training abroad.

9. In summary the methodology of these particular forms of international co-operation would have to be adapted when applied to Africa.

10. On the question of the relationship between giver and receiver, international co-operation is a two-way street, an exercise in mutuality and Africa offers an outstanding example of this relationship. Africa invites international co-operation in building the educational design which will assure its people higher living standards and social progress. In return, it stands ready to contribute to the world of international co-operation and cultural understanding which Unesco and the United Nations family of organizations represent. There is a gap in the framework of intercultural co-operation and understanding. In the coming years Africa will be closing this gap and will assume its role of donor of knowledge of its culture, even as it was a receiver of educational help.

11. On this broad subject delegates concentrated their discussions on five themes:

(a) the offers and descriptions of possible forms of international assistance to African educational development;
(b) the responsibility of African countries to ensure the essential and proper pre-conditions for using such assistance;
(c) the forms of international co-operation best adapted to African conditions;
(d) the need for national co-ordinating machinery by each African country to co-ordinate all external aid and decide on priorities and forms of aid;
(e) the need for inter-African co-operation as the first essential step in international co-operation.

II. PROGRAMMES OF INTERNATIONAL CO-OPERATION

12. Statements describing present programmes of international co-operation were made by a number of delegates and observers on behalf of their countries and by the representatives of a number of United Nations Specialized Agencies and non-governmental organizations.

13. The programmes described included multilateral, bilateral and private arrangements and covered the following categories: scholarships, fellowships and travel grants for the training of students and advanced educational personnel both outside and inside Africa; technical assistance capital grants and budgetary support for educational development in Africa; and various intercultural programmes. Assurances were given by all representatives of donor States and agencies that this assistance to educational development in Africa would be continued and in many cases enlarged. Several specific new offers of assistance were announced. Illustrative of these were announcements by Ghana of a donation of U.S. $50,000 to Unesco's Emergency Programme for Africa, and by the Federal Republic of Germany of a grant of U.S. $150,000 to the School Building Project in Unesco's Emergency Programme.

III. APPRECIATION OF PAST AND PRESENT INTERNATIONAL CO-OPERATION IN THE FIELDS OF EDUCATIONAL DEVELOPMENT AND INTERNATIONAL RELATIONSHIPS

14. African States used the opportunity offered by this agenda item to express their appreciation of the aid that had been extended to them by other nations, by international agencies and by private organizations. They noted the importance of this aid in the development achieved thus far and the necessity that it be continued in the critical years ahead.
IV. FORMS OF INTERNATIONAL CO-OPERATION

16. Considerable discussion was focused on the possible forms of international co-operation. There was general agreement on the great importance of securing a sufficient number of qualified and experienced experts and consultants and on the importance of preparing as rapidly as possible Africans who were able to assume positions of leadership in their developing economies. It was noted, however, that there comes a stage in development when the resources of an economy are strained to handle the salaries and related costs of graduates and technicians taking up their posts and to handle the increased operating and recurrent expenditures which are inseparable from large-scale capital investments in plant and buildings. This stage may be temporary, but it is one at which judiciously applied financial assistance towards meeting the cost of recurrent expenditures might be of the very greatest value for a developing country.

17. Of grave importance is the serious shortage of teaching personnel, especially at the secondary level and in technical fields in most African States, this being possibly the single greatest deterrent to educational development presently existing.

18. Further, Africa faces a struggle to catch up with the more developed nations in the fields of science and technology. In relation to this problem, it was proposed that Africa be given aid in systematic educational planning; in setting up administrative machinery to carry out large-scale educational development plans; in men, money and materials to assist the operation of new educational systems and in the development of scientific and technological studies and research in Africa's universities. It was suggested that consortia of overseas universities be formed to offer hands of friendship to Africa's new universities, send to them their leading men to stimulate African youth, take Africa's young men and women to the world's foremost fountains of knowledge and assist in quenching an educational thirst that was centuries old.

19. In general, it is not the policy of African government to award overseas scholarships and fellowships for courses which are available locally. This is considered essential for the sound and proper development of local centres of higher learning. Where, however, a type of higher training could not be provided locally, every possible support is given to the individual qualified for and capable of benefitting from such training available abroad. These principles should be adopted also by foreign governments and organizations offering scholarships and fellowships to African countries.

V. ARRANGEMENTS FOR INTERNATIONAL CO-OPERATION

20. Both multilateral and bilateral arrangements for assistance are welcome. No survey of international co-operation, however, which failed to touch on the international political situation could pretend to be realistic. The emergent nations of Africa have always stated that they wanted international aid without conditions. If that were so, they should receive aid only from multilateral sources. But the needs of Africa are of such a magnitude that the total requirements cannot be met in this manner alone. The pressure of necessity compels African States to make bilateral arrangements for aid. Inevitably, these imply conditions which are of two kinds; those of a political nature, and those which ensure that the graduates of African universities are committed to the objectivity of research, moved to the humanitarian application of the products of science and technology, and sworn to promote the development of the United Nations as a powerful instrument for the maintenance of world peace.

21. The motives of developed nations which participate in programmes of assistance to African educational development should be clearly understood. There is no divergence from the view that the main reason why aid should be offered is because it is morally right to do so. The world cannot survive half rich and half poor, with the poorer half held back by lack of educational opportunity.
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The African States must realize, however, that aid continued over too long a period could compromise African freedom and that aid should always be regarded both as temporary and as only a supplement to Africa's own resources and efforts.

VI. CO-ORDINATION OF INTERNATIONAL ASSISTANCE

22. Emphasis was laid on the necessity for better co-ordination of offers of assistance and of integration of this assistance into national development plans. There was general agreement that major responsibility for this lay with the receiving African country, which implied the establishment of adequate governmental machinery through which co-ordination and integration could be effected. Of particular interest was the machinery for such co-ordination and integration in one country: an Economic and Technical Assistance Board responsible for the overall co-ordination of all technical assistance programmes within the country, an inter-ministerial Committee to consider all questions relating to foreign scholarships and study opportunities in other lands, a Scholarship Committee which reviewed all applications from students from other African countries for admission to local schools and colleges and a Technical Assistance Co-ordinating Committee of the Ministry of Education which included representatives of all national and international bodies currently participating in the educational programme of his country.

23. In another instance, co-ordination between government planners and international and bilateral agencies, foundations and voluntary organizations is controlled by a new Ministry of Economic Development. Other ministries, in particular the Ministry of Education, have the right and indeed the responsibility for negotiating with outside sources of aid for the expansion of education.

24. Co-ordination is not always easy because so many donor agencies are interested in education, and yet there appears to be very little co-ordination among them. Consequently, there is much waste of time and effort occasioned by the need to address to every known source requests for assistance for particular projects in the hope that one or the other might be successful. It would be of the greatest assistance to education ministries in all African countries if some type of clearing-house could be set up by all the various contributing bodies in order to sift and direct requests to the most suitable points.

25. In submitting requests for aid, a Ministry of Education naturally selects those parts of its own development programme which rate the very highest priority, such priorities having been assessed as a result of long and continuous study of the problems on the ground. If a contributing agency is willing to accept this assessment, then co-operation is of the best. It is not uncommon, however, for an outside source of aid to channel its assistance into areas which might not be covered by the current development plan. This may do more harm than good because it can increase a lack of balance which the local plans were designed to redress.

26. Maximum co-operation is therefore best assured by the acceptance by contributing agencies of local development plans and the selection of areas within them for assistance. This does not, of course, mean that outside agencies should be required to accept without question local priorities and planning. Possibly the role of the outside expert should include the making of a critical assessment of prepared plans, provided that the critical assessment is to be a forerunner of tangible assistance.

VII. INTRA-AFRICAN CO-OPERATION

27. Regional co-operation in Africa is one of the essential preconditions for effective use of international assistance. The Conference urged the arrangement of bilateral cultural agreements between African States, negotiated on the basis of full equality. Through these much useful information could be exchanged and higher educational facilities shared.

28. Common experiences and hopes should encourage intra-African co-operation, particularly a common interest in the revival of African civilizations including the study of history, sociology, religion, languages and culture. In the educational field, the sharing of documentation centres, teacher-training facilities and higher educational facilities and the exchange of teachers when one
country might have a surplus and another a shortage in particular subjects are highly desirable means of intra-African co-operation.

28. Several new intra-African offers of aid were announced: by the Cameroons an offer of 30 scholarships for students from the Congo (Leopoldville); by Ghana an offer of 12 fellowships at the University College of Ghana through the Unesco programme; and by the Central African Federation of an expanded programme of intra-African assistance which would probably include scholarships at the University College of Rhodesia and Nyasaland, the loan of educationists for short-term projects, the making available of economic school building plans and of audio-visual aid services including educational television programmes.

VIII. EXPERIENCE GAINED FROM PROGRAMMES OF INTERNATIONAL CO-OPERATION

30. In summarizing the experience gained by African States through long participation in programmes of international co-operation, three specific suggestions are made. Expatriate teachers for work in Africa must be carefully selected in their country of origin. If they are then given good conditions of service in the receiving country, they later become excellent agents for the recruitment of additional teachers in their homeland. The best of all recruiting agents is a contented teacher.

31. Secondly, the new African States should be realistic in balancing their needs for assistance to educational development against their needs in other areas such as health services and communications. Enthusiasm for education should be tempered by recognition of demands in other sectors.

32. Thirdly, there should be caution against impatience for quick results, remembering that it takes time to develop trained manpower. The importance of administrative machinery as a necessary base for extensive development projects must be borne in mind.

33. More than money is required to give a less-developed country a firm start. Also required are certain conditions in the aided nation. These include careful planning and clearly defined goals, a strong commitment of local resources to the pursuit of these goals, determination by the government and people alike to get on with the job and, most important of all, a concurrent commitment to the promotion of social justice. Given these conditions, the possibility of external assistance contributing successfully to economic and social development is good; without them it is non-existent.

34. Often an assisting organization faces the dilemma of whether to concentrate assistance on a few projects or distribute it widely. The former makes for disappointment on the part of many worthy claimants, the latter for diffuseness, superficiality and possible waste. Most donor governments and agencies are obliged to choose the former course and establish clear priorities in their granting of aid. External aid is seldom simply an impersonal fund that could be drawn on at will by those presenting meritorious projects. If it were, co-ordination of external aid and integration of this aid into national educational development programmes would present no difficulties. It is a fact that all donor agencies have their own national or institutional characteristics, usually determined by the entire range of their responsibilities. These include obligations arising from their activities in other parts of the world and responsibilities to the citizens of their own countries. With the best will in the world to "adapt their methodology of aid to Africa" the donor States and agencies are bound to be conditioned to some degree by factors that have little to do with Africa. Perhaps in no other field are the national characteristics of donor agencies more deeply imprinted than in the field of education.

35. The challenge of international co-operation, then, is two-fold: to the African nations, to be understanding of the limitations imposed on donors by their very nature and to the donors to submerge their national traditions and biases in favour of a common effort to assist the evolution in Africa of systems of education suited to that continent.
CHAPTER IV

THE FINANCING OF AFRICAN EDUCATIONAL DEVELOPMENT

Report of Commission I

I. INTRODUCTION

1. Consideration of the problems of financing education in Africa, as broadly defined by the representative of the Director-General of Unesco, requires African States to determine, on certain theoretical assumptions, the cost of short-term (5 years) and long-term (20 years) plans for the development of education in Africa, to study possible savings in administration which might lower the cost, and to make recommendations concerning methods of financing a programme of educational expansion to meet the economic and social development needs of the African continent and, at the same time, satisfy the legitimate aspirations of the African people.

2. Speaking on behalf of the Executive Secretary of the Economic Commission for Africa, Mr. Stein Rossen stressed the importance of education as a basic factor in economic development. Even though it might be necessary to seek outside assistance to finance educational expansion, African States must give an appropriate place in their development plans and in the allocation of their resources among their different economic sectors to investment in education, of which man was both the subject and the object. Mr. Rossen brought out the need to link educational development with the future economic development and betterment of the African countries by affording every man the same chance of success, as far as possible.

3. Subsequent discussion showed the importance of prior estimation of the cost of education expansion. Attention was drawn to the wide gap between the educational needs and the resources of the African countries, and the absolute necessity of laying down priorities in the selection of objectives and of making the most economic use of available resources.

4. The questions dealt with by the Commission were as follows:

- Costing of education on the basis of the calculation hypotheses adopted by the Commission,
- Possible savings in the cost of education,
- Methods of financing,
- School construction.

II. BASES OF COSTING EDUCATION

5. The Commission sought to define the costing basis for the short and long-term plans for the development of education in Africa. Calculations for the short-term plan were based on the following hypotheses:

A. Primary education

i. Duration of primary schooling remains unchanged;
ii. An annual increase of an additional 5 per cent of age group entering primary school;
iii. Wastage at 10 per cent each year during the primary cycle;
iv. Average pupil-teacher ratio between 40 and 45;
v. Ten per cent of the teachers should have received second level education followed by three years of general and professional training; 45 per cent should have received primary schooling followed by four years of professional training; the remainder should have gone through the primary school followed by two years of professional training;
vi. Provision of primary school inspectors reaching one for every 5,000 pupils.
Chapter IV

B. Second level education

i. Duration of second level schooling remains the same;
ii. Ratio of enrolment at the second level of education to that at the first level should rise to 12 per cent;
iii. Emphasis on the expansion of enrolment in vocational, technical and teacher training schools.

C. Higher education

A modest increase in enrolments especially through study abroad while preparing African institutions for future growth.

6. Similarly, the following hypotheses were used for calculations of the long-term plan with the aim that, by 1980, the following goals would be achieved.

A. Primary education

i. Duration primary schooling: six years;
ii. Primary education shall be universal, compulsory and free;
iii. Wastage during the six years of the primary cycle should not exceed 20 per cent, in total;
iv. Average pupil-teacher ratio at 35;
v. Forty-five per cent of the teachers should have received second level education followed by three years of general and professional training; 45 per cent should have received primary schooling followed by four to six years of professional training; the remainder should have gone through the primary school followed by two to three years of professional training;
vii. Primary school inspectors at one for every 5,000 pupils.

B. Second level education

i. Duration of second level schooling: three years lower stage and three years higher stage for vocational and technical and teacher-training institutions, three years for general intermediate schools and six years for general academic schools;
ii. Thirty per cent of the pupils completing their primary studies would be admitted to second level schools. One third of those pupils would go to general academic schools of six years' duration; the remainder (20 per cent of the pupils who had completed their primary studies) would enter vocational, technical or teacher-training institutions, five-sixths of them for a three-year course and one-sixth for a six-year course;
iii. School wastage during the six years of secondary education should not exceed 15 per cent, in total.

C. Higher education

i. Twenty per cent of the pupils completing secondary schooling would go on to higher education;
ii. Nine-tenths of higher education would take place in Africa;
iii. Sixty per cent of the students enrolled in universities would be studying in scientific or technological faculties.

III. ECONOMIC AND DEMOGRAPHIC HYPOTHESES

7. The Commission approved an Outline of a Plan for African Educational Development whose enrolments and costs were worked out on the basis of hypotheses which are set forth in Chapter IV of the Outline of a Plan.

8. Whereas the "educational pyramid" in Africa might in 1960 be expressed by the ratio 40:3:0.2, the terms of which represent the enrolment rate for the three levels of education in relation to their respective school-age population, the terms in 1965 would be 31:9:0.2 and the 1980 targets of the Development Plan would be expressed by the ratio 100:23:2.
9. As indicated in Table 1, the cost of such large-scale expansion would amount to approximately $580 million* in 1961, rising to $1,150 million in 1965, $1,880 million in 1970 and $2,600 million in 1980. If the African countries decided to earmark, for the financing of education, a percentage of their national income increasing from 3 to 4% between 1961 and 1965, and thereafter increasing to 6% by 1980, they would be able to invest for this purpose an amount rising from $450 to 700 million during the first five years of the Development Plan, reaching $870 million in 1970 and $2,200 million in 1980, by which time the cost of the growth of education, constituting an integral part of the Region's economic and social progress, might reasonably be supported in the main from African resources.

10. It would therefore be necessary to have recourse to foreign aid to finance the difference between planned expenditure and anticipated resources. Projections of national income, of resource for education, and of total educational costs are presented in Table II.

11. The Commission noted that the realization of the Development Plan would largely depend on the measures taken by African States to fit educational development plans into general economic and social development programmes, and at the same time to speed up modernization in the subsistence sector. The Commission likewise recognized that the estimates of national income were still very unreliable in Africa, and that the cost of education might have been estimated either from State and local authority resources alone or from income in money terms.

12. Similarly, the average rate of population increase for tropical Africa, based on the estimates of the United Nations Population Division, was probably far too low, to judge by the initial results of the population surveys now being conducted in several African countries.

13. The Commission therefore hoped that the hypotheses and estimates in the Plan would be re-examined in the light of the initial results obtained in Africa at the Second Conference on the Development of Education in Africa, which the Unesco General Conference at its eleventh session had suggested might be held in 1963.

14. The Commission realized that if the educational goals set forth are to be realized, Member States and Associate Members in Africa should make every effort to raise the percentage of their national income earmarked for financing education from 3% to 4% between 1961 and 1965, from 4% to 6% between 1970 and 1980.

* The term dollar throughout this document is used to denote the equivalent of a USA dollar.
### Table I

Statistics and Details of Calculations  
(Based on Assumption stated in "Outline of a Plan")

<table>
<thead>
<tr>
<th></th>
<th>Base Year</th>
<th>Short plan period</th>
<th>1980/81</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Total estimated population</td>
<td>170,034</td>
<td>172,414</td>
<td>174,828</td>
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<tr>
<td>(in thousands)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRIMARY EDUCATION</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2. Estimated school-age</td>
<td>27,791</td>
<td>28,203</td>
<td>28,598</td>
</tr>
<tr>
<td>population (in thousands)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>3. Estimated enrolment at</td>
<td>11,187</td>
<td>11,586</td>
<td>12,203</td>
</tr>
<tr>
<td>the first level of education</td>
<td></td>
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<tr>
<td>(in thousands)</td>
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<tr>
<td>4. Per cent of enrolment at</td>
<td>40.25</td>
<td>41.08</td>
<td>42.67</td>
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<tr>
<td>the first level of education</td>
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<tr>
<td>to the total estimated school-</td>
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<tr>
<td>age population</td>
<td></td>
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<td></td>
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<tr>
<td>5. Assumed teacher-pupil</td>
<td>40</td>
<td>41</td>
<td>42</td>
</tr>
<tr>
<td>ratio</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Estimated number of teachers</td>
<td>260,000</td>
<td>283,000</td>
<td>291,000</td>
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<tr>
<td>required</td>
<td></td>
<td></td>
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<tr>
<td>7. Estimated number of</td>
<td>-</td>
<td>19,800</td>
<td>19,800</td>
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<tr>
<td>teachers required for</td>
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<tr>
<td>replacement</td>
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<tr>
<td>8. Estimated number of</td>
<td>-</td>
<td>19,800</td>
<td>19,800</td>
</tr>
<tr>
<td>additional teachers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>required during the year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) for replacement</td>
<td>-</td>
<td>3,000</td>
<td>8,000</td>
</tr>
<tr>
<td>(b) for additional enrolment</td>
<td>-</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>-</td>
<td>22,600</td>
<td>27,800</td>
</tr>
<tr>
<td>9. Assumed ratio of pupils to</td>
<td>7,500</td>
<td>7,000</td>
<td>6,500</td>
</tr>
<tr>
<td>inspectors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Estimated number of</td>
<td>1,500</td>
<td>1,860</td>
<td>1,880</td>
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<tr>
<td>inspecting officers required</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Additional inspecting</td>
<td>-</td>
<td>160</td>
<td>220</td>
</tr>
<tr>
<td>officers required</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

Note: The primary school-age population for each country is estimated by adjusting the 5-14 year old population by the proportion of the number of years of primary school over ten. After 1965, since a six-year primary course is assumed, the primary school age population is estimated at 60 per cent (6/10) of the 5-14 year old population.

Enrolment in 1961 is estimated by increasing the enrolment for the latest available year by the average yearly per cent of increase over the last ten years.
<table>
<thead>
<tr>
<th>Base Year</th>
<th>Short plan period</th>
<th>1980/81</th>
</tr>
</thead>
</table>

12. Places needed in teacher-training institutions
- 75,300 92,700 108,000 124,000 144,000 255,700

13. No. of additional places required in teacher-training institutions
- 9,300 17,400 15,300 16,000 20,000 7,000

14. Cost of primary education in millions
(a) Recurring costs
(1) Direct expenditure on primary education
- $231.7 $244.1 $260.6 $281.0 $305.6 $656.2
(2) Direct expenditure on teacher-training institutions
See no. 21 a (3)
(3) Expenditure on inspection and administration
- 11.6 12.2 13.1 14.1 15.3 32.8

Total recurring cost
- 243.3 256.3 273.7 295.1 320.9 689.0

(b) Capital costs
(1) Cost of equipment for primary schools at $7.50 per year per pupil for all new pupils and for 10% of existing enrolment
11.4 13.0 14.6 16.1 17.6 8.3
(2) Cost of school buildings at $1,500 per class-room designed for 50 pupils - for all new pupils and for 5% of existing enrolment
- 28.7 35.3 41.5 47.4 53.6 33.0
(3) Cost of providing additional seats in teacher-training institutions
See no. 21 B (1)

Total capital expenditure
- 40.1 48.3 56.1 63.5 71.2 41.3

Total cost of primary education
- 283.4 304.6 329.8 358.6 392.1 730.3

SECOND LEVEL EDUCATION

15. Estimated number of primary school-leavers
799.1 827.6 871.6 930.6 1,003.5 1,091.4 4,436.0
### 16. Estimated total enrolment at the second level (in thousands)

<table>
<thead>
<tr>
<th>Year</th>
<th>Short plan period</th>
<th>1980/81</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960/61</td>
<td></td>
<td>542.2</td>
</tr>
<tr>
<td>1961/62</td>
<td></td>
<td>600.7</td>
</tr>
<tr>
<td>1962/63</td>
<td></td>
<td>715.2</td>
</tr>
<tr>
<td>1963/64</td>
<td></td>
<td>849.7</td>
</tr>
<tr>
<td>1964/65</td>
<td></td>
<td>1,056.1</td>
</tr>
<tr>
<td>1965/66</td>
<td></td>
<td>2,624.6</td>
</tr>
</tbody>
</table>

(a) **GENERAL**

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic</td>
<td>542.2</td>
<td>600.7</td>
<td>715.2</td>
<td>849.7</td>
<td>1,056.1</td>
<td>2,624.6</td>
</tr>
<tr>
<td>Intermediate</td>
<td>135.6</td>
<td>150.2</td>
<td>178.8</td>
<td>212.4</td>
<td>264.0</td>
<td>1,361.4</td>
</tr>
</tbody>
</table>

(b) **VOCATIONAL AND TECHNICAL**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower stage</td>
<td>103.9</td>
<td>115.6</td>
<td>151.0</td>
<td>196.9</td>
<td>250.6</td>
<td>984.2</td>
</tr>
<tr>
<td>Higher stage</td>
<td>34.7</td>
<td>38.5</td>
<td>50.4</td>
<td>65.7</td>
<td>83.5</td>
<td>563.2</td>
</tr>
</tbody>
</table>

(c) **TEACHER-TRAINING**

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower stage</td>
<td>75.3</td>
<td>92.7</td>
<td>108.0</td>
<td>124.0</td>
<td>144.3</td>
<td>93.0</td>
</tr>
<tr>
<td>Higher stage</td>
<td>12.0</td>
<td>17.3</td>
<td>21.3</td>
<td>26.5</td>
<td>35.0</td>
<td>279.0</td>
</tr>
</tbody>
</table>

Total: 816.6 903.7 1,023.0 1,224.7 1,475.2 1,833.5 5,905.4

17. Percent of total second level enrolment to the total first level enrolment

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7.3</td>
<td>7.8</td>
<td>8.4</td>
<td>9.4</td>
<td>10.5</td>
<td>12.0</td>
</tr>
</tbody>
</table>

18. Estimated number of teachers

<table>
<thead>
<tr>
<th></th>
<th>49,500</th>
<th>50,200</th>
<th>55,400</th>
<th>64,500</th>
<th>75,700</th>
<th>91,700</th>
<th>310,800</th>
</tr>
</thead>
</table>

19. Assumed teacher-pupil ratio

|          | 16.5    | 18      | 18.5    | 18      | 19.5    | 20      | 19      |

20. Additional teachers required

<table>
<thead>
<tr>
<th></th>
<th>3,500</th>
<th>3,500</th>
<th>3,900</th>
<th>4,520</th>
<th>5,300</th>
<th>15,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) for replacement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b) for additional enrolment</td>
<td>700</td>
<td>5,200</td>
<td>9,100</td>
<td>11,200</td>
<td>18,000</td>
<td>10,500</td>
</tr>
<tr>
<td>(c) Total</td>
<td>4,200</td>
<td>8,700</td>
<td>13,000</td>
<td>15,720</td>
<td>21,300</td>
<td>25,500</td>
</tr>
</tbody>
</table>

21. Cost of second level education in millions

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Recurring costs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct expenditure on schools</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1) GENERAL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic</td>
<td>81.3</td>
<td>90.1</td>
<td>107.3</td>
<td>127.5</td>
<td>158.4</td>
<td>383.7</td>
</tr>
<tr>
<td>Intermediate</td>
<td>5.4</td>
<td>8.0</td>
<td>7.2</td>
<td>8.5</td>
<td>10.6</td>
<td>54.5</td>
</tr>
</tbody>
</table>

### Chapter IV

#### Table

<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2) VOCATIONAL AND TECHNICAL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower stage</td>
<td>-</td>
<td>4.2</td>
<td>4.6</td>
<td>5.0</td>
<td>7.9</td>
<td>10.0</td>
<td>38.4</td>
</tr>
<tr>
<td>Higher stage</td>
<td>-</td>
<td>6.9</td>
<td>7.7</td>
<td>10.1</td>
<td>13.1</td>
<td>16.7</td>
<td>112.6</td>
</tr>
<tr>
<td>(3) TEACHER-TRAINING</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower stage</td>
<td>-</td>
<td>30.1</td>
<td>37.1</td>
<td>43.2</td>
<td>48.6</td>
<td>57.6</td>
<td>37.2</td>
</tr>
<tr>
<td>Higher stage</td>
<td>-</td>
<td>7.2</td>
<td>10.4</td>
<td>12.8</td>
<td>15.9</td>
<td>21.0</td>
<td>167.4</td>
</tr>
<tr>
<td>Total</td>
<td>-</td>
<td>135.1</td>
<td>155.9</td>
<td>186.6</td>
<td>222.5</td>
<td>274.3</td>
<td>804.8</td>
</tr>
<tr>
<td>(4) Cost of supervision</td>
<td>-</td>
<td>8.8</td>
<td>7.8</td>
<td>9.3</td>
<td>11.1</td>
<td>13.7</td>
<td>40.2</td>
</tr>
<tr>
<td>Total recurring</td>
<td>-</td>
<td>141.9</td>
<td>163.7</td>
<td>195.9</td>
<td>233.6</td>
<td>288.0</td>
<td>865.0</td>
</tr>
</tbody>
</table>

#### (b) Capital costs

| (1) TEACHER TRAINING | | | | | | |
|----------------------|| | | | | |
| Cost of additional places in teacher-training institutions: building and equipment | | | | | | |
| - Lower stage | 12.0 | 13.6 | 15.2 | 17.6 | 20.0 | 40.0 |
| - Higher stage | 4.5 | 5.1 | 5.7 | 6.6 | 7.5 | 15.0 |
| (2) GENERAL | | | | | | |
| Cost of buildings for additional schools (inclusive of hostels) | | | | | | |
| - Academic | 33.4 | 46.8 | 91.6 | 107.6 | 165.1 | 81.6 |
| - Intermediate | 4.2 | 5.8 | 11.4 | 13.4 | 21.0 | 28.4 |
| (3) VOCATIONAL AND TECHNICAL | | | | | | |
| Lower stage | 15.4 | 4.7 | 14.2 | 16.4 | 21.5 | 18.0 |
| Higher stage | 10.2 | 3.0 | 2.5 | 12.2 | 14.2 | 20.0 |
| (4) Equipment for general (academic and intermediate) and vocational and technical (lower stage) schools | 8.0 | 8.8 | 17.6 | 20.9 | 31.1 | 19.2 |
| (5) Equipment for vocational and technical schools (higher stage) | 2.6 | 0.8 | 2.4 | 3.1 | 3.6 | 7.0 |
| (6) Housing for teachers | 3.5 | 26.0 | 45.5 | 56.0 | 80.0 | 75.0 |
| Total | 93.8 | 114.6 | 213.1 | 255.8 | 364.0 | 312.2 |

27
### Base Year Short plan period 1980/81

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total cost of second level education</td>
<td>235.7</td>
<td>278.3</td>
<td>409.0</td>
<td>489.4</td>
<td>652.0</td>
<td>1,177.2</td>
</tr>
</tbody>
</table>

### HIGHER EDUCATION

#### 22. Enrolment (in thousands)

- **(a) Estimated enrolment in Africa**
  - 1960/61: 13.0
  - 1961/62: 13.1
  - 1962/63: 13.2
  - 1963/64: 13.4
  - 1964/65: 14.1
  - 1965/66: 14.3

- **(b) Estimated enrolment in other countries**
  - 1960/61: 12.0
  - 1961/62: 12.4
  - 1962/63: 13.0
  - 1963/64: 13.8
  - 1964/65: 14.8
  - 1965/66: 16.0

- **Total enrolment**
  - 1960/61: 25.0
  - 1961/62: 25.5
  - 1962/63: 26.2
  - 1963/64: 27.2
  - 1964/65: 28.5
  - 1965/66: 30.3

#### 23. Cost of the programme in higher education (millions of dollars)

- **(a) Recurring costs**
  1. **(1) In Africa**
     - 1960/61: 12.0
     - 1961/62: 12.2
     - 1962/63: 12.3
     - 1963/64: 12.7
     - 1964/65: 13.1
     - 1965/66: 278.1
  2. **(2) In other countries**
     - 1960/61: 24.8
     - 1961/62: 26.0
     - 1962/63: 27.6
     - 1963/64: 29.6
     - 1964/65: 32.0
     - 1965/66: 64.0

- **Total recurring costs**
  - 1960/61: 36.8
  - 1961/62: 38.2
  - 1962/63: 39.9
  - 1963/64: 42.3
  - 1964/65: 45.1
  - 1965/66: 342.1

- **(b) Capital costs (total)**
  - 1960/61: 7
  - 1961/62: 9
  - 1962/63: 1.3
  - 1963/64: 2.4
  - 1964/65: 3.6
  - 1965/66: 220.0

- **Total cost of higher education**
  - 1960/61: 37.5
  - 1961/62: 39.1
  - 1962/63: 41.2
  - 1963/64: 44.7
  - 1964/65: 48.7
  - 1965/66: 562.4

### ALL LEVELS

#### 24. Total costs

<table>
<thead>
<tr>
<th></th>
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<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>556.6</td>
<td>622.0</td>
<td>780.0</td>
<td>892.7</td>
<td>1,092.8</td>
<td>2,469.9</td>
</tr>
</tbody>
</table>

### OTHER PROGRAMMES

#### 25. Cost at 5% of all levels

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>27.8</td>
<td>31.1</td>
<td>38.0</td>
<td>44.6</td>
<td>54.6</td>
<td>123.5</td>
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### GRAND TOTAL

<table>
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</thead>
<tbody>
<tr>
<td></td>
<td>584.4</td>
<td>653.1</td>
<td>818.0</td>
<td>937.3</td>
<td>1,147.4</td>
<td>2,593.4</td>
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</tbody>
</table>
TABLE II
Projections of National Income and Education Resources and Costs 1960-1980

<table>
<thead>
<tr>
<th>Year</th>
<th>Estimated national income (base)</th>
<th>Estimated resources for education</th>
<th>Total estimated educational costs</th>
<th>Excess of costs over resources</th>
<th>Total estimated educational costs as percentage of estimated national income</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960</td>
<td>14,453</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1961</td>
<td>15,031.0</td>
<td>450.9</td>
<td>584.4</td>
<td>133.5</td>
<td>3.9</td>
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<tr>
<td>1962</td>
<td>15,632.2</td>
<td>500.2</td>
<td>653.1</td>
<td>152.9</td>
<td>4.2</td>
</tr>
<tr>
<td>1963</td>
<td>16,237.5</td>
<td>560.9</td>
<td>819.0</td>
<td>258.1</td>
<td>5.0</td>
</tr>
<tr>
<td>1964</td>
<td>16,907.8</td>
<td>634.0</td>
<td>937.3</td>
<td>303.3</td>
<td>5.5</td>
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<td>1965</td>
<td>17,584.1</td>
<td>703.1</td>
<td>1,147.4</td>
<td>444.0</td>
<td>6.5</td>
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<tr>
<td>1970</td>
<td>21,797.6</td>
<td>871.0</td>
<td>1,881.6</td>
<td>1,009.7</td>
<td>8.6</td>
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<tr>
<td>1980</td>
<td>36,795.6</td>
<td>2,207.7</td>
<td>2,593.4</td>
<td>385.7</td>
<td>7.0</td>
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</tbody>
</table>

15. In view of the immense effort needed, appropriate measures should be taken to reduce the cost of development, while improving the organization and administration of education, avoiding wastage and overlapping, and speeding up the Africanization of educational staff.

16. Since education is Africa's most urgent and vital need at present, the methodical and harmonious development of education should form an integral part of economic and social plans in Africa. Every effort should be made to provide the increased assistance required by the African countries in order to satisfy their immediate educational requirements.

17. One way in which some of the uncertainties and variables in the short-term and long-term plans developed at the present Conference could be checked and corrected would be for each country which had not done so to develop a national educational plan for a short-term period, together with a longer-term projection. In costing such national plans, the techniques and methodologies used on the present occasion could be reviewed and used as appropriate.

18. Unesco, jointly with ECA, should convene a Conference of African States in 1963 with a view to:

(a) reviewing the targets and costs established for the short-term and long-term educational plan at the present Conference;
(b) comparing and analysing national educational plans which would by then have been established for all countries, and their effect on the overall models established at this Conference;
(c) helping in integrating educational plans with national development programmes.

IV. POSSIBLE SAVINGS IN THE COST OF EDUCATION

19. Assuming that the African countries are prepared to make an immense effort over the next 20 years to develop education, the best possible use will still need to be made of available resources by eliminating wastage and overlapping and by increasing the productivity of education, now regarded by the economists and financial experts as a profitable investment. These considerations led the Commission to consider possible reductions in educational expenditure through the employment of part-time teachers, use of trained community development staff, manufacture of
Chapter IV

equipment (furniture and teaching aid) free of charge by voluntary labour, provision of textbooks on a rental basis, financial contribution from better-off parents towards the cost of educating their children, financing of technical and vocational schools by industrial enterprises and others.

20. Bearing in mind that the cost of education can vary considerably from one country to another, the Commission recognized the need to undertake a comparative study of the cost of education in Africa to enable each country to review its own position in relation to that of the others.

21. Of the many suggestions made by delegations on the basis of experience in their own countries, the Commission favoured those that appeared applicable to the whole of the African continent. Among the proposals for the organization and administration of primary and second level education endorsed by the Commission are the following:

(a) to encourage the decentralization or devolution of educational administration;
(b) to obviate any competition between State and private education in siting of school establishments, without preventing their coexistence in centres where both can attract a sufficient number of pupils;
(c) to set up advisory committees or boards of administrators, economists and educationists to study possible economies and improvements in educational administration;
(d) to encourage, as a temporary measure in certain countries, the recruitment of part-time teachers, particularly for higher and secondary schools;
(e) to encourage, wherever possible, in co-operation with national educational institutes, on-the-spot production or, alternatively, bulk purchase abroad of textbooks, and to foster the lending out or re-sale of textbooks to pupils;
(f) to use where necessary and possible second level school buildings and equipment for the training of teachers.

22. With regard to higher education, the Commission did not feel qualified to examine possible economies in the administration of universities, which enjoy complete independence from government control, though it would seem desirable, to encourage regional or sub-regional co-operation in higher education in Africa. The Commission hoped that these items would be included in the agenda of the Conference on Higher Education in Africa, which Unesco plans to organize in 1962.

23. Generally speaking, the Commission recognized that a policy of economy should not be allowed to interfere with the quality of education; for instance, the replacement of foreign expatriate staff by local staff must depend upon the quality of the latter.

V. METHODS OF FINANCING EDUCATION

24. The considerable expansion of education over the next 20 years will not only necessitate an increase in national education budgets but will also require the use of new financial sources, both public and private, national and foreign, in order to mobilize all the material and human resources which can be applied to the task of achieving the objectives. Once the educational needs of each country have been worked out and their orders of priority established, taking account of the particular aims of education and the goals of social and economic development, an inventory of available resources will have to be drawn up accordingly in order to make sure that they are used in the most effective way. While it is true that educational expenditure has not always enjoyed the necessary priority and that the proportion of the national income devoted to education is still inadequate in many cases, due recognition must be given to the recent efforts made such as those illustrated by the figures produced by the delegate of the Upper Volta, where the national education budget has increased sixteen-fold over a period of ten years, whereas the total budgetary resources have only increased tenfold. It might be useful to make a comparative analysis of educational budgets in Africa (national budgets, local budgets and supplementary budgets).

25. The Commission investigated the possibility of requiring the tax-payer to finance a larger proportion of educational expenses. The majority of delegates considered that the meagreness of taxable sources and the psychological, economic and political difficulties of increasing the poll-tax which is often the principal form of direct tax in Africa, rule out the possibility of increasing direct taxation. The Commission recognized that the development of education could
have an adverse effect on the balance of foreign exchange if it involves an increase in foreign personnel or the import of equipment and materials.

26. The Commission favoured those improvements in the financial system which would increase returns without impairing social justice. It also evinced interest in the system of apprenticeship taxes which were levied on commercial and industrial companies employing fairly large staffs and which were intended to finance certain vocational training programmes. The Commission commends the practice in some countries as in Pakistan of setting aside for education and training a percentage of the capital cost of large undertakings.

27. The Commission considered the problem of financing through loans. While education was to be regarded, indeed, as an investment which according to the economists' calculations and projections would yield high returns, the normal procedure in the case of certain forms of technical education was to have recourse to domestic and foreign loans to finance its development, and particularly the capital expenditure involved. The representative of the Director-General stated that the International Development Association had recently decided, on the basis of purely economical criteria, to concede 50-year loans repayable by instalments to finance the construction of technical schools, and that Unesco had incidentally suggested that secondary and higher education should also be financed in that way for Africa. He also referred to the example of Colombia where an Education Bank has been set up which granted loans to communities and local authorities for the development of education throughout the country.

28. While the Commission noted with interest the possibilities of international financing through loans which the prospects outlined opened up, it considered that the savings capacity of many African countries was still low, and that any sums which could be borrowed from bank deposits, savings banks or postal cheque accounts should be earmarked primarily for rapidly self-amortizing investments, with international loans being used to cover long-term capital expenditure and construction. The Commission expressed its preference in that connexion, for deferred payment loans but emphasized that subventions would continue to be one of the chief means of financing education.

29. The Commission recommended, in general, that the financial arrangements should be so devised as to eliminate duplication of effort and to simplify the distribution of financial responsibility between the central and local authorities. It was essential to ensure that the expansion of education was not hampered by institutions laying too heavy a burden on local and regional authorities not disposing of adequate revenue. In that connexion, it was deemed essential to make financial arrangements between the different levels of government so as to ensure, in particular, the equalization of expenses between the richer and poorer regions. Lastly, the apportionment of credits and subventions between public and voluntary establishments should be as equitable as possible.

30. The Commission approved with interest the proposals to establish development and research institutions in education in Africa in which experts in various branches of study might together work out the methods best suited to the development of each country, but without ever losing sight of the cultural and humanistic aspects of education.

31. In conclusion, the Commission felt that the subsequent development of education in Africa was also largely dependent on external aid which would, in particular, be required for "priming the pump" and getting such development under way.

VI. SCHOOL CONSTRUCTION

32. After recalling that the General Conference, in its resolution 1.2323, had appealed to Member States and to voluntary bodies to assist through Unesco the development of education in Africa by helping in the construction of educational buildings, the representative of the Director-General called attention to certain proposals designed to promote the implementation of a school construction programme in Africa. The intention was to set up, as a first stage, a Central Planning Group consisting of a team of administrators, architects, engineers and education experts who would prepare costed plans and standard elements embracing secondary school administration, including
residential accommodation for staff and pupils. The group would also act as a training unit, since it would incorporate architects, engineers and specialists from African countries in its activities. The Sudanese Government had offered to receive the group in Khartoum as from July 1961. The entire project was to be financed by grants from the Federal Republic of Germany and the Netherlands. The plan was that at a later stage national construction units in each country participating in the scheme would gradually take the place of the central planning group.

33. The Commission noted the following current status of the project:

(a) The Central Planning Group would work in collaboration with the Ministries of Public Works and consult local specialists before launching projects in any particular country. It would also maintain contact with bodies already working on those problems in Africa or elsewhere, such as the Commission for Technical Co-operation in Africa South of the Sahara, the National Institute of Pedagogy in France, or the Technical Bureau for the Rationalization of School Construction in the Congo. As a result of consultation with States in Africa, it was noted that the part of the work-plan referring to national construction units was being dropped.

(b) While the headquarters of the group would be in Khartoum to begin with, the experts composing it would travel to the various African countries requesting Unesco's help in standardizing school buildings. An order of priority would be established among the projects in which the group was asked to assist.

(c) The group would be able to supply plans and technical advice to any country that already had the architects and engineers necessary to carry out projects.

(d) A circular containing detailed information on the school construction programme would be sent out to Member States and Associate Members of Unesco as soon as it had been approved by the Executive Board in May-June 1961.

34. The United Kingdom representative submitted proposals for a school construction programme in Africa based on the United Kingdom's experience after the Second World War when it had to cope with a substantial increase in the school population. The success then achieved by the development group attached to the Ministry of Education, which brought together in one team all the various skills and types of experience required for the construction of premises adapted to secondary school needs, indicated the possibility of adopting a similar solution for Africa. An Advisory Centre for Education Building could be set up to act as a documentation and co-ordination centre which would acquaint African countries with the results obtained by others faced with similar problems and conduct operational research to identify the most urgent problems so as to concentrate development work on finding solutions capable of the widest application. There would also be a mobile development group responsible for carrying out low-cost development projects in collaboration with the national educational building organizations. The aims would therefore be essentially practical as it would carry out concrete projects in the field at the request of the governments concerned. Lastly, the development group would have associated with it local engineers, architects and educationists with a view to benefiting from their experience and providing training. The United Kingdom representative said that his Government was prepared, either directly or through Unesco, to supply a leader for the development group and to assume responsibility for his salary and allowances.

35. The Commission noted the following:

(a) The development group would also have within its purview the design of school furniture and equipment as well as questions concerned with building maintenance, one of its objectives being precisely the planning of easily maintained buildings.

(b) Like the Unesco Central Planning Group, the Centre would work in collaboration with research institutes interested in low-cost standard school construction, whether in Africa or elsewhere.

(c) Although the school construction problem appeared to be particularly critical in Africa in the case of secondary and higher educational establishments, there was no reason why the Centre and development group should not concern themselves with the planning of primary schools; they would also concern themselves with the provision of staff accommodation.

(d) The development group should carry out the normal responsibilities of architects including the supervision of building works and checking of results.
(e) It was expected that the normal scale of architect fees would be payable to the development group, though this was subject to further discussion with Unesco.

(f) Lastly, the Centre would have to make a point of working in collaboration with the national ministries of Public Works, and as far as possible bringing into the schemes local specialists whose experience would be taken into account.

36. The Commission noted the Unesco school construction programme for Africa, approved the proposal put forward by the United Kingdom Government and took note of its generous offer. It recommended that Member States and Associate Members facilitate the implementation of those projects and suggested the co-ordination and harmonization of the programme proposed by the United Kingdom Government and that approved by Unesco.

VII. RECOMMENDATIONS

37. The recommendations approved by the Commission in the course of its discussions are summarized below:

(a) The Commission approves the Outline of a Plan for African Educational Development.

(b) Unesco and ECA Member States and Associate Members in Africa should make every effort to raise the percentage of their national income earmarked for financing education from 3 to 4% between 1961 and 1965, and from 4 to 6% between 1966 and 1980.

(c) In view of the immense effort needed to achieve the aims set forth in the Plan for African Educational Development, the Commission recommends that appropriate measures be taken to reduce the cost of development, while improving the organization and administration of education, avoiding wastage and overlapping, and speeding up the Africanization of educational staff.

(d) Since education is Africa's most urgent and vital need at present, the Commission recommends that the methodical and harmonious development of education should form an integral part of economic and social plans and invites Unesco and ECA Member States and Associate Members in Africa to set up appropriate bodies to achieve these ends.

(e) Considering that economic and social progress in Africa will largely depend on the success of the Plan for Educational Development, the Commission appeals to Member States of Unesco and private bodies to provide the increased assistance required by the African countries in order to satisfy their immediate educational requirements.

(f) The Commission recommends that Unesco, jointly with the Economic Commission for Africa, convene a Conference of African States in 1963 which would have the following terms of reference:

(i) to review the targets and costs established for the short-term and long-term educational plan prepared during the present Conference;

(ii) to compare and analyze national educational development plans which will by then have been established in the various countries, and to assess their effect on the overall models established during the present Conference;

(iii) to help in integrating educational development plans with national programmes for economic and social development.

(g) The Commission recommends the adoption of a series of measures for the organization and administration of primary and secondary level education in Africa.

(h) The Commission approves the establishment in Africa of development and research institutions in education, in which experts in various branches of study might together work out the methods and solutions best suited to the development of education in each country.

(i) The Commission notes the Unesco school construction programme for Africa, approves the proposal put forward by the United Kingdom Government and takes note of its generous offer. It recommends that Member States and Associate Members facilitate the implementation of those projects and suggest the co-ordination and harmonization of the programme proposed by the United Kingdom Government and that approved by Unesco.

38. The Commission recommends that the Conference adopt the following resolution:
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Considering

that all delegations have emphasized the magnitude of their countries' requirements as regards educational establishments,

that the problem of recruiting teachers in the requisite numbers and of the required quality is partly bound up with the solution of the problem of their housing accommodation,

that the Conference has recognized the over-riding importance of investment in education within the framework of a balanced development plan,

that the major problem to be solved is that of financing such investment,

that the new African States are faced with many heavy financial burdens,

that the assistance at present afforded them is insufficient to cover all their needs.

Requests the governments of Member States and Associate Members in Africa, to approach governments and competent international organizations and public and private organizations, with the help of Unesco, with a view to their financing, by means of long-term loans - whether interest-free or at low interest rates - a supplementary school building and staff-accommodation programme as an addition to the regular programmes at present financed from national budgets and with external aid.
CHAPTER V
THE PROCESS OF EDUCATIONAL PLANNING
Report of Commission II

1. DEFINITION OF EDUCATIONAL PLANNING

1. Educational planning is defined in the following terms:

"Planning of education is concerned both with governmental and private activities in order to have adequate education by stages and within defined goals, offering each individual a better chance to realize his potentialities and to make his most effective contribution to the country's social and economic development....

..... Planning of education thus conceived should be overall: (a) to the extent that education is a fundamental and inseparable aspect of society and of its cultural and economic activities; (b) in view of the fact that the different levels of education should constitute a well-integrated and harmonious system capable of effectively serving the unity of the educational process; and (c) because of the need of co-ordinating administration and finance in order to ensure the effectiveness and efficiency of the educational service..... In a world of limited financial resources with many competing ends, education takes its place in the general programme of social and economic development. Consequently, educational development plans should be made for each country according to its socio-economic realities and the goals it tries to attain".

2. It was emphasized that the success of educational plans is itself dependent on the effective implementation of plans directed towards a better exploitation of natural resources. The proportion of grants to the total volume of international aid given to Africa is considerable, and is rising, but account should be taken of the fact that this picture is likely to change and that Africa would be assuming responsibility for servicing loans to an increasing degree. The importance of relating educational planning as much to opportunities given to the individual as to his adaptation to a given society and to the changes taking place in the social and economic environment was stressed. It was also pointed out that since the manpower needs of African countries are often complementary, plans for educational development should be conceived not on a national but on a regional basis. Unesco, for example, already assists in the establishment of regional teacher-training institutions with the aid of the Special Fund. It was thought that reference should be made more specifically to Africa in defining educational planning. With these remarks, the definition of educational planning reproduced above was considered as a fair one and accepted for the purpose of the discussion.

II. BROAD LINES OF THE DISCUSSION

3. The Commission brought the discussion to bear on the main sections of Mr. Harbison's study "The Process of Education Planning" (see Annex IV):

Some critical problems of educational planning
The steps in the planning process
Machinery for implementation of planning.

In the course of the discussion, certain trends emerged and a number of recommendations were made.

A. Some critical problems of educational planning

4. Several problems pertaining to educational planning, including some particularly related to the reforming of the content of African education, were subjected to study.
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(a) Shortages of high-level manpower and surpluses of unskilled labour

5. It is recognized that the twin problems in question are of great importance to a large number of African countries. It is agreed that they are to a large extent the results of educational systems which are not adapted to the countries' needs. Surpluses of unskilled labour are a widespread phenomenon in predominantly agricultural countries, where primary school leavers, without specialized qualifications, tend to migrate from rural areas to towns in the hope of obtaining "white collar" jobs. Thus unemployment tends to grow as education develops, since the extension of education is faster than the pace of expansion of employment in those towns. In some countries, disguised unemployment exists in the form of too many unproductive occupations.

6. There is agreement that solutions to this state of affairs should be sought in two directions. First, all qualified primary school leavers should be able to enter secondary schools or technical schools. One country indicated that out of a yearly figure of 30,000 primary school leavers only 3,000 enter secondary schools, and that it is developing middle schools corresponding to 7th to 9th grade as a first step. Second, primary education should prepare children who would not go on to secondary education for productive occupations. In that connexion, it was stressed that primary education should be self-contained while being preparatory to secondary education and should have a practical bias. The same applies to middle or junior secondary schools which would gain by adopting an agricultural or technical bias. It was emphasized by the majority of speakers that primary education should not divert children from their environment but should prepare them for an active and fuller life in this environment.

7. However, it was indicated that the problem of migration from country to town is not only an educational one, but a social one as well. The disparity between urban salaries and rural earnings is one reason. Another is the status of the land. Where the land belongs to the older generation, young farmers are discouraged from an occupation in which they are not allowed to use new techniques. Where the system of inheritance involves the breaking up of landed property, the farmer's income becomes more and more inadequate, despite his efforts to apply modern techniques. An endeavour should also be made to restore the dignity of agriculture and improve living conditions in rural areas. The improvement of country planning and the development of community life should be vigorously promoted. More generally, education should be reorganized and revised both in terms of numerical targets and of content, in view of the objectives of economic and social development of the African States.

8. As far as high level manpower is concerned, accurate estimates of requirements should be made through surveys.

(b) The determination of priorities for investments in education

9. The Commission examined the following questions:

Should priorities be established in the planning of education?
If so, which levels or types of education should be given priority?

10. On the first point, it was acknowledged that the inadequacy of resources made it essential to establish priorities, however difficult it might be to make a choice among needs that were all urgent. Some representatives suggested the use of another term such as "preference", but the majority favoured the term "priority" as connoting the chronological idea implicit in planning. It emerged clearly that the Commission is anxious to avoid sacrificing the levels or types of education not granted priority, and it was generally agreed that balanced development of education was still the ideal goal, although the balance might in certain cases be achieved through successive stages of imbalance.

11. Stress was also laid on the complementary nature of the various types of education - primary and secondary on the one hand, secondary and higher on the other - and on the need to prepare a smooth transition from one to the other and the dovetailing of all levels and types of education.

12. With the above qualifications, a certain number of priorities regarding levels of education emerged during discussion. It was found that those priorities, though varying from country to
country, could be classified in two main categories depending on the educational situation in the particular country and on its level of economic development and economic structure.

13. Although all countries accepted the aim of bringing about universal, free and compulsory primary education which Unesco is required to promote under the very terms of the Universal Declaration of Human Rights, a number of representatives considered that universal primary education of that kind is not the first priority in their countries, but that the development of secondary or even higher education is more urgent. The need for increasing secondary school enrolment was urged since the training of primary school teachers at the secondary level is the sine qua non for the extension of primary education. Effort at the secondary level is also essential for the training of the administrative and technical staff required for the economic expansion which would make possible the increase in national income necessary for the purpose of introducing universal primary education. Further, secondary schools are necessary to produce youth eligible for higher institutions which will supply the urgently required high-level manpower. That viewpoint was particularly expressed by representatives of countries which have already attained a satisfactory primary school enrolment rate, together with a level of economic development likely to provide employment for supervisory staff trained at the secondary level.

14. Other representatives, however, pointed out that their countries are without the infrastructure of primary school leavers which would justify priority attention for the development of secondary education. Such countries, with their basically rural economies, have only limited need so far of administrative and technical personnel, and it is the extension of primary education which would be the main factor in increasing agricultural productivity. It is also a prerequisite for the introduction of real democracy and the strengthening of national unity and cohesion.

15. Priorities were also laid down as regards the requirements for certain educational levels and for those common to all levels. There are two main priorities. The first of them is teacher training in each country on which educational progress at all levels depends. It is essential on that score, to formulate a teacher-training policy for primary education and for junior and senior secondary education, while making provision for the creation of a network of establishments corresponding to the various types of training. A proposal was made for the establishment of a liaison body to be stationed in Africa and to be responsible for co-ordinating the various types of teacher training. That function could be entrusted to the Regional Education Office in Africa which is to be set up shortly with the assistance of Unesco. It was stressed, furthermore, that progress in education should be both qualitative and quantitative, and that a satisfactory enrolment rate should not be allowed to conceal the mediocrity of instruction given by poorly trained teachers. The second priority is the reform of the content of education with a particular eye to economic and social requirements.

(c) Balance between general education and specialized technical training

16. The Commission recognized that the African countries, in a century characterized by technological progress, should embark on a very broad expansion of technical and vocational education and specialized training in the interests of their own development and especially for their industrialization. That trend, which is common to all countries, would be particularly marked in Africa, since the educational system introduced there sometimes failed to match the postulate of an industrialized economy born of independence.

17. The fact is that the balance to be struck between general education and technical training has to be determined in the light of the objectively established needs and manpower demand of the countries in process of development. The Commission recommends that studies be made to ascertain those requirements and determine that demand.

(d) The attitudes of students and teachers towards education

18. The Commission noted that there is a distinct drop in the number of candidates offering themselves to be trained as teachers and also in the number of qualified teachers continuing to remain in the profession. That situation, which is to be found in many countries, is particularly serious in the young African States, where the senior administrative posts, political life and diplomatic careers draw many teachers away from the profession. The Commission considered it essential
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that the conditions and standing of teachers be improved and emphasized that the revaluation of teachers' salaries and free housing or the commitment to provide housing facilities to teachers in some countries are important aspects of the question. It is for African governments to take up that serious problem.

19. In connexion with this problem, it was made known that the Director-General of Unesco has been authorized by the General Conference to undertake, in consultation with the International Labour Organization and in close co-operation with teachers' organizations, the preparation of such steps as will improve the status of teachers.

(e) The nature of cultural co-operation with foreign countries for educational development

20. It was agreed that recourse to foreign technicians - the most typical form of the African States' cultural co-operation with other countries for the purpose of educational development - would remain necessary until the African counterpart staff has been trained. The former metropolitan countries are often asked, for practical and linguistic reasons, to supply these specialists.

21. There is a very real need for technicians and senior staff. The representative of the Director-General emphasized that Unesco, for its part, has received requests from the African States for the recruitment of over 1,000 teachers. The outlook reflected by these requests is in keeping with the philosophy of the United Nations and Unesco, which are in favour of cultural exchanges between the different continents. The difficulty in many cases, is to find secondary and university teachers and technicians, of whom there is a shortage in most countries. Training abroad also remains necessary for the time being, although many speakers expressed preference on psychological and financial grounds for local training.

(f) The technology of education

22. The Commission took the view that the African countries, in renovating their educational systems, would be well advised to study the use of the most up-to-date educational techniques and teaching aids, on the subject of which it heard a statement by Mr. M.B. Mitchell, Unesco consultant (See Annex IV). Some of those techniques would go part of the way towards relieving the shortage of teachers and reducing the cost of education. However, various delegates pointed out that nothing could replace the human contact that could come only from the teacher whose burden those techniques could do no more than lighten.

(g) The reform of the content of education

23. The Commission discussed at length the problem of reforming the content of education in the African countries, and heard a most informative statement on the subject from the Unesco consultant, Mr. Joseph Ki Zerbo of Upper Volta (See Annex IV).

24. The need for such adaptation is generally recognized. The educational systems in force were modelled, by and large, on those of the former metropolitan countries. Moreover, even in the latter they frequently require overhauling, as they had been worked out long since. They are in line neither with existing African conditions, nor with the postulate of political independence, nor yet with the dominant features of an essentially technological age or of the imperatives of balanced economic development involving rapid industrialization. Based as they are on a non-African background, they allow no room for the African child's intelligence, powers of observation and creative imagination to develop freely, nor do they help him to find his bearings in the world. For the African personality to assert itself, it is necessary to rediscover the African cultural heritage to which an important place should be allotted in education. Stress must be laid on the cultural and social features common to the African countries, thus strengthening African unity and helping the countries of the continent to get to know each other better. An understanding of African customs, languages, psychology and sociology cannot but facilitate the work of medical personnel, demographic experts, statisticians and other specialists.

25. Furthermore, it is essential to develop the teaching of scientific and technical subjects so as to ensure the training of highly qualified staff as speedily as possible (e.g. research workers, engineers, science teachers, economists, financial experts and statisticians).
26. Conversely, curricula should be correspondingly reformed by allotting less time to the teaching of dead languages and ending the preferential treatment given by the former metropolitan powers to the teaching of history and geography little related to Africa or African needs.

27. It was noted that the retention of all aspects of liberal education that could help in character formation, and it was urged that the educational systems of African countries, while rooting in themselves Africa's past, should not seal themselves off from the rest of the world. It was for the African states to make the necessary changes in traditional attitudes and to achieve, in their curricula, a synthesis of their own values and of universal values, as well as of the requirements of economic and technological development.

B. The steps in the planning process

The steps in the planning process were set out as below:

(a) A projection of manpower requirements, by occupation, for at least 10 years and preferably for 30 years

28. This represents the first stage in the process. The dual system of occupational classification (senior category and intermediate category) and of educational classification (senior category, intermediate category, skilled manpower, unskilled and semi-skilled manpower) was considered satisfactory, on the understanding that secondary school teachers who hold a university degree would be placed in the senior category. As a general rule, in cases where the two criteria of occupational and educational classification fail to coincide, the latter should be the one applied.

(b) A description of the present anticipated annual output of graduates from educational institutions at the primary, secondary and higher levels, including estimates of graduates in the general and technical fields in the teaching profession

29. This constitutes the second stage. The Commission recognized that Member States had provided information on this subject in the statements made by delegates at plenary meetings or in the documents submitted on educational needs and development plans.

(c) A tentative estimate of future needs of imported high-level manpower by major occupational groups and by time periods

30. It was felt that an estimate of that kind should also be included in educational planning. On the subject of the categories of manpower that must come from abroad, it was pointed out that some countries prefer to take the senior category, which requires the longer period of training. With regard to recruitment methods it was stated that several countries take advantage of both international technical assistance and bilateral aid programmes. Unesco was urged to play a more important part in recruitment.

31. Several delegates stressed the fact that national experts were seconded to work with foreign specialists, for the duration of their mission, in order to be trained by the foreign specialists. In general it was pointed out that given the world shortage of experts, it is essential that African governments should make the most of their assistance.

(d) An analysis of the extent to which the necessary manpower may be trained on the job

32. Such an analysis was also deemed necessary. The Commission agreed that formal education is not enough for the training of manpower, and that employers must share that responsibility with schools. However, the representative of the Economic Commission for Africa pointed out that it is impossible to leave that responsibility entirely to the private sector, which in any case did not always include enterprises large enough to take over that work and which, in providing training for its own needs, allowed no provision for the manpower reserve necessary for economic expansion. Hence the dual method of training by the state and by private enterprise seemed preferable.
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(e) An assessment of the long-range quantitative increases needed in education at the primary, secondary and higher levels, and in general and technical fields and teacher training.

33. Such an assessment would be based on information obtained under sections (a), (b) and (c) above (paragraphs 28, 29 and 30). On this particular point, Commission 1 had put forward a number of hypotheses expressed in terms of percentages, with a view to the preparation of an educational development plan for Africa. It was strongly felt in that connexion that there should be close co-ordination between educational planning and planning for economic and social development.

(f) A critical evaluation of the long-run qualitative changes needed throughout the educational system.

34. The evaluation in question would need to be based on the considerations set forth under sections II.A (c) and (g) of this report.

(g) The estimation of costs of education and the means of financing educational development.

35. This point was studied by Commission 1.

C. Machinery required for planning

36. The Commission directed its attention to the three types of bodies necessary for planning: a planning group within the Ministry of Education, a manpower development board and a general development body in which the Ministry of Education should be strongly represented. Delegates expressed wholehearted agreement as to the need for these bodies and for close collaboration between them. It was stated that such bodies already exist in several countries. On the other hand, not all African governments as yet have the requisite administrative machinery, research facilities and co-ordination bodies nor have they in some cases drawn up development plans.

(a) The planning function within the Ministry of Education.

37. The Commission agreed that the creation of a planning group within each Ministry of Education is imperative and that such groups should be responsible for the optimum use of available funds and for their distribution among the different types of education; for the compilation of statistics and the forecasting of school enrolment; for studying teaching problems; for drawing up, revising and continuously adapting curricula; and for the training of teachers. The desirability of basing central planning on data assembled locally was stressed. Close liaison between such groups and the general development bodies was recognized to be essential.

(b) A manpower development board or commission.

38. The establishment of a body to be responsible for manpower and the development of human resources, with special reference to statistics and manpower and employment forecasts, for on-the-job training, salary policy, social security measures and the development of measures for alleviation of unemployment is considered to be imperative. Some delegates considered that such a body should be within the Ministry of Education, while others considered it preferable to establish an inter-ministerial commission. Whatever the solution adopted, it is essential to maintain close co-ordination with the planning group of the Ministry of Education and to ensure that the representative of that Ministry play an active part in the Commission.

(c) The integration of educational planning with economic development planning.

39. General economic development should be entrusted to a ministry or an inter-ministerial commission, as appropriate. Bodies of that type already exist in a number of African states, and their creation in states where they did not already exist is considered imperative. The Commission was in favour of an inter-ministerial body whose Secretary would be a senior official in the Prime Minister's Department. It considered that it is in the interests of Ministries of Education
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to sponsor the establishment of such commissions where necessary, and that the Ministry representative - normally the head of the educational planning group - should play an active part in their work. In particular, those bodies must recognize that education is not merely a consumer goods but a fruitful investment and an essential factor in economic development.

D. The evaluation of plans

40. The Commission agreed that educational planning is a continuous process which needs constant adaptation, review and improvement, in the light of developments in the situation, of improvement in statistical data and forecasting, as well as of the results of educational research.

III. CONCLUSIONS AND RECOMMENDATIONS

41. The following conclusions and recommendations emerged in the course of the discussions:

General recommendations

42. The Commission draws the attention of governments to the fact that education, far from being a mere consumer goods, is one of the most fruitful of investments, and recommends that the development of education, both qualitatively and quantitatively, should constitute one of the essential elements in any plan for economic and social development.

A. Some critical problems of educational planning

43. The Commission recommends that precise estimates be made of requirements for high-level manpower.

In order to take up the surplus of unskilled manpower, the Commission recommends:

(a) that primary education be given a practical bias and be sufficiently developed and expanded so as to cease to be a contributory cause of migration from rural areas to the towns;

(b) that all children who are capable of benefiting thereby be allowed access to secondary or technical schools as soon as practicable;

(c) that living conditions in rural areas be improved by a vigorous attempt at country planning and community development;

(d) that the system of land tenure and inheritance of real estate should be altered, if necessary.

44. The Commission recommends that governments should establish priorities as between the different levels and types of education in view of the dearth of resources, while maintaining as their goal the balanced development of these closely complementary levels and types of education, and remaining faithful to the principle of universal, free and compulsory primary education, as laid down in Article 26 of the Universal Declaration of Human Rights.

45. The Commission notes that these priorities, which vary from country to country, will affect the development of secondary and higher education in some cases and the development of primary education in others.

46. The Commission further recommends that teacher training and the adaptation and reform of the content of education should be regarded as priorities, and that the principle of priority should extend to both qualitative and quantitative requirements.

47. The Commission recommends that technical and vocational education and specialized training should be greatly developed in the African countries to keep pace with recent technological progress and their development requirements, and that a proper balance be struck between general...
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and technical education, on the basis of objectively determined needs and of studies designed to assess the demand for manpower in the various countries concerned.

48. The Commission notes the existence of a marked flight from the teaching profession and recommends that steps be taken to improve the status conditions of teachers both with regard to salaries and the standing of the profession.

49. The Commission notes that until such time as the African States have produced their own senior personnel, particularly at the top levels, the need for recourse to the services of foreign experts and teachers placed at their disposal under bilateral and multilateral agreements, and to training fellowships abroad will remain.

50. The Commission considers that it is in the interest of African states to make use of the latest techniques and teaching aids, which to some extent can offset the shortage and shortcomings of teaching personnel although they can never replace personal contact with the teacher.

51. The Commission recommends that governments revise the content of their education in respect of the curricula, textbooks and methods, so as to take account of the African environment, child development, the cultural heritage of Africa and the demands of technological progress and economic development, and especially of industrialization.

52. The Commission recommends that Unesco encourage and assist the African countries in the efforts they will undertake in this direction with special reference to the production of textbooks adapted to this new conception of the content of education.

B. The steps in the planning process

53. The Commission recognizes the need for an estimation of forward manpower requirements under the dual system of occupational and educational classification.

54. The Commission recognizes the need for a survey of the present anticipated annual output of graduates from educational institutions at the primary, secondary and higher levels, and notes with pleasure the information provided on this subject by the representatives of African governments.

55. The Commission recognizes the need for an estimate of future needs for imported high-level manpower by major occupational groups and by time periods, and draws the attention of African governments to the importance of making the most of the very limited resources of such personnel at present available.

56. The Commission considers that school education is not enough to ensure the training of manpower and that employers should share this responsibility, under joint training arrangements by the State and private enterprise.

57. The Commission recognizes the need for an assessment of the long-range quantitative increases needed in education at the primary, secondary and higher levels, and in general and technical fields and teacher training.

58. The Commission recognizes the need for a critical evaluation of the long-run qualitative changes needed throughout the educational system.

C. Machinery required for planning

59. The Commission recommends the establishment in Ministries of Education, of planning groups adequately staffed with persons of high competence in education and economics and concerned with the following functions: collection of statistics on education; determination of costs of educational programmes; reform and revision of curricula; planning of teacher recruitment and training; making long-range forecasts of educational needs; research in new educational technology, such as programme learning, radio, television and visual aids; formulation of plans for the financing of education, including the co-ordination of external aid for this purpose.
The Commission recommends the establishment within a single Ministry or in the form of inter-ministerial commissions, of manpower boards with the following functions: assessment of present manpower resources and needs in both the public and private sector; long-range forecasting of manpower requirements; development of programmes for education and training of manpower, including on-the-spot training of employed manpower; formulation of policy governing the importation of high level manpower from abroad; development of programmes to alleviate unemployment or under-employment; formulation of social security measures in relation to national plans for economic and social development; study of incentives including the setting of wages and salaries and of the effect upon the allocation and effective utilization of manpower.

The Commission recommends the establishment in all countries as yet without any Planning Ministry or Board of another Ministerial Commission to be responsible for the co-ordinated planning of economic and social development and reporting directly to the Prime Minister's office.

It also recommends that the representative of the Ministry of Education serving on this Commission should see that education is given its due weight as a productive investment and as a basic factor in economic and social development.

The Commission recommends that the three bodies described above work in close co-operation.
CHAPTER VI

PREREQUISITES IN GENERAL EDUCATION FOR
SPECIALIZED TECHNICAL AND VOCATIONAL TRAINING

Report of Commission III

I. INTRODUCTION

1. The demands made upon the educational system by the various vocational, technical and professional needs of the typical community require consideration of the type of school organization which will meet these demands and of the preparation for such training which can properly be given in the general educational system.

2. The discussion brought into relief the diversity in patterns of organization and terminology; and, as far as possible, the classification and definitions in the Unesco Manual of Educational Statistics (page 237) were followed. This classification is reproduced below to serve as a guide to the structure on which the Commission based its discussions:

   Education at the first level, of which the main function is to provide basic instruction in the tools of learning (e.g., at elementary school, primary school).
   Education at the second level, based upon at least four years previous instruction at the first level, and providing general or specialized instruction, or both (e.g., at middle school, secondary school, high school).
   Education at the third level, which requires, as a minimum condition of admission, the successful completion of education at the second level, or evidence of the attainment of an equivalent level of knowledge (e.g., university, teachers' college, high professional school).
   General education ... does not aim at preparing the pupils directly for a given trade or occupation. Where appropriate, general education should be further subdivided as follows:

   (i) Lower stage, in which general instruction is given with orientation of pupils according to interests and aptitudes (e.g., at junior middle school, junior secondary school, junior high school); education at this stage may lead to various types of instruction at a higher stage;
   (ii) Higher stage, in which some differentiation is provided in the types of instruction according to the interests and aptitudes of the pupils (e.g., at senior middle school, senior secondary school, senior high school).

3. In spite of the diversity already mentioned and of differences in the scope and emphases of development plans in relating education to the environment of the school, the Commission found much that was common ground which guided it to suggest the pattern set out below.

II. GENERAL EDUCATION AT THE FIRST LEVEL

4. Education at the first level is considered to cover broadly six years and, while it should be general and not vocational in its intention, it should include elements which seek to develop an appreciation of the value of work with the hands as well as with the mind and to bring about a readiness for practical activity on which future vocational and technical education can be built.

5. Approached in this way, education at this level should enable the pupil to take his place in society even if he does not proceed to the next level. It should lay the foundation for entry into vocational training at the operative level as well as at the second level of education. The end products might be termed creative ability and an intelligent approach to life's problems.

6. The most efficient selection processes should be used to select pupils from the first level for the next in order to avoid wastage of human and financial resources. With efficient selection it may be hoped that a high proportion of the pupils admitted to the second level would reach a
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satisfactory standard of attainment in the secondary school leaving examination and provide a suitable proportion of candidates to proceed to the institutions of the third level, the university and professional college.

7. For those pupils to whom the facilities for formal secondary education are not available, the community should accept responsibility for providing opportunity for continued self-improvement through further adult and workers' education schemes and apprenticeship. At the same time, the general education programme should be in a position to contribute to the advancement of auxiliary personnel (e.g. in agriculture, health, technology, etc.) so as to enable them to achieve higher professional status. This can be done by offering additional facilities for general education in conjunction with professional training programmes aiming at the upgrading of such personnel.

III. GENERAL EDUCATION AT THE SECOND LEVEL (SECONDARY EDUCATION)

8. Secondary education, with the variations required by particular circumstances, may consist of a further six years of school life in two stages. In view of the wide variety in patterns of organization and in the plans of development for secondary education, there should be no rigid definition of the point of transition from the lower to the higher stage.

9. The same criteria, however, should be applied to each case before a decision is taken as to where the lower stage should end and the higher begin. These criteria are best expressed in the form of questions.

- What is the degree of "readiness" in the pupil for the diversified and specialized courses of the higher stage?
- What is the relation between what is desired and what is possible in terms of aptitude?
- At what point do the pupils' aptitude and capacities become clear?
- How can the school organization provide the flexibility for adjustment to the pupil's interests?
- What differences are there between the sexes including their rates of development which may require variations in educational provision at different points in the secondary school programme?
- To what extent do the urgent needs of a developing country necessitate temporary modifications within or without the formal school system?

A. The lower stage

10. In some countries the lower stage of secondary education is a direct extension of education at the first level and the result in standards of attainment depends on several factors, among them the age of entry to the primary school and the level of attainment at the point of admission into the secondary.

11. The curriculum for this stage must be diversified to expose the pupil to linguistic, social, scientific, aesthetic and practical activities and modes of conduct acceptable to the community. The atmosphere and the methods used must help him to discover his interests and abilities both in kind and degree. Modern methods of testing and the use of cumulative cards will be of great help in guiding the pupil to the next step, but the co-operation of parents will also be necessary.

12. The curriculum for this stage must be considered in terms of areas of study, as suggested below, rather than of subjects on a time-table.

(a) Language studies cover the study of the mother tongue or national language and a second language.

(b) Social sciences include all the learning experiences related to the story of man and the values by which he lives, and his physical, human and cultural environments. They should embrace the significant aspects of the traditional subjects of history, geography and citizenship, and lead the pupil to an understanding of the conditions on which he can take his place satisfactorily in this community. They should also help him to develop an appreciation of the relationship between his own community and other communities. (Note: Research into the content of this area of knowledge is necessary if the danger of overloading the curriculum is to be avoided.)
(c) Natural sciences including mathematics. The learning experiences in this field should be based, as already agreed for the primary school curriculum, on observational data and the conclusions which can be drawn from them. The tool for developing precision of knowledge and understanding in this area is measurement.

(d) The practical area comprises all work with the hands and tools. Here should be provided diverse activities related to community experiences. These facilities should be used to develop greater skill, an appreciation of the worth of manual activity and an understanding of its significance in relation to community needs. They should also help the pupil to discover the nature and extent of his own practical abilities.

(e) The aesthetic and cultural area must provide opportunities for expression through music, singing, modelling, painting and other creative crafts, the object being to help the pupil to develop an awareness of the roots and the strength of his cultural heritage.

(f) Health and physical education. The learning experiences in this area must be directed towards helping the pupil to acquire positive attitudes and habits of health. (Note: there is need for research in this area with particular reference to the problems of sex education and the ways in which health education might contribute the reduction of absenteeism and wastage resulting from ill health.)

(g) Moral values. In this area attention should be given to those guides to conduct which have their basis in the moral values* of the society. The teacher's personal influence is of paramount importance in this aspect of the pupil's education.

13. For those pupils who will be entering industry or vocational training institutions after this stage of the secondary school, a general education given within the areas defined above should provide the necessary prerequisites, except that some variation of the content and treatment of the second language, mathematics and science might be considered. In other words, there is a case for some difference in the courses taken by those pupils for whom the lower stage of the secondary school is going to be the end of formal instruction. B. The higher stage

14. The Commission moved on to the next stage, that is, the higher stage of the second level, still carrying the conviction that education should be training for life and living, and that that approach at the two levels is the best preparation for later specialized, technical and vocational training.

15. Specialization, either within the range of general education or in ad hoc institutions, may be expected to begin at the commencement of the higher stage of secondary education. Thus, in addition to academic secondary schools, the Commission heard of trade schools, technical schools, agricultural schools, commercial schools and, even at this level, teacher-training colleges. In all these institutions, general studies were proceeding as the background against which specialist skills were being developed.

16. It is at this stage that the question of parity of esteem is likely to arise. In view of this, wherever feasible, an optional range of courses within one institution is preferable to the establishment of a variety of institutions at the upper secondary level. Such a practice is likely not only to be more economical in staff, accommodation and equipment, but also to break down the inevitable though false impression that the "best" pupils follow the academic course while the second best proceed to more specialized studies in institutions of less prestige.

17. There will be a number of areas of study still common to all pupils at this stage - language, art and music, some form of social studies and certainly for the academic streams a practical course in wood or metal work. At the same time, however, the intensive study of the sciences and mathematics required by a later technical or professional training should start in earnest.

18. For those proceeding to the university it is likely, in some systems, that additional years of pre-university study will be necessary after the completion of the higher stage of secondary education. Where schools are too scattered, too small and too inadequately staffed, it may be necessary in order to provide the requisite pre-university training to establish special courses at selected centres.

* A minority were of the opinion that this should read "moral and spiritual values".
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19. It is recognized that science teaching at this stage should do more than provide systematic knowledge of the material world. It should, in addition, lead to such an appreciation of the nature of science as will result in co-operation by the individual in applying knowledge to the general advantage of himself as an individual and a member of society.

IV. THE EDUCATION OF GIRLS

20. Throughout its discussions the Commission worked on the basis that girls are entitled to, and can achieve, the same standard of education as boys. It was further aware that the incidence of wastage among girls in school is high. It therefore took the view that in areas where a large proportion of girls do not complete their school courses consideration should be given to introducing the vocational emphasis earlier. Thus, home economics of a more intensely practical character may be made available even in the primary school.

V. AGRICULTURAL EDUCATION

21. The Commission was well aware that despite the spread of industrialization the wealth of Africa will, for many years to come, lie in her manpower and the fertility of her soil, and that when industrialization does come the workers will have to be fed. For this reason much thought was given to the question of agriculture and the educational system. Many descriptions of agricultural schools were given by members and the need for this type of school was clearly recognized. It was agreed, however, that the task of general education in this field is related mainly to attitudes.

22. In rural areas there should be the closest possible contact between the school and the whole life of the community, and education should not in fact distract children from the "love of the land". The major contribution towards interesting children in an agricultural life would be to make that life as full and attractive as the life of an urban community. The responsibility of attracting children to the land should also lie with those services - community development, co-operatives, land settlement schemes, agricultural extension, health clinics - which form together the major contribution that the government of an emerging country can make towards the health, happiness and higher standards of living of its rural population.

23. It is as this work develops that the school should enter wholeheartedly the developing life of the community whilst the community in its turn should take a full interest in the process going on in the school. To this end, serious consideration should be given to the special training of teachers intended for small country schools. These teachers should be capable of participating skilfully in the development of their community and at the same time of seizing upon the many lessons such development offers for bringing the school and its pupils into a close relationship with the community.

24. The development of technical and vocational education in the light of the economic and social development of Africa must be approached in a spirit of urgency. However, it was felt that the Commission should be more properly concerned with a long-term programme of prerequisites for such education. It urged the steady establishment of a sound basis of general education from which the growing demand for technically trained personnel at all levels could be satisfied. On this basis considerable cuts could be made in the time now taken by specialized training institutions to give instruction in general matters.

25. In view of the present urgency, however, the Commission further urged that short-term emergency programmes of technical and vocational training be undertaken by accelerated in-service training courses until the establishment of a well planned system of expanding general studies affords recruitment for a well founded cadre of technicians and technologists at all levels.

VI. CONCLUSIONS AND RECOMMENDATIONS

26. The following were the conclusions and recommendations which emerged in the course of the discussions.
A. **General education at the first level**

27. That education at the first level be considered to cover broadly six years, general and not vocational in its intention, including elements which inculcate manual dexterity and respect for it, provide experience in creative activities and stimulate an intelligent approach to the practical problems of the home and the community.

28. That the broad outline of content be: a language for everyday communication, a language of wide currency, manual activities, fundamentals of the arithmetical process, an introduction to the study of nature and to the basis of citizenship and moral values, an elementary knowledge of the human body and how it works, the development of healthy habits and the right attitude to nutrition.

29. That, within this framework of content, the work of the school be treated in part as a structured programme, as with arithmetic and language, and in part as free activity in such areas as movement and music.

B. **General education at the second level**

30. That secondary education, with the variations required by particular circumstances, may consist of a further six years of school life in two stages.

31. That the lower stage be general in character, guiding the pupil to the stream in the higher stage appropriate to his aptitude and capacities.

32. That the curriculum of the lower stage be considered in terms of areas of study, inter alia, the practical, aesthetic and cultural areas, social sciences, moral values, language studies covering the mother tongue or national language and a second language, health and physical education, and natural sciences including mathematics.

33. That at the higher stage a number of areas of study should be common to all pupils and a choice of specialized courses be made available, pointing in some cases to the future careers of pupils.

34. That, wherever feasible, an optional range of specialized courses within one institution is preferable to the establishment of a variety of institutions.

35. That the intensive study of the sciences and mathematics, required by a later technical or professional training, should start in earnest at the commencement of the higher stage.

36. That the science teaching at this stage be designed to provide systematic knowledge of the material world and appreciation of the nature of science.

37. That in countries where a large proportion of girls do not complete their school courses consideration be given to introducing the vocational emphasis earlier.

38. That short-term emergency programmes of technical and vocational training be undertaken by accelerated in-service training courses until the establishment of a well founded cadre of technicians and technologists at all levels.
CHAPTER VII

ADULT EDUCATION

Report of Commission IV

I. INTRODUCTION

1. The African States, as they expand their educational systems, will find it essential to give an important place to adult education and youth activities in order to find a solution to such immediate problems as:

- the high rate of illiteracy and the still incomplete development of the school system;
- the number of pupils failing to complete their schooling (primary and secondary) and therefore requiring an insufficient preparation for their working life;
- the number of young people who return from their primary schooling to largely illiterate communities where they are deprived of the possibility of expanding or even of maintaining the knowledge they have acquired;
- the rapidity of economic and social change, which means that the education received today is already inadequate for tomorrow.

2. In such a situation, it is clear that every effort for the education of adults will have an immediate effect on the economic and social development of the community. A wide range of activities must be undertaken; they may be grouped for convenience in five broad categories:

Mass education: Often provided within the framework of community development programmes especially in areas of high illiteracy; generally imparted orally and designed to introduce new knowledge and skills in such fields as civics, co-operative organization, health, farming, animal husbandry and handicrafts.

Adult literacy: The teaching of reading, writing and simple arithmetic; often combined with mass education.

Further education: For those who have had some education at whatever level (complete or incomplete) and are engaged in active life; generally imparted by lectures, seminars, discussions, correspondence courses, printed matter, sound broadcasting, television or films, adult schools and exchange programmes.

Vocational training: Providing for adults and young people both literate and illiterate and for craftsmen and workers various forms of practical training outside the school system to improve their skill or to give them new skills.

Activities for youth: Including the services and activities provided for young people outside the school, irrespective of their educational level.

3. Within these broad categories different forms of adult education will have to be especially designed for a wide variety of recipients. There will have to be special programmes for particular groups, based on studies of their environments and needs. In planning these programmes, account must be taken of such variations as those between rural and urban areas, sedentary and nomadic populations, age groups, sexes, vocational specializations, which are often traditional, different degrees of literacy and education, linguistic and cultural differences.

II. THE AIMS AND CONTENT OF ADULT EDUCATION

4. The aims of adult education were stated in general terms by the World Conference on Adult Education held in Montreal, Canada, in 1960. Since it is thought to be one which will commend itself to the people of Africa, this statement is quoted below in abbreviated form:
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"The best in the traditional culture of each country should be preserved and enhanced, and people should be encouraged to feel pride and dignity in their own cultural heritage. People must be encouraged to understand and promote change. Every man and woman should have opportunity for individual personal development to the utmost of which he or she is capable, to become a mature and responsible person. In education, man must be subject, not object. Adult education is needed to promote international understanding, mutual sympathy and, tolerance of different points of view and to put every adult in the way of arriving at the truth. Through adult education, deficiencies in earlier formal education must be made good. It can also be a means of creating better understanding between divided groups in society, for example, between different generations. Every adult must be able to equip himself or herself to play as full a part as he or she wishes to take in social and civic life. Every adult should have the opportunity of discovering how he or she can most satisfyingly and recreatively use his or her leisure. The education of the producer - technical and vocational education - is generally provided for, because its economic value is obvious. Equally important is the need for consumer education for an understanding of the basic economic factors that are of immense importance in the lives of ordinary people. Problems of immigration and of migratory labour face those who are responsible for adult education with special tasks and special opportunities. It is relevant to stress that what is new is the rate of change in this mid-Twentieth century. Even 12 or 15 years of full-time schooling is inadequate equipment for 50 years of adult life; what we, who are now adults, learnt at school is partly out of date and certainly needs to be supplemented. This will be even more true of the next generation. Adult education alone can meet the needs of our situation and here and now it must be accepted as a normal and necessary part of the sum total of educational provision. That is its role in a changing world."

5. The rôle of adult education assumes a special importance in Africa where rapid social and economic change may sweep away the rich heritage of the past. The study and recording of this cultural heritage - or unwritten literature, music and other creative arts - may be a function of social and educational research centres in each country or region. Once saved from oblivion, this heritage should enrich the national culture through museums, literature bureaux and libraries, and many other forms of educational, artistic and cultural activity.

6. Both men and women need help through adult education in order to fit into the new order of things. Whilst this desirable common end is being achieved, it is imperative that educational and cultural programmes for women should be accelerated, so that both men and women can make their full contribution to the welfare of the community.

7. The content of adult education should be adapted to the needs and wishes of different recipients. However, such adaptation should not stress or increase the differences between the ways of living of the different communities in the nation.

8. This content may include the skills of reading, writing and arithmetic. The teaching materials and books used should have their own content and should include a widening range of information. Adult education also includes vocational skills and improved methods for raising levels of living, as well as gaining new knowledge and practices in health, home life and civics.

III. LANGUAGES IN ADULT EDUCATION

9. The choice of languages for adult education rests with governments and should depend on linguistic, social and economic considerations which will vary from country to country. The choice for adult education may differ from the choice made for school education. To ensure the wisest decisions linguistic and pedagogical studies should be carried out wherever necessary, and once the choice is made, such studies should be further developed to assist the effective use of the chosen language or languages and their adjustment to changing conditions. International assistance may be useful in carrying out such studies.
10. Such studies may lead to the conclusion that from the psychological and pedagogical point of view the mother tongue is the most satisfactory medium of education when it is suited or can be adapted to this task. However, political, social and economic considerations may lead to a different choice.

11. A number of African languages possess a considerable and expanding literature and are used for education. Others can be similarly developed and used. However, in most countries of Tropical Africa there are so many languages that it is impracticable to use them all for literacy.

12. The following African States make exclusive use of the official language: Cameroun, Central African Republic, Gabon, Guinea, Ivory Coast - French; Ethiopia - Amharic; Sudan, Tunisia, United Arab Republic - Arabic. It should be noted that Tigrinya and Arabic are used in the Federated State of Eritrea in Ethiopia and that the local dialect form of Arabic is used in Tunisia for mass education other than literacy campaigns.

13. In certain States, French or English is used for literacy programmes and a number of local languages for other educational programmes, particularly broadcasts, as indicated below:

- Liberia - English for literacy, and Loma, Kpelle, Vai, Grebo, Kru, Gissis, Gola etc., for the other programmes.
- Mali - French, and Bambara, Peul, Sarakolé and Sonrai.
- Niger - French and Hausa, Djerma, Peul, Tamashek and Kanuri.
- Senegal - French, and Drola, Mandinka, Toucouleur and Wolof.
- Togo - French, and Bassouri, Ewe, Guin, Moba, Hausa, Kotokoli and Kabre.

14. In addition to the official language, some States employ a lingua franca or several of them having wide local currency. Congo (Brazzaville) uses French for literacy and Lingala and Monokutuba for mass education. Tanganyika employs Swahili for both literacy and mass education.

15. A few countries use the vernacular languages of different regions for both literacy and mass education:

- Ghana - Akan (Asanti, Fanti and Twi), Dagban, Ewe, Fra-Fra, Ga, Gonja, Nazima.
- Kenya - Dholuo, Kalenjin, Kamba, Kidahiba, Kikuyu, Luhia, Masai, Swahili.
- Nigeria - Edo, Effik, Hausa, Ibo, Nupe, Tiv, Yoruba.

16. Where adult education is given orally, especially for the purpose of community development and as a means of communicating ideas and skills to people who are largely illiterate, it should generally be given in the mother tongue and teachers and field workers who speak the language of the local population should be employed.

17. For adult literacy campaigns and classes the mother tongue of the learners should be used wherever possible because it is easier to make an adult literate in his mother tongue. If this is a vernacular language of limited extent, however, it may be decided to teach reading and writing in a language of wider application.

18. Adults can acquire ability to speak a second language through oral and direct methods of teaching. When adults wish or need to become literate in a second language, it may be better that they become literate in their mother tongue first. Where the mother tongue is not used for literacy, they can, of course, pass directly to literacy in a second language.

19. Further education for adults who have had primary or secondary education is usually given in the language in which they received their schooling.

20. Once it is decided to use a local language for literacy it is essential to ensure that there is a sufficient and expanding supply of teaching and reading matter in this language. Of course the pupils' mother tongue may be used orally in teaching him to read and write in another language.

21. Vernacular languages may be used, whether they are literary languages or not, for adult education by radio. The number that can be used will be determined by the equipment and staff available to the broadcasting station and the possibility of providing listening facilities.

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IV. ADULT LITERACY PROGRAMMES

22. Before a literacy programme can be launched, a number of problems must be solved:
   - the budget must be set up and financial support assured;
   - the organization to manage the overall programme and its supporting services must be established;
   - a decision must be reached, if it has not already been taken, on the language or languages to be used for adult literacy in the country as a whole and in various linguistic groups;
   - a suitable method of teaching reading, writing and arithmetic to adults must be chosen;
   - the curriculum and teaching programme for adult courses must be established;
   - teaching materials must be prepared and printed, where they do not already exist;
   - a decision must be taken on the types of teachers to be employed, their training, and their remuneration.

23. As an incentive to adults in poorer communities to learn reading, writing and arithmetic and also to value books, governments should subsidize the production of basic teaching and follow-up reading materials and sell them to learners at a low price. Adult literacy campaigns should not be launched until there is an adequate and continuing output of attractive and interesting reading matter available for those who have learnt to read and have attained different levels of literacy.

24. In planning new literacy campaigns, it is generally preferable to start with a limited number of local projects or courses for certain special groups (such as police, soldiers or workers in industry) or for special zones such as agriculture development areas.

V. AUDIO-VISUAL MEDIA AND THE PRESS

25. Visual media are important instruments of adult education. They range from the simple visual aids, such as flash cards, charts and flannel-graphs, to the more expensive filmstrips, slides and films. The simpler ones may best be locally produced and tested so as to fit them to the local needs of teachers and learners; the more expensive ones should be carefully selected and adapted. Field workers and teachers must be trained to use them effectively.

26. Museums and travelling exhibitions can play an important part in adult education. They should be established where appropriate, and their use for education developed where they already exist.

27. Sound broadcasting already plays a valuable part in adult education in Africa. In one East African country popular education broadcasts are regularly transmitted in eight African languages to audiences equipped by the broadcasting service with low-cost battery receivers. In a West African country broadcasts go over the air in five languages and, in addition to individual receivers, provision is made in towns for rediffusion from a community receiver to loudspeakers in the listeners' houses. There are serious problems involved in the supply and maintenance of battery receiver sets for areas having no electricity and in the organization of attractive educational programmes. A further problem is to secure time on the air for educational programmes at hours which are suited to the work and leisure of listeners. School broadcasts are of course frequently listened to by adults with profit, but there is no doubt that radio programmes specially designed for the needs of different adult groups are much to be preferred.

28. In one country of Tropical Africa, television has been established and it is hoped that provision will soon be made for educational programmes.

29. At present physical, financial and technical problems handicap the extension of these powerful new methods of education. Unesco will continue, on the basis of resolution 1.1322 of the General Conference at its eleventh session, to explore their possibilities by means of meetings of experts and pilot experiments and to keep the governments of Africa informed of all possibilities discovered. At the same time governments should take all possible steps to improve and expand their educational radio services and to introduce, when and where it becomes appropriate, educational television services for adults.
30. Since newspapers and journals are among the most powerful means of communication in literate societies, the press must be encouraged to fulfill its potentialities as an instrument of adult education and literacy.

VI. LEGISLATION, RESPONSIBILITY AND FINANCE

31. Governments should consider, where appropriate, the desirability of introducing some form of legislation, or issuing a declaration of policy, to give impetus to adult education. This might take the form of a decree; laying on the appropriate departments of governments the responsibility for promoting and sustaining the various forms of adult education; urging those who have not had access to schooling to become literate; specifying the provisions to be made by governments and other organizations concerned, and the methods of financing for this purpose; providing for any special incentives considered appropriate in order to encourage adults to take advantage of the provisions made for literacy.

32. Primary responsibility for the promotion and development of adult education in each country should belong to the government. There is, however, room for a wide variety of organizations and for the collaboration of many organizations concerned with adult education.

33. Within the government, responsibility for various types of adult education may rest with a number of different ministries, departments and services. In some cases (Gabon, Ghana, Ivory Coast, Sudan), the sole body concerned is the national Ministry of Education working through one or more of its services. In other cases (Guinea, Kenya, Senegal, Tanganyika, Togo, Uganda), a ministry other than the Ministry of Education is concerned. It frequently happens that several ministries or services work together in this field, such as the case in Cameroun.

34. It is evident that the channels of responsibility and the forms of organization vary widely from country to country; it is thus impossible and undesirable to lay down any ideal structure. Nevertheless, a number of recommendations can be made in regard to this matter. In the first place, in order to ensure the continuity of education and its pedagogic soundness, the primary responsibility within the government for adult literacy teaching and the further education of those who have passed through the school system should rest with the Ministry of Education, in which a department of adult education will generally be desirable.

35. Secondly, wherever adult education activities with broadly similar aims are carried out by different departments and ministries, some form of co-ordinating arrangement, such as an inter-Departmental Commission should be set up. Equally, where funds and trained staff are in short supply, it may well be more economical and effective to set up common services for such purposes as research, training and production.

36. Finally, in the development and expansion of adult education in Africa, the resources of voluntary and non-governmental organizations should be fully and effectively used, and, where appropriate, new non-governmental agencies and organizations for adult education should be established, with or without financial support from governments. A number of such organizations are already giving valuable services in adult education in many African countries. Special mention should be made of the excellent work done by extra-mural departments of universities in certain countries, particularly in providing further education, setting up residential people's colleges and encouraging a wide variety of projects in mass education and community development.

37. The size of the contribution for adult education made by non-governmental organizations varies from State to State. None is received in Gabon, Niger and Mali. Among organizations which do contribute to adult education are the following:

- Missions, churches and religious organizations, both Christian and Moslem, in Cameroun, Central African Republic, Ethiopia, Ghana, Kenya, Liberia, Nigeria, Tanganyika and Togo;
- Religious and secular youth movements in Cameroun, Ghana, Guinea, Ivory Coast, Liberia and Nigeria;
- Women's organizations in Uganda;

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Trade Unions (employers' and workers') in Ghana, Tanganyika, Tunisia, United Arab Republic;
Political parties in Guinea, Tanganyika, Tunisia;
Ad hoc associations or institutions in Cameroun (People's University), Ghana (Adult Education Association), Senegal (African Popular University); and
Such widely differing institutions as the Red Cross in Liberia or the Chambers of Commerce in Congo (Brazzaville).

38. The Secretariat of Unesco in preparing its draft programme for the twelfth session of the General Conference and the General Conference in approving the programme and budget for 1963-1964 should recognize the need for an increased allocation of Unesco's funds for adult education and youth activities. At the same time, African countries in framing their national budgets should equally recognize this need and draw upon every suitable source of finance for the expansion and improvement of adult education.

VII. STAFF FOR ADULT EDUCATION AND YOUTH ACTIVITIES

A. "Front-line" staff

39. Mass education and the various adult education activities associated with community development (such as health education, agricultural extension and co-operative training) will generally be given by field workers who share the living conditions of the people. Their accommodation should be provided on the spot. They should be trained to study the local problems and needs, to organize discussions and demonstrations and to use various forms of oral and audio-visual communication in introducing new ideas and skills into the community. These field workers of both sexes may be more or less multi-purpose or more or less specialized in such fields as sanitation, handicrafts, house construction, co-operative organization, agriculture and animal husbandry. In addition the women workers may be specialized in home economics, nutrition and child care and similar fields. Field workers may live and work alone in a village or group of villages, or they may operate in teams. Where community development is organized they will generally be employed by the ministry or department responsible for this activity; where they are specialists they may belong to different ministries responsible for the different technical fields. In the latter case some provision should be made for ensuring that they work in teams or at least collaborate closely with their colleagues. In any case, they must be trained in methods of working with the people of the community and in adult education techniques.

40. Where the country cannot be covered by mass education field workers, school teachers should be given special training and additional remuneration to carry out mass education with the adults of the community. Where adult education teachers are engaged in community development programmes it is essential that they recognize their professional limitations and rely on their colleagues in the competent technical services to tell them what they should teach in such fields as health, agriculture or home economics.

41. In adult literacy campaigns, each class or group of classes will require a teacher who should have special training in the techniques of teaching adults. Wherever possible, he should be trained to use the actual teaching materials he will eventually use in his classes. These teachers may be volunteers (working with or without remuneration), full-time adult literacy teachers, mass education field workers or schools teachers. Retired teachers, including women who have married, may well be brought back into service for adult literacy.

42. The use of volunteers for adult literacy has been widely practised often with good results. In certain cases the each-one/teach-one method has proved effective. However, the employment of volunteers has certain inevitable drawbacks. In the first place they are not generally subject to control or discipline and may therefore be somewhat irregular in their attendance or lacking in staying power, with bad effects on their classes. In the second place, it may be difficult to bring them together for the necessary training. For this reason it is often found that, even where a campaign begins as a volunteer effort, it later has to have recourse to more permanent and qualified teachers.
43. Certain countries of Africa find it desirable to employ full-time literacy teachers and where this is done one teacher may be able to handle a number of classes. The various types of multi-purpose or more or less specialized field workers operating in community development may also be given special training and required to organize and teach adult literacy classes.

44. The school teacher, and especially the rural primary teacher, is well adapted both by his position of leadership and by his background and educational training to teach reading, writing and arithmetic. He is however only trained to teach children in the classroom and wherever he is used for adult literacy he should therefore have a brief period of training in the very different approaches and methods needed for working with adults. In particular, he must learn how to gain and maintain their interest, how to use their experience of life and how to treat them with the respect due to their age and position. This training may either form part of the regular course given in teacher-training establishments or may be given in short seminars or refresher courses specially designed for the purpose.

45. For vocational education, instructors fully skilled in the craft or work to be taught should be trained to communicate their skill by active teaching and demonstration. They may be skilled craftsmen or workers resident in the area or teachers in technical and vocational schools who are prepared to take adult classes outside their school hours. In some cases formal courses may be organized in appropriate establishments for adults.

46. Activities for youth will demand a variety of organizers and leaders, their qualifications and training depending on the type of programme and whether it is continuous and permanent as in the case of youth clubs and centres, or temporary as in the case of a work camp project. The staff may be full-time youth organizers or volunteer leaders working with or without remuneration. Non-governmental organizations have been widely active in youth work and may in certain countries be the main sources of leadership; in others, the staff may generally be government servants employed, for example, by a Department of Youth and Sports.

B. Supervisory staff

47. Where adult literacy programmes are under the Ministry of Education, and especially where school teachers are used, they may be supervised by the regular school inspectorate, perhaps by an assistant regional inspector specially charged with maintaining the efficiency of adult literacy courses in the area. In any case, the inspectors responsible for adult literacy, as much as the teachers, require a minimum of special training. The supervision of further education and activities for youth is generally provided by senior officers of the responsible departments and organizations.

C. Proposal for a National Literacy Service

48. Young people are often eager to help in their country's development and indeed have an obligation to do so. Where governments intend to carry out full-scale national campaigns against illiteracy and are handicapped by a shortage of teachers, they should consider the possibility of enrolling and training young people into a National Literacy Service. This might be an alternative to military service wherever such is in force. The young people should be enrolled for a minimum of six months, and preferably on a more permanent basis, as adult literacy teachers and mass education workers. Their training period would have to extend to a minimum of six weeks to prepare them for simple literacy teaching or to several months for training in mass education. Each government would, of course, have to consider this possibility in the light of its national policy and needs and should particularly consider the effects of such service on the lives and future careers of the recruits or volunteers.

VIII. RELATIONSHIP OF ADULT EDUCATION WITH THE SCHOOL SYSTEM

49. It has already been suggested that school teachers and school inspectors may work with good effect in adult education. There are, however, other ways in which adult education and the school system should be fruitfully related to each other. Indeed, the need for continuity in the process of education from childhood to old age makes such a relationship essential. In the first place every effort should be made to associate the adults of the community, including the parents of school children...
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with the work of the local school. In the second place, where a shortage of suitable buildings is a handicap to adult education, it will often be found that school buildings can be used, especially for evening classes. Every effort should therefore be made in the designing of new school buildings to plan them with a view to their use for adult education and out-of-school activities for young people.

IX. SPECIAL INSTITUTIONS AND SERVICES

50. Adult education, as much as the school system, needs its supporting services. They should provide for research, evaluation and planning; training of staff; production and publication of literacy teaching and reading matter; library and book distribution services; production and distribution of audio-visual aids. Their essential purpose is to ensure that the teachers and field workers in the front line are properly trained, equipped and supported.

51. A considerable number of countries are still without specialized institutions responsible for research, staff training and other services for adult education work (Central African Republic, Congo (Brazzaville), Ethiopia, Gabon, Guinea, Kenya, Mali, Nigeria). Some of the others have institutions of various kinds which are either independent or are attached to a particular ministry - Cameroun (Training Centre for Adult Education), Ghana (Social Affairs and Community Development Service, Institute of Education and Bureau of National Languages), Ivory Coast (Permanent Adult Education Service), Liberia (Fundamental Education, Bureau and Centre), Niger (Pedagogical Bureau), Senegal (Training Centre for Rural Education and Development), Sudan (Training Centre for Social and Adult Education Workers, Literature Bureau), Toganyika (Community Development Training Centre), Togo (Special Service of the Ministry of Social Affairs), Tunisia (National Centre for the Battle Against Illiteracy and for Social Education), United Arab Republic (Fundamental Education Centre). In a number of cases these institutions are still in an embryonic stage.

A. Research

52. Governments should establish, or co-operate in establishing on a regional basis, educational research institutions, either specifically serving adult education, or serving the entire educational system and having a department or unit specializing in the adult education field. Their tasks may include:

- the organization and analysis of basic surveys to discover the social, economic and cultural conditions and the needs of communities served by mass education;
- recording the cultural heritage - folklore and popular arts of the country region;
- linguistic research;
- pedagogic and communication research; for example, into methods of teaching adults to read, write and calculate; into the use of audio-visual media and other techniques necessary for adult education;
- the testing of literacy teaching and reading matter and of audio-visual aids by simple and practical procedures to ensure that the educational message contained in texts, illustrations and other visual matter will elicit interest, achieve understanding, assist the permanent acquisition of new knowledge and skill and promote desirable action;
- evaluation of projects and programmes with a view to improving methods, cutting costs and feeding back information to the organizers of the programmes and to those responsible for the training of staff.

53. The research institutions here proposed may be quite modest units, with a small but highly competent staff. Where there are existing social and educational research departments or projects these may be expanded or adapted, rather than setting up new institutions. The type of research here envisaged is study and "action research," largely done in the field. In view of the close relationship of research with training and production, a research unit may well be incorporated in a training institution or production centre or all three may be grouped together.
B. Training

54. For the training of front-line field workers local centres should generally be established, since for mass education and sometimes for other categories of adult education it will be desirable to employ and train staff who know the culture of the local people and speak their language. It may be appropriate that senior supervisory and technical staff be trained on a regional basis or by study abroad. Intermediate supervisory staff may suitably be trained in national centres.

55. It was noted that one East African country with a widespread community development programme has one national training centre and twelve local centres for the training of its mass education and community development workers. These latter centres provide, at the same time, facilities for various courses for specific groups of the population. One West African country with a similar programme has a national training centre and five local centres.

C. Production of literacy materials

56. To provide an adequate supply of effective teaching material and an ever-expanding supply of attractive and suitable reading matter, governments will need to establish on a national or regional basis, where they do not already exist, suitable production centres or units with the following functions: production, planning, writing and translation of manuscripts; illustration; printing and publication. A number of countries and regions already have such Literature Bureaux.

D. Library services

57. Production services will of course be largely wasted unless books, newspapers and other materials are brought to the people who need and wish to read them. This requires public library services, including book-box services for bringing books to people in remote communities. These services should generally be based upon a central library or upon a literature bureau and may radiate to small community libraries. The fullest use should also be made of non-governmental libraries available in a number of countries.

58. Both in the publication and the sale of books and newspapers, the importance of building up a publishing industry and a widespread network of bookshops and distributing agencies must not be overlooked, even if the initiative may at first have to be taken by the government.

E. Production of audio-visual media

59. Where audio-visual aids are used for adult education, centres will be needed to produce, adapt and distribute them. These may be combined with book production centres or set up as independent units.

60. Where films are used, provision must be made for buying and, where necessary, adapting those obtainable abroad. This may also be the function of an audio-visual centre. Where funds and the necessary highly trained technical staff are available, a production unit for making educational films is of course a great asset to any government. Such a unit may produce films both for schools and for adult programmes though the types of films for each purpose will generally differ considerably.

F. Broadcasting services

61. Wherever radio and eventually television are used for adult education, the broadcasting station must be equipped with an educational broadcasting staff which should co-operate closely with adult education departments and services in the field. Some provision should also be made for simple "listener research" which may be handled by an educational research institution to ensure that programmes are being listened to and are carrying their educational message. Listening or viewing groups may also be organized and teachers and field workers trained to run them.
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X. CONCLUSION

62. Taking account of the fact that adult education and out-of-school activities for young people are still far from achieving their rightful status in education programmes, this report puts forward suggestions and sets out broad lines of development which may be useful in the preparation of plans and the execution of programmes.

63. It will have achieved its aim if, in the general drive for educational expansion, it lends force to a whole range of activities of outstanding importance to the development of the individual and society - if it leads Unesco and the governments of the African States to pay increasing attention to the need, in adult education no less than in school education, for adequate funds, a stable and efficient organization and fully qualified staff.

XI. RECOMMENDATIONS

64. The Commission makes the following recommendations with a view to the expansion and improvement of adult education and activities for youth:

65. That educational and cultural programmes for women should be accelerated, so that both men and women can make their full contribution to the welfare of the community.

66. That, as the choice of languages for adult education rests with governments and depends on linguistic, social and economic considerations which vary from country to country and may differ from the choice made for school education, the necessary linguistic and pedagogical studies be carried out and, once the choice is made, such studies be further developed to assist the effective use of the chosen language or languages and their adjustment to changing conditions.

67. That where adult literacy campaigns are to be launched financial support must be assured; an organization to manage the overall programme and its supporting services must be established; the language or languages to be used for literacy must be determined; the teaching method must be chosen; teaching materials must be prepared and provided where they do not already exist; and a decision must be taken on the types of teachers to be employed, remuneration and their training.

68. That governments subsidize the production of basic teaching and follow-up reading materials and sell them to learners at a low price.

69. That adult literacy campaigns should not be launched until there is an adequate and continuous output of reading matter available for those who have attained different levels of literacy.

70. That new literacy campaigns should generally start with a number of local projects or courses for special groups or for special zones.

71. That, where visual media are used, the simpler ones be locally produced and tested; that the more expensive ones be carefully selected and adapted and that in all cases field workers and teachers be trained to use them effectively.

72. That museums and travelling exhibitions be established, where appropriate, and be used for adult education.

73. That in view of the physical, financial and technical problems which handicap the use of radio and television for adult education in Africa, Unesco continue to explore their possibilities by means of meetings of experts and pilot experiments and that the governments of Africa be kept informed of all possibilities discovered.

74. That governments take all possible steps to improve and expand their educational radio services and to introduce, when and where it becomes appropriate, educational television services for adults.
75. That the press be encouraged to fulfil its potentialities as an instrument of adult education and literacy.

76. That governments should consider, where appropriate, the desirability of introducing some form of legislation, or of issuing a declaration of policy, to give impetus to adult education.

77. That primary responsibility for the promotion and development of adult education in each country should belong to the government and that, within the government, primary responsibility for adult literacy teaching and the further education of those who have passed through the school system should rest with the Ministry of Education, in which a Department of Adult Education will generally be desirable.

78. That, wherever adult education activities are carried out by different departments and ministries, some form of co-ordinating arrangement, such as an inter-departmental commission, be set up.

79. That in the development and expansion of adult education in Africa the resources of voluntary and non-governmental organizations be fully and effectively used, and that, where appropriate, new organizations for adult education be established.

80. That the Secretariat of Unesco in preparing its draft programme for the twelfth session of the General Conference and the General Conference in approving the programme and budget for 1963-1964 recognize the need for an increased allocation of Unesco’s funds for adult education and youth activities, and that African countries in framing their national budgets equally recognize this need and draw upon every suitable source of finance for the expansion and improvement of adult education.

81. That mass education be given by field workers who share the living conditions of the people (their accommodation being provided for on the spot) and who are trained to study local problems and needs, to work with the community and to use adult education techniques.

82. That where school teachers are used for this purpose or for adult literacy work they should be given additional remuneration and a brief period of training in the very different approaches and methods needed for working with adults.

83. That for vocational education, instructors fully skilled in the craft or work to be taught, be trained by active teaching and demonstration to communicate their skills.

84. That a variety of youth organizers and leaders be trained for different types of youth activities.

85. That, where governments intend to carry out full-scale national campaigns against illiteracy and are handicapped by a shortage of teachers, they consider the possibility of enrolling and training young people into a National Literacy Service, this being a possible alternative to military service wherever such is in force.

86. That in the designing of new school buildings every effort should be made to plan them with a view to their use for adult education and out-of-school activities for young people.

87. That governments should provide special institutions and supporting services for research, evaluation and planning; training of staff in appropriate regional and national centres; production and publication of literacy teaching and reading matter; library and book distribution services; production and distribution of audio-visual aids.
CHAPTER VIII

RESOLUTIONS

RESOLUTION NO. 1

The Conference of African States on the Development of Education in Africa

Considering that economic and social progress is indissolubly linked with the development of education,

Considering the scope of the African countries' educational requirements as revealed by the conference's discussions, and the fact that these countries are unable, with their present normal resources, to implement the educational programmes recommended by the conference for their economic development,

Considering that it will be a long time before these educational programmes have appreciable effect on economic development and increase the resources of the countries concerned,

Noting accordingly that the implementation of the conference's decisions requires greater efforts on the part of the countries concerned and the provision of a large-scale external aid for them,

Considering that, by its resolution 1.2321 adopted at its eleventh session, the General Conference of Unesco invited African Member States and Associate Members of the Organization to request the assistance of the appropriate international and regional organizations and to use all resources made available to them in a well co-ordinated manner for the development of education; and that by the same resolution it invited Member States outside Africa to offer, directly or through Unesco, financial and technical aid to African countries for the development of their educational systems,

Recalling that, in accordance with resolution 8.62 adopted by the General Conference of Unesco at its eleventh session, the Director-General of Unesco conveyed to the Secretary-General of the United Nations and to the executive heads of the appropriate financial bodies of the United Nations system, as well as of the Specialized Agencies, the considered view of this Organization that assistance to both general and technical educational projects should have the same consideration as aid offered for economic development to the less developed countries,

Recalling further that the General Assembly of the United Nations has on various occasions and, in particular, at the fifteenth session, emphasized the importance attaching to education, training and pre-investment for the economic development of the less developed countries,

Invites the African countries concerned to devote as ample resources as possible to the development of education in their territories, in accordance with the broad targets of the five-year programme and the twenty-year programme set forth in the Outline of a Plan for African Educational Development;

Invites Unesco to approach the competent international organizations, governments and public and private institutions capable of providing large-scale assistance with the request that they contribute to the financing of such programmes recommended by the conference as are beyond the present normal resources of the African countries concerned;

Invites Unesco to assist the governments concerned to co-ordinate their national efforts with any external aid necessary for the fulfilment of the educational programmes adopted;
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Invites the Economic Commission for Africa, other interested United Nations bodies, all States and countries and all non-governmental organizations which have taken part in the conference to support and share in the implementation of the present resolution.

RESOLUTION NO. 2

The Conference of African States on the Development of Education in Africa,

Recording its profound gratitude to Unesco and ECA for having convened this historic conference,

Invites the President and the Vice-Presidents of the conference to assist the Director-General of Unesco and the Secretary-General of the United Nations in their appeals to all Member States, international organizations and private institutions to co-operate with African States with a view to their putting into effect the Outline of a Plan for African Educational Development.

RESOLUTION NO. 3

The Conference of African States on the Development of Education in Africa, convened at its solemn closing meeting,

Expresses its gratitude and warm appreciation to His Imperial Majesty the Emperor of Ethiopia, to the Ethiopian Government and to the City of Addis Ababa for the generous hospitality accorded to the participants of the conference which has substantially contributed to its success.

RESOLUTION NO. 4

The Conference of African States on the Development of Education in Africa,

Having paid homage at its opening session to the memory of His Excellency, Hon. Ahmed Mangué, the Minister of Education of Chad; Mr. Marchand, Inspecteur d'Académie of Chad and Mr. Jean Gouandja, Directeur du Plan of the Central African Republic who had lost their lives in an airplane accident on their way to the conference,

Conveys its deep sympathy and condolences to the Government and people of Chad and of the Central African Republic at this great loss to African education and to Unesco.
outline of a plan for african educational development
The General Conference of Unesco at its eleventh session decided to convene a Conference of African States with a view "to establishing an inventory of educational needs and a programme to meet those needs in the coming years". Accordingly, this Conference of African States convoked jointly by Unesco and ECA herewith presents an outline of a plan for educational development of Africa as a means of promoting the economic growth and social progress of the continent, the participating members being:

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"... in the light of deliberations on Africa's educational needs for economic and social development ..."
CHAPTER 1

NEEDS

The thrust forward that has characterized education in Africa during the past decade has resulted in an expansion of school facilities that can only be described as phenomenal. Responding to the growing desire of their people for more and better education and to the need to build up the skilled manpower essential for accelerating economic development, African governments have strained their national budgets in efforts to provide more schools at every level, more teachers to staff these schools, more materials and services to enrich the scholar's education experience. In most instances, the efforts of African States have wrought a doubling - and sometimes a trebling - of school enrolments.

The recent phenomenal expansion of school facilities, however, has by no means brought educational opportunity for African children and youth to a desirable level. Today, for the African States as a whole, only 16 per cent of the children of school age are enrolled in school. The situation varies from State to State, ranging from less than two per cent of the school-age population in school in several States to nearly 60 per cent in others. In the majority of cases, the proportion of children out of school exceeds 80 per cent. Thus while educational advancement during the fifties was indeed phenomenal, it must be much more phenomenal during the sixties.

Progress must be made in the years ahead if the educational programmes in African countries are to make their proper and full contribution to the social and economic development of African States. Analysis of the school position in Africa as at 1957-1960, set forth in Tables I and II, reveals achievement thus far. These data also indicate, however, the gap between what exists and what is desirable - a gap which the African States are determined to close.

Africa's educational needs as revealed by African government statements and UNESCO documents are spread across the full spectrum of education from the primary school through the university and adult education levels. These needs embrace all the auxiliary and related services essential to effective programmes of education. Moreover, the needs are fairly common to all States, the differences being in degree or extent of need rather than in kind. Attention is directed to the types of needs which exist, as set forth by the African Member States.

(a) Financial needs. The financing of necessary educational expansion in respect to both quality and quantity cannot be accomplished by African States at their current levels of economic development. At present, exceedingly large proportions of national budgets are allocated to education. Some African governments are now committing to the development of education up to 25 per cent of their national budgets. The expansion of educational opportunity is vital, however, to economic growth within the States. International financial assistance is needed to supplement national funds, particularly to accelerate the construction of school buildings, to pay the salaries of expatriate teachers at the secondary and higher education levels and to provide scholarships for African students going abroad for specialized training not available in their own countries. Such financial assistance is needed now and will be needed for many years to come until the results of this investment in education have lifted the economic development of these States to levels of self support.

(b) Material needs. A shortage of classrooms already exists in every African State. In some instances, primary pupils are taught beneath the shade of trees or under the cover of a grass roof supported by poles. Many buildings now in use do not meet minimum standards and should be replaced by new structures. The further expansion of educational programmes makes imperative the rapid construction of a vast number of classrooms to serve the purposes of education. More than classrooms are needed, for in most instances at the post-primary levels housing and service units must be provided for both students and teachers.
Whatever the level of education, a great and expanding need for the supply of equipment confronts the African States. Particularly is this need crucial for the new programmes of technical, vocational, science and higher education. Laboratories and shops provide the setting where this type of learning can best be accomplished and there are no substitutes for the specific items of equipment these units must have. Adding to the enormity of this need is the fact that most of the required equipment must be purchased abroad.

Textbooks are basic to education. Not only do the schools of African States need more books, but for all levels of instruction there is a need for the qualitative improvement of textbooks. Authors must be accorded time to do the necessary research and writing. Ways must be found to absorb the costs of production and of distribution in order for every African pupil to have an adequate supply of textbooks.

(c) Teachers. The number of trained teachers needed by the African States to staff present schools plus those needed for expanded programmes is staggering. One small State alone needs for next year’s classrooms 400 teachers more than it is producing this year. In addition, half of its present teachers are in the "untrained" category. Another State will require 20,000 trained teachers during the next 20 years in order to achieve universal primary education by 1980. To approach such targets, there must be a vast increase in the number of institutions training primary school teachers. To the construction costs of these new teacher-training colleges already referred to must be added the costs of staffing, a sizeable portion of which for many years will have to be used for the employment of expatriates.

The need for teachers at the secondary education level is equally critical. Many African States in order to meet minimum manpower needs require and plan a doubling or a trebling of second-level school intake by 1965 in some cases and by 1970 in others. In general, this means a similar increase in the number of teachers. The secondary schools will be heavily dependent on expatriate teachers until African and foreign universities have produced enough African graduates to staff the schools. Particularly will the shortage be acute in the new areas of technical education and agricultural or rural education at this level.

(d) Need for new curriculum directions. To meet the demands of changing patterns of African social and economic life, new directions in educational programmes are needed. Prominent among these is the need to expand the curriculum at the second level in the direction of more technical and vocational education. Such programmes are necessary to provide the skilled and semi-professional manpower essential for economic growth. Similar emphasis must be given to increased facilities in technological training so as to hasten the availability of local specialized personnel in all areas of occupational activity.

Increased emphasis must be placed on adapting educational programmes at all levels and in most places to the needs of rural life. In agricultural economies such as Africa’s agricultural education must be given full status. School and countryside must be interrelated; curriculum must be in line with rural needs and interests. It must foster an appreciation of the importance of agriculture to a nation and stimulate the modernization of agricultural methods. This approach is essential in raising agricultural productivity, in enriching rural community life, in increasing employment oportunitv in rural areas and in reducing the flow of rural youth to urban areas in search of jobs which are often non-existent.

(e) Education of girls. The enrolment of girls in educational programmes at all levels must be accelerated. Research indicates that girls constitute less than 30 per cent of the total African primary school enrolment and about 22 per cent of the secondary school enrolment. Further, for some African States, girls are less than 10 per cent of the total primary school enrolment. African States cannot afford to neglect the development of the wide range of potentially useful service the female segment of the population possesses. Properly trained, girls and women can fill important posts in community life in many fields, including nursing, social work, teaching, and others. Most importantly, the education provided for the girl pays society its greatest dividend in later years when she fulfils the rôle of wife and mother.

(f) Higher education. Highly trained specialists are required in every State to provide essential professional, technological, governmental, business and social services. This level
## TABLE I - EDUCATIONAL SITUATION IN AFRICA TODAY

<table>
<thead>
<tr>
<th>Country</th>
<th>Year</th>
<th>First Level (primary school)</th>
<th>Second Level (secondary school)</th>
<th>ENROLMENT BY LEVEL</th>
<th>RATIO OF ENROLMENT TO SCHOOL-AGE POPULATION BY LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>No. of students</td>
<td>No. of students</td>
<td>Estimated pop. 5-14 years (000)</td>
<td>Ratio of enrolment adjusted to pop. 5-14 years for duration of school</td>
</tr>
<tr>
<td>Basutoland</td>
<td>1958</td>
<td>119,478</td>
<td>3,042</td>
<td>165 90.5</td>
<td>67 4.1</td>
</tr>
<tr>
<td>Bechuanaland</td>
<td>1958</td>
<td>31,183</td>
<td>485</td>
<td>84 46.4</td>
<td>34 1.4</td>
</tr>
<tr>
<td>Cameroons (U.K)</td>
<td>1958</td>
<td>54,844</td>
<td>1,404</td>
<td>391 20.0</td>
<td>164 0.8</td>
</tr>
<tr>
<td>Cameroun</td>
<td>1958-60</td>
<td>371,421</td>
<td>13,808</td>
<td>795 77.8</td>
<td>332 3.0</td>
</tr>
<tr>
<td>Central African Republic</td>
<td>1957-58</td>
<td>45,774</td>
<td>1,480</td>
<td>280 27.2</td>
<td>117 0.9</td>
</tr>
<tr>
<td>Chad</td>
<td>1958-60</td>
<td>53,973</td>
<td>1,473</td>
<td>647 13.8</td>
<td>271 0.4</td>
</tr>
<tr>
<td>Congo (Brazzaville)</td>
<td>1957-58</td>
<td>78,962</td>
<td>3,259</td>
<td>187 70.3</td>
<td>73 3.0</td>
</tr>
<tr>
<td>Congo (Leopoldville)</td>
<td>1959-60</td>
<td>1,409,753</td>
<td>51,071</td>
<td>3,405 71.5</td>
<td>1,436 3.0</td>
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<tr>
<td>Dahomey</td>
<td>1959-60</td>
<td>81,107</td>
<td>3,618</td>
<td>431 31.3</td>
<td>180 1.4</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>1958-59</td>
<td>156,005</td>
<td>5,144</td>
<td>5,338 3.8</td>
<td>2,235 0.5</td>
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<tr>
<td>Gabon</td>
<td>1957-58</td>
<td>39,763</td>
<td>1,156</td>
<td>101 65.7</td>
<td>41 2.0</td>
</tr>
<tr>
<td>Gambia</td>
<td>1958</td>
<td>4,503</td>
<td>794</td>
<td>73 19.7</td>
<td>30 2.2</td>
</tr>
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<td>Ghana</td>
<td>1958</td>
<td>483,425</td>
<td>17,581</td>
<td>1,298 66.7</td>
<td>506 29.4</td>
</tr>
<tr>
<td>Guinea</td>
<td>1959-60</td>
<td>79,373</td>
<td>4,563</td>
<td>671 19.7</td>
<td>281 1.1</td>
</tr>
<tr>
<td>Ivory Coast</td>
<td>1957-58</td>
<td>125,727</td>
<td>5,104</td>
<td>641 32.7</td>
<td>269 1.4</td>
</tr>
<tr>
<td>Kenya</td>
<td>1958</td>
<td>651,758</td>
<td>28,291</td>
<td>1,562 52.1</td>
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<tr>
<td>Liberia</td>
<td>1958-60</td>
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<td>3,397</td>
<td>308 22.4</td>
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<tr>
<td>Malagasy Republic</td>
<td>1959-60</td>
<td>364,217</td>
<td>25,290</td>
<td>1,299 46.7</td>
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<tr>
<td>Mali</td>
<td>1957-58</td>
<td>42,053</td>
<td>2,749</td>
<td>918 7.1</td>
<td>384 0.5</td>
</tr>
<tr>
<td>Mauritania</td>
<td>1957-58</td>
<td>6,493</td>
<td>291</td>
<td>155 7.0</td>
<td>65 2.3</td>
</tr>
<tr>
<td>Mauritius</td>
<td>1958</td>
<td>109,370</td>
<td>16,243</td>
<td>153 190.0</td>
<td>64 18.1</td>
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<td>Niger</td>
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<td>11,811</td>
<td>395</td>
<td>603 3.3</td>
<td>252 0.1</td>
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<tr>
<td>Nigeria</td>
<td>1958</td>
<td>2,545,336</td>
<td>172,414</td>
<td>8,129 42.9</td>
<td>3,403 2.9</td>
</tr>
<tr>
<td>Lagos</td>
<td>1958</td>
<td>56,688</td>
<td>6,376</td>
<td>83 85.4</td>
<td>35 15.2</td>
</tr>
<tr>
<td>N. Region</td>
<td>1958</td>
<td>230,000</td>
<td>8,098</td>
<td>4,439 7.4</td>
<td>1,958 0.3</td>
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<tr>
<td>W. Region</td>
<td>1958</td>
<td>1,037,377</td>
<td>73,282</td>
<td>1,657 100.0</td>
<td>694 8.8</td>
</tr>
<tr>
<td>E. Region</td>
<td>1958</td>
<td>1,221,271</td>
<td>29,658</td>
<td>1,950 78.3</td>
<td>816 3.0</td>
</tr>
<tr>
<td>Rhodesia &amp; Nyasaland</td>
<td>1958-59</td>
<td>243,936</td>
<td>4,948</td>
<td>566 53.9</td>
<td>237 2.6</td>
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<tr>
<td>N. Rhodesia</td>
<td>1958</td>
<td>269,683</td>
<td>3,042</td>
<td>667 50.5</td>
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</tr>
<tr>
<td>S. Rhodesia</td>
<td>1958</td>
<td>433,459</td>
<td>6,485</td>
<td>649 83.5</td>
<td>272 3.0</td>
</tr>
<tr>
<td>Ruanda-Urundi</td>
<td>1958</td>
<td>246,149</td>
<td>5,480</td>
<td>1,156 35.5</td>
<td>484 0.9</td>
</tr>
<tr>
<td>Senegal</td>
<td>1957-58</td>
<td>80,473</td>
<td>6,102</td>
<td>561 23.8</td>
<td>215 1.8</td>
</tr>
<tr>
<td>Sierra Leone</td>
<td>1959</td>
<td>74,461</td>
<td>5,777</td>
<td>590 21.0</td>
<td>247 2.8</td>
</tr>
<tr>
<td>Somalia</td>
<td>1958-59</td>
<td>16,405</td>
<td>1,286</td>
<td>325 10.2</td>
<td>136 0.8</td>
</tr>
<tr>
<td>Sudan</td>
<td>1958-59</td>
<td>398,395</td>
<td>69,941</td>
<td>2,819 12.8</td>
<td>1,180 6.5</td>
</tr>
<tr>
<td>Swaziland</td>
<td>1958</td>
<td>20,934</td>
<td>1,066</td>
<td>67 55.9</td>
<td>27 4.5</td>
</tr>
<tr>
<td>Tanganyika</td>
<td>1958</td>
<td>422,832</td>
<td>15,315</td>
<td>2,103 24.1</td>
<td>918 2.1</td>
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<tr>
<td>Togo</td>
<td>1959</td>
<td>78,689</td>
<td>2,373</td>
<td>411 31.8</td>
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<td>Uganda</td>
<td>1959</td>
<td>501,699</td>
<td>41,633</td>
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<td>671 4.4</td>
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<tr>
<td>Upper Volta</td>
<td>1958-60</td>
<td>40,543</td>
<td>2,447</td>
<td>991 6.8</td>
<td>415 0.4</td>
</tr>
<tr>
<td>Zanzibar</td>
<td>1958</td>
<td>14,962</td>
<td>1,232</td>
<td>75 25.0</td>
<td>31 5.0</td>
</tr>
</tbody>
</table>

Source: Statistics of population and pupils taken by the Unesco Statistics Division from official publications and country replies to the questionnaires.

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of manpower is produced by institutions of higher education. In Africa, higher education facilities are woefully inadequate to produce the required manpower. Only 0.02 per cent of university-age youth are enrolled in higher institutions. Massive expansion at this level must be undertaken. In the meanwhile, provisions for the university training abroad of Africans must be greatly increased, particularly in those fields of study not available at home. Expansion of higher education in Africa will require not only costly new and enlarged institutions, but hundreds of expatriate professors to give instruction until Africa has an adequate number of its own scholars.

(g) Adult education. A literate population is essential to the economic development of emerging States and the fostering of literacy and of the means of maintaining literacy is one of the most important concerns of the educational enterprise. It is estimated that there are in the African States 100,000,000 people, more than half the population, who cannot read and write in any language. Such a condition is a strong impediment to progress and makes the education of adults one of Africa's most pressing needs. Adult education programmes must go beyond the teaching of reading and writing and numbers. For persons with little formal schooling, programmes must provide a kind of continuing education related to the life activities of adults and they must promote progressive understanding of the great social and technical changes taking place in Africa. Mass Communication media must be fully utilized in efforts to maintain literacy once it is achieved.

(h) Reform of teaching materials. There exists a persistent need for the reform of teaching materials at all levels. School experiences should contribute to the learner's greater understanding and appreciation both of his cultural heritage and that of all other nations and of all aspects of his nation's present and probable future. His basic and supplementary materials for study should be born of African conditions and interests. Throughout the textbooks the African child studies should run the fabric of African life and culture. Production of such material will require considerable research, writing, and publication, but its importance to the development of proper concepts and of learning experiences appropriate to the African child makes it a need of crucial urgency.

(i) Planning. Educational expansion should be carefully planned both in relation to the needs level of social and economic development of the country and the goals it wishes to attain. A need exists for planning boards or units, within Ministries of Education, to provide the specialized knowledge and services essential to effective and realistic planning for educational development as a part of overall national plans.

<table>
<thead>
<tr>
<th>Country</th>
<th>Academic year beginning</th>
<th>Humanities</th>
<th>Social Sciences</th>
<th>Natural Sciences</th>
<th>Engineering</th>
<th>Medicine</th>
<th>Agriculture</th>
<th>unspecified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basutoland</td>
<td>1958</td>
<td>103 58.3</td>
<td>3.9</td>
<td>-</td>
<td>-</td>
<td>3.9 34.0</td>
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<td>-</td>
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<tr>
<td>Ghana</td>
<td>1958</td>
<td>1,410 15.2</td>
<td>13.7 5.3</td>
<td>6.6 22.9</td>
<td>6.2 16.0</td>
<td>4.0 6.0</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Kenya</td>
<td>1958</td>
<td>787 3.8</td>
<td>55.5 5.4</td>
<td>-</td>
<td>8.2 4.6</td>
<td>9.8 3.0</td>
<td>7.8</td>
<td>-</td>
</tr>
<tr>
<td>Liberia</td>
<td>1957</td>
<td>476 -</td>
<td>19.5 -</td>
<td>6.3</td>
<td>5.3 1.9</td>
<td>3.8 4.0</td>
<td>39.2</td>
<td>-</td>
</tr>
<tr>
<td>Malagasy Republic</td>
<td>1958</td>
<td>424 7.1</td>
<td>-</td>
<td>66.5</td>
<td>26.4</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mauritania</td>
<td>1958</td>
<td>231 -</td>
<td>55.8</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>44.2</td>
<td>-</td>
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<td>7.4 8.0</td>
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<td>-</td>
<td>-</td>
</tr>
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<td>Rhodesia &amp; Nyasaland</td>
<td>1958</td>
<td>125 42.4</td>
<td>22.4</td>
<td>-</td>
<td>-</td>
<td>26.6</td>
<td>-</td>
<td>5.6</td>
</tr>
<tr>
<td>Ruanda-Brundi</td>
<td>1958</td>
<td>4 -</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>100.0</td>
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<tr>
<td>Senegal</td>
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<td>1.0 12.2</td>
<td>2.4</td>
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<td>-</td>
</tr>
<tr>
<td>Sierra Leone</td>
<td>1958</td>
<td>371 29.1</td>
<td>24.5</td>
<td>-</td>
<td>26.3 15.4</td>
<td>2.7</td>
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<td>-</td>
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<td>-</td>
<td>100.0</td>
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<td>-</td>
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<td>-</td>
</tr>
<tr>
<td>Sudan</td>
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<td>1,309 17.4</td>
<td>7.2 2.0</td>
<td>8.6</td>
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<td>2.2</td>
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<td>637 33.7</td>
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<td>-</td>
<td>0.8 20.4</td>
<td>1.7</td>
<td>12.1 19.4</td>
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</table>

CHAPTER 11
ECONOMICS AND EDUCATION

The foregoing inventory of Africa’s educational needs reveals the necessity for immediate energetic action. In fact, education is not merely a right shared by Africans with all other peoples in the world; it is also a profitable investment for all the nations of Africa.

There are two different aspects to the economics of education. On the one hand, its high cost imposes a limit on the resources which each country can devote to it, while, on the other hand, the effect of education on productive capacity justifies the expenditure entailed. Recent statistical calculations confirm the highly beneficial effects of expenditures for education. Thus, there is no denying the profitability of this “human investment” when judiciously applied.

But it is essential to bring educational work into line with the demands of economic development, which vary not only with time and place but also with the level of development attained. It is important to avoid doing too much, which might prove wasteful, or not enough, for development would then be impeded or even completely blocked. Some balance should therefore be constantly maintained between the various levels (primary, secondary, technical and higher education) and the various types of education (general and vocational, literary and scientific, academic schooling and training on the job).

It is accordingly absolutely essential to arrange for continuous planning of educational work as part of economic development, so as to ensure that the supply of every type of skill match as closely as possible the demand for each type of skill. Extensive research still remains to be done in this field, particularly in Africa, in consultation with the authorities responsible for planning the supply of skilled manpower.

As a rule, studies based on the natural sciences occupy too small a place in the curricula of both secondary schools and universities. Similarly, in the primary school, too little time is set aside for the teaching of handicrafts and nature study, both of which may also create readiness for technical and scientific studies. This state of affairs - the heritage of a past now closed - must be remedied without delay.

It is also clear that an immediate effort must be made to make wider provision for education at the secondary, post-secondary and university levels. These have hitherto been unduly neglected.

But it is at the primary level that integration with economic development raises the most difficult problems. For primary schooling is apt to create in pupils desires which cannot be completely or immediately satisfied under existing economic conditions. It would therefore be advisable to bring work in this field into line with the resources, and particularly the agricultural resources, of the national economy. But this idea need not be too strictly interpreted; the gradual extension of primary education is an aim in itself, quite apart from its impact on the national economy.

It is also proved that the attempt to develop adult education - which has been so far much neglected in Africa - produces rapid and considerable economic results; and it would seem necessary to direct this activity towards an expansion of the apprenticeship system rather than to an extension of formal education.

It is true that educational investment is relatively costly in Africa and the returns, although certain, take a long time to materialize. Consequently, all possible steps must be taken to reduce costs, whether on initial outlay such as school building, or on the running expenses of the actual school system.
This fully justified method of presenting education as a profitable investment within the overall national economy has important financial consequences, including in particular the logical possibility of using foreign loans to cover expenditure, both recurring and non-recurring.

This analysis results in the African States making the following declarations:

(a) The development of human resources is as urgent and vital a task as the development of natural resources.

(b) Educational development may be regarded as a highly profitable long-term economic investment.

(c) Procedures must be adapted to economic circumstances, with emphasis on the acquisition of scientific knowledge and its applications to the native African environment.

(d) In view of Africa's present economic development needs, the highest priority must be given to secondary and post-secondary education.

(e) All African States should aim at achieving universal primary education within a maximum of 20 years, while continuing the work of adult education and vocational training on massive scales.

(f) It must be possible to finance both the recurring and non-recurring costs of education, in stages to be determined, from loans as well as taxation.
CHAPTER III

PRIORITIES

Each African State today is concerned with the development of a full and balanced educational programme. Such a programme will eventually enable every individual, male and female, to make the maximum contribution to society which his mental endowments and physical condition will permit. Each citizen will then be an active participant in the continuous growth of each sector of the nation's life. The African States should aim at providing universal primary education within two decades, which means increasing annual primary schooling by 5 per cent. Special attention also needs to be given during this period to adult education.

African States have agreed that the broad scope of their educational needs and the heavy costs of the next stages in building the balanced educational programme make it imperative that certain aspects of the development plan be given priority status for the immediate future. It is obvious that needs are similar in kind for all States, but certain needs are more crucial in degree in some States than in others.

The overall picture of African education today and of African economic and social problems indicates needs which call for immediate and strong action. To be given this priority status a need must be basic to the development of a balanced educational programme and must be directly related to the quickening of the economic and social growth of the national society.

In view of the above considerations, the following needs are given priority status for the next five years:

A. Secondary education. The past decade has witnessed a marked growth in primary school places, but the increase in secondary school places has been insufficient to absorb a fair proportion of eligible primary school leavers. Current demands for manpower possessing at least a secondary school education cannot be met and all projections of future manpower needs at this level point toward a widening of the gap between supply and demand unless drastic action is taken. Further, the required increase of students pursuing higher education in Africa and abroad in preparation for posts of major responsibility calls for a larger production of secondary school graduates.

B. Curriculum reform. Concurrently with the expansion of facilities for secondary education must come a general redirection of the curriculum at all levels to make it more responsive to the needs of a changing society and more appropriate to the needs for structural changes of the existing economies. To achieve the necessary curriculum reforms at the second level, increased emphasis should be placed on technical education and on agricultural education. Trained manpower in these two areas is essential to the economic development of African States. The curriculum, duration of school, and hours of work need to be reformed and developed according to African social and cultural conditions.

C. Teacher training. Training of teachers for all levels is accorded high priority. The quality of primary education is directly related to the success of students in the succeeding levels of education and to the value and contribution to society of those whose formal education ends with the primary school.

To improve the quality of primary education as well as provide more primary school teachers a massive expansion of teacher-training facilities, including provision for increased educational research, must take place.

In the light of the priority status accorded secondary education in this report, it is likewise imperative that provisions be made for the rapid training of a considerable number of secondary school teachers to staff the new schools. Particular emphasis must be placed on teachers for the areas of technical and agricultural education.
CHAPTER IV

COSTS

An overwhelming desire for more and better education permeates African society - and this desire should and will be accomplished. But the African States wish not to rush headlong into random and disorganized and unplanned multiplication of facilities for schooling. They wisely prefer to follow a planned approach to the expansion of education. To this end, the African States, individually and in conference, have made an inventory of their educational needs both quantitatively and qualitatively. They have studied the relationship of education to economic and social development and they have defined the scope and nature and direction which must characterize education in Africa if it is to be a balanced programme cultivating the nobler attributes of man and contributing to rapid growth in the social and economic spheres of African life.

Out of these serious deliberations has emerged a plan for balanced educational development in Africa (1961-1980). The first phase is a short-term plan (1961-1966) covering the expansion which should take place during the next five years. It takes full cognizance of the priority needs for second level education which must be met immediately if the goals of the second phase, covering the period 1966-1980 and making universal primary education a reality, while emphasizing higher education, are to be met.

SHORT-TERM PLAN: 1961-1966

The short-term plan is designed to increase total school enrolment from the present 11 to 15 million. It emphasizes the expansion of second level education. It is this level which produces the specialized manpower basic to economic development, the cadres for the higher education institutions from which will come the high level manpower our modern age requires, and the teachers to instruct the new millions of primary school enrollees.

To arrive at reasonable estimated costs of the five-year programme of expanding education in Africa, certain basic assumptions, based on a variety of factors, were made. For primary education, the agreed target is to increase enrolment each year by an additional 5 per cent of the beginning age-group. The average recurring cost per pupil is assumed at 20 dollars per year, the cost of buildings at 1,500 dollars per classroom designed for 60 pupils and equipment at 7 1/2 dollars per pupil. Provision has also been made for funds to purchase adequate equipment within the next five years for the 50 per cent of existing schools now unsatisfactorily equipped and to improve existing buildings within 10 years.

For second level education other assumptions prevail. A need for an average output of about 43,000 additional teachers each year is assumed and costing for teacher training is based on the assumption that at least 50 per cent of staff would be trained graduates, that residence will be provided for all students and teachers, that recurring costs per student will be 400 dollars at the lower stage and 600 dollars at the higher stage, and that capital costs will be 1,000 dollars per pupil.

For other second-level schools, costing has been similarly determined. Recurring cost per pupil is taken at 40 dollars for vocational and technical (lower-stage) and general intermediate secondary schools, 150 dollars for general academic secondary schools, and 200 dollars for vocational and technical schools (higher-stage). A building cost of 400 dollars per place in vocational and technical schools (lower-stage) and in general intermediate schools, and of 500 dollars per place in academic schools and vocational and technical schools (higher-stage) has been assumed.

Throughout this chapter, the term "dollar" is used to denote the equivalent of the U.S. dollar.
Equipment is provided at 25 per cent of building costs in vocational and technical schools (higher-stage) and at 15 per cent in others. Housing is provided for one-half of the additional teachers at 10,000 dollars per house, including the cost of land.

At the higher education level, it has been assumed that the annual recurring cost of each student in university, scientific and technical faculties in Africa is 1,600 dollars, of each student in other university faculties in Africa is 800 dollars, of each student in non-university higher institutions in Africa is 600 dollars, of each African student studying abroad is 2,000 dollars. Capital costs for building additional places at African universities were calculated at 10,000 dollars per place in scientific and technical faculties and at 5,000 dollars per place in other faculties and in non-university higher institutions.

In view of the high rate of illiteracy and the insufficiency of schools, the African States should accord special importance to adult education and activities for youth which will have an immediate impact on social and economic development. This will demand adult literacy and mass education programmes. Institutions will have to be created for research, for production of books and audio-visual aids and for the training of teachers. No attempt has been made to cost these operations, which will vary greatly from country to country, but a sum equal to five per cent of the estimated costs of the short-term and long-term plans has been allocated to adult education and other programmes.

The enrolments to be provided for in the short-term plan and the costs of the plan are shown in Table III.

### TABLE III - SHORT-TERM PLAN (1961-1966) ENROLMENTS AND COSTS

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>11,187.0</td>
<td>11,586.0</td>
<td>12,203.0</td>
<td>13,028.0</td>
<td>14,050.0</td>
<td>13,279.0</td>
</tr>
<tr>
<td>Second level</td>
<td>816.6</td>
<td>903.7</td>
<td>1,025.0</td>
<td>1,224.7</td>
<td>1,475.2</td>
<td>1,833.5</td>
</tr>
<tr>
<td>Higher</td>
<td>25.0</td>
<td>25.5</td>
<td>26.2</td>
<td>27.2</td>
<td>28.5</td>
<td>30.3</td>
</tr>
<tr>
<td>Costs (in millions of dollars)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>263.4</td>
<td>305.5</td>
<td>332.1</td>
<td>362.7</td>
<td>398.7</td>
<td></td>
</tr>
<tr>
<td>Second level</td>
<td>235.7</td>
<td>278.3</td>
<td>409.0</td>
<td>489.4</td>
<td>652.0</td>
<td></td>
</tr>
<tr>
<td>Higher</td>
<td>37.5</td>
<td>39.1</td>
<td>41.2</td>
<td>44.7</td>
<td>46.7</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>27.8</td>
<td>31.1</td>
<td>39.1</td>
<td>44.8</td>
<td>55.0</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>564.4</td>
<td>654.0</td>
<td>831.4</td>
<td>941.6</td>
<td>1,154.4</td>
<td></td>
</tr>
</tbody>
</table>

The long-term plan is designed to enable the African States to achieve a desirable educational pyramid. It includes the short-term priority actions which will enable Africa to have the basic personnel to move on to universal primary education of high quality by 1980 while forging ahead socially and economically. The costing of the long-term plan is based on the same general assumptions which underlie the short-term plan. Its details of enrolment and cost are shown in Table IV.
TABLE IV - LONG-TERM PLAN (1961-1980) ENROLMENTS AND COSTS

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Enrolments (in thousands)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>11,586.0</td>
<td>15,279.0</td>
<td>20,390.0</td>
<td>32,808.0</td>
</tr>
<tr>
<td>Secondary level</td>
<td>903.7</td>
<td>1,833.5</td>
<td>3,390.0</td>
<td>5,905.4</td>
</tr>
<tr>
<td>Higher</td>
<td>25.5</td>
<td>30.3</td>
<td>55.0</td>
<td>328.0</td>
</tr>
<tr>
<td><strong>Percentage of age group enrolled</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>40</td>
<td>51</td>
<td>71</td>
<td>100</td>
</tr>
<tr>
<td>Secondary level</td>
<td>3</td>
<td>0</td>
<td>13</td>
<td>23</td>
</tr>
<tr>
<td>Higher</td>
<td>0.2</td>
<td>0.2</td>
<td>0.4</td>
<td>2</td>
</tr>
<tr>
<td><strong>Costs (in millions of dollars)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>283.4</td>
<td>398.7</td>
<td>537.0</td>
<td>730.2</td>
</tr>
<tr>
<td>Secondary level</td>
<td>235.7</td>
<td>652.0</td>
<td>849.0</td>
<td>1,177.2</td>
</tr>
<tr>
<td>Higher</td>
<td>37.5</td>
<td>48.7</td>
<td>206.0</td>
<td>562.4</td>
</tr>
<tr>
<td>Other</td>
<td>27.8</td>
<td>55.0</td>
<td>39.6</td>
<td>123.5</td>
</tr>
<tr>
<td>Total</td>
<td>584.4</td>
<td>1,154.4</td>
<td>1,881.6</td>
<td>2,593.4</td>
</tr>
</tbody>
</table>

LOCAL RESOURCES FOR EDUCATION

The costs of an adequate programme of educational development in Africa are staggering, but the will of the African States is strong. The States and their people are prepared to make every possible sacrifice to achieve the goals so carefully determined. There is evidence, however, that the African States will not be able to finance their complete educational programme until the decade of the 1980's when the investment made in education during the next twenty years will begin to yield sufficient dividends to absorb the education costs. Until that time, as indicated in Table V, there will be sizeable shortages of funds at the local level.

TABLE V - SHORT AND LONG-TERM PLANS ESTIMATED COSTS, LOCAL RESOURCES, DEFICITS

<table>
<thead>
<tr>
<th></th>
<th>Total costs</th>
<th>Estimated local resources (in millions of dollars)</th>
<th>Deficit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1961</td>
<td>580</td>
<td>450</td>
<td>140</td>
</tr>
<tr>
<td>1962</td>
<td>650</td>
<td>500</td>
<td>150</td>
</tr>
<tr>
<td>1963</td>
<td>820</td>
<td>660</td>
<td>260</td>
</tr>
<tr>
<td>1964</td>
<td>940</td>
<td>630</td>
<td>310</td>
</tr>
<tr>
<td>1965</td>
<td>1,130</td>
<td>700</td>
<td>490</td>
</tr>
<tr>
<td>Total (short plan)</td>
<td>4,150</td>
<td>2,840</td>
<td>1,310</td>
</tr>
<tr>
<td>1970</td>
<td>1,790</td>
<td>870</td>
<td>920</td>
</tr>
<tr>
<td>1980</td>
<td>2,600</td>
<td>2,200</td>
<td>400</td>
</tr>
</tbody>
</table>
It will be seen from this table that the contribution from African States for educational development over the next 20 years rises steadily, being about 50 per cent higher in 1965 and almost 5 times higher in 1980 as compared to 1961.

It appears, therefore, that Africa could be able to develop and support an educational development programme of the type outlined here by 1980 only if external assistance of the order indicated - which should rise from about 140 million dollars in 1961 to a peak of about one billion dollars in 1970 and again falls to about 400 million dollars in 1980 - can be made available. The most significant programme in the plan is the development of second level and higher education and the most intensive efforts possible would have to be made to achieve this end during the next ten years. This alone can give African education a "take-off" which it badly needs and it is possible only if the heroic efforts and sacrifices which the people of this area are making at present to create a better educated Africa are matched by adequate external aid from the more advanced countries of the world. In the present state of its educational development, Africa needs assistance in the form of cash grants and materials, services of essential personnel, and provision of training facilities abroad. It is true that this help is being given now to an appreciable extent. But the size of the problem is so immense that the extent of the existing external aid will have to be more than doubled during the next five years and almost quadrupled between 1966 and 1970.

This bold and imaginative plan is based upon challenging goals that the Africans themselves have established as essential in order to achieve their rightful place in the world community. These goals have been set because they are considered essential and not because they have been projected as being economically feasible. The achievement of these goals is a gigantic task, but it is seen as a task which will bear gigantic fruit for Africa and the world, and because of the magnitude and urgency of the task implicit in the plan, Africa calls to her more fortunate brothers to share the burden of this programme. It is hoped that the call will not go unheeded and that Africans will soon have an educational system which, both in quantity and quality, can compare favourably with that in the other progressive and advanced countries of the world.
CHAPTER V
RECOMMENDATIONS

The Conference of African States on the Development of Education in Africa has given serious and detailed consideration to several important matters. It has made a penetrating analysis of Africa's educational needs for economic and social development. It has studied the interrelationships of education and economics and affirmed that the strong financial support of education in Africa will prove to be a high grade investment both for African States and for external agencies. It has noted the importance of reform of school curricula and teaching materials at all levels.

The Conference has emphasized the urgent need for planning educational expansion as a part of overall national plans for social and economic development. It has agreed on basic plans for educational development in Africa and has assessed the probable costs of the development plans, both short-range and long-term. The African States, knowing the limits of their national resources now and for the next two decades, realize their own inability to bear the complete costs of the plans for educational development. They know that to achieve their goals they will need foreign aid increasingly for this decade and in decreasing amounts for the second decade. The African States will welcome the necessary international assistance.

In the light of these significant deliberations and agreements, the Conference of African States makes the following recommendations:

A. APPEAL TO MEMBER STATES

1. The Conference of African States on the Development of Education in Africa:

Considering that economic and social progress is indissolubly linked with the development of education,

Considering the scope of the African countries' educational requirements as revealed by the Conference's discussions, and the fact that these countries are unable, with their present normal resources, to implement the educational programmes recommended by the Conference for their economic development,

Considering that it will be a long time before these educational programmes have appreciable effect on economic development and increase the resources of the countries concerned,

Noting accordingly that the implementation of the Conference's decisions requires greater efforts on the part of the countries concerned and the provision of large-scale external aid for them,

Considering that, by its resolution 1.2321 adopted at its eleventh session the General Conference of Unesco invited African Member States and Associate Members of the Organization to request the assistance of the appropriate international and regional organizations and to use all resources made available to them in a well co-ordinated manner for the development of education; and that by the same resolution it invited Member States outside Africa to offer, directly or through Unesco, financial and technical aid to African countries for the development of their educational systems,
Recalling that, in accordance with resolution 8.62 adopted by the General Conference of Unesco at its eleventh session, the Director-General of Unesco conveyed to "the Secretary-General of the United Nations and to the executive heads of the appropriate financial bodies of the United Nations system, as well as of the Specialized Agencies the considered view of this Organization that assistance to both general and technical educational projects should have the same consideration as aid offered for economic development to the less developed countries".

Recalling further that the General Assembly of the United Nations has on various occasions and, in particular, at the fifteenth session, emphasized the importance attaching to education, training and pre-investment for the economic development of the less developed countries,

Invites the African countries concerned to devote as ample resources as possible to the development of education in their territories, in accordance with the broad targets of the five-year programme and the twenty-year programme set forth in "An Outline of a Plan for African Educational Development";

Invites Unesco to approach the competent international organizations, governments and public and private institutions capable of providing large-scale assistance, with the request that they contribute to the financing of such programmes recommended by the Conference as are beyond the present normal resources of the African countries concerned;

Invites Unesco to assist the governments concerned to coordinate their national efforts with any external aid necessary for the fulfilment of the educational programmes adopted,

Invites the Economic Commission for Africa, other interested United Nations bodies, all States and countries and all non-governmental organizations which have taken part in the Conference to support and share in the implementation of the present resolution.

B. ECONOMICS AND EDUCATION

It is recommended:

1. That education, under appropriate conditions, is gainful economic investment and contributes to economic growth;

2. That the development of human resources is as urgent and essential as the development of natural resources;

3. That educational investment is of a long-term nature but, if properly planned, obtains simultaneously a high rate of return;

4. That the content of education should be related to economic needs, greater weight being given to science and its applications;

5. That in Africa, at its present level of development, the highest priority in education should be accorded to ensuring that an adequate proportion of the
population receives at secondary and post-secondary levels the kinds of skills re-
quired for economic development;

6. That African countries should aim at providing universal primary education
within two decades; at the same time special attention should be given to adult educa-
tion and on-the-job training;

7. That low or no interest loans repayable preferably in local currencies over long
periods (in addition to tax revenues and grants) are a suitable source of finance for
some forms of educational expenditure, recurring as well as non-recurring;

8. That Unesco, ECA and Member States in Africa should undertake study, re-
search and action, as appropriate, on:

(a) the relationship between different patterns of development and manpower
needs;
(b) timing and balance in relation to education and economic factors;
(c) priorities essential to the development of a balanced educational system;
(d) economic and social returns to be derived from investments in education;
(e) integration and co-ordination by each government of all resources available
to education, including public and private, internal and external, cash and kind;
(f) problems faced by education in a phase of transition from a non-cash to a
cash economy; and
(g) the technology of teaching, in order to reduce either student hours or the
teacher/student ratio;

9. That it is urgent to establish in Africa one or more Institutes for development
and research in education.

C. EDUCATIONAL TARGETS

It is recommended:

1. That the targets for the long-term plan (1961-1980) shall be:

(a) primary education shall be universal, compulsory and free;
(b) education at the second level shall be provided to 30% of the children who
complete primary school;
(c) higher education shall be provided, mostly in Africa itself, to 20% of those
who complete secondary education;
(d) the improvement of the quality of African schools and universities shall be
a constant aim;

2. That the targets of the short-term plan (1961-1966) shall be:

(a) an annual increase at the primary level of an additional 5 per cent of the
beginning school-age group, which will increase enrolment from the present
40 per cent to 51 per cent;
(b) second level education shall increase from the present 3 per cent of the
age group to 9 per cent;
special attention will be paid to the training of teachers at all levels and to adult education programmes.

The targets expressed as percentages of the appropriate age groups may be expressed thus:

<table>
<thead>
<tr>
<th>Year</th>
<th>Primary Level</th>
<th>Secondary Level</th>
<th>Higher Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960-61</td>
<td>40</td>
<td>3</td>
<td>0.2</td>
</tr>
<tr>
<td>1965-66</td>
<td>51</td>
<td>9</td>
<td>0.2</td>
</tr>
<tr>
<td>1970-71</td>
<td>71</td>
<td>15</td>
<td>0.4</td>
</tr>
<tr>
<td>1980-81</td>
<td>100</td>
<td>23</td>
<td>2</td>
</tr>
</tbody>
</table>

**D. FINANCING OF EDUCATION**

**I. Financing the present plan**

It is recommended:

1. That Unesco and ECA Member States and Associate Members in Africa should raise the percentage of their national income earmarked for financing education from the present 3 per cent to 4 per cent by 1965 and on to 6 per cent by 1980;

2. That appropriate measures should be taken to reduce the cost of education, while improving its organization and administration, avoiding wastage and overlapping, and speeding up Africanization of educational personnel;

3. That Unesco Member States, United Nations and Specialized Agencies, private and public organizations provide increased assistance required by the African countries to meet their educational targets, in the short and long-term plan periods, as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Million Dollars</th>
<th>Year</th>
<th>Million Dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>1961</td>
<td>140</td>
<td>1965</td>
<td>450</td>
</tr>
<tr>
<td>1962</td>
<td>150</td>
<td>1970</td>
<td>1,010</td>
</tr>
<tr>
<td>1963</td>
<td>260</td>
<td>1980</td>
<td>400</td>
</tr>
<tr>
<td>1964</td>
<td>310</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. That Member States and Associate Members in Africa develop short-term national educational plans and long-term projections, on the basis of the models approved at the Conference, which would also be a means of correcting and checking the present plans, using techniques and methods presently used, as appropriate.

**II. Economies in the cost of education**

1. That the decentralization or devolution of educational administration be encouraged;

2. That any competition between State and private education in siting of establishments, without preventing their coexistence in centres where both can attract a sufficient number of pupils, be obviated.
3. That advisory committees or boards of administrators, economists and educators be set up; 
4. That advisory committees or boards of administrators, economists and educators be set up; 
5. That advisory committees or boards of administrators, economists and educators be set up; 
6. That advisory committees or boards of administrators, economists and educators be set up; 
7. That advisory committees or boards of administrators, economists and educators be set up; 
8. That advisory committees or boards of administrators, economists and educators be set up; 
9. That advisory committees or boards of administrators, economists and educators be set up; 

III. Methods of financing education

1. That an increase in national education budgets requires use of new financial sources, both public and private, national and foreign, material and human; 
2. That the system of apprenticeship taxes be used to finance vocational training programmes; 
3. That the setting aside of a percentage of the capital cost of large undertakings for education and training and the establishment of an educational bank, as undertaken in certain countries, be studied and used as appropriate; 
4. That the distribution of financial burdens for education between central and local authorities aim at both elimination of duplication of effort and adherence to criteria of quality; 
5. That, in appropriate cases, loan finance be used for developing education, to which end it is declared: 

Considering:

that all delegations have emphasized the magnitude of their countries' requirements as regards educational establishments, 
that the problem of recruiting teachers in the requisite numbers and of the required quality is partly bound up with the solution of the problem of their housing accommodation,
that the Conference has recognized the overriding importance of investment in education within the framework of a balanced development plan;
that the major problem to be solved is that of financing such investment;
that the new African States are faced with many heavy financial burdens;
that the assistance at present afforded them is insufficient to cover all their needs,

the governments of Member States and Associate Members in Africa, with the help of Unesco are requested to approach governments, competent international organizations and public and private organizations with a view to their financing by means of long-term loans, whether interest-free or at low interest rates, a supplementary school building and staff accommodation programme as an addition to the regular programmes at present financed from national budgets and with external aid.

E. PLANNING OF EDUCATION

1. Critical problems of educational planning

It is recommended:

1. That precise estimates be made of requirements for high-level manpower;
2. That the following measures be adopted for absorbing the surplus of unskilled manpower:

   (a) that primary education be given a practical bias and be sufficiently developed and expanded so as to cease to be a contributory cause of migration from rural areas to the towns,
   (b) that all children who are capable of benefiting thereby be allowed access to secondary or technical schools as soon as practicable,
   (c) that living conditions in rural areas be improved by a vigorous attempt at country planning and community development,
   (d) that the system of land tenure and inheritance of real estate should be altered if necessary;

3. That governments establish priorities as between the different levels and types of education, in view of the dearth of resources, while maintaining the balanced development of these closely complementary levels and types of education and remaining faithful to the principle of universal, free and compulsory primary education;

4. That teacher training and the adaptation and reform of the content of education should be regarded as priorities, and that the principle of priority should extend to both qualitative and quantitative requirements;

5. That technical and vocational education and specialized training should be greatly developed in the African countries to keep pace with recent technological progress and development requirements, a proper balance being struck between general and technical education on the basis of objectively determined needs;
6. That in view of a marked flight from the teaching profession steps be taken to improve the status conditions of teachers both with regard to salaries and the standing of the profession;

7. That until such time as the African States have produced their own senior personnel, particularly at the top levels, the services of foreign experts and teachers and of training fellowships be planned for under bilateral and multilateral agreement;

8. That the latest techniques and teaching aids, which to some extent can offset the shortage and shortcomings of teaching personnel although they can never replace personal contact with the teacher, be used to the fullest.

II. The steps in the planning process

1. That an estimation of forward manpower requirements under the dual system of occupational and educational classification be undertaken by each country with the help of Unesco;

2. That a survey of the present anticipated annual output of graduates from educational institutions at the primary, secondary and higher levels be undertaken in each country with the help of Unesco;

3. That an estimate of future needs for imported high-level manpower by major occupational groups and by time periods be undertaken, bearing in mind the importance of making the most of the very limited resources of such personnel at present available;

4. That, as school education is not enough to ensure the training of certain types of manpower, employers share this responsibility under joint training arrangements by the State and private enterprise;

5. That an assessment of the long-range quantitative increases needed in education at the primary, secondary and higher levels in general and technical fields and teacher training be made by each country with the help of Unesco, as appropriate;

6. That a critical evaluation of the long-run qualitative changes needed throughout the educational system be undertaken by each country.

III. Machinery required for planning

1. That Ministries of Education establish adequately staffed planning groups responsible for the collection of statistics on education, the determination of costs of educational programmes, recommending reform and revision of curricula, planning of teacher recruitment and training, long-range forecasting of educational needs, research in new educational technology, and formulation of plans for the financing of education including the co-ordination of external assistance;

2. That countries establish, within a single Ministry or in the form of inter-ministerial commissions, manpower boards to assess present manpower resources and needs, forecast long-range manpower requirements, develop programmes for the education and training of manpower, formulate policy governing the importation
of high level manpower, formulate social security measures in relation to national plans for economic and social development including the study of incentives.

3. That in all countries which have no planning ministry or boards, an inter-ministerial Commission be set up which will be responsible for the co-ordinated planning of economic and social development, reporting directly to the Prime Minister's Office. The representative of the Ministry of Education on the Commission should ensure that education is given its due weight as a productive investment and as a basic factor in development.

F. THE REFORM OF THE CONTENT OF EDUCATION

It is recommended:

1. That as the present content of education in Africa is not in line with either existing African conditions, the postulate of political independence, the dominant features of an essentially technological age, or the imperatives of balanced economic development involving rapid industrialization, but is based on a non-African background, allowing no room for the African child's intelligence, powers of observation and creative imagination to develop freely and help him find his bearings in the world - African educational authorities should revise and reform the content of education in the areas of the curricula, textbooks, and methods, so as to take account of African environment, child development, cultural heritage and the demands of technological progress and economic development, especially industrialization;

2. That the teaching of scientific and technical subjects be developed so as to ensure the training of highly qualified staff as speedily as possible (e.g. research workers, engineers, science teachers, economists, financial experts and statisticians);

3. That curricula be reformed by allotting less time to the teaching of classics and ending the preferential treatment given to the teaching of non-African history and geography;

4. That all aspects of humanistic education that could help in character formation be retained and, while rooting itself in Africa's past, the educational content should not seal the student off from the rest of the world. The African States must make the necessary study of and changes in traditional attitudes so as to achieve, in their curricula, a synthesis of their own values and of universal values.

G. PREREQUISITES IN GENERAL EDUCATION FOR SPECIALIZED TECHNICAL AND VOCATIONAL TRAINING

I. General education at the first level

It is recommended:

1. That education at the first level be considered to cover broadly six years, general and not vocational in its intention, including elements which inculcate manual
dexterity and respect for it, provide experience in creative activities and stimulate an intelligent approach to the practical problems of the home and the community;

2. That the broad outline of content shall include a language for everyday communication, a language of wide currency, manual activities, fundamentals of the arithmetical process, an introduction to the study of nature and to the basis of citizenship and moral values, an elementary knowledge of the human body and how it works, the development of healthy habits and the right attitude to nutrition;

3. That, within this framework of content, the work of the school be treated in part as a structured programme, as with arithmetic and language, and in part as free activity in such areas as movement and music.

II. General education at the second level

4. That secondary education, with the variations required by particular circumstances, may consist of a further six years of school life in two stages;

5. That the lower stage be general in character, guiding the pupil to the stream in the higher stage appropriate to his aptitude and capacities;

6. That the curriculum of the lower stage be considered in terms of areas of study, inter alia, the practical, aesthetic and cultural areas, social sciences, moral values, language studies covering the mother tongue or national language and a second language, health and physical education, and natural sciences including mathematics;

7. That at the higher stage a number of areas of study should be common to all pupils, and a choice of specialized courses be made available, pointing in some cases to the future careers of pupils;

8. That, wherever feasible, an optional range of specialized courses within one institution is preferable to the establishment of a variety of institutions;

9. That the intensive study of the sciences and mathematics, required by a later technical or professional training, should start in earnest at the commencement of the higher stage;

10. That the science teaching at this stage be designed to provide systematic knowledge of the material world and appreciation of the nature of science;

11. That in countries where a large proportion of girls do not complete their school courses, consideration be given to introducing the vocational emphasis earlier;

12. That short-term emergency programmes of technical and vocational training be undertaken by accelerated in-service training courses leading to the establishment of a well-founded cadre of technicians and technologists at all levels.
H. ADULT EDUCATION

It is recommended:

1. That governments should consider, where appropriate, the desirability of introducing some form of legislation, or of issuing a declaration of policy, to give impetus to adult education;

2. That the primary responsibility within the government for adult literacy teaching and for further education for those who have passed through the school system rests with the Ministry of Education, in which a Department of Adult Education will generally be desirable;

3. That wherever adult education activities are carried out by different departments and ministries some form of co-ordinating arrangement, such as an inter-departmental commission, be set up;

4. That in the development and expansion of adult education in Africa the resources of voluntary and non-governmental organizations be fully and effectively used and, where appropriate, new organizations for adult education be established;

5. That the Secretariat of Unesco in preparing its draft programme for the General Conference and the General Conference in approving the programme and budget for 1963-1964 recognize the need for an increased allocation of Unesco's funds for adult education and youth activities and that African countries equally recognize this need and draw upon every suitable source of finance for the expansion and improvement of adult education;

6. That educational and cultural programmes for women should be accelerated, so that women can make their full contribution to the welfare of the community;

7. That, as the choice of languages for adult education rests with governments and depends on linguistic, social and economic considerations which vary from country to country and as the language chosen for adult education may differ from the choice made for school education, the linguistic and pedagogical studies necessary for wise choice be made. Once the choice is made, such studies should be further developed to assist the effective use of the chosen language or languages and their adjustment to changing conditions;

8. That new literacy campaigns should generally start with a limited number of local projects or courses for certain special groups or special zones, that governments subsidize the production of basic teaching and follow-up reading materials and sell them to learners at low prices, that adult literacy campaigns be launched when there is an adequate and continuing output of reading matter available for those who have learned to read;

9. That, wherever the school-teacher is called upon to teach adult literacy, he should have a brief period of training in the approaches and methods needed for working with adults;

10. That where governments intend to carry out full-scale national campaigns against illiteracy and are handicapped by a shortage of teachers they consider the possibility of enrolling and training young people into a National Literacy Service, this being a possible alternative to military service wherever such is in force.
11. That the designing of new school buildings should be made with a view to their use for adult education and out-of-school activities for young people;

12. That governments take all possible steps to improve and expand their educational radio services and to introduce, when and where it becomes appropriate, educational television services for adults;

13. That since physical, financial and technical problems handicap these powerful new methods of education, Unesco continue to explore their possibilities by means of meetings of experts and pilot experiments, and that the governments of Africa be kept informed of all possibilities discovered;

14. That the press be encouraged to fulfil its potentialities as an instrument of adult education and literacy;

15. That governments establish research institutions serving adult education facilities for the training of all types of staff needed for adult education and youth activities, centres or units for the production of literacy teaching and reading materials, library services including book-box and other services for bringing books to people in remote communities, and centres for the production of audio-visual aids.

I. INTER-AFRICAN CO-OPERATION IN EDUCATION

It is recommended:

1. That, in view of the present state of African Member States and Associate Member States who are at varying levels of educational and economic viability, inter-African co-operation be promoted with a view to making possible and accelerating the educational development and social and economic progress of the countries in this continent.

2. That inter-African co-operation through regional and sub-regional arrangements be urgently developed with the aid of Unesco and other co-operating bodies, notably in such fields as teacher training, production of textbooks and reading material, university and higher education institutions, educational research and information programmes, educational planning, reform of the content of education, and institutes for development and research in education.

II. FOLLOW-UP OF PRESENT DECISIONS AND FUTURE CONFERENCE

It is recommended:

That Unesco, jointly with ECA, convene in 1963 a Conference of African States for the Development of Education in Africa with a view to:

(a) reviewing the targets and costs established for the short-term and long-term educational plan at the present Conference,
(b) comparing and analysing national educational plans which would by then have been established for all countries and their effect on the overall models established at this conference, and
(c) helping in integrating educational plans in national development programmes.
The word "Africa" has been used throughout this plan as meaning the following Member States, Associate Members and Territories, as defined by the General Conference of Unesco at its eleventh session (1960):

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<tr>
<th>Africa II</th>
<th>Member States, Associate Members and Territories</th>
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<tr>
<td>Basutoland</td>
<td>Mali</td>
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<td>Bechuanaland</td>
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<td>Cameroun</td>
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<td>Central African Republic</td>
<td>Nigeria</td>
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<td>Congo (capital Brazzaville)</td>
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<td>Congo (capital Leopoldville)</td>
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<td>Kenya</td>
<td>Upper Volta</td>
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<td>Liberia</td>
<td>Zanzibar</td>
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<tr>
<td>Malagasy Republic</td>
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annexes
ANNEX I

ORGANIZATION OF THE WORK OF THE CONFERENCE

PLENARY MEETINGS

President:
Hon. A.J. Dowauna Hammond, Minister of Education and Welfare, Ghana

Vice-Presidents:
Hon. J. Ekwahi Ewane, Minister of National Education, Cameroun
Hon. L. Botokely, Minister of National Education, Malagasy Republic
Hon. Ziada Arabab, Minister of Education, Sudan

Representatives of the Director-General of Unesco:
Dr. Shannon McCune, Director, Department of Education, Unesco
Mr. H. Saba, Legal Adviser, Unesco

Secretary:
Mr. W.D. Carter, Chief, International Exchange Service, Unesco

Consultants:
Professor Gaston Leduc, Faculty of Law and Economics, University of Paris, France
Mr. Alan Pifer, Carnegie Corporation of New York, U.S.A.

THE COMMISSIONS

The membership of each commission included at least one representative from each of the following Member States, Associate Members and Territories which accepted the invitation to participate in the conference: Basutoland, Bechuanaland, Belgium, Cameroun, Central African Republic, Chad, Congo (Brazzaville), Congo (Léopoldville), Dahomey, Ethiopia, France, Gabon, Gambia, Ghana, Guinea, Ivory Coast, Kenya, Liberia, Malagasy Republic, Mali, Mauritania, Mauritius, Morocco, Niger, Nigeria, Rhodesia and Nyasaland, Ruanda-Urundi, Senegal, Sierra Leone, Somalia, Spain, Sudan, Swaziland, Tanganyika, Togo, Tunisia, Uganda, United Arab Republic, United Kingdom, Upper Volta, Zanzibar. As indicated below, other States and various organizations were represented in commissions by observers.


COMMISSION I

Chairman:
Hon. P. Gandzion, Minister of National Education, Congo (Brazzaville)

Vice-Chairman:
Hon. H.A.M. Clarke, Permanent Secretary, Ministry of Education, Sierra Leone

Representative of the Director-General of Unesco:
Dr. Malcolm S. Adiseshih, Assistant Director-General, Unesco
Annex I

Representatives of the Executive Secretary, Economic Commission for Africa:
- Mr. Stein Rossen, Director of Research Division, ECA
- Mr. G.E. Lardner, Economic Affairs Officer, ECA

Secretary:
- Mr. Pierre Henquet, Unesco Representative to ECA

Assistant Secretary:
- Mr. E.S. Solomon, Department of Social Sciences, Unesco

Observers

Member States:
- Lebanon, United States of America

International non-governmental organizations:
- International Office of Catholic Education, International Union for the Liberty of Teaching

Consultants

Professor W. Brand, University of Leyden, Netherlands
Professor W. Arthur Lewis, Principal, University College of the West Indies
Dr. J.P. Naik, Ministry of Education, India
Mr. Abgar Renault, University of Belo Horizonte, Brazil

COMMISSION II

Chairman:
- Hon. Aja Nwachuku, Federal Minister of Education, Nigeria

Vice-Chairman:
- Hon. Joachim Bony, Minister of National Education, Ivory Coast

Representative of the Director-General of Unesco:
- Dr. Malcolm S. Adiseshiah, Assistant Director-General, Unesco

Representative of the Executive Secretary, ECA:
- Mr. G.E. Lardner, Economic Affairs Officer, ECA

Secretary:
- Mr. René Ochs, Department of Education, Unesco

Observers

Member States:
- Federal Republic of Germany, Hungary, Union of Soviet Socialist Republics, United States of America

Non-Member States:
- Holy See

International non-governmental organizations:

Consultants

Dr. F.W. Harbison, Princeton University, U.S.A.
Professor Joseph Ki-Zerbo, Lycée, Ouagadougou, Upper Volta
Mr. M.B. Mitchell, President, Encyclopedia Britannica Films, U.S.A.
Mr. Abgar Renault, University of Belo Horizonte, Brazil
COMMISSION III

Chairman:
Hon. Francis Dieng, Minister of National Education, Senegal

Vice-Chairman:
Hon. J.C. Kiwanuka, Minister of Education, Uganda

Representative of the Director-General of Unesco:
Mr. Howard Hayden, Department of Education, Unesco

Representative of the Executive Secretary, ECA:
Dr. B.T. Chidzero, Associate Social Affairs Officer, ECA

Secretary:
Mr. Francis L. Bartels, Department of Education, Unesco

Observers

Member States:
Canada, Hungary, Lebanon, Switzerland, Union of Soviet Socialist Republics, United States of America

International non-governmental organizations:

Consultants

Mr. F. Camboulive, International Labour Organisation
Mr. A. Chaparro, Food and Agriculture Organization
Mr. A.J. Macris, Food and Agriculture Organization
Dr. E. Grzegorzewski, World Health Organization
Dr. A. Barkhuus, World Health Organization
Mr. G.A. Corbaz, World Meteorological Organization
Mr. H.J. Carrick, International Civil Aviation Organization
Mr. T.J. Thomlinson, International Civil Aviation Organization

COMMISSION IV

Chairman:
Hon. J.P. Mitchell, Under-Secretary of Public Instruction, Liberia

Vice-Chairman:
Hon. Mathias Sorgho, Minister of National Education, Upper Volta

Representative of the Director-General of Unesco:
Mr. J.B. Bowers, Department of Education, Unesco

Secretary:
Mr. Alassane N'Daw, Bureau of Relations with Member States, Unesco

Observers

Member States:
Union of Soviet Socialist Republics, United States of America

Non-Member States:
Holy See
Annex I

International non-governmental organizations:

Consultants
Hon. Mekhti Zade, Minister of Education, Azerbaijan Soviet Socialist Republic, Baku, USSR
Professor Paul Mercier, Director of Studies at the Ecole Pratique des Hautes Etudes, Paris

REPORT COMMITTEE
Chairman:
Hon. J.C. Mackpayen, Minister of National Education, Central African Republic

Vice-Chairman:
Hon. M.M. Mabwe, Member of Parliament, Federal Assembly, Rhodesia and Nyasaland

Representative of the Director-General of Unesco:
Dr. Malcolm S. Adiseshiah, Assistant Director-General, Unesco

Secretary:
Dr. Wendell P. Jones, School of Education, University of California, Los Angeles, California, U.S.A.

Members:
Mr. Keita Namandian, Chief, Division of Cultural Affairs, Guinea
Mr. S.O. Awokoya, Chief Federal Adviser on Education, Federal Ministry of Education, Nigeria
Mr. Mahmoud Ahmed, Director-General of Education, Somalia
Hon. A.A. El Koussy, Ambassador, Permanent Delegate to Unesco, United Arab Republic

RAPPORTEUR-GENERAL:
Mr. Ali Daroumey, Administrator of Foreign Affairs, Niger
ANNEX II / ANNEXE II

LIST OF DELEGATES, REPRESENTATIVES AND OBSERVERS
LISTE DES DELEGUES, DES REPRESENTANTS ET DES OBSERVATEURS

I. DELEGATES OF STATES AND TERRITORIES
DELEGUES DES ETATS ET TERRITOIRES
INVITES EN QUALITE DE PARTICIPANTS

Basutoland, Bechuanaland and Swaziland

Mr. D. R. DAY
Mr. B. M. KHAKETLA
Director of Education of Basutoland
Minister of Education and Health

Belgium/Belgique

M. J. KUYPERS
M. R. VAN WAEYENBERGHE
M. J. FABRY
M. R. VAN DER BRUGGEN
M. LABIAU
Ministre plénipotentiaire
Inspecteur chargé de recherche
Inspecteur de l'enseignement secondaire
Président enseignement technique catholique
Directeur au Ministère de l'éducation nationale

Cameroon

M. J. EKWABI EWANE
M. DINA LOBE
M. D. ESSONO
M. J. DUVERNET
M. E. ATANGANA
Ministre de l'éducation nationale
Directeur du plan
Inspecteur d'académie

Central African Republic/République centrafricaine

Chad/Tchad

M. J. C. MACKPAYEN
M. B. CHILLON
M. LEGIER
Ministre de l'éducation nationale
Inspecteur d'académie
Directeur du centre d'enseignement supérieur d'Afrique centrale

Congo (Brazzaville)

M. P. GANDZION
M. A. HOVINE
M. NIABIA
M. VERNIES
M. CARDORELLE
Ministre de l'éducation nationale
Commissaire adjoint au plan
Inspecteur de l'enseignement primaire
Directeur de Cabinet du Ministre de l'éducation nationale
Inspecteur de l'enseignement primaire

Congo (Léopoldville)

M. C. BIZALA
Ministre de l'éducation nationale et des beaux-arts du Gouvernement central
Annex II/Annexe II

Congo (Léopoldville) (suite)
M. G. LIKONGO
Directeur de l’enseignement primaire et normal du Ministère de l’éducation nationale et des beaux-arts

M. W. LULENDO
Chef de Cabinet adjoint du Ministère de l’éducation nationale et des beaux-arts

M. J. P. SAMBA
Directeur du plan du Ministère du plan et de la coordination économique du Gouvernement central

M. E. SYLVAIN
Conseiller général au Ministère de l’éducation nationale et des beaux-arts du Gouvernement central

(Directeur technique)

Dahomey
M. M. AHOUANMENOU
Ministre de l’éducation

M. J. PLYA
Directeur de l’éducation

M. N. SOSSOUVII-MENSAH
Directeur du plan

M. R. SOSSAVI

Ethiopia/Ethiopie
ATO HADDIS ALEMAYEHOU
Minister of State, Education Ministry

ATO MILLION NEQNIQ
Director-General, Education Ministry

(Deputy Head of Delegation)

ATO ZAUDE GABREMADHIN
Director, School Administration, Education Ministry

WOIZEREO MARY TADESSE
Director, School Administration, Education Ministry

ATO TADESSE TERREFE
Director, Higher Institutions and Special Schools, Education Ministry

DR. AKLILU HABTE
Head of Education Department, University College

ATO ASHENAFI SHIFERAW
Planning Board

WOIZEREO MAAZA BEKELE
Research and Curriculum Department, Education Ministry

ATO HAILU DARGUE
Director, Extension Department

DR. MENGEHA GEBRE-HIWIST

ATO BEKELE YILMA

Secretariat:
Mr. D. G. LISTER
Programme Officer

ATO TEDLA TEREJE
Liaison Officer

ATO GETATCHEW ARAYA
Co-ordinating Officer

Mrs. F. SEQUEIRA
Secretary

WOIZEREO GOHATSEBA MENKIR
Secretary

France

Délégués:
M. J. THOMAS
Inspecteur général de l’instruction publique

M. J. P. DANNAUD
Directeur de la coopération culturelle et technique au Secrétariat d’Etat pour les relations avec les Etats de la Communauté
France (suite)

M. G. BEIS
M. VIGNES
M. BARDIN
M. F. BERLAN
M. GINESTE
M. JOURNIAC
M. R. RODRIGUEZ

Directeur adjoint de la coopération culturelle et technique au Secrétariat d'État pour les relations avec les États de la Communauté Conseiller technique au Ministère d'État chargé des Territoires et Départements d'outre-mer Conseiller des affaires étrangères, Chargé de mission à la Direction générale des affaires culturelles techniques Directeur du Lycée franco-éthiopien d'Addis-Abéba Chef du service de la recherche pédagogique pour les pays en voie de développement du Ministère de l'éducation nationale Secrétariat général de la Communauté Délégué permanent adjoint auprès de l'Unesco

Gabon

M. EKOH
M. R. RADEMBINO-CONIQUET
M. P. N'DONG
M. L. CHATENAY

Ministre de l'éducation nationale Directeur adjoint des finances Secrétaire général de la Commission nationale gabonaise pour l'Unesco Directeur de l'enseignement du Gabon

Gambie/Gambie

Mr. E. M. CAWKELL

Acting Director of Education, Ministry of Education and Welfare

Ghana

Mr. A. J. DOWUONA-HAMMOND
Mr. M. A. RIBEIRO
Mr. C. M. O. MATE
Mr. A. HAMMOND
Mr. D. A. BROWN
Mr. D. J. NYARKU
Mr. E. F. A. BROWN

Minister of Education and Social Welfare Ambassador of Ghana to Ethiopia Principal Secretary, Ministry of Education Senior Assistant Secretary Principal Education Officer Senior Education Officer (technical) Senior Assistant Secretary, Development Secretariat

Guinée/Guinée

M. KEITA NAMANDIAN
M. MAMADOU TRAORE RAYAUTRA

Chef de la Division des affaires culturelles Institutur

Ivory Coast/Côte-d'Ivoire

M. JOACHIM BONY
M. ASSOIM-DIKO
M. CLERICI
M. MOHAME DIAWARA

Ministre de l'éducation nationale, de la jeunesse et des sports Conseiller culturel, délégué permanent auprès de l'Unesco Professeur agrégé d'histoire, Directeur de l'enseignement Conseiller technique au Ministère des finances, de l'économie et du plan permanent
Annex II/Annexe II

Ivory Coast/Côte-d'Ivoire (suite)

M. L'ABBÉ KOIDJO
Mme J. GERVAIS

Professeur, directeur d'école secondaire privé
Directrice d'école détachée à l'éducation populaire

Kenya

Mr. W.D. GREGG
Mr. L.D.A. BARON
Mr. D.T.A. MOI
Mr. W. KINEMIA

Permanent Secretary, Ministry of Education and Director of Education
Deputy Secretary to the Treasury
Parliamentary Secretary, Ministry of Education
Education Officer and Member of the Council of State

Liberia/Libéria

Mr. N.V. MASSAQUOI
Dr. J.P. MITCHELL
Mr. H.W. YAIDOO
Mr. J.G. MORRIS
Mr. E. JOHNSON

Secretary of Public Instruction
Under Secretary of Public Instruction for UNESCO and other International Agencies, R.L. Chairman
Liberian National Commission for UNESCO
Deputy Director, Bureau of Economic Research
R.L.
Director of Teacher Education, Department of Public Instruction
Principal, B.W. Harris Elementary School, Monrovia

Malgasy Republic/République malgache

M. L. BOTOKEKY
M. DAVID
M. RAKOTOPARE

Ministre de l'éducation nationale
Directeur des services académiques
Secrétariat au plan

Mali

M. AMADOU TIDJANI DIALLO
M. DJIME DIALLO
M. CANTARA SISSOKO

Inspecteur d'académie adjoint
Inspecteur de l'enseignement primaire
Ministère de l'économie et du plan

Islamic Republic of Mauritania/République islamique de Mauritanie

M. YACOUB OULD BOUMEDIANA
M. SECK MAME N'DIACK
M. TOURE

Ministre de l'éducation
Professeur au Collège de Rosso

Mauritius/Ile Maurice

Mr. G.H.R. CLOUGH
Mr. D. BURRENCHOBAY

Permanent Secretary, Ministry of Education and Cultural Affairs
Senior Education Officer

Morocco/Maroc

Mr. M. EL MACHRAFI
M. SLIMANI
M. IDRISI ABDELHAFID

Head of Primary Education
Inspecteur général de l'enseignement secondaire
Secrétaire général de la Commission marocaine pour l'Unesco
Niger

M. MAMOUDOU MAIDAH
M. ALI DIA ROUMEYE

Ministre de l'éducation nationale
Administrateur des AOM

Nigeria

Mr. A. J. A. NWACHUKU
Mr. S. AWOKOYA
Dr. S. A. ALUKO
Mr. J. C. MENARAYA
Mr. J. O. MEJABI
Mr. P. J. MBODOPARA
Mr. S. FAIRQUAH
Mr. E. C. HALIM
Mr. E. N. OBA

Federal Minister of Education
Chief Federal Adviser on Education
Economist
Senior Inspector, Eastern Region, Ministry of Education
Private Secretary, Ministry of Education
Staff Inspector, Western Region, Ministry of Education
Foreign Service Officer

Federation of Rhodesia and Nyasaland/
Fédération de Rhodésie et du Nyassaland

Mr. M. M. HOVE
Mr. J. L. DOWLEY
Mr. W. A. R. GORMAN
Mr. D. W. STEWART
Mr. C. C. MILTON

M. P., Federal Assembly
Acting Secretary, Federal Ministry of Education
Deputy Director, Northern Rhodesian Ministry of Education
Divisional Inspector of Schools, Southern Rhodesian Ministry of Education
Federal Ministry of External Affairs

Rwanda/Burundi

M. A. NZOHABOMA
M. T. NDABAGUMIYE
M. E. GODENIR
M. I. KAMlYA
M. H. H. OSBORN

Secrétaire d'Etat
Secrétaire de l'enseignement
Directeur de l'enseignement
Attaché au bureau de l'enseignement catholique

Senegal/Sénégal

M. F. DIENG
M. E. DELAGE
M. SY-ARONA
M. C. SALL
M. A. M. CROUZILLE
M. WANE IBRA

Ministre de l'éducation nationale
Directeur de l'enseignement au Ministère de l'éducation nationale
Conseiller technique au Ministère du plan
Député du Sénégal

Sierra Leone

Mr. H. A. M. CLARKE
Mr. V. O. YOUNGE
Mr. D. KIRBY

Permanent Secretary, Ministry of Education
Education Officer
Deputy Financial Secretary

Somalia/Somalie

Mr. MAHMOUD AHMED
Mr. MOHAMED A. ABATI

Director-General of Education
Chief Inspector, Secondary Schools
Annex II/Annexe II

Spain/Espagne

M. J. TENA-ARTIGAS
M. RAFAEL F. SAGRERAS

Directeur général de l'enseignement primaire
au Ministère de l'éducation
Conseiller d'ambassade au Ministère des
affaires étrangères, Secrétaire de la Commis-
sion nationale de coopération avec l'Unesco

Sudan/Soudan

Mr. ZIADA ARABAB
Mr. AMIN ZEIDAN
Mr. ISMAIL MOHD BAKHEIT
Mr. IBRAHIM NOUR
Mr. HASHIM OSMAN
Mr. MUTTAKIL AHMED AMIN

Minister of Education
Assistant Director of Education
Assistant permanent Under-Secretary for
Finance and Economics
Educational Planning Officer
Assistant Secretary to National Commission
for Unesco
Permanent delegate to Unesco

Tanganyika

Mr. J.D. KETO
Mr. J.D. MGANGWA
Mr. F. OMARI

2nd Master at St. Andrews College, Minaki
Headmaster, Mpwapu Secondary School
Aset. Overseas Students'Section, Ministry of
Education

Togo

M. MARTIN SANKAREDJA
M. DJOBO BOUKARI
M. DAVID E. D. D. NIKRAH

Ministre de l'éducation nationale
Cabinet du Président de la République
Attaché au Ministère de l'éducation

Tunisia/Tunisie

M. TAHAR GUIGA
M. MONCEF GHARIANI
M. FREJ JABBES
M. ABDELHAMID LASSOUED
M. ABDIELWAHAB BAKIR
M. MOHAMED CHERIF

Chef du Service social et culturel au Secrétariat
d'Etat à l'éducation nationale; Secrétaire géné-
ral de la Commission nationale pour l'Unesco
Chef du Service du budget d'équipement au Secré-
tariat d'Etat au plan et aux finances
Inspecteur de l'enseignement technique
Inspecteur de l'éducation des adultes
Inspecteur de l'enseignement secondaire
Attaché d'ambassade

Uganda/Uganda

Mr. J.C. KIWANUKA
Mr. S.C. WOOD

Minister of Education
Deputy Director of Education

United Arab Republic/République arabe unie

Mr. A.A. EL KOUSSY
Mr. HASSAN MOHAMED MOUSTAFA
Mr. IMAN MOHAMED SELIM
Dr IBRAHIM SAKR

Ambassador, Permanent Delegate to Unesco
Deputy Under-Secretary of State, Central Ministry
of Education and Secretary General
Department Chief, National Planning Committee
Cultural Attaché UAR Embassy, Addis Ababa
United Kingdom/Royaume-Uni

Mr. K. THOMPSON, M.P.
Mr. R.N. HEATON
Mr. L.J. LEWIS
Mr. G.E. WATTS
Mr. H. HOUGHTON
Mr. J.N. ARCHER
Mr. P.G. LLOYD
Mr. G.E. WATTS
Miss S. GUITON

Parliamentary Secretary, Ministry of Education
Deputy Secretary, Ministry of Education
Professor of Education, Institute of Education, University of London
Principal, Brighton Technical College
Deputy Educational Adviser to the Secretary of State for the Colonies
Ministry of Education
British Council Representative, Addis Ababa
Principal, Brighton Technical College
Ministry of Education

Upper Volta/ Haute-Volta

M. M. SORGHO
M. J. KI-ZERBO
M. YAMEO-GO
M. L. BILGHO

Ministre de l'éducation nationale
Professeur agrégé au lycée national de Ouagadougou
Adjoint administratif, directeur du plan
Directeur de l'enseignement national

Zanzibar

Mr. ALI MUHSIN BARWANI
Mr. S.F. HANN
SHEIK AMOUR ALI AMEIR

Minister for Education and Welfare
Director of Education
Principal of Seyyid Khalifa College

II. OBSERVERS FROM STATES/OBSERVATEURS DES ETATS

1. OBSERVERS FROM MEMBER STATES OF UNESCO (not members of ECA) / OBSERVATEURS DES ETATS MEMBRES DE L'UNESCO (non membres de la CEA)

Austria/Autriche

Mr. RICHARD A. HAGER

Ambassadeur

Brazil/Bresil

M. BOLIVAR DE FREITAS

Ministre plénipotentiaire de Bulgarie à Addis-Abéba

Bulgarie/Bulgarie

M. A. ARGUIR
M. I. KOSTOURKOV

Secrétaire de la légation à Addis-Abéba

Canada

Mr. CHARPENTIER
M. MORISSETTE

2nd Secretary, Canadian Embassy, Warsaw
Député fédéral, province de Québec

China/Chine

Mr. CHANG CHAO

Member of the National Assembly
Inspector General of the Ministry of Education
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Cuba

Mr. EDMUNDO BULNES Secretary, Cuban Embassy, Cairo

Czechoslovakia / Tchécoslovaquie

Mr. L. BURIAN Adviser, Ministry of Education of Czechoslovakia
Mr. J. GROHMAN Chairman, Czechoslovak National Commission for Unesco
Mr. H. VACLAV Ambassador
Mr. J. BROZOVOVSKY Second Secretary of the Embassy
Mr. V. MALY Secretary of the Embassy

Federal Republic of Germany/République fédérale d'Allemagne

Mr. BLANK Counsellor, Ministry of Foreign Affairs
Dr. Mr. von SIMSON Permanent delegate to Unesco
Mr. HERMAN FLENDER 1st Secretary, Embassy, Addis-Ababa

Greece/Grece

Mr. ATHAN PETROPOULOS Chargé d'affaires, Embassy, Addis Ababa
Mr. JOHN TOMAZOS Secretary

Hungary/Hongrie

Mme M. JOBORU Présidente de la Commission nationale pour l’Unesco
M. K. UJLAKI Chef de service au Ministère des affaires étrangères

India/Inde

Shri A.P. VENKATESWARAN First Secretary, Indian Embassy, Addis Ababa

Italy/Italie

M. F. FORMIGARI Inspecteur au Ministère de l'instruction publique
M. S. TEDESCHI Secrétaire chargé des questions culturelles auprès de l'Ambassade

Israel/Israël

Mr. H. BAR-ON Consul-General, Addis Ababa

Lebanon/Liban

M. TOUPIE AOUAD Directeur des relations culturelles
Mgr MAROUN Délégué du Liban auprès de l'Unesco

Netherlands/Pays-Bas

Mr. H. CROIN First Secretary, Royal Netherlands Embassy, Addis Ababa

Poland/Pologne

M. WŁODZIMIERZ WINK Chargé d'affaires p.i., Légation de Pologne, Addis-Abéba
Sweden/Suède
Mr. AKE SJOLIN
Mr. L.M. GIERTZ
Ambassador, Addis Ababa
Director, Ethio-Swedish Institute of Building Technology

Switzerland/Suisse
M. J. DE STOUTZ
Chargé d'affaires, Légation, Addis-Abéba

Turkey/Turquie
M. SAKIP CORUK
Conseiller d'ambassade à Addis-Abéba

United States of America/États-Unis d'Amérique
Mr. P. COOMBE
Assistant Secretary for Educational and Cultural Affairs

Mr. J.H. MORROW
Permanent delegate to Unesco

Mr. E.E. ADAMS
Bureau of African Affairs

Mrs D.S. BOWLES
Washington D.C.

Mr. W.D. FISHER
Economic Officer, Embassy, Addis Ababa

Mr. W.J. HANDLEY
Director, Information Service
ICA

Mr. H. KROULD
President, Morehouse College

Mr. B. MAYS
Bureau of Education and Cultural Affairs,
Department of State

Mr. C.K. SNYDER

Union of Soviet Socialist Republics/
Union des républiques socialistes soviétiques
M. S.A. AZIMOV
Vice-Président du Conseil des Ministres de la RSS d'Ouzbekistan, ministre des affaires étrangères de la RSS d'Ouzbekistan

M. P.J. PETROV
Journaliste, membre de l'Union des journalistes de l'URSS

M. V.S. BOGATYREV
Chef de la section de l'Afrique du Comité d'État du Conseil des ministres de l'URSS pour les relations culturelles avec l'étranger

M. K.M. KANAEV
Conseiller du Secrétariat de la Commission de l'URSS pour l'Unesco

M. D.A. RAZGOVOROV
Conseiller Ministère des affaires étrangères de l'URSS

M. F.M. YOUNAKOV
Conseiller de l'Ambassade à Addis-Abéba

Viet-nam/Viêt-nam
M. NGUYEN-DUY-TOAN
Délégué permanent auprès de l'Unesco

Yugoslavia/Yougoslavie
M. DRAGOSLAV TODOROVIC
Professeur à l'Université de Belgrade
Annex II/Annexe II.

2. OBSERVERS FROM NON-MEMBER STATES
   OBSERVATEURS DES ETATS NON MEMBRES

Holy See/Saint-Siège

Mgr JOSEPH MOJOLI
R. P. RICHARD WALSH
M. J. LARNAUD

Internonce apostolique en Ethiopie
Assistant des Pères blancs
Secrétaire général du Centre catholique international de coordination auprès de l'Unesco

III. REPRESENTATIVES OF THE UNITED NATIONS
   AND SPECIALIZED AGENCIES
   REPRESENTANTS DES NATIONS UNIES
   ET DES INSTITUTIONS SPECIALISEES

United Nations/Nations Unies

Mr. C. M. WEIGHT
Mr. A. DOLLINGER

Chief, African Training Program
Special Representative in Europe for Technical Assistance and Co-ordination

International Labour Organisation (ILO)/Bureau international du travail (BIT)

M. F. CAMBOULIVE
M. C. HEPLER

Chef de la section de formation professionnelle
Conseiller spécial du Directeur général

World Health Organization (WHO)/Organisation mondiale de la santé (OMS)

Dr. E. GRZEGORZEWSKI
Dr. A. BARKHUUS
Dr. H. LARSEN

Director, Division of Education and Training, WHO, Geneva
Senior Public Health Administrator, WHO Regional Office for Africa, Brazzaville
WHO Representative in Ethiopia

International Civil Aviation Organization (ICAO)/Organisation de l'aviation civile internationale (OACI)

Mr. H. J. CARRICK
Mr. T. G. THOMLINSON

Chief, ICAO Mission in Addis Ababa

Food and Agriculture Organization (FAO)/Organisation des Nations Unies pour l'alimentation et l'agriculture (FAO)

Mr. A. CHAPAPRO
Mr. A. J. MACRIS
Mr. G. INSFRAN GUERREROS

Agricultural education specialist, Rural Institutions and Services Division
Agricultural education officer, Africa
Rural Institution Officer

International Telecommunications Union (ITU)/Union internationale des télécommunications (UIT)

Mr. T. J. A. WATTERS
M. G. CORBAZ

Director UN/ITU Mission, Addis Ababa
Annex II/Annexe II

United Nations Children Fund (Unicef)/
Fonds international de l'enfance

Mr. G.S. DILLION Resident Representative to UAR (Egypt), Libya and the Sudan

World Meteorological Organization (WMO)/
Organisation météorologique mondiale (OMM)

M. G. CORBAZ

International Bank for Reconstruction and Development (IBRD)/
Banque internationale pour la reconstruction et le développement (BRID)

Mr. PATTERSON FRENCH Special Representative for Africa
Mr. LEONARD B. RIST

United Nations Technical Assistance Board (UNTAB)
Bureau de l'assistance technique des Nations Unies (BAT)

Mr. Alex P. CAMPBELL Resident Representative, UNTAB, Monrovia, Liberia

IV.1 INTERNATIONAL INTERGOVERNMENTAL ORGANIZATIONS
ORGANISATIONS INTERNATIONALES INTERGOUVERNEMENTALES

Commission for Technical Co-operation in Africa South of the Sahara/
Commission pour la coopération technique en Afrique au Sud du Sahara

Mr. S.F. HANN

League of Arab States
Ligue des États arabes

Mr. El Khachab YAIHYA

IV.2 INTERNATIONAL NON-GOVERNMENTAL ORGANIZATIONS
INVITED TO PARTICIPATE IN THE CONFERENCE
ORGANISATIONS NON GOUVERNEMENTALES INTERNATIONALES
INVITÉES A PARTICIPER À LA CONFERENCE

World Confederation of Organizations of the Teaching Profession/
Confédération mondiale des Organisations de la profession enseignante

Mr. E. BENNETT CAULLEY Secretary/Treasurer, Ghana Union of Teachers
Mr. BASILE MABUSA Minister of Education, Leopoldville Province; former President, Centrale des enseignants congolais

WILHELM EBERT Secretary of delegation, Director of the WCOTP Paris Office

ATO GASHAW BEZA-TSIGE President, Ethiopian Teachers'Association
Miss KIROS HABTU Secretary, Ethiopian Teachers' Association
Annex II/Annexe II

Fédération internationale des syndicats d'enseignement

M. SI MAMOUDOU Représentant de la FISE

IV.3 OTHER INTERNATIONAL NON-GOVERNMENTAL ORGANIZATIONS ATTENDING THE CONFERENCE AUTRES ORGANISATIONS INTERNATIONALES NON GOUVERNEMENTALES QUI PARTICIPENT À LA CONFERENCE

International Office of Catholic Education Office international de l'enseignement catholique

M. LINDEMANS Secrétaire général
M. le Chanoine MOERMAN Vice-président de l'OIEC
M. R. SOSSANI
M. CHALE

Commission of the churches on International Affairs Commission des églises pour les affaires internationales

Dr. DONALD M'TIMKULU Secretary of the All Africa Christian Conference
Mr. EMILE DISENGOMEKA Chairman of the Board of Trustees of the Congo Polytechnic Institute

International Institute of Administrative Sciences Institut international des sciences administratives

Mr. E.P. SEELDRAYERS

International Union for the Liberty of Teaching Union internationale pour la liberté d'enseignement

le Rév. P. EKWA Président du Bureau national congolais de l'ULT (Leopoldville)
M. CELESTIN EYEGHE Libreville
Abbe ALBERT NDougmo Directeur de l'enseignement catholique

New Education Fellowship Ligue internationale pour l'éducation nouvelle

Dr. A.A. H. EL-KOUSSY

International Alliance of Women Alliance internationale des femmes

WOIZER0 DINMKESH FAIZA Assistant Director of Princess Tenagne School for Women, Addis Ababa
WOIZER0 SOPHIA ZACHARIASS

International Confederation of Free Trade Unions Confédération internationale des syndicats libres

Mr. SVEN FOCKSTEDT Principal of the ICFTU Labour College
International Council of Women (ICW)
Conseil international des femmes

Mme AURIOL
Mrs. PUMLA ELLEN KISOSONKOLE

Associated Country Women of the World (ACWW)
Union mondiales des femmes rurales

Mrs. PUMLA ELLEN KISOSONKOLE

International Federation of Business and Professional Women
Fédération internationale des femmes de carrières libérales et commerciales

Miss E. FELLER
Miss TOMLINSON

International Federation of University Women
Fédération internationale des femmes diplômées des universités

Mme Th. KUYPER - WEYHENKE

World Alliance of Young Men's Christian Associations (WA-YMCA)
Alliance universelle des Unions chrétiennes de jeunes gens

Mr. M.J. LUDWIG General Secretary YMCA, Addis Ababa

World Assembly of Youth
Assemblée mondiale de la jeunesse

Mr. KRISHNASWAMY Secretary for Asia

World Association of Girl Guides and Girl Scouts
Association mondiale des guides et des éclaireuses

Lady OYINKAN ABAYOURI

World Union of Catholic Women's Organizations (NUCWO)
Union mondiale des organisations féminines catholiques (UMOFC)

Miss LILLIAN O'CONNOR

V. FOUNDATIONS/FONDATIONS

Ford Foundation

Mr. F.X. SUTTON Programme Association for Africa

United States Operation Mission (USOM)

Mr. A. PETERSON Teacher and Education Adviser
Mr. B.H. STORY Chief Educational Adviser

African-American Students Foundation

Mr. F. MONTERO President
VI. OTHER INTERNATIONAL
NON-GOVERNMENTAL ORGANIZATIONS PRESENT
AUTRES ORGANISATIONS INTERNATIONALES
NON GOUVERNEMENTALES REPRÉSENTÉES

International Union for Protecting Public Morality (IUPM)
Union internationale pour la protection de la moralité publique (UIMP)

Mme PECOUL  
Responsable de l'Association pour la protection de la jeunesse en CFS

Société africaine de culture  
Pastor BAHOKEN
ANNEX III

INAUGURAL ADDRESSES

HIS IMPERIAL MAJESTY HAILE SELASSIE I,
EMPEROR OF ETHIOPIA

It gives us great pleasure to be present at this opening session of the Conference of African States on the Development of Education in Africa. Your presence here honours Ethiopia, and we trust that your stay in Ethiopia will be an enjoyable one and that you will carry away with you pleasant memories of your visit to our country, as well as a deep sense of satisfaction with the accomplishments which we are confident will be realized during your work in this Hall.

This Conference grows out of decisions taken at the General Conference of the United Nations Educational, Scientific and Cultural Organization held at Paris on the occasion of the Organization's eleventh session. In turn, these decisions were based upon the results of the Meeting on Education of the Tropical African countries held in our capital some fifteen months ago. The continued lively interest demonstrated by the bodies sponsoring this Conference in the problems which you are meeting here to consider, problems of the highest import for all Africans, and the fact that the resources upon which African countries may draw in implementing their educational aid programmes are steadily increasing is a source of encouragement to us all. But this is not enough. Not until these resources, together with those which we Africans may ourselves muster, are sufficient to guarantee to each African the right to education, a right which, just as fully as the right to Independence and freedom, is his birthright, will the grave responsibilities which fall equally upon us all to create a world from which ignorance has been banished have been fully discharged.

While we strive to make full use of all international assistance available for the development of education in Africa, we must at the same time lay the foundation through which African countries can co-operate among themselves in solving their common educational problems. The development of a common language for Africans could strengthen and encourage inter-African education, and this could be made a reality provided the possibility is properly explored.

In February 1960, when the Conference on Education in Tropical African States convened, there were gathered together delegates representing over 125 million Africans. Today, we speak to delegations from about 45 African nations, representing many millions of people. As the number of free Africans has multiplied so have the responsibilities of Africa's leaders become ever heavier. We know that we need not stress to you, men and women for whom education is a compelling and all-consuming career, the importance of education to the cause of peace and freedom throughout the world, and particularly to the peoples of the less developed nations on this planet. The pace of change in the educational field in Africa today is swift and far-reaching. The events of 1960, the "Year of Africa", the tragic and happy events alike, have served to underscore the significance of the quest for knowledge as providing the foundation upon which free men will build a peaceful world. How much of what has occurred on this continent during the past year owes its genesis to either the possession or the lack of education by Africans.

The agenda which has been prepared for your study is comprehensive and exhaustive. It opens wide avenues for inquiry into the fundamental problems facing the people of this continent in their quest for learning and wisdom. These problems are deserving of the closest attention and study, and we urge you to approach them in this manner.

We would not venture to comment upon the detailed subjects which will be taken up in your meetings during the forthcoming days. We would, none the less, add a few words of counsel concerning the tasks which lie before you. The frontiers of knowledge are limitless. Man's ability and willingness to explore the realm of learning is limited only by such restraints and limitations which he himself, either deliberately or unconsciously, imposes upon himself. The
quest for truth has, throughout the ages, encountered resistance at varying times. Not many centuries ago, the search to reveal the secrets of the heavens was a crime. Dedicated to the proposition that education holds the key to the future of mankind you must be diligent to adopt those decisions and policies which will promote the widest possible inquiry into learning in all its aspects and phases.

We pray that Almighty God will bless your endeavours, and that your work will advance the causes to which we are all devoted.

DR. VITTORINO VERONESE  
DIRECTOR-GENERAL OF UNESCO

Your Imperial Majesty, Your Excellencies, Ladies and Gentlemen,

It is a very great honour for me to speak before this gathering and to thank His Imperial Majesty, on its behalf, for having graced our opening meeting by his presence, inaugurating our proceedings with an address remarkable for its benevolent concern and profound wisdom. This fresh proof of Your Majesty's practical interest in educational advancement, an interest which is betokened by your personal assumption of the direction of the Ministry of Education and newly demonstrated with magnificent symbolism by the gift of one of the imperial palaces to the University, will be for us a most inspiring source of encouragement.

It is also a great pleasure for me to be present in your midst in this capital city of Addis Ababa, where the generous offer of the Ethiopian Government has made it possible for a conference on the development of education in Africa to meet for the second time in barely more than a year.

Our return to this city has been dictated by a number of considerations, each of them weighty; first of all, the warm hospitality extended to the Conference held in February 1960, then the presence on Ethiopian soil of the United Nations Economic Commission for Africa, whose Executive Secretary, Mr. Mekki Abbas, has shared with me the responsibility of convening this assembly. Though this second visit might seem to be making too great a demand on Ethiopia's hospitality, my fears on that score are allayed by the knowledge that this Conference differs considerably from the meeting held here in 1960. I feel that enough has happened during the past 15 months to justify another meeting which has something new to offer both as regards its purpose and its attendant circumstances. I am referring to the fact that 17 African States have acceded to independence almost simultaneously and, turning over together a new leaf in their history, are making a systematic effort to lay the foundations of their future existence.

Anxiously to play their full part on the international scene, they have already plunged actively into international life. And the world has immediately sensed that this sudden maturing of a continent which the swift course of history has brought abruptly face to face with all the problems of the contemporary world, has confronted that world not only with a duty, but with an immense and thrilling task, namely, that of helping this continent, awakening to a collective consciousness of a new beginning, to plan its future, availing itself of assistance from every quarter.

Africa is well aware of the magnitude and complexity of this task; it knows that it has to exploit the, in many cases still hidden, wealth of its soil and sub-soil, and to establish the political and administrative institutions required by modern States; but it has at once grasped the fact that no such material structure can be erected unless it is firmly based on the development of the most valuable asset of all - the most abundantly available and the most often squandered - manpower. And it seems to me remarkably fortunate for Africa that it has realized this fact at a time when economic thinking and planning techniques, revealing the fallacy of an inevitable choice between economic or social development, have accorded education its true place among the most rewarding of investments.

Even at this early stage, there appears to be no doubt that the African countries, profiting by the historical coincidence of their almost simultaneous accession to independence in a world already rich in experience of development and well organized for international co-operation, are determined
to give their plans a rational basis, that is, to base them on the training of Africans; for it is by
producing its own technicians, engineers, scientists, teachers, administrators, doctors, and all
subordinate staff required by modern States, that the new Africa will be built up. Education is
thus the very base of the pyramid which is to rise on African soil.

But, vital as it is for our purpose to prepare minds for specialist training, I shall have failed
to make my meaning clear if I have given the impression that the role of education goes no further
than that. Africa is too alive to the importance of the human factor, too conscious of the origin-
ality of its own culture and of its conception of the relationship between man and the universe, not
to expect of whatever systems of education it may adopt that they foster the development of its
personality, preserve or reawaken consciousness of its past, give the individual a sense of identity
with his native soil, and enable the African people to become full partners, justly proud of their
own contribution in the sphere of cultural exchanges.

Unesco, which has always taken care, in fostering cultural exchanges, to respect the essential
individuality of each culture, believes that the contribution of the African cultures will give a new
dimension to its universal mission. The first symposium on African cultures, organized by
Unesco a few months ago at Ibadan University in Nigeria, has already provided an opportunity for
a profitable comparison of notes and this is to be followed next year by a symposium on African
art to be held in Dakar. By publishing some time ago a special number of the "Courier" on
African arts and by including, more recently, an album on Ethiopian painting in its "World Art
Series", Unesco paid tribute to the richness of the cultural heritage of an entire continent.

It was precisely in order to preserve some of the most priceless gems of the African cultural
heritage that, a year ago already, Unesco, responding to an appeal from the Government of the
United Arab Republic, launched a campaign to save the monuments of Nubia. The appeal for
international assistance which I issued in March 1960 has already met with a widespread response
in many countries.

Thus Unesco is already engaged in one venture designed to preserve Africa's cultural
heritage.

The last session of the General Conference, presided over by the distinguished Head of the
Ethiopian delegation, brought out in all clarity the urgency and complexity of the problems facing
Africa, and rapid, but carefully thought out, solutions must be found for those problems. The
task before us is to make the face of Africa familiar to the rest of the world, to meet its desire to
become an active member of the international community, and to help it to engage in frank discus-
sion with the rest of the world, so that it may benefit by the experience of other peoples and avoid
some of their mistakes. For the first time, at the last session of the General Conference we had
the pleasure of welcoming delegations of the new African Member States. With a human warmth
which is remembered by all those who were there, they brought the living presence and reality of
Africa to Unesco. And I know that this encounter immediately convinced the delegates of other
continents that the co-operation of their respective countries in furthering the progress of the
African continent would be a brotherly and rewarding gesture.

Thus, the whole world - including alike the States which have long had ties with the African
countries and those which have, more recently, responded to the appeal for international co-
operation and wish to assist Africa and get to know it better - stands side by side with the African
peoples on the threshold of their new destiny. Further, within the United Nations system itself,
the favourable reception given by the Managing Director of the Special Fund, whom I wish to thank
on this occasion, to many education and training projects, proves that, from that quarter too, the
African Governments will receive considerable help in acquiring the teachers and technicians they
need.

I believe that these remarks will suffice to show that the Conference which is opening today is
no mere repetition of the 1960 meeting but something with far wider implications - the coming
together of the representatives of an Africa now almost completely independent and aware of the
tasks lying ahead, with all those who are anxious to help perform them.

Annex III
Annex III

This is a Conference on the Development of Education which situates education in the wider setting of economic and social development; that is why it was natural for the United Nations Economic Commission for Africa to join with Unesco on this occasion. And it was equally right that it should be attended by other United Nations Specialized Agencies, each of which is competent to help in its own field in this great work of training of which Africa is to be the theatre and therefore eminently concerned with the development of education in the African continent. It gives me great pleasure to greet their representatives and those of the Technical Assistance Board which was associated with the earliest activities of the United Nations and the Specialized Agencies in Africa. I would also like to welcome the observers from the Special Fund whose powerful aid is already beginning to make itself felt, the observers from Unesco's non-African Member States, many of whom display an interest in Africa as active as it is friendly, and the observers from intergovernmental and non-governmental organizations and private foundations. To all who have come to attend it, this Conference of African States will make the voice of Africa heard.

For it is for Africa to say what it conceives its needs to be, what order of priority it ascribes to the different problems which must be solved and how it sees the role of education in the plans which it is drawing up for its own advancement. In this way, the foundations can be laid for a coherent programme as advocated by Unesco's General Conference at its eleventh session, a programme in which each of the various forms of aid which the world is offering will fall into place.

So vast and complex are Africa's educational needs that any consideration of educational development in the continent raises an almost infinite variety of problems and, full as it is, the agenda is far from covering them all. Thus it has deliberately set aside the whole question of higher education which will be the subject of another conference to be organized in 1962 by Unesco for African States. During the ten days ahead, we do not, therefore, propose to go thoroughly into the innumerable pedagogical problems involved in the development of education but rather to seize on a certain number of crucial points, main issues and major choices which inevitably confront educational planners in carrying out their task. Unesco will endeavour to give African States the benefit of the experience acquired in such other regions of the world as Latin America and Asia where similar problems arose which governments are now seeking to solve with Unesco's help.

To regard education as the foundation of rational economic growth (a view which can hardly be contested), and to assert what statistics fully confirm, namely, that hardly any investment offers a greater return to a developing country, is to give education its proper place in economic and social planning and, at the same time, to emphasize the extent to which planning in this sector should be careful and discerning. In a continent whose resources will unfortunately long remain paltry in relation to its innumerable needs, education, considered as an investment, will be competing with all the other possible investments and will only obtain the funds necessary to ensure its qualitative and quantitative progress if their allocation can be shown to be entirely warranted.

It is a tribute to the African States that, in spite of their limited financial means, they understood from the beginning the importance of education for their future and devoted to it funds which sometimes reached or exceeded 20 and even 25 per cent of their budget. But there still remains the problem of how to make best use of these funds and a certain number of States, appreciating this, are already seeking to reduce the cost of education per pupil to the minimum while raising the return from this investment. Additional efforts are perhaps necessary in this direction. Moreover, education is part of an overall plan, and must contribute to its execution by proving equal to the task of training the specialists needed for economic development and the establishment of administrative and social structures.

This obviously involves not only detailed quantitative estimates which will have to be made in conjunction with manpower surveys but also a whole series of qualitative studies aimed at ascertaining the most appropriate means for reaching the goal in question: the duration and tenor of courses, the content of curricula, the improvement of teaching methods and techniques, the adaptation of education to the social, cultural, physical and economic facts of the African situation, the choice of languages to be used in teaching, the arrangements for training teachers, the development of technical education, the extension of adult education, the production of teaching material; these are only some of the problems which must be studied within the framework of educational planning. In addition, this planning will involve making momentous choices between alternative
solutions - for example, between rapid training on the spot of teaching staff and specialists or training them abroad, between swift expansion of education in terms of figures or insistence on quality and the establishment of priorities among the different levels and types of education: school education or adult education, general education or technical education.

These are certainly difficult and sometimes bitter choices to make since an education system forms an organic whole and there are innumerable needs to be met, while today's demands cannot make us forget tomorrow's. But the necessity of establishing an order of priority having regard to the limited resources available makes such choices inevitable and, while they may lead to some lack of balance for a while, it is probable that in the long run the vicious circle will be broken.

It would seem, for example, that extensive primary education should provide the indispensable base for the classic educational pyramid but is none the less probable that in some African States the development of secondary education, an essential preliminary to the training of teachers, must come before a rapid increase in the primary school attendance rate and therefore deserves to be given priority. In making these studies and choices, the African authorities will undoubtedly keep in mind that educational planning, though a branch of planning for economic and social development, has none the less its own laws, the laws of education, which stem from its ultimate purpose - the training of men.

I am certain that no African Minister of Education would resign himself to being a mere producer of specialists and that without ever forgetting the urgency and vital importance of that mission, all will be determined that this necessary preparation for the task of development should go hand in hand with faithfulness to the traditional sources of culture and the balanced integration of the individual in society. Just as pure science is often rightly described as the most solid foundation for applied research, so an education that faithfully responds to its own intrinsic demands is perhaps the best preparation for practical training. Here again, planning will need to strike a delicate balance.

Finally, there is another factor which, coming on top of the extent to which the ground is largely unexplored and the paucity of administrative apparatus and means of acquiring statistical information, in many cases, will make the task of African educational planners particularly difficult: I refer to the uncertainty as regards the budgetary levels at which these educational development plans should be established - not only because economic development plans are often still in a rudimentary state, not only because the rates of economic growth and capital formation are little known, but also because adequate educational progress in African States cannot be made without external assistance, the extent of which is still an unknown quantity. When this assistance is made available in kind, in other words in the shape of teachers or experts and facilities for study abroad, a difficult qualitative problem will arise, namely, to fuse these very diverse contributions into a coherent whole that is in accord with the facts of the national situation, previous trends and the choice and natural bent of each individual country.

If I have stressed the extent and variety of the problems raised by the development of education in the States of Africa, it is because I see in them, not a ground for pessimism, but a vital stimulus and a challenge. But I have, I think, said enough on this subject for none of you to expect this Conference to supply an answer to all the different problems. Unesco convened this meeting at the wish of the General Conference, not because it thought it could solve these problems but because it considered it useful to formulate them, begin to study them and lay the foundations for their solution. And I, for my part, believe that this Conference will have achieved its purpose if it provides an opportunity, as no doubt it will, for one and all to get to grips with the situation, clarify certain ideas and expedite certain measures. First and foremost, it will enable the qualified representatives of the African States, in the presence of all those bodies which are offering their assistance, whether governments, international organizations or institutions, to make a preliminary estimate of the nature and extent of Africa's needs in regard to education.

From these very provisional data, it should be possible to derive two kinds of information. Firstly, they should indicate those levels and types of education, chief requirements and main categories of activity which, in the view of those concerned, should receive priority, and could form the substance of a short-term programme. Unesco will pay the greatest attention to those pointers which concern it when drafting its future programmes. Secondly, the data should give an approximate idea of the financial implications of a long-term programme for the development
of education in Africa. Naturally, owing to the multiplicity of the factors involved in drawing up these plans and estimating their cost, factors whose complexity I have been at pains to stress, these initial estimates are bound to be very rough and purely provisional drafts. As the list of relevant factors becomes more complete, the general patterns will have to be made more elaborately, estimates adjusted in the light of more definite statistical data and the aims of development plans, and draft lines of action modified as the various technical and political choices are made.

There will also be the problem of dovetailing the initial short-term programme into the subsequent long-term one, and reconciling their aims. This will require time, and this Conference will no doubt be followed by other meetings. But already, at this preliminary stage, we can fix the objectives of our joint action, which will determine the general framework within which the various types of aid can be marshalled according to the decision of the States concerned. Unesco, for its part, will adhere to the golden rule it has adopted in regard to its activities: namely, to furnish its Member States, so far as its means allow, with the aid they expect of it, and advise them if they so desire, taking care to use its resources, so frequently inadequate to its tasks, only for those activities for which it is specially qualified, to avoid overlapping the work of governments or other organizations, and to co-ordinate its activities with those of other bodies working towards the same ultimate goal.

Thus it gives me great pleasure, at the start of an enterprise which will call for our joint efforts, to find myself associated with the United Nations Economic Commission for Africa, side by side with the other Specialized Agencies and with all the intergovernmental organizations, governments and bodies which have demonstrated their interest by sending you here. I am confident that our collaboration will lead to healthy emulation, without ever deteriorating into jealous rivalry; for in this vast enterprise in which the sole danger is lack of resources, each of us has his place and his justification. Each body will operate within the clearly defined limits of its own field of competence and the multilateral action of the United Nations, corresponding essentially to the aspirations of a world striving towards universality, must not interfere in any way with the bilateral relations which most African States propose to maintain or develop with one another and which are important in that they represent established facts, positive progress and bonds of spontaneous friendship.

This desire to work together, to engage in free exchange of opinions and information and in concerted action for the benefit of Africa augurs very well, I think, for the future of this continent. Rarely has the world seen such a general mobilization of goodwill, at a turning-point in history, in favour of a group of fellow-peoples so alive to the situation, so clear-sighted and so resolutely determined to help themselves.

For it will be Africa itself, fortified by the friendship that inspires our single-minded will to co-operate, that will weld our efforts into a coherent whole for the purpose of forging its own destiny. In like manner, it will effect a synthesis of education, of science - by which I mean the social and human sciences as well as technology - and of culture, which latter alone will enable Africa to remain true to itself, whilst mapping out for the coming generation the happy path towards a future worthy of man's dignity. In the world of tomorrow, Africa, so long ill-provided and under-industrialized, will be studded with laboratories, universities, factories, great ports, aerodromes and huge cities. But Africa will remain the continent of majestic rivers and broad savanna, of dark, impenetrable forests permeated with magic and murmurous souls.

It will remain faithful to the warm intimacy of its villages amid the forest clearings, to the glimmer of its bush fires, to the wisdom of numberless forebears diligently passed on by word of mouth to successive generations down the centuries. It will remain the land of communion between man and nature, the land whose rhythms vibrate through its children, the land where man feels a bond of sympathy with all his neighbours. Nor will it lose this spirit of fraternity which it has splendidly succeeded in preserving throughout its long and often tragic history. The world needs this Africa, just as much as Africa needs the world.

Three years ago, following a visit I paid, as Chairman of the Executive Board of Unesco, to Morocco, Tunisia, Ethiopia, Sudan and Egypt, I conveyed to the Board some of the thoughts which had come to my mind during this all-too-brief contact with the African continent. Even at that time, Africa was already on the way to becoming one of Unesco's most important concerns; and it was clear that the continent itself was also being drawn into the flood of change let loose by the development of modern technology.
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Since then, this evolution has gone on at an even faster pace. Evidence of it can be seen in the accession to independence of a large number of African States, and the entry into Unesco, in the course of the past few months of seventeen of those countries. These new States, as we are well aware, place their hopes in the aid they can obtain from international organizations. But whilst the international community is prepared to provide assistance to the African continent, it is, at the same time, ever mindful of the contribution which Africa, in its turn, has already made and can continue to make to that community.

It was an African statesman, Mr. Leopold Sedar Senghor, President of the Republic of Senegal, and a great poet of international repute, who said, on the occasion of the inauguration of the University of Dakar: "It is here that giving and receiving meet". I can only hope that you will take this magnificent epigram as the motto of Unesco itself, and also of this conference.

It is by living up to that motto that Unesco will be able to fulfil its lasting mission, and remain true to the wishes of its founders.

At this inaugural moment of the conference, which I shall unfortunately have to leave all too soon on account of compelling engagements which require my presence at Headquarters, I would like to reaffirm, while conveying my warmest wishes for the success of your work, my profound faith in the contribution which Unesco is able to make to the improvement of understanding between peoples through education, science and culture, thereby facilitating and hastening the advent of the necessary conditions not only for disarmament but also for the establishment of a fruitful and lasting peace.

May I reiterate our warm thanks to Your Imperial Majesty for your presence and for your inspiring words.

MR. STEIN ROSEN
OFFICER-IN-CHARGE, THE ECONOMIC COMMISSION FOR AFRICA

Your Imperial Majesty, Your Royal Highness, Excellencies, Distinguished Delegates, Ladies and Gentlemen,

I have the honour to address you on behalf of Mr. Mekki Abbas, the Executive Secretary of the Economic Commission for Africa. My colleagues and myself regret sincerely that important and urgent duties prevent both the Executive Secretary and his Deputy Mr. Robert Gardiner, from attending this Conference of African States on the Development of Education. This regret is shared by our two senior officials who have requested me to express their deep appreciation of the presence here of His Imperial Majesty and His Royal Highness and to present their greetings to all the distinguished delegates, the Director-General of Unesco and his colleagues.

On the occasion of previous conferences held in this beautiful capital of Ethiopia, the Executive Secretary has expressed his gratitude for the support given by His Imperial Majesty, His Imperial Government and the people of Ethiopia. This support has found its most concrete expression in the Africa Hall, this magnificent building which was inaugurated by His Imperial Majesty just before the opening of the third session of ECA. It is my privilege to express once more the gratitude of the ECA Secretariat for the consistent interest shown by His Imperial Majesty in the activities of the United Nations and its Specialized Agencies and for the friendly and efficient co-operation of the distinguished officials of the Imperial Ethiopian Government in making the necessary arrangements for a conference of this size.

Having been associated for many years with education in his own country, the Executive Secretary is in a good position to appreciate the crucial rôle of education in the economic and social development of Africa. He has therefore asked me to convey to all of you his hope that this Conference will prove to be one of the significant events in Africa in 1961. The task before you is indeed a challenging one and your success in establishing an inventory of educational needs and a programme to meet these needs in the coming years, will represent an essential step in the further development of this continent.
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An important aspect of this Conference is that it is being jointly sponsored by Unesco and ECA and that it has been prepared in close consultation with other Specialized Agencies. This is another demonstration of the efforts made by the members of the United Nations family to coordinate their assistance to African countries. Co-ordination of international assistance is, of course, a matter of concern not only to international organizations and to governments and institutions prepared to help Africa, but also to the African countries themselves. The efficiency of international assistance in the educational field may be significantly increased through concerted action among African States. This applies particularly to higher education. It is generally recognized that Africans should, as far as possible, be trained in Africa. In many parts of the continent, however, the provision of higher education on an economical basis would require the establishment of sub-regional institutions.

Economists usually stress capital formation as the most important single factor in economic development. They are however fully aware of the fact that economic growth is also determined by the skills, talents and enthusiasm of the people participating in the development process. A development plan is therefore not complete without a well considered educational programme. At the same time, it is recognized by most social scientists that the formulation of such a programme constitutes an exceptionally difficult task.

The programme of work of ECA includes a project on the educational requirements of development plans which we hope to carry out in close co-operation with Unesco. This project calls for an investigation, for selected African countries, of the number of individuals possessing various types of skills required according to alternatives of economic development in future years. It may be said therefore to represent an economic approach to educational planning. The idea would be to determine, on various assumptions, the structure of the economy in, say, 20 years, and on that basis to indicate however roughly, both the employment structure and the number of skilled individuals needed in various fields at the end of the period considered. The next step would be to establish educational programmes not only for the 20-year period but also for medium periods of, for example, five years, selected for the more detailed plans of economic development.

Such an exercise is undoubtedly useful. It leaves out, however, a number of general questions confronting educational planners. Thus, this type of exercise may be said to indicate only the minimum educational requirements for training beyond the primary school level since it concentrates on special skills as factors of production. It excludes all considerations pertaining to education as an end in itself and it does not take into account the possibility, discussed by Professor Lewis in one of the documents before you, that a certain surplus over and above what is required by development perspectives may have favourable economic consequences. Moreover this approach does not deal explicitly with primary education which is still a matter of great concern to many African States.

Decisions concerning the rate of expansion of primary education are undoubtedly some of the most difficult to make in the educational field. The right to education is one of the basic human rights, yet there are clearly limits to the resources which can be channelled in the short run into elementary education by less developed countries. Thus, it could be said that the bare minimum requirements of primary education may be determined by reference to its function of providing a supply for higher types of education. The provision of primary education beyond this minimum level might then, as suggested in the paper prepared by Mr. Singer for this conference, be concentrated on those regions and areas which are expected to develop at a relatively high rate in the years ahead. The Conference might also wish to consider the introduction of new methods, less costly than the traditional ones, which would provide a relatively large number of children with an education designed to meet the immediate requirements of economic and social development.

The fact that education, however desirable, places demands on scarce resources should stimulate interest in the relationships between educational costs and the amount and quality of education obtained. Most problems in this field are not directly of an economic nature, but pertain to such questions as the most efficient methods of teaching and steps to be taken to reduce the proportion of children who leave school before completing their education at a given level. The co-operation of economists, statisticians and accountants would, however, be required to evaluate in economic terms, the results of work undertaken by educational specialists. In the interest of development, it is imperative that the educational objectives should be attained at the
lowest possible cost. For this purpose it may be useful to undertake surveys of educational cost by types of establishment. Comparative cost analyses may be most rewarding, particularly if it should prove possible to extend the coverage to several countries. There is reason to believe that the relationship between educational input and output varies significantly from one African country to another. Knowledge of such variations and their causes, may assist in bringing about more favourable relationships in this respect.

It is generally recognized that the formulation of appropriate educational policies requires close co-operation among experts in various disciplines. The results of their work should be embodied in an educational programme closely related to plans for the development of the other sectors of the economy. Indeed, the development effort is a global one in the sense that detailed plans for the various economic and social sectors should, as far as possible, constitute consistent parts of a comprehensive plan established to ensure balanced economic growth. It is not possible to bring about economic development by concentrating on education alone; nor is it feasible to achieve sustained economic growth in the absence of a well-considered educational programme. It is not very useful to educate children only to see them returning to "traditional" life and forgetting their education or to see them increasing the number of unemployed or partly employed in urban centres. On the other hand, lack of certain types of skills may prevent the implementation of development plans in key sectors of the economy.

The development effort is also a global one in the sense that it requires the active participation of the population itself. Experience shows that much depends on popular understanding of and support for the plans adopted by the governments. Such understanding and support may be promoted by the educational system. This is, indeed, one of its major functions. At the same time, expenditure on education is likely to pay its highest dividends in an environment of popular enthusiasm for progress. Many of those who receive primary education may not be able to continue in secondary schools. They have, however, acquired a basis on which they can build. It is most important to stimulate them to do so. Moreover, the society should be such as to convey to those who have received education beyond primary schools the feeling that they belong to an elite which has not only privileges but also responsibilities. One of these responsibilities involves participation in the education of their less fortunate fellow citizens. The knowledge, skills and talents of people are developed not only in regular schools, but also in studies at home, in various types of study groups and, in general, in active participation in political, social and economic life.

The solution of educational problems may well constitute the most challenging task confronting the peoples and governments of Africa. In solving these problems, much can be gained by studying and evaluating the experience made and the knowledge accumulated in other parts of the world. However, the solution is likely to be an African one which takes into account the special circumstances and the special needs of this continent. My colleagues and myself have been looking forward to your Conference and we expect to gain valuable knowledge from following your deliberations. May I conclude by wishing you success in your work so that this Conference may prove of lasting benefit to the peoples of Africa.
ANNEX IV

CONFERENCE BACKGROUND PAPERS

THE FINANCING OF EDUCATION

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INTRODUCTION

1. In the second part of this paper a hypothetical model for the financing of education in Middle Africa is presented.\(^{(1)}\) Prior to this presentation, it would seem useful to show in some detail what factors have to be weighed and what information is required in preparing a financial plan.

First, it is important for any society to be aware of the significance of education in promoting economic and social progress. This implies that education should not only be seen as a process for the transmission of the values of a particular culture, but also as a lever for modifying attitudes and motivations as an aid to rapid development. If this is accepted, then the curricula of the various school levels need to be evaluated to determine whether their contents are oriented towards the goals of economic growth, before any expansion of education is considered. Second, it is necessary to bear in mind that education is a time-consuming process. As it requires time and money to obtain teachers, technicians, administrators, etc., some judgement needs to be made about the effectiveness of the present school system. One criterion of the efficiency of education is the ratio between those who enter various schools and those who complete the final grade of their schools. If at present a relatively large wastage occurs, it would appear more economical to remedy some of the deficiencies than to expand and extend the system. In many African countries a relatively large number of teachers are not qualified so that a systematic plan of in-service training would seem to deserve a higher priority than training additional teachers.

Third, one should try to get information on the present pool of educated people and on the present output of the different educational institutions. Some information is needed about the present distribution of educated people among the various branches of economic activity (agriculture, industry, services, etc.) and of the relation between the present output of people with various types of skills and the requirements of society. If surpluses of certain skills already exist, then it would seem obvious to restrict education of this type and to concentrate resources in fields where shortages appear or will become acute in the near future. From a human as well as an economic viewpoint, it is important to make sure that school leavers of various levels find satisfactory employment in useful production.

The foregoing observations appear to demonstrate that prior to educational planning, an assessment needs to be made of the present economic situation and expected manpower requirements in various skills, so that the expansion of the educational system can be geared to some extent by economic and social desiderata. Ideally, educational planning should thus be seen as part of well-conceived long-range economic and social programming.

2. From the existing budget for education, it is necessary to calculate some simple yardsticks which give guidance in visualizing the cost of an expansion of education. If one knows the recurring expenditure of primary education, it becomes feasible to calculate the current cost per pupil, a figure which will enable us to estimate most of the additional cost of primary education caused by population growth and an increasing participation of the population at this level of education. Similar yardsticks can be developed for secondary education of various types (general, vocational, technical) and for higher education (divided by faculty or discipline) which will show how much money is involved in expanding such education per student. Further, it should be kept in mind

\(^{(1)}\) For the purpose of this paper, Middle Africa comprises the 32 countries (see Appendix A) lying in the central part of the continent. Thus, the countries bordering on the Mediterranean, the Union of South Africa and some of the adjacent countries, as well as the island territories, have been excluded.
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that administrative and supervisory services have to be increased with an expanding school system, and in order to estimate the cost of such services, the relationship between the present number of pupils and the number of non-teaching staff needs to be known. In addition, a pupil-teacher ratio will have to be established so that one may estimate how many additional teachers will be required to cope with the increase in school population. The number of needed teachers will also provide a clue for gauging the future needs for teacher-training colleges and for staff for such colleges. On the basis of present experience, building costs of primary, secondary schools, etc. have to be established in order to determine the capital expenditure involved in the extension of the various school systems. The additional cost of textbooks and other teaching materials has also to be assessed. From what has been stated above, it may be seen that the assembly of certain statistics, some research on the efficiency of present education, the calculation of certain indicators such as cost per pupil, cost of buildings, etc. for various forms of education, are a prerequisite for educational planning. Any country should thus, in our opinion, set aside a small part, let us say 1 per cent of its educational budget, for statistical information, research, planning and costing to ascertain that funds for expansion are most productively spent.

3. It should be appreciated that in planning the expansion of education, various alternative routes may be followed depending upon the political, economic and social climate and other factors. Given the fact that a low-income country possesses limited funds and an inadequate number of teachers, the government can either expand primary education or strengthen secondary or university education. If, as seems to be the case in Middle Africa, a great many posts formerly occupied by expatriates have to be taken over by nationals, it would seem pertinent to draw up a programme for training as quickly as possible administrative and professional officers for essential government services, and operators and supervisors in industry to keep vital enterprises going. Such a programme should preferably be seen as an adjunct to the normal educational system, though it may need to call upon the services of teachers and other qualified personnel to assume a larger than normal work load. The success of such an emergency programme will depend largely upon the dedication of the leaders, teachers and pupils concerned, and it would seem natural to draw upon outside assistance for ensuring a well-rounded accelerated training programme, if national resources, man- and money-wise, are insufficient. Before embarking upon the costing of normal educational programmes, it would also seem important to study the situation in other countries which are in a similar stage of development in order to learn how they have solved certain problems. It will also be valuable to review international comparisons of income level and expenditure for education of various types for different countries so that each government knows approximately its place in the scale of nations in this field. It should, however, be remembered that the cost of education may differ considerably from country to country according to climate and other factors. Educational expenditure can be reduced if buildings are not made too elaborate, if evening classes are conducted in buildings ordinarily used for other purposes, or if buildings are constructed with local materials and by voluntary or low paid labour which is otherwise idle or under-employed. Standardization of school buildings and construction materials would appear another obvious method of lowering costs of construction. Teaching costs can be kept down by employing relatively large numbers of part-time teachers. Community development can be geared to enhancing agricultural output and eradicating illiteracy, so that the educational programme more or less pays for itself. Fundamental and adult education could be carried out at low cost if those who have previously undergone such training and have shown ability for transmitting their acquired knowledge, are largely employed. Equipment (furniture and teaching aids) for primary and secondary education can often be manufactured from local materials and with voluntary labour. Textbooks may be provided free of charge or on a rental basis to reduce costs. It should also be considered whether parents should be charged, either in money or kind, for certain school services rendered to their children. Some reflection on the financing of school construction will be essential. Perhaps industrialists or large-scale enterprises can be induced to assist in financing technical and other schools as they are most likely to benefit from the increasing output of technicians and other people with useful skills. Sometimes it may be feasible to float internal loans for school building. The distribution of the cost of education between central and local government also deserves attention. The erection of private schools to which central or local government may give grants can perhaps be encouraged provided the government keeps a check on the quality of such education through regular inspection. Regional co-operation for certain types of schooling will reduce costs especially if specialist teachers are not yet available in sufficient numbers. Selective use of scholarships for training abroad, especially in fields for which local educational facilities cannot yet be arranged, would be another means of
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bringing down costs. This list of factors which needs to be weighed in costing an educational plan is not meant to be exhaustive, but is given to emphasize that different choices exist in attaining certain educational goals. What means will be most feasible will depend to a large extent upon the circumstances prevailing in a particular country.

SIMPLIFIED PLAN FOR COSTING FUTURE EDUCATION IN MIDDLE AFRICA

4. Most countries of Middle Africa require a considerable expansion of their educational systems to provide for the exploration and exploitation of their natural resources, to man their industries, to manage their government administrations and to expand their agricultural output, i.e. of food and agricultural raw materials for industry. Nevertheless, any plan for educational extension should be based on the present situation and likely available resources in the near future.

The total population of the 32 Middle African countries was 162.3 million around 1958 (the year for each country corresponds to the latest year for which enrolment data were available). The estimated 5-14 years old population in these countries was 39.8 million. Since the normal duration of primary school in this area is between six and eight years the primary school age group for the region as a whole may be taken as 7/10 of the 5-14 years old population or 27.9 million children. The total primary school enrolment around 1958, however, was only 9.4 million pupils or about 34 per cent of the potential primary school-going population.(1)

According to published United Nations population projections for different regions of the world, the total population of Middle Africa will by 1975 amount to 230 million inhabitants. This represents an average annual rate of growth of about 2 per cent. The 5-14 year age group will constitute about 25% of this future population, or 57.5 million children. The primary school age group will thus number about seven-tenths of the total or 40.3 million in 1975.

If we estimate that the average national income of Middle Africa was $35 per inhabitant in 1958 the entire national income of the region would have been $14,000 million. (2) We can now estimate the 1975 income for the region by applying an annual growth rate hypothesis of 2 per cent in per capita income or 4 per cent in national income. (3) We therefore estimate that by 1975 average per capita income for the area will be $102 and total national income of Middle Africa will be $23,500 million. We may now address ourselves to the question of how much money will be needed to provide primary education for everybody, maintaining a balanced educational pyramid and how feasible this aim is from the financial viewpoint.

5. Before starting on such a calculation, we should consider what the various elements are which enter into an extension of primary education. (4) Assuming a ratio of 35 pupils per teacher, there should have been about 800,000 teachers in 1956 (27.4 million potential pupils divided by 35) and about 1,115,000 teachers (40.3 million pupils divided by 35) will be needed by 1975, were every child of primary school age to be enrolled in school. Actually, there were only about 250,000 teachers in 1958 (with an actual enrolment of 9.4 million pupils). Hence, an additional 865,000 teachers will be needed.

(1) These and other data on the state of education in Africa were obtained from statistics obtained by Unesco from official publications and replies to questionnaires.

(2) The most complete data on national income in Middle Africa is found in Economic Survey of Africa since 1959, Department of Economic and Social Affairs, United Nations, New York, 1959. E/CN.14/28 the table on page 15 of this report lists the national incomes (in dollars) in 1956 and 1957 of what now comprises 24 Middle African countries. The average per capita income in these countries was about $34. We have estimated the 1958 average per capita income for the area at $65 on this basis fully recognizing that adequate and reliable data on national income are lacking for many of the poorer countries in the region.

(3) This growth hypothesis has been borrowed from Paul G. Hoffman, One hundred countries - One and one quarter billion people. How to spend their economic growth and ours - in the 1960's, Washington, D.C., February 1960.

teachers will be required by 1975. However, account must also be taken of the fact that around 5 per cent of the teachers will have to be replaced annually due to retirement, death or withdrawal. Assuming that an average of 32,500 teachers have annually to be replaced during the 17-year period (1958-1975), some 550,000 additional teachers will have to be obtained, bringing the total of teachers to be trained by 1975 to about 1,400,000. To obtain this number of qualified teachers, about 1,550,000 student teachers have to be trained to allow for a wastage of 10 per cent during the process of training. Teacher-training colleges will have to be established and additional staff will be required to produce such a great number of teachers. On the basis of a three-year course, we assume that for the annually required number of 91,000 student teachers (1,550,000 divided by 17 years), some 21,500(1) teacher-training college staff will be required if a ratio of 15 trainees per staff member will be needed. We assume that one officer per 5,000 pupils will be necessary so that, by 1975, 6,000 additional administrators will be required (6,000 minus the assumed existing 2,000). Finally, buildings, equipment and textbooks have to be provided for the 30.4 million additional pupils in primary schools (40.3 million goal minus starting enrolment of 9.4 million). Similar facilities are required for the teacher-training colleges while we also assume that for 50 per cent of the additional primary school teachers and for all the teacher-training college staff, quarters will have to be constructed.

6. Let us assume that for the primary schools the current cost per pupil will be $20 per annum (largely teachers' salaries), then by 1975 this cost for primary education for 40.3 million pupils will amount to $806 million, if all children are to attend school. In addition, some 5 per cent of this amount or $40 million will be required for administration. Salaries for the 21,500 teachers in training institutes will amount to $17 million if we assume that the average salary per teacher educator will be $600 or about 6 times the average per capita income by 1975. Equipment for primary schools is estimated at $7.50 per pupil and will thus involve an amount of $232 million for 30.9 million pupils (40.3 million minus 9.4 million already at school). The cost of building additional primary schools can be estimated at $30 per pupil or $927 million for 30.9 million pupils. The construction of teachers' quarters at $500 per house will come to $225 million for the 450,000 teachers for whom we presume that housing has to be provided. Teacher-training institutes, including equipment and houses, for the 21,500 teacher-educators are estimated to cost $200,000 per institute. As we assumed that 1,550,000 pupils have to be accommodated in teacher-training institutes, we calculated that we have to make provision for 91,000 places per annum. If we reckon with an average course of three years, we have to be able to house annually some 273,000 students. If in each institute some 300 students can be trained, we shall need 910 teachers' institutes which will cost, at the rate of $200,000 per institute, $182 million. If we suppose that the amortization, including interest on the non-recurring expenditure, is 5 per cent and that 1 per cent will also have to be set aside for the maintenance of buildings and equipment, and that similar costs apply to existing facilities (valued at $465 million) for the 9.4 million children already in primary school, another $122 million must be added annually to the current cost of primary education.

This method results in the following costing table which shows what cost is involved in expanding primary education in 1975 for the entire primary school age population.(2)

<table>
<thead>
<tr>
<th>Non-recurring expenditure</th>
<th>Total 1958-1975</th>
<th>U.S. dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Primary school buildings</td>
<td>(30.9 million pupils x $30)</td>
<td>927 million</td>
</tr>
<tr>
<td>(b) Equipment</td>
<td>(30.9 million pupils x $7.50)</td>
<td>232 million</td>
</tr>
</tbody>
</table>

(1) This figure allows for an annual wastage of 5 per cent in teachers educators.
(2) It will be noted that the costs involved in training the teaching staff needed in primary schools has been included in the costing tables for primary education. These expenditures could just as readily be regarded as part of the cost of secondary education since this teacher-training education is usually carried out at that level.
EXPENDITURE FOR PRIMARY EDUCATION
(Goal - 40.3 million pupils by 1975)

### Non-recurring expenditure (cont'd)

<table>
<thead>
<tr>
<th>Description</th>
<th>Total 1958-75</th>
<th>U.S. dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>(c) Teachers quarters (including teacher-educators)</td>
<td></td>
<td>225 million</td>
</tr>
<tr>
<td>(450 thousand teachers x $500)</td>
<td></td>
<td>--------------</td>
</tr>
<tr>
<td>(d) Teachers colleges</td>
<td></td>
<td>182</td>
</tr>
<tr>
<td>(910 institutes x $200,000)</td>
<td></td>
<td>1,566 million</td>
</tr>
</tbody>
</table>

### Recurring expenditure in 1975

<table>
<thead>
<tr>
<th>Description</th>
<th>U.S. dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Primary education current costs (salaries, etc.)</td>
<td>806 million</td>
</tr>
<tr>
<td>(40.3 million pupils x $20)</td>
<td>--------------</td>
</tr>
<tr>
<td>(b) School administration (5% of current costs)</td>
<td>40</td>
</tr>
<tr>
<td>(c) Teacher-educators' salaries (21,500 teacher-educators x $800)</td>
<td>17</td>
</tr>
<tr>
<td>(d) Amortization, interest and maintenance (6% of total value of existing plant)</td>
<td>122</td>
</tr>
</tbody>
</table>

Thus, annual recurring expenditure for primary education would come roughly to $385 million in 1975 (about $24.50 per pupil then enrolled).

7. In addition, secondary and professional education will have to be greatly expanded. In 1958 in Middle Africa there were about 16.7 million people 15-19 years of age. The normal duration of secondary school in these countries is between 4 and 8 years; thus if we take 6 years as the average duration the estimated secondary school age population was 6/5 of the 15-19 years old population or 20.1 million in 1958. Enrolment in secondary school was only 605 thousand students, however, or 3 per cent of the secondary school age group. Secondary enrolment was only 6 per cent as large as primary enrolment. By 1975 the estimated 15-19 years old population will number 23.4 million and the secondary school age population will be 6/5 of this or 28.1 million. If we set our goal for secondary education in 1975 at 20 per-cent enrolment of the secondary school age population, we should have 5.6 million pupils in secondary schools in Middle Africa at that time. This enrolment figure would be 14 per cent of primary enrolment.

It is difficult to make an estimate of the cost of expanding secondary education since such education is by nature more heterogenous than primary education. In the Netherlands, the cost per pupil in 3-4-year secondary schools is twice as high as the cost per pupil in primary schools, three times as high in 3-4-year vocational and agricultural schools and five times as high in 5-6-year secondary schools. But Holland is a densely populated country with an excellent network of roads where relatively easy access to secondary schools is possible, even for pupils from rural areas. Middle Africa, on the other hand, is still a region in which thousands of villages are owing to lack of roads - barely accessible to their neighbours. This fact implies that the development of secondary education in this area would be more expensive since pupils often have to be housed on or near the site of the school and therefore dormitories and other facilities have to be erected. Still, it is presumed that salaries and building costs will be lower in Middle Africa than in the Netherlands and that these lower costs will result in the same ratio of secondary to primary per pupil costs as prevail in Holland. Thus our costing table for recurring expenditures for secondary education in 1975 allows for a per pupil cost of $49 in intermediate secondary schools (twice the 1975 primary school recurring per pupil cost of $24.50), $73.50 per pupil in vocational and agricultural schools (three times primary) and $122.50 per pupil in grammar schools leading
Annex IV

to higher education (five times primary). Administration expenses remain at 5 per cent the recurring costs and amortization. Interest and maintenance is figured at 6 per cent of the value of the secondary plant including facilities already existing valued at $100 million.

In calculating capital expenditure necessary to meet this expansion in secondary education, the same ratios of secondary to primary per pupil expenditure as are found in the Netherlands for the different types of secondary education have been used for the calculation of building and equipment costs. (1) For primary education we used a figure of $30 per additional pupil for building and $7.50 per additional pupil for equipment, i.e. $37.50 per additional pupil for buildings and equipment. This per pupil figure is then doubled to yield the per additional pupil building and equipment costs for intermediate secondary schools of $75; it is tripled to $112.50 for the per additional pupil costs for vocational and agricultural schools, and it is increased fivefold to arrive at the $187.50 per additional pupil costs for grammar schools. In addition, we are assuming that housing must be provided for all secondary school teachers and that in order to maintain an average of 20 pupils per teacher we should have 280,000 secondary school teachers in 1975. In 1958 there were about 30,000 such teachers; hence by 1975 housing must be provided for an additional 250,000 teachers. The average cost of these houses is estimated at twice the average cost of primary school teachers' houses, or $1,000. The following costing table shows what is involved in expanding secondary education to the goal established by 1975. (2)

EXPENDITURE FOR SECONDARY EDUCATION
(Goal - 5.6 million pupils by 1975)

<table>
<thead>
<tr>
<th>Non-recurring expenditure</th>
<th>Total 1958-1975</th>
<th>U.S. dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Intermediate secondary school buildings and equipment</td>
<td>(1,475 thousand pupils x $75)</td>
<td>111 million</td>
</tr>
<tr>
<td>(b) Vocational and technical (excluding agricultural school) buildings and equipment</td>
<td>(1,100 thousand pupils x $112.50)</td>
<td>124</td>
</tr>
<tr>
<td>(c) Agricultural school buildings and equipment</td>
<td>(1,475 thousand pupils x $112.50)</td>
<td>166</td>
</tr>
<tr>
<td>(d) Grammar school buildings and equipment</td>
<td>(1,100 thousand pupils x $187.50)</td>
<td>206</td>
</tr>
<tr>
<td>(e) Teachers quarters</td>
<td>(250,000 teachers x $1,000)</td>
<td>250</td>
</tr>
</tbody>
</table>

Recurring expenditure in 1975

<table>
<thead>
<tr>
<th>U.S. dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>857 million</td>
</tr>
</tbody>
</table>

| (a) Intermediate secondary education current costs (salaries, etc.) | (1,600 thousand pupils x $49) | 78 million |
| (b) Vocational and technical education current costs | (1,200 thousand pupils x $73.50) | 88 |

(1) This seems a valid proposition since the ratios for the Netherlands are actually based on cost per graduate of the various schools and thus partly include non-recurring expenditure.

(2) In order to distribute the pupils, both existing and estimated additional, among the intermediate, vocational, agricultural and grammar secondary schools, we have been guided by the distribution shown for Nigeria in Investment in Education, the Report of the Commission on Post-School Certificate and Higher Education in Nigeria, Federal Ministry of Education, Nigeria, 1960.
EXPENDITURE FOR SECONDARY EDUCATION
( Goal - 5.6 million pupils by 1975 )

Recurring expenditure (cont'd) in 1975  U.S. dollars

(c) Agricultural education current costs
   (1,600 thousand pupils x $73.50) ........................................ 118 million

(d) Grammar education current costs
   (1,200 thousand pupils x $122.50) ........................................ 147

(e) School administration
   (5% of current costs) .......................................................... 22

(f) Amortization, interest and maintenance
   (6% of total value of existing plant) ....................................... 57
   .......................................................... $10 million

Annual recurring expenditure thus comes to $10 million in 1975 or $91 per pupil then enrolled.

8. A similar calculation needs to be made for higher education. If we set as our goal a higher education enrolment in Middle Africa, of 8 per cent secondary enrolment in 1975 we should have, by then, about 450,000 students. In the Netherlands, cost per student at the State universities is about 15 times the cost per pupil in primary education, but 25 times as high for a student in an agricultural university and 30 times as high for a student in a newly founded technical university. It may be presumed that in Middle Africa such costs will be rather high because of the general need for providing lodging for future students and the fact that even by 1975 some of the universities will not have reached their maximum size. Available figures on cost per student in existing universities may be further misleading if it is admitted that in the future more students will enter faculties of natural sciences, technology, medicine, agricultural and veterinary science than has occurred heretofore. We assume that the annual recurring expenditure will be $600 per student, which is about half the amount at present prevailing in the Netherlands. In addition, to accommodate the 450,000 students mentioned above, university buildings, equipment, etc. will have to be provided and we propose (a) that capital expenditure per student will be $10,000 in the technical and related branches and $2,500 per student in all other branches and (b) that 150,000 students will be enrolled in technical and related branches and 300,000 in other branches.

The following costing table results from applying these assumptions to the goal of enrolment in higher education at 8 per cent secondary school enrolment in 1975.

EXPENDITURE FOR HIGHER EDUCATION
( Goal - 450 thousand students by 1975 )

Non-recurring expenditure Total 1958-1975 U.S. dollars

(a) Technical and related branches building and equipment, including quarters
   (150 thousand students x $10,000) ........................................ 1,500 million

(b) All other branches building and equipment, including quarters
   (300 thousand students x $2,500) ........................................ 750
   .......................................................... 2,250 million

(1) For this exercise we are assuming that all the higher education envisaged will be additional.
(2) For these and following estimates, I have been guided by calculations contained in the report from Nigeria noted earlier.

37
Annex IV

EXpenditure for Higher Education

(Annex - 450 thousand students by 1975)

Recurring expenditure

<table>
<thead>
<tr>
<th>Description</th>
<th>1975</th>
<th>U.S. dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Higher education current costs (salaries, etc.)</td>
<td></td>
<td>270 million</td>
</tr>
<tr>
<td>(450 thousand students x $600)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b) School administration</td>
<td></td>
<td>14</td>
</tr>
<tr>
<td>(5% of current costs)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(c) Amortization, interest and maintenance</td>
<td></td>
<td>135</td>
</tr>
<tr>
<td>(6% of total value of existing plant)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total annual recurring expenditure of $419 million for higher education in 1975 would average $905 per student then enrolled.

From the above methods the following table shows the cost of education in Middle Africa, by 1975, according to the goals established for this exercise (i.e. primary school enrollment 100 per cent of the primary school age population, secondary school enrollment 14 per cent of primary school enrollment and higher education enrollment 8 per cent of secondary school enrollment).

EXpenditure for Education

<table>
<thead>
<tr>
<th>Description</th>
<th>Non-recurring Expenditure</th>
<th>Recurring Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>total 1958-1975</td>
<td>1975</td>
</tr>
<tr>
<td></td>
<td>U.S. dollars</td>
<td>U.S. dollars</td>
</tr>
<tr>
<td>(a) Primary education</td>
<td>1,566 million</td>
<td>985 million</td>
</tr>
<tr>
<td>(40.3 million pupils)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b) Secondary education</td>
<td>857</td>
<td>510</td>
</tr>
<tr>
<td>(5.6 million pupils)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(c) Higher education</td>
<td>2,250</td>
<td>419</td>
</tr>
<tr>
<td>(450 thousand students)</td>
<td></td>
<td>1,914 million</td>
</tr>
<tr>
<td></td>
<td>4,673 million</td>
<td></td>
</tr>
</tbody>
</table>

With an estimated total national income for Middle Africa rising to $23,500 million by 1975 the total recurring cost of education, calculated according to the expansion we have foreseen, would amount to 8.1 per cent of national income by that year. In order to produce a rough estimate of the non-recurring expenditure for education in 1975 we can simply average the 1958-1975 total over 17 years. This yields a yearly figure of $275 million for non-recurring expenditure. Thus, total expenditure, both recurring and non-recurring would be $2,189 million or about $9.50 per inhabitant for the region. This amount represents 9.3 per cent of the total estimated national income in Middle Africa in 1975.

These expenditures would appear to be impossible to finance from the internal resources of the region, in the light of present national income levels and estimated growth in income by 1975. It should, however, be noted that our global figures for Middle Africa are in themselves applicable to no specific country. The two considered variables, educational needs and financial ability to meet them, will no doubt be markedly different between various countries. In a few countries the national income is such that, by applying our assumed rate of growth, by 1975 expenditures of the order of those employed in this report would amount to 6 per cent of national income, a ratio
which has been reported by certain non-African countries. Unfortunately, it will, however, be true that where needs are greatest, the financial capacity for educational expansion will usually be the most deficient.

10. As the educational needs of specific countries in the area will, in any case, differ considerably, we may, on the basis of the method described above, show how expenditures can vary according to the educational goals established. For example, if we would set (a) a target of 75 per cent enrolment of the primary school age population in 1975, while maintaining the same balance between the educational levels, i.e. (b) secondary school enrolment equalling 14 per cent of primary school enrolment and (c) higher education enrolment equalling 8 per cent of secondary school enrolment, the following calculation would result.

<table>
<thead>
<tr>
<th></th>
<th>Non-recurring Expenditure</th>
<th>Recurring Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>total 1958-1975</td>
<td>1975</td>
</tr>
<tr>
<td></td>
<td>U.S. dollars</td>
<td>U.S. dollars</td>
</tr>
<tr>
<td>(a) Primary education (30.2 million pupils)</td>
<td>1,078 million</td>
<td>739 million</td>
</tr>
<tr>
<td>(b) Secondary education (4.2 million pupils)</td>
<td>522</td>
<td>382</td>
</tr>
<tr>
<td>(c) Higher education (335 thousand students)</td>
<td>1,678 million</td>
<td>312</td>
</tr>
<tr>
<td></td>
<td>3,378 million</td>
<td>1,433 million</td>
</tr>
</tbody>
</table>

Again, in order to produce a rough estimate of the non-recurring expenditure in 1975 we can take a yearly average of the 17-year total. This comes to $199 million a year and together with the estimated recurring expenditure in 1975 given above shows a total 1975 expenditure of $1,632 million or about $7 per inhabitant. This would represent 6.9 per cent of the total estimated national income of the region in 1975 of $23,500 million. Recurring expenditure alone would amount to 6.1 per cent of national income.

11. A different type of educational programme might be designed to alter the balance of the existing system instead of overall expansion. Such a programme may have, as its aim, the improvement of quality as evidenced by an increased proportion of school places established at secondary and higher education levels. Let us establish as goals for this exercise (a) a target of only 50 per cent enrolment of the primary school age population by 1975 while, on the assumption that this rather modest level of primary enrolment would consist of students of a rather high quality, (b) secondary school enrolment would be as high as 25 per cent of primary school enrolment and (c) higher education enrolment would be 10 per cent of secondary school enrolment. Under these circumstances the following calculations would be relevant.

(1) The costing methods and assumptions used for this exercise are exactly the same as above, only the educational goals have changed. Complete costing tables are appended. See Appendix B.

(2) Again, the costing methods and assumptions used are the same. Complete costing tables are appended. See Appendix C.
EXPENDITURE FOR EDUCATION

<table>
<thead>
<tr>
<th></th>
<th>Non-recurring Expenditure</th>
<th>Recurring Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>total 1955-1975</td>
<td>1975</td>
</tr>
<tr>
<td></td>
<td>U.S. dollars</td>
<td>U.S. dollars</td>
</tr>
<tr>
<td>(a) Primary education</td>
<td>522 million</td>
<td>491 million</td>
</tr>
<tr>
<td>(20.2 million pupils)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b) Secondary education</td>
<td>788</td>
<td>473</td>
</tr>
<tr>
<td>(5.2 million pupils)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(c) Higher education</td>
<td>2,598</td>
<td>484</td>
</tr>
<tr>
<td>(520 thousand students)</td>
<td>3,906 million</td>
<td>1,448 million</td>
</tr>
</tbody>
</table>

If we add one-seventeenth of the total non-recurring expenditure, or $230 million, to the 1975 recurring expenditure the result is an estimated total expenditure in 1975 of $1,678. This comes to about $7.25 per inhabitant and would represent 7.1 per cent of the estimated 1975 national income of $23,500 million in Middle Africa. Recurring expenditure alone would be 6.2 per cent.

12. It will be noted that the exercises given above result in expenditures of a similar magnitude even though they are based upon entirely different educational targets. This may provide an example of how the same amount of expenditure for education can accomplish very different results in the educational system. These exercises show further how the methods outlined in this paper can be used according to educational needs or available resources to give a clear picture of the financial consequences involved.

13. It should be emphasized that the above analysis is indeed speculative, in part due to the lack of accurate information. Further, in order not to burden our calculations with too many data, we have omitted estimating such factors as the cost of land, of the preparation of building sites and of special teaching aids which should be taken into consideration for various types of education. In addition, some simplifications have been introduced which should be dropped if an educational plan is worked out in detail. We have, for example, not made allowance (a) for regional differences in cost per pupil for schools of different sizes within our hypothetical country, (b) for a certain wastage in output of teachers and students in connexion with secondary and higher education, (c) for the phasing of non-recurring expenditure over the period 1955-1975, though common sense tells us that most of the capital construction should be carried out at an early stage in order to accomplish some of the targets envisaged for 1975 and (d) for the fact that perhaps a large number of expatriates are and will be employed, especially in secondary and higher education, for whom higher salaries and extra amenities than we have assumed have to be provided. Our assumption of constant prices or no change in the purchasing power of money over the period considered may also not be realistic for certain countries. Despite these reservations, it is hoped that the figures employed give some impression of the order of magnitude of the factors involved and the outlined exercise indicates a useful method that may be followed in costing an educational programme. In any case, every government in the region should make its own educational plan and calculate the cost of it in the light of its own circumstances. Each country should also distinguish between the money costs and the real costs of its educational programme. In several low-income countries the real costs may be substantially lower than the money costs, if otherwise idle or misapplied resources - manpower, building materials, etc. - are utilized for teaching and school construction. It should also be stressed again that the grouping of the entire region of Middle Africa is a procedure of dubious validity and that it will no doubt be difficult or well nigh impossible for the poorer countries in the area to reach certain of the targets envisaged. The relatively less well off countries will certainly not be in a position to find from internal resources the funds to finance the capital expenditure for the rather ambitious plans outlined. Ideally, the educational plan should also provide us with the data to judge for which sectors and for what aspects (buildings, equipment, textbooks, etc.) external financial assistance should be sought. It would appear that a
sound and carefully calculated educational programme will facilitate approaching the international agencies and donor governments for assistance. Furthermore, it is felt that the method employed in this report while carried out until 1975 for illustrative purposes would be even more valid if used for short-range planning, i.e., a model 5-year plan. A final limitation of this report should be mentioned. The financial plan rests in the end on the human or physical possibility of speeding up the process of training a large number of additional teachers for all types of education. We presume that almost no country in the region is in a position to perform this task with its own personnel. Again, however, a long-range educational programme will show up the present bottlenecks and likely shortages in the future and thus suggest when and where outside help will be essential if the established goals are to be attained.

APPENDIX A

Countries comprising "Middle Africa" in this paper

1. Cameroons (U.K.)
2. Cameroon
3. Central African Republic
4. Chad
5. Congo (capital Brazzaville)
6. Congo (capital Leopoldville)
7. Dahomey
8. Ethiopia
9. Gabon
10. Gambia
11. Ghana
12. Guinea
13. Ivory Coast
14. Kenya
15. Liberia
16. Madagascar
17. Mali
18. Mauritania
19. Niger
20. Nigeria
21. Rhodesia and Nyasaland
22. Ruanda-Urundi
23. Senegal
24. Sierra Leone
25. Somalia
26. Somaliland (Fr.)
27. Sudan
28. Tanganyika
29. Togo
30. Uganda
31. Upper Volta
32. Zanzibar and Pemba

APPENDIX B

Costing tables based upon a 1975 goal of 75 per cent of the primary school age population enrolled in primary school, secondary school enrolment equaling 14 per cent of primary school enrolment and higher education enrolment equaling 8 per cent of secondary school enrolment.

EXPENDITURE FOR PRIMARY EDUCATION

| Costing tables based upon a 1975 goal of 75 per cent of the primary school age population enrolled in primary school, secondary school enrolment equaling 14 per cent of primary school enrolment and higher education enrolment equalling 8 per cent of secondary school enrolment. |
|---|---|
| EXPENDITURE FOR PRIMARY EDUCATION |
| (Goal - 30.2 million pupils by 1975) |

**Non-recurring Expenditure**

<table>
<thead>
<tr>
<th>Total 1958-1975</th>
<th>U.S. dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Primary school buildings</td>
<td></td>
</tr>
<tr>
<td>(20.8 million pupils x $30)</td>
<td>624 million</td>
</tr>
<tr>
<td>(b) Equipment</td>
<td></td>
</tr>
<tr>
<td>(20.8 million pupils x $7.50)</td>
<td>156</td>
</tr>
</tbody>
</table>

41
Annex IV

**EXPENDITURE FOR PRIMARY EDUCATION**

*(Goal - 30.2 million pupils by 1975)*

<table>
<thead>
<tr>
<th>Non-recurring Expenditure (cont'd)</th>
<th>Total 1958-1975</th>
<th>U.S. dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>(c) Teachers quarters (including teacher educators)</td>
<td>(335 thousand teachers x $500)</td>
<td>168 million</td>
</tr>
<tr>
<td>(d) Teachers colleges</td>
<td>(650 institutes x $200,000)</td>
<td>1,078 million</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recurring Expenditure</th>
<th>in 1975</th>
<th>U.S. dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Primary education current costs (salaries, etc.)</td>
<td>(30.2 million pupils x $20)</td>
<td>604 million</td>
</tr>
<tr>
<td>(b) School administration</td>
<td>(5% of current costs)</td>
<td>30</td>
</tr>
<tr>
<td>(c) Teacher educators' salaries</td>
<td>(15,500 teacher educators x $800)</td>
<td>12</td>
</tr>
<tr>
<td>(d) Amortization, interest and maintenance</td>
<td>(6% of total value of existing plant)</td>
<td>93</td>
</tr>
</tbody>
</table>

(Recurring expenditure for primary education would be about $24.50 per pupil enrolled in 1975)

**EXPENDITURE FOR SECONDARY EDUCATION**

*(Goal - 4.2 million pupils by 1975)*

<table>
<thead>
<tr>
<th>Non-recurring Expenditure</th>
<th>Total 1958-1975</th>
<th>U.S. dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Intermediate secondary school buildings and equipment</td>
<td>(1,075 thousand pupils x $75)</td>
<td>81 million</td>
</tr>
<tr>
<td>(b) Vocational and technical (excluding agricultural) school buildings and equipment</td>
<td>(800 thousand pupils x $112.50)</td>
<td>90</td>
</tr>
<tr>
<td>(c) Agricultural school buildings and equipment</td>
<td>(1,075 thousand pupils x $112.50)</td>
<td>121</td>
</tr>
<tr>
<td>(d) Grammar school buildings and equipment</td>
<td>(800 thousand pupils x $187.50)</td>
<td>150</td>
</tr>
<tr>
<td>(e) Teachers quarters</td>
<td>(180,000 teachers x $1,000)</td>
<td>622 million</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recurring Expenditure</th>
<th>in 1975</th>
<th>U.S. dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Intermediate secondary education current costs (salaries, etc.)</td>
<td>(1,200 thousand pupils x $48)</td>
<td>58 million</td>
</tr>
<tr>
<td>(b) Vocational and technical education current costs</td>
<td>(900 thousand pupils x $72)</td>
<td>65</td>
</tr>
</tbody>
</table>
### EXPENDITURE FOR SECONDARY EDUCATION
(Goal - 4.2 million pupils by 1975)

<table>
<thead>
<tr>
<th>Recurring Expenditure (cont'd) in 1975</th>
<th>U.S. dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>(c) Agricultural education current costs</td>
<td>86 million</td>
</tr>
<tr>
<td>(1,200 thousand pupils x $72)</td>
<td></td>
</tr>
<tr>
<td>(d) Grammar education current costs</td>
<td>108</td>
</tr>
<tr>
<td>(900 thousand pupils x $120)</td>
<td></td>
</tr>
<tr>
<td>(e) School administration</td>
<td>16</td>
</tr>
<tr>
<td>(5% of current costs)</td>
<td></td>
</tr>
<tr>
<td>(f) Amortization, interest and maintenance</td>
<td>43</td>
</tr>
<tr>
<td>(6% of total value of existing plant)</td>
<td>376 million</td>
</tr>
</tbody>
</table>

(Recurring expenditure for secondary education would be about $89.50 per pupil enrolled in 1975)

### EXPENDITURE FOR HIGHER EDUCATION
(Goal - 335 thousand students by 1975)

<table>
<thead>
<tr>
<th>Non-recurring Expenditure Total 1958-1975</th>
<th>U.S. dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Technical and related branches building and equipment including quarters</td>
<td>1,120 million</td>
</tr>
<tr>
<td>(112 thousand students x $10,000)</td>
<td></td>
</tr>
<tr>
<td>(b) All other branches building and equipment, including quarters</td>
<td>558</td>
</tr>
<tr>
<td>(223 thousand students x $2,500)</td>
<td>1,678 million</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recurring Expenditure in 1975</th>
<th>U.S. dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Higher education current costs (salaries, etc.)</td>
<td>201 million</td>
</tr>
<tr>
<td>(335 thousand students x $600)</td>
<td></td>
</tr>
<tr>
<td>(b) School administration</td>
<td>10</td>
</tr>
<tr>
<td>(5% of current costs)</td>
<td></td>
</tr>
<tr>
<td>(c) Amortization, interest and maintenance</td>
<td>101</td>
</tr>
<tr>
<td>(6% of total value of existing plant)</td>
<td>312 million</td>
</tr>
</tbody>
</table>

(Recurring expenditure for higher education would be about $931 per student enrolled in 1975)

### APPENDIX C

Costing tables based upon a 1975 goal of 50 per cent of the primary school age population enrolled in primary school, secondary school enrolment equalling 25 per cent of primary school enrolment and higher education enrolment equalling 10 per cent of secondary school enrolment.
## EXPENDITURE FOR PRIMARY EDUCATION

*(Goal - 20.2 million pupils by 1975)*

<table>
<thead>
<tr>
<th>Non-recurring Expenditure</th>
<th>Total 1958-1975</th>
<th>U.S. dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Primary school buildings</td>
<td>(10.8 million pupils x $30)</td>
<td>324 million</td>
</tr>
<tr>
<td>(b) Equipment</td>
<td>(10.8 million pupils x $7.50)</td>
<td>81</td>
</tr>
<tr>
<td>(c) Teachers quarters (including teacher educators)</td>
<td>(170 thousand teachers x $500)</td>
<td>85</td>
</tr>
<tr>
<td>(d) Teachers colleges</td>
<td>(310 institutes x $200,000)</td>
<td>62</td>
</tr>
</tbody>
</table>

### Recurring Expenditure in 1975

<table>
<thead>
<tr>
<th></th>
<th>U.S. dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Primary education current costs (salaries, etc.)</td>
<td>(20.2 million pupils x $20)</td>
</tr>
<tr>
<td>(b) School administration</td>
<td>(5% of current costs)</td>
</tr>
<tr>
<td>(c) Teacher educators' salaries</td>
<td>(7.200 teacher educators x $800)</td>
</tr>
<tr>
<td>(d) Amortization, interest and maintenance</td>
<td>(6% of total value of existing plant)</td>
</tr>
</tbody>
</table>

*(Recurring expenditure for primary education would be about $24.30 per pupil enrolled in 1975)*

## EXPENDITURE FOR SECONDARY EDUCATION

*(Goal - 5.2 million pupils by 1975)*

<table>
<thead>
<tr>
<th>Non-recurring Expenditure</th>
<th>Total 1958-1975</th>
<th>U.S. dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Intermediate secondary school buildings and equipment</td>
<td>(1,375 thousand pupils x $75)</td>
<td>103 million</td>
</tr>
<tr>
<td>(b) Vocational and technical (excluding agricultural) school buildings and equipment</td>
<td>(1,000 thousand pupils x $112.50)</td>
<td>113</td>
</tr>
<tr>
<td>(c) Agricultural school buildings and equipment</td>
<td>(1,375 thousand pupils x $112.50)</td>
<td>155</td>
</tr>
<tr>
<td>(d) Grammar school buildings and equipment</td>
<td>(1,000 thousand pupils x $187.50)</td>
<td>188</td>
</tr>
<tr>
<td>(e) Teachers quarters</td>
<td>(230,000 teachers x $1,000)</td>
<td>230</td>
</tr>
</tbody>
</table>

789 million
EXPENDITURE FOR SECONDARY EDUCATION

( Goal - 5.2 million pupils by 1975)

<table>
<thead>
<tr>
<th>Recurring Expenditure in 1975</th>
<th>U.S. dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Intermediate secondary education current costs (salaries, etc.) ((1,500 \text{ thousand pupils } \times $48))</td>
<td>72 million</td>
</tr>
<tr>
<td>(b) Vocational and technical education current costs ((1,100 \text{ thousand pupils } \times $72))</td>
<td>79</td>
</tr>
<tr>
<td>(c) Agricultural education current costs ((1,500 \text{ thousand pupils } \times $72))</td>
<td>108</td>
</tr>
<tr>
<td>(d) Grammar education current costs ((1,100 \text{ thousand pupils } \times $120))</td>
<td>132</td>
</tr>
<tr>
<td>(e) School administration ((5% \text{ of current costs}))</td>
<td>20</td>
</tr>
<tr>
<td>(f) Amortization, interest and maintenance ((6% \text{ of total value of existing plant}))</td>
<td>53</td>
</tr>
</tbody>
</table>

(Recurring expenditure for secondary education would be about $89.30 per pupil enrolled in 1975)

EXPENDITURE FOR HIGHER EDUCATION

( Goal - 520 thousand students by 1975)

<table>
<thead>
<tr>
<th>Non-recurring Expenditure</th>
<th>Total 1958-1975</th>
<th>U.S. dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Technical and related branches building and equipment, including quarters ((173 \text{ thousand students } \times $10,000))</td>
<td>1,730 million</td>
<td></td>
</tr>
<tr>
<td>(b) All other branches building and equipment, including quarters ((347 \text{ thousand students } \times $2,500))</td>
<td>2,598 million</td>
<td></td>
</tr>
</tbody>
</table>

Recurring Expenditure in 1975

<table>
<thead>
<tr>
<th>U.S. dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Higher education current costs (salaries, etc.) ((310 \text{ thousand students } \times $600))</td>
</tr>
<tr>
<td>(b) School administration ((5% \text{ of current costs}))</td>
</tr>
<tr>
<td>(c) Amortization, interest and maintenance ((6% \text{ of total value of existing plant}))</td>
</tr>
</tbody>
</table>

(Recurring expenditure for higher education would be about $931 per student enrolled in 1975)
Annex IV

THE PROCESS OF EDUCATIONAL PLANNING
F. H. Harbison
Director, Industrial Relations Section, Princeton University, U.S.A.

I. INTRODUCTION: EDUCATION IN MODERNIZING SOCIETIES

The African nations are in the midst of an enormous transformation. As they emerge to political independence, they are also moving swiftly from traditional ways of living toward Twentieth-century industrialism. Spurred onward by the world-wide revolution of rising aspirations, they yearn to throw off external direction, economic backwardness, illiteracy and disease. They are dedicated to reducing rapidly the inequalities that have been growing in the past century between the rich advanced nations and the poor countries which comprise the mass of humanity. In their march forward, the African nations face desperate tasks - requiring dedication and hard work. They are committed to an industrial future in which they have high expectations. And to this end, they are launched on a long course of modernization which is certain to change their societies into new and as yet not fully known communities.

The essential tasks facing these modernizing societies are the following:

1. To build effective political institutions and sound systems of government.
2. To modernize traditional agriculture.
3. To press forward rapid industrialization.
4. To achieve economic and political balance in external relationships.
5. To build systems of education geared to rapidly changing needs.

The modernizing society requires internal saving and productive investment, and in most cases it requires foreign capital as well. Above all, it must have highly trained people. And the more rapidly it modernizes, the greater is its need for high-level manpower. The concern of this conference is with "investments in man" - with upgrading people at all levels - or, to use the terms of the economist with the process of "human capital formation".

This particular conference is, among other things, concerned with educational planning. It will consider:

1. the critical problems as a background for planning;
2. the essential steps in the planning process;
3. the implementation of plans within the framework of the broader strategies of economic growth and political development;
4. the evaluation of plans; and
5. selected consequential problems in the design of educational programmes and materials and in the development of teaching personnel.

Though cognizant of the pressures of the present, this conference will be even more concerned with the needs of the future. For the investments made today in education will bear fruit largely in the future. In the modern world, for example, it may take only a few months to build factories or a few years to construct large dams. But, it takes over 10 years to train technicians, and over 15 years to build engineers or top-level managers. Likewise, the training of teachers - who are in effect the "seed-corn" for the development of a society's human resources - is a lengthy process. Thus, of all of the areas of planning, education requires the longest "lead-time", and it presents the most difficult yet the most vital problems in the programming of a nation's future.

II. SOME CRITICAL PROBLEMS

Educational planning should be undertaken within the context of the emerging social, economic and political problems of the African nations. Although the situation in each country may be somewhat unique, most of the African countries appear to have encountered the following types of problems:

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(1) shortages of high-level manpower and surpluses of unskilled labour;
(2) the determination of priorities for investments in education;
(3) the needs for general education versus the needs for specialized technical training;
(4) the attitudes of students and teachers toward education;
(5) the nature of dependence upon foreign countries for educational development;
(6) the technology of education.

These problem areas should be explored in order to determine the objectives of educational planning in the modernizing African countries.

A. The shortages and surpluses of manpower

Most of the developing countries of Africa are plagued with two basic manpower problems: (1) a surplus of unskilled manpower in the urban areas particularly among primary school leavers, and (2) a critical shortage of nearly all types of highly trained and highly skilled manpower in agriculture, in industry, in commerce and in government.

The surplus of unskilled manpower is usually the result of population growth, the too rapid disintegration of traditional rural societies (resulting in mass movements to urban areas) and the relatively small numbers of workers employed by new industries in the cities. Indeed, in some newly developing societies the building of industrial plants may displace more people from cottage industries than are absorbed in the new factories. The only significant increases in urban employment result from expansion of petty commerce and trade or from large-scale construction projects. These, however, do not normally develop so rapidly as the numbers of job seekers leaving the schools.

At the same time, the shortages of strategic manpower - i.e. highly trained managers, engineers, agricultural experts, and technicians - are often responsible for retarding economic growth. Rapid growth is dependent upon the accumulation of capital and strategic manpower. A country which is unable to accumulate both in sufficient quantities is certain to encounter major obstacles in raising national income and thus increasing new job opportunities for its masses.

The shortages and surpluses of manpower are related. The greater the shortage of skills, the greater is the likely surplus of unemployed or partially employed manpower. And these twin problems are in turn related to education - to an under-investment in certain kinds of secondary and higher education and to a corresponding over-investment in certain kinds of primary education. Ironically, those countries which have made the most spectacular progress toward eliminating illiteracy and in pressing forward industrialization (i.e. Egypt, Ghana, and Nigeria) are often the ones which have encountered the most serious shortages of high level manpower as well as the largest number of unemployed persons.

A major objective of planning is to achieve a proper balance in educational development. Obviously, measures must be taken to meet the growing skill shortages. In newly developing societies, for example, the demand for high-level manpower usually increases three to four times faster than the labour force as a whole. At the same time, primary education in rural areas should be designed in part to encourage more school leavers to remain in agriculture rather than to go to the cities in search of non-existent jobs.

The following questions may be raised for discussion:

(1) What are the critical skill shortages in each of the participating countries?
(2) Is there a problem of unemployed school leavers?
(3) What measures are the various countries taking or considering to deal both with skill shortages and surplus labour?

B. Priorities for investment in education

Some people have argued that it is impossible to decide upon priorities for educational development on the grounds that the African countries need more of all kinds of education. This is wishful and impractical thinking.
All the African countries want a higher standard of living for the peoples. All are anxious to achieve universal primary education at the earliest possible moment. These are just and laudable goals. But, in order to increase national income, it is necessary for a country to save and invest. This usually requires a restriction of consumption in the short run in order to achieve higher living standards in the long run. In education, likewise, the development of high-level manpower requires intensive investment in secondary and higher education, particularly in the technical fields. The newly industrializing countries must find the means of accumulating strategic manpower - the engineers, the administrators, the scientists and the technicians - which all modernizing societies demand. In poor countries, this may require some temporary restriction of the expansion of primary education.

Most African countries cannot afford to build dams, roads, new factories, and modern communications systems all at the same time; neither can they afford to have all at once the educational facilities designed to eradicate illiteracy, to produce lawyers and arts graduates, and to develop the needed high-level administrative, scientific and technical personnel. At least until they are well along the road to industrialism, they may be forced to look upon education primarily as an investment in the future rather than as a consumer service to be enjoyed in the present. If this is so, then they may have to choose between immediate investment in intensive development of strategic manpower on a selective basis and the early elimination of illiteracy on a mass basis. This is a cruel, but compelling mandate for rapid development.

In the end, however, the country which rapidly increases its national income through productive investment in development of skilled manpower may reach its goal of universal primary education more rapidly than if it were to neglect the early investment in secondary and higher education. The goal of universal primary education is not in question. The critical question for planners is the means of achieving such a goal.

It is proposed that this conference explore the range of practical choices in investing in education and the criteria which should govern the determination of priorities.

C. Technical training versus general education

Another difficult problem is the relative emphasis which should be given to technical training as compared with general education, particularly in the post-primary school stages. Modern societies require relatively large proportions of technically trained manpower in the labour force. At the same time, they also require persons with broad, general education who are capable of adapting themselves to the ever changing environments of dynamic societies. The modern nation needs highly trained technologists, yet at the same time it must have broadly educated citizens. The proper balance between general and technical education calls for objective study and wise judgement. Here questions such as these may be discussed:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>Have most African countries neglected technical education and stressed too heavily the kind of general education which was designed in the past to develop functionaries for the government services?</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>(2)</td>
<td>Have some African countries recently over-stressed vocational and technical education particularly at the primary and early secondary levels?</td>
</tr>
<tr>
<td>and</td>
<td></td>
</tr>
<tr>
<td>(3)</td>
<td>Have some countries assumed responsibilities for training technicians, craftsmen or semi-skilled workers which might better be undertaken by employers, both public and private?</td>
</tr>
</tbody>
</table>

D. Attitudes toward education

Another category of problems encountered in most African countries relates to the attitudes of students toward education and towards hard work after completing education. In the view of some young Africans, education is looked upon as the shortest and easiest road to a soft government job. It is thought of as a means of escape from manual labour and the restrictions of traditional communities. The idea of education as preparation for productive work and for helping to build the nation is often forgotten.
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There is also the question of the attitude of some of the teachers themselves. Is teaching looked upon as a profession in itself, or is it looked upon primarily as a short route to the government service, big business or a post in a foreign country?

The attitudes of the community at large are also important. Is primary education regarded as a means for developing literate citizens or as an avenue to specific types of jobs? What expectations do parents and students have of education at the primary and secondary levels?

Finally, there are the attitudes of youth toward vocational and technical education. Are the vocational schools looked upon as the "dumping grounds" for those who are unable to qualify for higher academic studies? Do governments build technical institutes and agricultural colleges only to find that very few students apply? Are the pay scales and status rewards of technicians high enough, in comparison with those of university graduates, to attract the numbers of persons which a modern society demands?

Such questions as these must not be overlooked by those who have responsibility for planning a country's educational system.

E. Dependence upon foreign countries

Another group of problems is connected with the dependence of the African nations on the more advanced countries. For many years to come, the African countries will have to import from abroad certain kinds of high-level manpower, such as for example scientists, engineers, agronomists, secondary school teachers, university professors, doctors, etc. The importation of such persons sometimes poses difficult financial and political problems. Yet, such persons are vitally needed as "seed-corn" resources to train the local nationals of the various African nations.

There is also the question of the extent to which the patterns of education, established during the past, are appropriate for the newly independent countries of Africa. Many countries feel that basic changes are needed. Yet, there are dangers involved in too sweeping "Africanization" of educational institutions and programmes. In their march toward industrialism, the African countries must borrow the technology and many of the organizing principles of the more advanced societies. This means that their educational institutions must be up to date, and that educational standards must be related to those in the industrialized foreign countries.

A major problem for African education planners, therefore, is to determine the kinds of adaptations which are consistent both with the particularized needs of the African countries and the necessity of integration with educational institutions in the rest of the world.

F. The technology of education

The African nations are called upon to develop their educational programmes with unprecedented speed. The aspirations of the peoples and their leaders will not tolerate the leisurely growth of educational institutions, following stage by stage the patterns established in the advanced countries over the last half century. The number of teachers required to expand education along traditional lines would be staggering, and the expense of training them far beyond the means of most countries.

Therefore, the newly developing countries must pioneer in new methods of teaching - perhaps in utilizing modern inventions such as television, teaching machines, and other technological devices which are not yet widely employed even in the most advanced countries. In fact, the need for new technologies of pedagogy is probably greater in the newly developing countries than in those with more fully developed education systems.

Consequently, the African countries should give serious thought to establishment of centres for research in educational technology. In this area, they may have to lead rather than to follow the more advanced nations of the world. Thus, this Commission might explore the most fruitful areas for research in educational technology.
III. THE STEPS IN THE PLANNING PROCESS

The problems facing educational planners are many and complex. In order to find solutions, the African countries will have to make a careful assessment of their educational systems within the context of their goals for future social, political and economic development. In this section, a number of steps in the planning process are proposed for consideration.

A. A projection of manpower requirements, by occupation, for at least 10 years and preferably 20 years in the future

The estimation of forward manpower requirements is necessary for any long-range planning of education. The future demand of all categories of manpower should be projected, and particular attention should be given to high-level manpower.

High-level manpower is a term used to designate the most critical or strategic human resources in a country. Obviously, it is difficult to say precisely what persons or occupations fall into this category, and there may be significant differences in classification in various countries. High-level manpower may be delineated in two ways: (1) on the basis of occupational categories, and (2) on the basis of normal or common minimum educational requirements. A tentative delineation is as follows:

(1) Occupational classification

Senior category:

administrators, executives, managers and principals of sizeable establishments in governments, industry, commerce, transportation, education, etc.;
professional personnel including scientists, doctors, engineers, architects, agricultural officers, lawyers, university professors, etc.;
political leaders, officers of police, armed forces, judges, senior union leaders, etc.

Intermediate category:

sub-professional personnel (technicians) in agriculture, engineering, etc. - also nurses,
higher supervisory personnel, chief clerks, laboratory assistants, etc.; teachers
(qualified but not university graduates) in secondary schools, technical schools,
teacher-training institutions, and (in some cases) primary schools, etc.

(2) Educational classifications

Senior category:

university graduates, "college" graduates (4 years beyond equivalent of secondary school)

Intermediate category:

persons with 1-3 years specialized education beyond high school (equivalent in college, technical institutions, teacher-training college, etc.).

Skilled manpower includes such groups as highly skilled manual workers and craftsmen, lower-level supervisory personnel, and clerical workers. The required education for this group would normally vary from two to four years beyond the primary level, and in most cases would include some training in vocational, trade or technical schools.

Unskilled and semi-skilled manpower includes all those in the working force not classified as high-level or skilled. The required education may vary from none at all to completion of eight years of primary school.

Forward manpower projections must be derived from broader projections of goals and plans for a country's political and economic development. They should be based upon relevant
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comparison of manpower utilization between various regions of a single country and between other countries at various stages of economic development.

B. A description of the presently expected annual output of graduates from educational institutions at the primary, secondary and higher levels, including estimates of graduates in the general and technical fields in the teaching profession.

In essence, this is little more than a description or inventory of the present educational system, coupled with existing plans for expansion where available. This step is necessary, however, in order to define the starting point for future development. It also is a means of determining whether or not the essential statistics are available for future planning. Many of the countries present have already reported this kind of information to Unesco.

C. A tentative estimate of future needs for imported high-level manpower by major occupational groups and by time periods.

The needs for foreign manpower may be derived, in part, by a comparison of (A) and (B) above. Here questions such as these arise:

1. What categories of manpower must come from abroad?
2. What means shall be used to import the required manpower? (foreign private enterprise; technical assistance arrangements - bilateral or multilateral; direct contract employment.)
3. What responsibilities will foreign manpower assume for training the nationals of the host country?
4. For what periods of time will the various categories of imported manpower be required?

D. An analysis of the extent to which required manpower may be developed on the job.

Manpower is developed through formal education and also through training on the job. This Commission is concerned primarily with formal education. Yet, the investments needed in schools and technical institutions are directly related to the prospects of in-service development of manpower.

Many categories of skills are best developed on the job and/or through apprenticeship arrangements. In most countries, all semi-skilled labour and most highly skilled craftsmen and lower-level supervisors can be trained on the job. The important question for planners is where responsibility should be placed for development of this kind of manpower.

In many countries, employers take the position that it is the responsibility of educational institutions to provide the needed manpower of this type. This is a dangerous position. The employers should bear the primary responsibility for development of certain types of skills on the job, utilizing where appropriate the assistance of educational institutions. This is true of both governmental and private employers, a fact relevant to the situation in many developing countries where the public sector in industry is so large.

Another important question is that of development of managerial and higher supervisory personnel. Educational institutions may be able to supply persons with the capacity to become executives or managers, but the responsibility for their training is one which must rest squarely with employers, whether public or private. Institutions of higher learning, however, may be able to assist employers in establishing advanced management training programmes or supervisory development courses.

Those in charge of educational planning might seek answers to questions such as these:

1. Are current or expected expenditures on vocational education wasteful, in the sense that a better job might be done by employers?
2. Are employers satisfied to hire the graduates of vocational or technical schools, or do they prefer to do their own training?

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(3) Do employers pass along to the schools the responsibility for training skilled workers which they might better assume themselves?
(4) What programmes exist or are in prospect for managerial and supervisory training in: government service? private industry and commerce? government factories, railways, public corporations, etc.

E. In the light of factors A-D above, an assessment of the long-range quantitative increases needed in education at the primary, secondary and higher levels, and in general and technical fields and teacher training.

In essence, this is a quantitative revision of B above based upon projected needs, expected imports of high-level manpower, and expected success of training on the job.

F. A critical evaluation of the long-run qualitative changes needed throughout the educational system

Here a whole series of questions are relevant, such as for example the following:

(1) the emphasis in curriculum on general and technical subjects in primary education;
(2) the emphasis of secondary general education, and its relationships to the system of higher education;
(3) the nature of secondary technical institutions, and their relationships to potential public and private employers;
(4) the organization and the emphasis of teacher training for all levels and types of education;
(5) the use of new technologies of pedagogy.

G. The estimation of costs of education, and the means of financing educational development

This is the concern of Commission I on the Financing of Education, and should be explored in joint session.

IV. MACHINERY FOR IMPLEMENTATION OF PLANNING

Having outlined some of the problems which are encountered and the necessary steps which may be taken in the planning process, it is appropriate finally to examine the machinery for educational planning and the manner in which it may be integrated with other phases of development planning. This Commission may discuss, among other measures, the following:

A. The planning function within the Ministry of Education

In every country, the creation of a planning group within the Ministry of Education appears to be imperative. The members of this group should be concerned primarily with long-range development of institutions, programmes, curricula, and teacher development, and with "the costing" of educational development at all levels. It may also sponsor educational research.

Manpower projections may or may not be the concern of education ministries depending upon the allocation of responsibilities to other ministries or inter-ministerial councils.

B. A manpower development board or commission

In some countries educational development is considered as part of a broader strategy of development of human resources both within and outside the formal education system. Here educational planning may be carried on in collaboration with an inter-ministerial board or commission which is concerned also with labour statistics and manpower projections, programmes for on-the-job training, social security measures, the setting of wages and salaries, development of measures for alleviation of unemployment, and other aspects of human resource development. In such organizations, the ministries of labour, public works, industry, commerce and agriculture are usually participants along with the education ministries.
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A suggested plan for establishment of an inter-regional manpower development Board in Nigeria was advanced in 1960 by the Ashby Commission.

C. The integration of educational planning with economic development planning

In countries which have economic planning ministries, or particular commissions charged with drawing up "five-year plans" for the economy as a whole, the planning groups within the educational ministry, or the manpower commission if it exists, should become active participants in the broader planning effort. The education ministries should be represented, along with the ministries of finance, industry, agriculture, communications, etc., in any such central economic planning organization. Their function ought to be to help build the economic plans for the nation's future; they should not be content merely with being informed about programmes for construction of dams, factories, roads, or communications systems.

As in the case of finance, education is related to all programmes of development. Thus educational planners should be of such calibre as to command the respect of the very best financial and economic brains in the country.

In this Commission, discussion may be directed to the following questions:

1. Do the respective African countries have machinery for general economic planning? If not, should education ministries press for the establishment of such machinery?
2. Is there a need for a manpower development board or commission? If so, what part should education ministries play in promoting its establishment?
3. Where neither general development machinery nor a manpower commission exists, what tasks must be assumed, even temporarily, by the planning group within the education ministry?
4. What are the most effective measures of co-ordinating educational planning with the concerns of the ministries of finance?

(Here joint discussions with the commission of financing education would be appropriate).

V. THE EVALUATION OF PLANS

Planning is a continuous process. Periodically, the problems need re-examination, and the steps taken in previous years should be subject to review. Each year refinements in assumptions, data, and operating experience should make forward projections more reliable. Thus the planning function may be considered as a permanent feature of government operation, and yearly revisions of plans for educational development should be considered as successive approximations to more realistic programmes for the future.
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THE CONTENT OF EDUCATION IN AFRICA
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Education is the very core of development in Africa. It is one of the main levers for speeding up its progress in all spheres:

In the political sphere, by the institution of a minimum standard of education, without which democracy is a meaningless word;
in the social and human sphere, because it develops man's awareness of his own dignity and his powers of expression and creation and opens the way to freedom (e.g. in the case of African women);
even in the economic sphere, since education is, in the long run, the most valuable of investments;
in the international sphere, because it helps people to know more about other peoples, and therefore to appreciate their qualities.

Education thus has a strategic position in the great battle for progress. Now, if it is to fulfil its many functions satisfactorily, education in Africa must be African; that is, it must rest on a foundation of specifically African culture and be based on the special requirements of African progress in all fields.

Africa's progress would undoubtedly demand less effort if the continent had not inherited the heavy burden of the past, so familiar to all, and did not suffer from that great handicap which can be overcome only by:

(1) "Decolonizing" or "Africanizing" education.
(2) Adapting education to the situation in which an underdeveloped country that has to catch up with the rest of the world within a certain space of time finds itself.

These are the basic requirements, upon which everything else must depend.

African education of course involves a problem of quantity; but the problem of quality, relating to the content of education and the nature of the curricula, is of more revolutionary significance in this context, for the African of 1980 will be exactly what he has been made by the curricula drawn up in 1961. The type of man who will govern Africa tomorrow is potentially contained in the curricula of education today. This is a very complex question which affects all the other aspects of education because of its economic, social and political implications.

1. BASING EDUCATION ON AFRICAN CULTURAL ACHIEVEMENTS

The object is to give education its proper function as a catalyst, consolidating African national values, which, though not expressed in the same manner as in Europe or elsewhere, none the less exist. This is a vital, and an enormous task, which may be defined by stating what are the key subjects and the methods to be used in such a reform of education.

A. Key subjects

In the work of Africanization, the strategic points of attack are obviously the following:

1. Philosophy

In so far as philosophy is not abstract rationalization for its own sake but is (at least at the outset) concerned with a specific reality, it has, besides its universal aspects, others which bear the stamp of the particular genius of individual local cultures. African ethics, metaphysics and
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sociology do exist. Research workers have already drawn attention to some of their features (e.g. the work of Griaule and his students on the Dogons, the Bambaras and their imposing cosmogonies. See also the religious ideas of the Yorubas and the Banu philosophy as described by Father Tempels). Other features might well be identified and dealt with in teaching before it is too late. Needless to say, however, African teachers must be mainly responsible for carrying out fuller research and making better use of these philosophical resources of Africa. The training of research workers and teachers in this field should be promoted and encouraged by appropriate means.

2. Geography

African geography has likewise been greatly neglected. In the secondary school of some countries, less than 10 per cent of the time is allotted to the study of the country's own geography, whilst at least 80 per cent of the textbooks deal with the study of the former metropolitan country. The result is that pupils know more about the Seine than the Niger, or about the mistral than the harmattan. Such a state of affairs is most unsatisfactory and the least that can be asked is that the proportions should simply be reversed.

Moreover, even in general geography, to which a whole year is devoted, the climates, types of relief and ways of life which are given most attention are those of temperate countries. Much less time should be spent on such topics as glacial erosion, and much more on the question of tropical erosion and soil science, even if the basic general concepts, with which all good geographers must, of course, be familiar, have to be taken up again later, at the higher education level.

Again, when studying the Great Powers, it is important to know about the highly industrialized countries of Western Europe and North America; but it is even more interesting to know about countries, like those of Latin America, which, because of their historical or geographical situation, have to face approximately the same problems as the African countries with regard to the handicaps of underdevelopment (under-population, poor communications, illiteracy, lack of capital equipment, etc.), and the means of overcoming them.

Lastly, it is most unsatisfactory that African countries which are neighbours, but which have been under the authority of different colonial powers, should know absolutely nothing of one another. In the Upper Volta, Ghana is not studied in any type of school, and yet the Upper Volta sends hundreds of thousands of workers to Ghana, as well as livestock of all kinds, and regularly imports its bananas, while, in many instances, the population of the two States is identical.

3. History

History must take a prominent place in the reform of the curriculum, since it is one of the main foundations of national consciousness. In many French-speaking African States, however, the national history is never taught at all in secondary schools, although many people today admit that Africa has a history. In fact, it can easily be shown that African history exists, that it can be written and that it has, several times, played a decisive part in world history.

There is plenty of material, some written, of African, European, Indian, Chinese, Brazilian or other origin, some in the form of traces of civilization (surviving despite the destructive effects of the elements) and some oral. Oral testimony deserves particular attention in this context and should not be minimized. To give only one example, many of the archaeological sites (such as Koumbi-Saleh) now being excavated in Africa were discovered from hints preserved by oral tradition. Moreover, is not written material itself almost always the record of oral testimony, of an account heard by the writer but not an account of his own experience?

A methodology therefore needs to be worked out for African history, taking due account of the special criteria of this civilization based on oral tradition (e.g. the traditional methods of dating), but making no important concessions with regard to what is generally called "historical objectivity". Such a methodology will have to be founded on a carefully built up body of documentation and "evidence". For this purpose, however, an enormous task of assembly must now be undertaken, in which Unesco's assistance can be decisive.
It has already been found necessary for each region to have a small team of archivists specializing in this work of listing, collecting and classifying material.

4. The arts

Everyone knows how important the visual arts (sculpture, jewelry, etc.), and music, are in African life. It would be a pity for this marvellous portion of the African cultural heritage to fall into decline while other countries are eagerly appreciative of all they can learn about it. The prospects in this sphere are encouraging. If they are to be realized, music teachers must be trained with a specialized knowledge of African music and the developments to which it has led in North and South America, who must be capable of making their pupils appreciate the value of this art, and capable, too, of collecting themes, developing a richer instrumentation and, if possible, promoting the rise of a modern art of music in Africa. The establishment of modern institutes of fine arts in Tropical Africa should also form part of Unesco’s future programmes.

Architects can likewise find ideas for their work based more or less closely on the aesthetic forms of the past (for example, the Sudanese style), instead of falling, through intellectual sloth, into complacent imitation of the so-called modern style. Craftsmanship has of late become institutional, providing stereotyped and almost mass-produced articles for tourists. The crafts have become synonymous with the very negation of art. Yet there is no shortage of gifted craftsmen whose creative imagination would repay encouragement. The reformed educational system will also need artistic reproductions of the masterpieces of African art.

5. Languages

This is a terribly complicated problem. For practical reasons, most African countries have kept the language of the former metropolitan power as their official language. The difficulties responsible for the taking of this decision are well known: there are too many African languages; they have not been scientifically converted to written use; they have no written literature and no international standing.

But to accept the death of the African languages would mean cultural suicide. Moreover:

(a) The richness of the African languages has been amply proved;
(b) the figures for their number give a false picture of the real situation, since several of them are already widely spoken;
(c) the dynamic, expansive character of some of these languages, which are gradually taking the lead over others, should be taken into account;
(d) besides the fact that some of these languages have now been converted to written use, there is an extremely rich oral literature, which can easily be collected, behind them;
(e) there would be a substantial educational advantage in using these languages for teaching purposes.

What is to be done? Can we take quick decisions? That would not seem advisable. The best course would be to draw up programmes for studies designed, as the first stage, to bring out the merits and advantages of these languages.

At the second stage, a major political decision would have to be taken, gradually to give the African languages priority, in accordance with strictly worked-out plans, in education and in the social, political and economic life of the States.

6. The new content of education

It has been thought advisable to dwell mainly on the subjects of study in which the most far-reaching changes will be needed. But, needless to say, all subjects will be affected. In the natural sciences, for instance, substantial adjustments will have to be made with respect to the study of soils, plants and animals - e.g. the ground-nut rather than the sweet pea should be taken to illustrate papilionaceous plants. Even in mathematics, especially at the primary level, the material used in setting problems should be familiar to the pupils in their daily lives.
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B. Methods of Africanization

1. The recasting of the curriculum must not be merely a patching-up, consisting in the curtailment of some chapters, the expansion of others, and the discarding of certain topics in favour of others.

2. The solution to this difficult problem of cultural decolonization cannot be found on a small nation basis. The operation must be founded on recognized foci of civilization and existing cultural areas or, alternatively, on a political agreement for the constitution of a cultural pool.

3. One indirect method of promoting Africanization is to develop the education of girls. Women are more attached than men are to the past, to its traditions and rites, etc. They will find the reformed curriculum congenial and will make it easier to bring up the next generation with a background of African culture.

4. From the start, too, the education provided should be made as democratic as possible. Elementary and secondary education, for instance, should be considered as a whole, and there should be no sharp division separating what is known as primary education from the junior secondary course. Such an arrangement would avoid the disparity at present only too often to be seen between the number of pupils in secondary and primary schools.

5. Finally, the question of textbooks must be considered with a due appreciation of its urgency. For without suitable textbooks there can be no real curriculum reform. Here, too, a transitional period for the adjustment and preparation of textbooks would seem to be necessary, before moving on to the stage of application.

During the first stage, a review should be made of what has already been done. Until new textbooks are published, the corrective method of adding and deleting chapters might be used, where necessary supplying the additional chapters to the teachers in pamphlet form. African teachers could also be asked to follow the new adapted syllabuses in their classes for two or three years and to use the courses thus given as a basis for the preparation of textbooks. This solution would have the advantage of being experimental. But the teachers would have to be given all possible documentation and working facilities. The most satisfactory solution, however, would probably be to free one or more teams of African teachers for two or three years for the express purpose of compiling textbooks in different subjects. In this case, clear-cut plans would have to be drawn up in order to avoid duplication and waste. For example, in history, the study programme could very well be divided into several periods for which different specialists would be responsible. The work might also be done on a competitive basis or assigned to teams and committees, though it is not easy to imagine how the work of joint drafting would be done. In any case, if such an undertaking is to be an economic proposition, it must be carried out regionally for the largest possible area. This is all the more necessary because, from the financial standpoint, textbook production is worth while only when there is a market of a certain size. Once they are ready, the textbooks should be submitted to the educational authorities and given whatever revision they may need. Lastly, when an official African language has been chosen all these books will have to be translated into that language.

The Africanization of the curriculum will put teaching on the level best suited to the training of pupils, because a direct appeal will be made to their intelligence and their capacity for observation and invention.

II. ADAPTING EDUCATION TO AFRICA'S FUTURE ECONOMIC DEVELOPMENT

Education in the African countries cannot be conceived simply from the standpoint of the pleasure of acquiring knowledge. The African tradition has been to regard education not as an epiphenomenon with respect to community activities, but rather as a preparation of the individual whereby he is enabled to take his place in society as a full citizen. The bush and initiation

* The beneficial effects of the Africanization of the curriculum are to be seen even in the sphere of teaching.
trained a man for procreation, production and warfare - in a word, for the life of society. If education is to be better adapted to Africa's future economic development, it must be regarded as a productive investment. This being so, the programme of a department of education must necessarily be closely bound up with the whole of the general development programme. This requirement has a direct bearing on the question of the content of education. It can no longer be the same as in colonial days, since the needs of economic development (industrialization, creation of a diversified economy, management of that economy by Africans) are absolutely new. The following consequences ensue:

1. The scientific branches of study must be given considerably more emphasis, so that these young States may have, as soon as possible, a highly qualified body of science teachers, engineers, financial experts, economists, etc. This result will be achieved by increasing the number of lessons devoted to these subjects, introducing incentives for students to choose technical subjects, instituting new classes and making the teaching of science and technology as practical as possible. Foreign aid to African countries in the form of the services of staff should also provide for a substantial number of teachers of science and technical subjects.

2. The various types of courses at different levels should be so organized as to allow sufficient flexibility to enable pupils at any stage who are not continuing their studies to move easily into industry and production, while, at the same time, it should be possible for persons already in employment to improve their theoretical qualifications by taking correspondence or evening courses.

3. Periods of practical training in industry for all levels and all branches of education should help to raise the status of manual and technical work and do away with the barely masked contempt in which these branches of activity are often held. Adequate remuneration of technicians will produce the same effect.

4. Consideration should also be given to the possibility of, for instance, reducing the present period of schooling by one year, so that the age groups now being educated may begin the sooner to play their part in industry, or preferably of making the lower limit of the school age earlier.

5. In this connexion, we have to consider which stage of education requires attention first. The answer will probably vary from one State to another, having regard to the organization and relative numbers of enrollments at the different levels, and to the real standard of each level. In general, however, the numbers in primary education are overwhelmingly greater than in other types. This state of affairs is largely a reflection of the economic situation. Few States or individuals can support the high cost of secondary education for a large number of pupils, especially as secondary education often involves travel to distant places. Furthermore, at the present primary, undiversified stage of development of African economy, the labour market does not offer sufficient employment opportunities. It seems unlikely that this situation can be changed rapidly; in any case, any change in educational policies should be very carefully synchronized with economic growth, for what is the use of turning out large numbers of technicians if the economy is unable to absorb them? Vocational guidance and planning must therefore go very closely hand in hand and while arbitrary direction is to be eschewed, every effort should be made to avoid failures and breakdowns in the economic machine. In many countries, the development of primary and adult education, if well organized, will immediately produce worth-while returns.

Some people contend that the Africanization of the curriculum will bring down the standard of education and lead to the reopening of the question of the equivalence of diplomas. That is by no means certain, for the amount of time devoted to many subjects will be greater than was the case before. In any event, the change is absolutely necessary.

Others consider that this is a Utopian undertaking, since the world is moving towards a standardization of culture, buttressed by the power of the mass media (press, radio, films, etc.). Yet these very media can help us to prevent the cultural unity of the world from becoming dreary uniformity.
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Of course, no reform of the content of education in Africa can have any chance of success until the staff responsible for applying it has revolutionized its own outlook.

Even then, success will not come automatically. Culture cannot, any more than democracy, be reduced to formulae or prescriptions. The progress achieved in the current phase will therefore be only a stage - but a decisive stage - in the necessary cultural renaissance of Africa.
EDUCATION AS A BASIC FACTOR
IN THE ECONOMIC AND SOCIAL DEVELOPMENT OF AFRICA
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I. THE FUNDAMENTAL ROLE OF EDUCATION
IN ECONOMIC AND SOCIAL DEVELOPMENT

It is in no sense the main object of the following remarks to analyse the rôle of education as a
basic factor in economic and social development; in general, that analysis is now an integral part
of any overall study of development, and on this point we need only refer, for example, to the
ideas expressed on the subject by our eminent colleague, Professor Arthur Lewis, in the fourth
chapter of his classic work, *The Theory of Economic Growth*.

We shall therefore assume that these ideas are generally known and accepted, and adopt as
our starting point the fact that no economic and social development is possible without the extensive
dissemination of the knowledge already acquired by man and the steady advancement of that know-
ledge. We also hold that the dissemination and advancement of that knowledge are inherent in the
very concept of development, at least if defined in terms of the gradual realization of all of man's
potentialities, both physical and intellectual.

Even those who might considerer that the scope of this term should be confined within some-
what narrower limits would agree that all economic development, even expressed in its most banal
form - the increase of the net national (global or per capita) product, expressed in constant values
from one (usually annual) period to another, is possible only if a certain measure of instruction is
imported and received on an increasingly larger scale. And it is of course true that the relation
between the amount of instruction given and the increase in the actual annual product obtained is
not absolutely mechanical.

Certain forms of culture - the "disinterested" one, specifically - may have only fairly loose
relationships with the needs of economic development, although we ourselves are disinclined to
minimize the effectiveness of such relationships. On the other hand, no lasting economic pro-
gress is possible unless it is preceded or accompanied by a general improvement in educational
levels. Development calls for educated men, for uneducated men would no longer be active agents
or would be capable, at best, of constituting unskilled labour without anything more than initiative
or power of adaptation. To some extent, therefore, it is quite correct to regard education as a
true investment, and the improvement of intellectual capacities and knowledge as the constitution
of a kind of "human capital" which - as a famous dictum once put it - is undoubtedly the most pre-
cious capital of all.

It is worth stressing the special importance of such a "human investment" in cases where a
country more or less confined within the "vicious circles" of underdevelopment endeavours to
break free and evolve in its turn, i.e. attain those "critical levels of growth" beyond which self-
sustained progress is possible. Whatever reservations may be made with regard to certain well-
known patterns (Rostow, Liebenstein, etc.) which at least have the merit of provoking extensive
scientific discussion, it has to be recognized that considerable and lasting economic development
is possible only if it gives rise to radical transformations in occupational structures, with a
decrease in the importance of traditional rural occupations and the auto-consumption sectors,
coupled with industrialization, expansion of tertiary activities, increasing monetization, enlarge-
ment of the sphere of administrative and semi-administrative action even in countries intent on
remaining faithful to the basic imperatives of an economic system based on free enterprise, etc.

Such phenomena usually represent a veritable revolution in acquired habits and traditional
ways of life. They take the form not only of new activities, which appear alongside the old ones,
but also of changes in occupation, either spontaneous or imposed, and generally accompanied by
extensive demographic movements (rural exodus, urban concentration and so on). To some extent
they are inevitable; without them, the desired development would not have taken place. It is
therefore essential that men, who are assumed to be free agents, should endeavour to provoke
such changes and adapt themselves to them, and that everything should be done to diminish as far as possible the untoward effects of these upheavals. Here, again, the role of education is seen to be fundamental, whether it be a question of training an elite (innovators or merely imitators) whose decisions will play a decisive part in initiating revolutionary processes of development; of helping the bulk of the adult population of a given country to understand the nature and scope of the current changes and to make the necessary adaptations; or of providing the youngest and not yet economically involved social categories with such knowledge as will offer them a wider choice of possible careers by ensuring the maximum concordance between the capacities revealed and the requirements of the various professional activities which development connotes.

To supplement the preceding general remarks, a few observations more particularly applicable to the special problems confronting present-day Africa are called for.

As far as most African countries are concerned, their continent is at present engaged in two distinct but partly complementary processes: political decolonisation and economic transformation. Colonial or semi-colonial relationships have been abolished or weakened with the result that the decisions which were previously taken by the metropolitan authorities outside Africa now fall, in many fields within the competence of strictly local agents, particularly with respect to the macro-economy (public and semi-public sectors). It may well be, however, that such agents do not exist everywhere in sufficient numbers and with the requisite qualifications. It is true that the recruitment of foreign technicians can help to fill certain gaps, at least provisionally; but it is quite natural that the authorities now responsible for the political destiny of these peoples should wish to find locally and with the minimum delay, the experts necessary for the country's economic development and administration. Here again, then, the role of education is seen to be of fundamental importance.

Whatever may be thought of the forms and results of the action previously undertaken in this field by the former metropolitan authorities, it is an undeniable fact that accession to independence considerably increases the new States' needs in administrative staff and economic experts. Hence their general policy for education must be planned accordingly.

We shall now try to define the content of that education by analysing the various kinds of knowledge which, in the present political and social situation in Africa, appear to be necessary for the economic development of that continent. We shall then be in a better position to define, from the standpoint of the economist, the essential elements of a rational educational policy - a policy which can only be conceived as a constituent part of a plan of co-ordinated development spread over a sufficiently long period and suitable not only for territorial units considered in isolation but also for groups of an international nature.

II. DETERMINATION OF THE KNOWLEDGE INDISPENSABLE FOR ECONOMIC AND SOCIAL DEVELOPMENT

1. Problems of basic education

In Africa, as everywhere else, rapid or even accelerated economic development is incompatible with the maintenance of a high rate of illiteracy. Even if the innovations to be introduced into traditional practices amount to no more than the application of methods discovered and tried out abroad, to the local conditions it is desired to transform - if, in other words, the procedure adopted (wisely, we think) is to place the main reliance on the possibilities of imitation rather than on the positive contribution of the inventive faculties proper, the general dissemination of these methods is possible only if the various economic agents concerned are able to understand the reasons for the adaptations required of them and to exploit the resultant advantages both for themselves and for others.

Ever more efficient participation in ever more diversified economic activity, progressively extended to exchanges and placed on a monetary basis, is possible only through the acquisition of a minimum of knowledge, representing a kind of intellectual investment with which every man (and woman) should in principle be provided.
This must be the aim of what is known as "primary" education, which in its ideal form would be imparted on such a scale that no one would be deprived of its benefits. We would go even further and maintain that the absolute ideal would be that no one would be able to elude its benefits, i.e., that it would be made compulsory.

This is far from being the case of course, in certain African countries. Hence it is essential, first of all, to have a clear picture of the situation as it exists, and of the activities which it entails. Even in the absence of precise statistics, our present knowledge of this matter is sufficient to lead us to conclude that immediate efforts are necessary both in order to reduce the proportion of illiterates among the post-school-age population - those, say, over fifteen years of age - and to increase the percentage enrolment at schools of the "school-age" population, i.e., those who, in general, are between 5 and 14 years of age and who, according to the figures officially accepted by Unesco, may be regarded as constituting about 25% of the total population.

On this first point, the economists consider that the work to be done should, as far as possible, be regarded as a preamble to the application of vocational training techniques adapted to the needs of each of the main branches of activity in an economy entering the "take-off" stage - or, to put in another way, beginning a trend towards a rapid rate of growth (see below). It will probably be more logical and economical, wherever possible, to relate this "basic" education to what are known as "community development" activities, so that the sacrifices of time and perhaps of money required of those concerned will be seen as one of the factors in a general policy aiming at a rapid rise in living standards.

While the difficulties involved in their task must not be ignored, with the proportion of illiterates generally amounting to 80 or 90% of a population spread over extensive areas without any means of rapid communication, they should not serve as a pretext for reducing the volume of resources to be devoted to it. Though these resources are necessarily limited, the only point on which there could be legitimate hesitation is whether efforts should be dispersed geographically or whether they should be concentrated in areas regarded as particularly promising.

In cases where urban and suburban concentration, concomitant with (or even preceding) industrialization, is already more or less in evidence, the further point arises of whether efforts should be devoted first of all to the rural areas which are being abandoned by the inhabitants (perhaps in the hope that it will be possible to check or stop this exodus), or to the towns, which are becoming more and more populous, our view is that work should be done simultaneously in both. This is a matter, we feel, in which a comparison of the various points of view could not help being useful.

As to the steps designed to repair the backwardness in school enrolments, we consider them just as necessary and urgent. It is true that some countries are not nearly so backward as in this respect as others; as regards the African States South of the Sahara which were formerly administered by France, for example, the rate of school enrolment in some of them (e.g., Cameroun, Congo [capital: Brazzaville], Gabon, Madagascar, and Togo), could be considered (in 1957) as fairly satisfactory but was definitely lower, although not negligible, in the Central African Republic, Dahomey, the Ivory Coast and Senegal. However, the rate was extremely low in countries such as Chad, Guinea, Mali, Mauritania, the Upper Volta and particularly the Niger. The main reason for these variations is obvious: namely, the dispersal of settlements and the low average density of population. Hence the first obstacles to be surmounted were those created by the physical environment. This does not seem impossible, as is shown by the example of Madagascar; but there is a further difficulty due to the fact that the countries for which urgent and costly efforts are necessary are also those which, because of their relative poverty, are the least well endowed to meet this situation. It is in this connexion that foreign assistance can be particularly useful.

Total primary school enrolment in certain African States, with percentage enrolment as compared with the total population between the ages of 5 and 14 (adjusted according to the length of primary education for the last year for which statistics were available):
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<table>
<thead>
<tr>
<th>Country</th>
<th>Year</th>
<th>Total school enrolment (in thousands)</th>
<th>Percentage enrolment at primary schools (adjusted)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cameroun</td>
<td>1959-1960</td>
<td>371.4</td>
<td>78</td>
</tr>
<tr>
<td>Congo (capital: Brazzaville)</td>
<td>1957-1958</td>
<td>79</td>
<td>70</td>
</tr>
<tr>
<td>Gabon</td>
<td>1957-1958</td>
<td>38.8</td>
<td>66</td>
</tr>
<tr>
<td>Madagascar</td>
<td>1959-1960</td>
<td>364.2</td>
<td>47</td>
</tr>
<tr>
<td>Ivory Coast</td>
<td>1957-1958</td>
<td>125.7</td>
<td>33</td>
</tr>
<tr>
<td>Togo</td>
<td>1959</td>
<td>78.7</td>
<td>32</td>
</tr>
<tr>
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<td>81.1</td>
<td>31</td>
</tr>
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<td>1957-1958</td>
<td>45.8</td>
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<td>80.5</td>
<td>33</td>
</tr>
<tr>
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<td>1959-1960</td>
<td>79.4</td>
<td>19.7</td>
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<tr>
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<td>54</td>
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<td>1957-1958</td>
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<td>1957-1958</td>
<td>6.5</td>
<td>7</td>
</tr>
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<td>1959-1960</td>
<td>40.5</td>
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<tr>
<td>Niger</td>
<td>1957-1958</td>
<td>11.8</td>
<td>3.3</td>
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</tbody>
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Source: Statistics available to the Unesco Statistics Division (based on national publications and replies to questionnaires).

2. The acquisition of specialized knowledge

Elementary education on very broad lines needs to be supplemented by more practical training matching the new requirements of professional life. In the event of it being impossible to find sufficient economic agents among the local "human potential" with the qualifications required by the new structures of production and consumption, the economic and social changes now taking place in Africa might be impeded or fail to produce all the desired consequences. This applies mainly to the primary activities, namely, agriculture and the related occupations (stock breeding, hunting, fishing, forestry). In so far, however, as the current changes take the form of the emergence or extension of secondary activities (mining, power production, processing industries, transport) and tertiary activities (trade and services), new needs arise in these two sectors, which general educational work must try to meet. Let us discuss these points in fuller detail.

(a) In general, the main object of the modification of primary activities in African economic systems initiating a process of rapid growth is to transform the traditional peasant into a modern farmer. The latter has to have an extensive fund of knowledge. It is no longer merely a question of his working as his ancestors did, even though the techniques handed down to him could be regarded as having been completely adapted to the requirements of a natural environment over which man had little control; henceforward he is required to transform this environment by various means, such as water supply, drainage, fertilizers, mechanization, soil conservation and reconstitution, the improvement of animal breeds, the stocking and restocking of water courses (with Tilapias) and the redevelopment of plantations, including even late-yielding ones (oil-palms, acoumias, etc.).

He is also finding it increasingly necessary to broaden his economic outlook, limited in the past to those with whom he had direct dealings: the village pedlar, the bush money-lender, the retailer, the local purchaser of products intended for export. If his own business is not big enough to enable him to become a direct client of a large bank or an import-export firm, he will at least form more regular business relationships by becoming a member of a co-operative or mutual benefit society. He will need to be able to assess the rational economic conduct of his activities and take his own decisions "in full knowledge of the facts" instead of, as in the past, merely on a routine basis or in accordance with traditional or administrative rules. He has to familiarize himself with accountancy, be able to analyse his costs and work out at least the rough idea of his total profits. In short, he has to become not only an active participant in the economic life of his country but also an enlightened and conscious one. This is not possible unless
educational work is slanted in the right direction. Thus appropriate technical training is an essential aspect of a general plan for the modernisation of peasant life; and we therefore maintain that an important place must be reserved in any training of this kind, for the acquisition of the knowledge required for co-operative activities.

(b) The problems which arise in the secondary sector of economies in process of development are usually more difficult to solve than those just mentioned for the reason that most of the activities concerned - apart from that of mining and, to some extent, transport - are new, and the necessary manpower does not exist or has not been trained to perform the tasks created by the industrial revolution. The structural changes which are necessary for the "take-off" depend not only on the existence of adequate manpower but also on changes in production techniques. This presupposes the possibility of the simultaneously finding and training skilled workers, either by transferring workers from other occupations or by recruiting them from among an already existing mass of unemployed or virtually unemployed (i.e. those whose unemployment is more or less "disguised"), and inducing (or compelling) the other workers to accept the new occupations offered them.

Africa is in a much less favourable position than Asia, for instance, as regards available sources of unskilled manpower. A considerable mass of people in a more or less chronic state of under-employment exists, of course, in all the countries north of the Sahara (with the exception perhaps of Libya); but in general the situation is very different in the regions south of the Sahara, where the density of population is lower and "disguised unemployment" is probably less pronounced, mainly on account of the exigencies of seasonal crop cultivation and the importance of transport activities in countries covering very large areas.

Thus many of the countries concerned cannot afford to squander their rather limited manpower resources, which means that transfers from one occupation to another or from one locality to another need to be organized very carefully. And this makes vocational training and retraining specially important.

In this respect, we feel that the observations recently presented by the United Nations Economic Commission for Asia and the Far East in its report on the social aspects of economic development and planning in Asia and the Far East (see Economic Bulletin for Asia and the Far East, vol. X, no. 3, December 1959, page 22) are very applicable to most African countries. "When introducing new productive patterns", says the report, "the immediate difficulty may be that previous training and educational processes do not usually turn out an industrial worker. In a modern industry, the industrial worker has to be literate; often he has to be able to read blueprints; he has to understand the need for industrial discipline. Literacy is not only necessary for the successful adjustment of the labourer to factory work, it is also an important factor in his assimilation to more modern ways of urban life. Hence widespread illiteracy has been viewed as a serious obstacle to economic betterment".

The report nevertheless emphasizes that the extension of compulsory primary education and the perfectly legitimate desire to provide instruction for the entire population of a country, important as these ends may be for educational authorities in underdeveloped countries, should not consume an incommensurate amount of available means and energies. "From a development point of view, some more specific educational tasks should be given a higher priority, and this consideration applies probably in the first place to agricultural extension services". In our own view, however, these words must also be applied to the industrial sector in process of formation or transformation (particularly by the substitution of mechanized enterprises for manual and handicraft activities).

For certain African countries both north and south of the Sahara, these are all problems which need to be considered not only by experts on development but also, and more particularly, by the public authorities responsible for defining and executing an educational policy satisfying the requirements of the development in view.

(c) A special point might usefully be made as regards tertiary activities. In any economic system (free enterprise, collectivism with or without centralized planning, composite systems), the so-called "distribution" occupations must be given an importance corresponding to the nature
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of the products to be disposed of, as well as to the development levels already attained or likely to be attained in the future. Changes in the established commercial structures will probably prove necessary, particularly if the public authorities concentrate at one and the same time on improving the efficiency of types and forms of activity which are more prone than others to provide a field for a certain kind of parasitism, and on reducing the rôle of foreign agents and firms in the interests of a truly national commerce (which in no way implies State control). It would also be necessary, however, for the new social classes in the country concerned to produce intelligent and efficient tradespeople within a short space of time or for those who have abandoned the traditional fields of activity to begin to develop a vocation for new occupations.

Here, also, an appropriate educational policy should be able to facilitate the necessary transitions. If we labour this point, it is because we have often noted at first hand the dangers which arise when a desire for change is officially announced before the techniques necessary for its introduction have been properly worked out or have had the requisite amount of time in which to prove their efficacy.

These remarks do not apply exclusively to the commercial sector: in our view, they are also valid for all tertiary activities, which, as is well known, are extremely varied. As stated in the above-mentioned ECAFE report, "a further educational task is to train skilled personnel, technicians, foremen, medical assistance, and so on, who have already proved to form a serious bottleneck in many developing countries". Such training - at least for the occupations requiring high qualifications - must certainly be given at a higher level than that of universal mass education. In co-ordination with the latter, it calls for immediate action at the technical and higher educational levels, provided, of course, that due regard be had to the cost, and that the results are likely to justify the efforts undertaken.

3. The training of entrepreneurs and administrative staff

For Africa, as for the other continents, the initiation of a process of rapid economic growth calls for organizers who are able to show initiative, assume responsibilities and gain acceptance for the necessary innovations, i.e., who are able to act as pioneers and guides. Failing men of this stamp the break with well-established traditions would be unable to produce positive results.

What makes the need to form such an élite all the more imperative is that the corresponding responsibilities were performed throughout the colonial period by the colonizing countries' agents, and that on the latter's departure there was often not enough local staff, or sufficiently qualified local staff to replace them.

These remarks apply to the strictly private sector as well as to the administrative sector. If one of the fundamental options of the new governments is exercised in favour of maintaining an economic system based in principle of free enterprise, it is essential that entrepreneurs should already be available, or at least that the necessary talents and capacities should be free to act without too much delay. It would be dangerous, for the political and social stability of a newly independent State, to rely exclusively on foreign firms for conducting the fundamental economic activities.

In our view therefore, special attention would need to be given to providing instruction concerning the problems involved in the creation and administration of modern economic enterprises. It may, of course, be considered that many of these enterprises - particularly those of an agricultural nature - will be on the small side and that there is no need to provide for instruction at an exceptionally high level. The training of good farmers has to be regarded as part of a general rural policy, as already indicated; but the requirements are bound to be much greater when it comes to training leaders in the industrial, commercial or other professions of the tertiary type (banking, insurance, etc.).

The administrative sector also calls for special attention. The rôle of the State in economic and social development, even under systems most open to private enterprise, is fundamental, and concerns not only the actual or potential rulers, whose number need not be considerable, but also, and above all, the officials of the various public administrations as well as the agents of a whole series of public and semi-public enterprises, particularly those whose aim is to contribute
directly to the launching and acceleration of development. In so far as such development is based on plans or programmes, it will obviously be essential, before anything else, to provide for the training of men who will be able to establish and execute those plans and programmes at all levels of administrative action. It is likely, at the initial stage, that the co-operation of foreign experts will enable the most serious gaps to be filled, and that the training of national technicians will have to be conducted abroad, at least for the most advanced levels.

III. THE RATIONALITY OF EDUCATIONAL ACTION

It will be useful, at this juncture, to make a number of points concerning the more specifically economic aspects of educational activity in connexion with various African countries.

We shall proceed from the thesis that the African masses are moved by a deep desire for knowledge. The satisfaction of this perfectly legitimate desire is one of the essential conditions for the improvement of living standards through economic development, but although it may not appear so, it involves a heavy outlay even where the cost seems to be nil. In other words, it can be ensured only through the utilization of productive resources, both material and human, which have to be diverted from other possible employment. This corresponds to the economists' concept of (opportunity) cost expressed in actual (i.e., non-monetary) terms; and the sacrifices required by the exercise of this "teaching function" become increasingly heavier the greater the resources which have to be devoted to it.

It is therefore essential to know (1) whether what might be called an optimum volume of resources to be devoted to education can be determined, having due regard to the urgency and importance of the needs to be satisfied and the limits of the resources available for that purpose; and (2) what procedure should be followed in order to derive the maximum benefit from those limited resources, or, more precisely, the extent to which it seems desirable to draw up a kind of general programme of educational activities so as to eliminate waste and overlapping and co-ordinate the extension of those activities with the gradual progress of economic and social development.

Let us examine these two points in turn.

1. The place of educational activity in the economic field

Before asking ourselves what this place should be, we should try to specify what it is today, and this, we hope, will be one of the tasks accomplished by the Addis Ababa Conference.

One outstanding difficulty here, however, is to establish statistics, for it is not simply a question of noting the sums allotted to "national education" in the budgets of the States concerned; we also have to ascertain whether sums for similar purposes are provided under other items or in other budgets (secondary communities). In addition, account has to be taken of the sacrifices made for the benefit of private education in all its forms, and this may raise difficult problems of inventorization (particularly as regards tracing the sums provided by the enterprises themselves for technical and vocational education) as well as of evaluation (e.g., in determining the amount of the "normal" - but often fictitious - remuneration of teachers belonging to religious bodies).

Moreover, part of the costs of education, for a fair number of the countries concerned, is directly or indirectly covered by foreign aid (financial or other, and both public and private). Such costs must naturally be included in a general inventory of the situation.

It is quite clear, in any case, that by and large the sum-total of these efforts, however praiseworthy they may be, falls very far short of existing needs. A fairly long period must elapse before the rates of adult literacy and school enrolment in most of the African countries attain satisfactory levels, i.e., rise well over the 50% mark and progressively advance towards the 100% target.

This indicates the important and even privileged place which education must occupy in African economic life as a whole. The rapid extension of this activity is dictated by the necessity of enabling the African peoples to take an active part as soon as possible, in the economic development
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of their continent, and the desire to meet the special needs arising from the fact that ever larger numbers of children are reaching school-age as a result of the high rate of population increase.

On the strength of what we know on this score, through demographic surveys or recent censuses, we can state that the population of the entire African continent both north and south of the Sahara is increasing, with a few exceptions, at a rate comparable to that in most of the Asian and Latin American countries, i.e., by 2-3% a year. The result is that the proportion of children to the total population is extremely high, and that the costs of properly maintaining and educating these children constitute a burden for the "active population" categories which is all the heavier inasmuch as these categories are relatively less numerous and have limited resources, in general. It would be possible to get an idea of the magnitude of these costs by expressing them in per capita units of annual production (gross or net).

Taking these points into consideration, we feel that the conclusions to be drawn by the economists concerning the present problems of education in Africa are as follows:

(a) The urgency and vastness of existing needs are such that all possible efforts, both public and private, will be welcome not only within the framework of "basic education" but also through the channel of actual enterprises wherever they are able to devote part of their resources to the vocational training and technical improvement of their staff. However, these various efforts, as will be explained later, will obviously have to be co-ordinated.

(b) In the case of many of the countries concerned, the resources to be devoted to immediate educational activity are not likely to be found locally. While foreign aid will facilitate the solution of this problem as far as both staff and finance are concerned, it is clear that such assistance will be completely effective only if it forms part of general educational programmes, themselves devised as part of a general policy for economic and social development.

(c) Increased educational activity implies more or less important investments in the immediate future in buildings (schools and universities) and in material (laboratory equipment, office supplies, etc.), and the existence of trained teachers and adequate financial resources to ensure the regularity of operations. It is possible that the initial investments can be made with help from outside, while it also seems possible to count on certain contributions in kind from the peoples concerned; in countries characterized by seasonal employment, the slack season could very profitably be devoted to the construction of schools and the production of school materials (those not requiring large-scale imports).

(d) Regular educational activity in most African countries whose economic systems are being increasingly monetized raises financial problems which cannot be discussed here in detail despite their importance: establishment of teachers' pay scales, housing conditions, the organization of working conditions and time-tables so as to draw the maximum benefit from the sums expended, etc.

Another aspect of the question is whether education should be provided free of charge to all those for whom it is intended. For Africa, as for all other parts of the world, the answer must certainly be in the affirmative as far as "basic" education is concerned. This raises budgetary problems in respect alike of public education and the possibility of granting public assistance to private education. The extension of the principle of free education to other branches of instruction (technical, secondary, higher) must also be considered in the light of social needs (relative poverty of the peoples concerned) and economic possibilities (development levels which are still fairly low). This study may lead to contradictory conclusions which will have to be reconciled, however difficult this may be.

2. The inclusion of educational activities in a general policy for economic and social development

The urgency of the existing needs and the extremely limited nature of available resources argue irresistibly in favour of general action to identify the various needs and determine their respective order of priority, define the results to be expected from the various activities undertaken or envisaged, and choose between the alternatives as rationally as possible. Since it is impossible to do everything at this moment, what is the best solution, having regard to the end in view and the available resources?
And this brings us to the problem of educational planning or at least of programming - a problem, we feel, which cannot be evaded, for it would not be sufficient in our field to rely on the pointers provided by a hypothetical "labour market" as a guide for the decisions that have to be taken. Some of these decisions, in any case, can only be taken at governmental level, and will be decisive for every future stage of the given country's economic development.

Once agreement is reached on the principle, all action taken to derive the maximum benefit from the limited resources available should be concentrated on two fundamental tasks:

(a) The identification and delimitation of these resources. The various activities undertaken are complementary by their very nature, and need to be co-ordinated; none of them can be sacrificed in practice to the others, except where they fail to reach a level of minimum importance (higher education for small countries being a case in point).

Co-ordination efforts are therefore essential in order to avoid doing too much in certain fields and not enough in others, for this would result in wastage and also create "bottlenecks". Nor should such co-ordination be confined to educational activity; it should also aim at enabling educational progress to go hand in hand with that of other branches of activity. In Africa, as in the whole of the tiers monde, the main object of education is not to teach men for teaching's sake but to enable them to participate more effectively in the development of their respective countries. In other words, educational policy must be related to the question of employment. What would be the good of training specialists, for instance, if they were without the possibility of making immediate use of their competence? Such a "human investment" would be merely illusory and simply serve but to aggravate the social tensions which economic development aims at eliminating.

That is why it is essential to make education a fundamental part of a general development programme, particularly in countries opposed to the idea of giving the State the exclusive right to take the main decisions regarding steps to promote economic growth. It would therefore be wrong to counterpose "human investments" and "directly productive" investments and activities; both must be promoted simultaneously and in such a way as to ensure the mutual consolidation of their results.

It is perhaps still too early for most African countries to consider the creation of veritable "patterns of growth" able to serve as a basis for applying this strategy, for such patterns presuppose a thorough knowledge of economic realities and especially those aspects of them which can be expressed in terms of quantity. It is only with the utmost precaution, however, that the techniques of national accounting can be applied to countries which have barely embarked upon a process of diversified and self-sustained growth.

(b) The second point which could usefully be discussed is the assessment of the results to be expected from increased educational activity to the countries concerned. The experience of the countries which have today achieved wealth shows such activity to be very profitable and to lead to increased effectiveness on the part of all other types of investment. Wherever material capital is particularly limited and to the extent that it is replaceable by manpower, educational activity can also make it possible to economize in this rare factor and to exploit the "human capital" more completely once it has been duly constituted to meet the new tasks demanded of it.

In this way, evaluations could be attempted, on the basis of information obtained through the most exact observations possible, of the probable repercussions of certain educational expenditure on the evolution of the national product. It might then become possible to use the now well-tried technique of "projections" so as to correlate estimates of demographic trends and manpower training programmes. The qualitative and quantitative adjustment of manpower supply to future economic needs is certainly one of the key tasks of those responsible for economic and social development. It calls for continuous and co-ordinated long-term action, and it is therefore high time to consider it in connexion with Africa.
If judged by genetic intellectual endowment only, at least 5 per cent of all children can get a Bachelor's degree at British university level, at least 20 per cent can benefit from secondary grammar school education, and 99 per cent should go through primary school. Many educators (this writer included) would place the first two percentages higher, and many of the developed countries do indeed provide university education for more than 5 per cent, and secondary education for more than 20 per cent.

Poor countries do not provide this quantity of education if only because they cannot meet its cost. To provide facilities for these numbers in public schools would cost 4 per cent or more of annual national income, even if teachers and building could be made available. Since the governments of some poor countries do not raise even 8 per cent of national income in taxes or other revenues, they have to set less ambitious targets.

The problem is how to choose among different levels of education, when the budget is restricted. Many of the newer governments have given absolute priority to primary education, at the expense of secondary education. University education is also popular, while technical education and adult education (especially agricultural extension) tend to be neglected.

One principle of choice which has been advocated is to give high priority to education in so far as it is required for economic or social development, and to give low priority to education which merely increases satisfactions without increasing productive capacity. For example, while it is desirable that cooks, farm labourers, porters and barbers should learn to read, so that their experience of the world may be broadened, nevertheless teaching them to read adds little to their productive capacity in such occupations. The money spent on teaching a cook to read might equally be spent on giving him a health service, or a bicycle, or better housing, or some other consumer goods. This kind of education accounts as a consumer good, and competes with other consumer goods; whereas education which increases productive capacity has an investment potential as well as consumer advantage.

This paper does not pass judgement on the choice between consumer and investment education, or between education and other expenditures. This writer as it happens, believes that any country can afford to spend 4 per cent of national income on education if it wishes to do so, but the case is not argued in this paper. The present purpose is confined to illuminating the question: how much education, and of what kinds, does a community need for development purposes? Whatever may be the merits of other questions, this question is sufficiently difficult and important to merit separate treatment.

THE CONCEPT OF ABSORPTIVE CAPACITY

The question how much education is needed implies that there are limits to the capacity of a country to absorb even the kind of education which adds to productive capacity. It implies that the need even for investment types of education springs from the level of development of the community, rather than that the level of development will depend upon the supply of education. For if the latter were true, the community would be capable of absorbing any quantity of education, however large, on the ground that the more educated it is, the faster it will develop.

Here we must distinguish between the short run and the long. In the long run the community can absorb any quantity of education. In the short run an over-supply of any category of educated people leads to unemployment in that category. The significance of this depends on the extent of the unemployment. An over-supply of university arts graduates in India in the 1930's, and an over-supply of lawyers in Latin America during the same decade were frequently alleged, with political as well as economic consequences. Currently in parts of West Africa there is an
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over-supply of primary school graduates. This arises because the smallness of the number receiving primary education in the decades up to 1950 has created an expectation among primary school leavers that they will get well paid jobs as clerks in towns. When governments suddenly decide to increase the number of children in primary schools from say 20 per cent to say 80 per cent in say ten years, the consequences of this expectation can be overwhelming. Primary school leavers flock into the towns faster than the towns can increase their employment opportunities, houses, water supplies, transport or other facilities. Slums multiply, juvenile delinquency begins to reach alarming proportions, and political stability is threatened. If education creates expectations of urban employment, an over-rapid spread of education may well create insoluble problems through over-rapid urbanization. A change in the school curriculum is an important but not a decisive answer, since the children's expectations derive not so much from the school curriculum as from the past history of school leavers, in the days when the number of school leavers was much smaller.

A surplus of educated persons tends to be self-adjusting through the reactions it sets up:

(a) some of the educated may emigrate;
(b) some may use their education in new ways, thus increasing productive capacity;
(c) some may lower their sights and move into less remunerative employments than they had expected;
(d) the educational requirements for some occupations may be raised; or
(e) some of the educated may effect political changes which accelerate the rate of development.

Each of these reactions must be taken into account in attempting to assess absorptive capacity.

As to the first, in some countries with poor natural resources, such as Scotland or the West Indies, emigration is regarded as a natural outlet for the population, and emigrants may be assumed to have the same rights to education as other members of the society. The cost of their education is a gift to the countries to which they migrate, except in so far as the emigrants send back remittances.

Failing migration, if there is an educated surplus which cannot find the employment it expects, its members will have to try to make the best of the opportunities available to them, and some of the more inventive spirits will create new opportunities which increase productive capacity. The primary schoolboy, who had hoped to be a clerk, will return to his father's farm, and applying his awakened mind and literacy, may start innovations which, when adopted by his neighbours, greatly increase farm output. The university graduate who does not get the expected government job may open a business of his own, which ultimately provides much employment for others. This is a warning against trying to measure absorptive capacity merely by counting the actual or expected number of vacant jobs. On the other hand, since the proportion of inventive spirits is small, this argument justifies the creation of a small, but not of a large educated surplus.

The most important adjustment which occurs as education spreads is that the premium for education diminishes. In a community where most people are illiterate, the primary schoolboy commands, merely because he is literate, a wage much greater than the income of the average farmer; and the university graduate, who, in a well educated community, starts his career at a salary not very different from the average miner's wage, may in an illiterate society expect and receive five times a miner's wage. As the supply of the educated increases, this inequality of earnings diminishes, to a chorus of protest and grumbling from educated people who find their material privileges diminishing. There may also be serious political consequences, to which we refer in a moment.

The decline in the premium for education, coupled with fear of unemployment, forces some of the educated to lower their sights and to be willing to accept jobs which they had thought would be beneath their dignity. At the same time, a lower price and greater availability make it possible for employers to raise the educational requirements for some of the jobs they offer, and this may increase both the quantity and quality of output. For example, where doctors are scarce, many tasks are assigned to medical assistants (nurses, pharmacists, technicians) which would elsewhere be done more expertly by doctors. Repair services are poor in underdeveloped countries partly because operations are assigned to mechanics which would elsewhere be done by
trained engineers. The educational requirement for teaching in primary schools is raising all the time; having once been only a primary school leaving certificate, it has now, in some American cities, been elevated to an M.A. degree. The market for university graduates has expanded enormously in recent years because governments and business men now increasingly demand a Bachelor's degree as a prerequisite for administrative jobs which were formerly satisfied by a secondary education. This is the most important qualification to the concept of absorptive capacity. Ultimately a society can absorb any number of educated people, by raising the educational requirements for some jobs, and presumably in the process increasing the quantity or quality of service performed. However, since this kind of adaptation takes time, much social disturbance is produced if the output of the educated substantially exceeds the demand at current prices.

Because the spread of education reduces the inequality of incomes, the grumbling of the educated is a universal phenomenon. Expectations of monetary income and of social prestige are constantly frustrated. If the educated surplus is large, this grumbling may crystallize into political action, promoting fundamental social change. This is well recognized, and is one reason why social classes who base their superior status on birth or ownership are usually anxious to keep the number of persons educated well within the limits of absorptive capacity. Where fundamental social change is necessary for development it is possible that by producing educated numbers far in excess of absorptive capacity one may ultimately create a new situation in which a revolutionary increase in absorptive capacity has occurred. However while this may be one of the ways in which a community can in the long run absorb any number of educated persons, it does not enter into the short run assessment of absorptive capacity.

THE MEASUREMENT OF ABSORPTIVE CAPACITY

The starting point in any assessment of educational needs must be a count of existing resources. This is done most comprehensively by a population census, showing people by occupations and by industries. In the absence of a recent census, or if more detailed information is needed than the census gives, a manpower survey can be made, either comprehensively or on a sampling basis.

The next step, the assessment of additional needs, is not so easy. One can ask potential employers what vacancies they have, or how many additional persons they wish to employ during the next two years, or how many they would employ if more trained people were available, or if the cost of employing them were not so high. Such hypothetical questions receive hypothetical answers, and the sum of these answers may not come close to true absorptive capacity. Nevertheless, it is sometimes better to have some information than to have none.

Such information as becomes available can be utilized and checked by reference to a simple formula for deriving the number of persons required to be recruited into any occupation in any year:

\[ r = \sqrt{a + (1+b)(1+c) - \frac{d}{1+d}} \]

where

- \( a \) = required annual recruitment as a percentage of the numbers now in the occupation;
- \( b \) = percentage annual rate of retirement of the existing membership;
- \( c \) = percentage annual rate of growth of the adult population;
- \( d \) = desired percentage annual expansion of this occupation relatively to others;
- \( d \) = percentage annual wastage of new recruits.

Existing membership of the occupation diminishes annually through marriage, migration, change of occupation, death, age and other causes of retirement. However, we shall illustrate this formula with figures relating to university graduates (and persons of equivalent training), and the figures we shall use relate not to the number of graduates gainfully occupied, but to the number in the adult population, whether occupied or not. Hence the causes of retirement are restricted to emigration and death, and the value of \( a \) is substantially lower than it would be if other causes, such as retirement of women after marriage, had to be taken into account.

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Another factor to be noted is that in communities where a large proportion of university graduates are expatriates on short contracts, the value of \( a \) is specially large. Thus for university graduates the current value of \( a \) may be 10 per cent in Nigeria, whereas it is probably only about 3 per cent in Jamaica.

The term \( b \) is introduced to keep the proportion of the adult population in any occupation constant. Its value in sub-Saharan Africa is about 1.5 per cent, accelerating towards 2.0 per cent.

The term \( c \) takes account of the fact that occupations change their relative importance. Here we allow for the development of the economy, in terms of growing national income per head, as well as for those factors noted in the preceding sections which increase absorptive capacity. The kind of information one gets from a manpower survey, in which employers indicate their intentions, is assessed and inserted here. The ratio of graduates to adult population increases continuously if economic development is taking place. An annual increase in the ratio of graduates of about 2 per cent seems normal in developing economics. For other occupations, such as carpenters, one relies more heavily on what one gathers about intentions, such as intended building activity. (The value of \( c \) may be negative.)

Finally, account must be taken of the wastage of the recruits themselves through marriage, death or other causes. If the recruits had the same characteristics as existing members of the occupation, \( d \) would have the same value as \( a \). If the average age of the recruits is lower, \( d \) will be smaller than \( a \) for short run calculations though it will approach \( a \) the longer the period one takes into account. If there is a large proportion of expatriates in the occupation, but one is trying to calculate how much education is needed if the proportion of expatriates in recruits is reduced, \( d \) may be significantly smaller than \( a \).

Using this formula, one may make guesses as to the number of university graduates required annually in Nigeria, Jamaica, the United Kingdom and the United States of America, as a percentage of the existing number of graduates in each of these countries.

In Nigeria, \( r = \sqrt{10 - (1.015x1.02) - 1.03} \times 1.03 \approx 13.9 \) per cent

In Jamaica, \( r = \sqrt{0.03 - (1.025x1.02) - 1.02} \approx 7.7 \) per cent

In U.K., \( r = \sqrt{0.015 - (1.005x1.02) - 1.015} \approx 4.1 \) per cent

In U.S.A., \( r = \sqrt{0.015 - (1.015x1.02) - 1.015} \approx 5.1 \) per cent.

If one knows the number of persons in the occupation, and the number of persons in the age cohort from which the occupation is normally recruited, one can calculate what proportion of the cohort should be recruited into the occupation in each year. For the purpose of international comparisons it is more convenient to express the first two quantities as proportions of the adult population. The formula is then

\[
e = \frac{r \times n}{m}
\]

where

- \( e \) = proportion of age cohort to be recruited;
- \( n \) = ratio of number in the occupation to adult population;
- \( m \) = ratio of number in relevant age cohort to adult population.

The ratio of university graduates (or equivalent professions) \( n \) to adult population is about 0.6 per thousand in Nigeria, about 5 per thousand in Jamaica, about 16 per thousand in the United Kingdom, and about 70 per thousand in the United States (45 per thousand in 1940).
Thus the proportion of the age cohort which should finish university (or equivalent) education may be calculated as follows:

In Nigeria, 
\[
e = \frac{.138 \times .006}{.04} \approx 0.3 \text{ per cent (about 1,400 persons annually)}
\]

In Jamaica, 
\[
e = \frac{.077 \times .005}{.035} \approx 1.1 \text{ per cent (about 330 persons annually)}
\]

In U.K., 
\[
e = \frac{.041 \times .016}{.07} \approx 3.3 \text{ per cent (about 23,000 persons annually)}
\]

In U.S.A., (1940) 
\[
e = \frac{.051 \times .045}{.028} \approx 8.2 \text{ per cent (about 191,000 persons annually)}
\]

(Checks: the number graduating annually in the U.K. is about 25,000 (including graduate equivalents); the number in the U.S.A. in 1940 was 187,000.)

These calculations show absorptive capacity for university graduates varying very widely, from one-fifth of 1 per cent to over 10 per cent of the age cohort. Two factors principally account for these differences.

One factor is the current level of national income per head. At the lowest levels the great bulk of the population is engaged in subsistence farming in villages, and has very little use for the services of graduates. The use of graduates rises rapidly with urbanization.

The other factor is the rate at which economic development is taking place. This is reflected in the value of \( c \), which can account for as much as half of the demand for graduates. The importance of \( c \) explains why the state of the market for graduates can alter swiftly, so that a rate of output which creates surplus in one decade may be associated with shortage in the next. It is also because of \( c \) that one cannot deduce what proportion of the cohort should be recruited (e) merely by knowing what proportion the existing number is of the adult population (n). The proportion of the annual increase is always larger than the proportion of the existing stock.

BALANCED EXPANSION

The number of persons required in one occupation is usually related to the number required in some other occupation or occupations, whose members work in association. Thus there is a working relationship between the number of doctors and the number of nurses; of agricultural graduates and agricultural assistants; of engineers and mechanics; and so on.

The ratio of subordinates to their immediate supervisors (for example of high school graduates to university graduates) tends to be around five to one, but this ratio is very flexible, since it can be adjusted by delegating more or less work from the supervisory to the subordinate grades.

Given the high cost of training the superior grades, it is sometimes suggested that the poorer countries should concentrate on multiplying the numbers in intermediate grades, and use these as partial substitutes (increasing the ratio say towards 7 or 10 to 1). Thus the villages could be flooded with medical assistants, dental assistants, agricultural assistants, and mechanics instead of the country trying to produce more doctors, dentists, agricultural officers or engineers.
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If the ratio of subordinate to supervisory grades is to be increased, the subordinate grades will have more responsibility, and therefore need better training. On the other hand, because of the same pressure to multiply numbers, there is also a demand for quick training, for shortened courses, and for a lowering of the entrance requirements and of examination standards; so staff is turned out with more responsibility but less training. Where money is short, the claims of numbers and of quality usually conflict.

A crash programme to multiply numbers with reduced standards is a common feature of the programmes of new governments, when they first attain power, because these governments are conscious of the backwardness of rural areas, and are anxious to provide even attenuated services over as wide geographical areas as possible. Programmes of accelerated training may be applied not only to subordinate staff, but even to the professions - doctors, engineers, and so on. There is greater resistance to applying such programmes to the highest levels of skills, partly because national pride resists a lowering of professional standards, and partly because it is arguable that if the subordinate workers are to be less well trained, the supervisory workers need to be all the more carefully trained. All the same, in many cases professional standards are set unnecessarily high, for the routine work that is done by most members of the profession in a poor country. For example, it is much cheaper to produce university graduates with "general" degrees, or the American "liberal arts" training, than it is to produce "honours" graduates of the British type, and since the general degree is perfectly suitable for most of the teaching done in secondary schools, it is unnecessary for African universities at this stage to aim at producing the same percentage of honours graduates as British universities. Nevertheless, however justifiable crash programmes may be in education, in practice they are a temporary phenomenon. Pretty soon pressure builds up to improve the training of personnel, and to increase the ratio of high level posts. The general trend of education is to raise the standards demanded at all levels. Deterioration may be sanctioned temporarily, but the upward movement soon sets in again.

The ratio of supervisory to subordinate workers on the job is not necessarily the same as the ratio of supervisory to subordinate numbers in training. For one thing, the two ratios could coincide only if the ratio of numbers on the job was in equilibrium; if for example there is a shortage of subordinate workers, the proportion of subordinate workers being trained needs to be greater than the proportion on the job. However, even if the ratio on the job were correct, there might be a different ratio in training because of the problem of selecting persons for high level training.

Consider the selection of university students. Suppose that it is decided that one per cent should receive university education, to how many must one give secondary education in order to find the one per cent who are to receive university education? This depends on methods of selection. If one could test students reliably at age eleven, the answer would be that, as far as this purpose is concerned, one need give secondary education only to one per cent. Or, if entry to secondary schools is random, from the intellectual standpoint, one has to put between 10 and 20 per cent of children (according to one's estimates of intellectual endowment) into secondary school in order to find the one per cent to whom to give university education. Indeed, if for any reason entry to secondary schools was biased against intellect, the secondary school entry would have to be even larger. The slope of the "pyramid of education" must take into account how good the selection methods are.

The selection methods in the poorer countries are not good. Primary and secondary education are provided on a fair scale in a few towns, but the bulk of the children in rural areas do not have the same opportunities. If the top one per cent of the educated goes to university this is not the same as the top one per cent of the country's intellect; whereas in a rich country the expansion of the universities reduces their average intellectual level, in a poor country the expansion of the universities may actually increase their intellectual level, if it is done by making provision to bring in students of high intellect who did not previously have the opportunity.

In practice, the slope of the educational pyramid in the poorer countries depends neither on ratios on the job, nor on selection ratios, but rather on the ability and willingness of parents to pay for education. If the government fixes the ratios of secondary to primary places at five per cent, but parents of 10 per cent of children want secondary education for their children, the pyramid soon becomes 10 per cent, either because of the growth of private secondary schools, or because influential parental clamour forces the government to provide more secondary places. If the government provides no university places, some parents send their children to universities
in foreign countries. Currently in the poorer countries, parents of about 10 per cent of the children who enter primary school want them to go on to secondary school. So if the ratios of children in primary schools is 20 per cent, secondary places are needed for two per cent; if it is 100 per cent, secondary places are needed for at least 10 per cent. These ratios are changing all the time, and vary from place to place.

Since the poorer governments cannot provide the full super-structure of education which goes with having 100 per cent of children pass through primary school, those who make compulsory primary education their first priority are asking for trouble, and get it. Their budgets are strained by teachers' salaries, their towns are disordered by the influx of primary school graduates seeking clerical jobs, and their lives are harassed by irate parents demanding secondary, university and other superior training facilities to which similar priority has not been accorded.

If one considers only the investment aspects of education, the typical country of sub-Saharan Africa might set as its first target 50 per cent of each age cohort of children in primary school, five per cent in secondary school, and 0.5 per cent in university. Each of these figures is considerably higher than current average performance. When this first target was achieved, its second target would be 100 per cent in primary, 10 per cent in secondary, and one per cent in university. Thereafter secondary and university would expand in step as fast as resources allow. Even the first target would cost the government about two per cent of national income.

In the preceding paragraph "secondary" education means education of the grammar school type, and the figure given for university education does not include other forms of higher education, short of university level. These figures are given not comprehensively but selectively; other forms of secondary and of higher education must be added in appropriate balance.

To begin with, it is necessary to add at the secondary level facilities for technical training, into which will pass some of the 80 to 95 per cent of primary school leavers who do not go on to secondary grammar schools. Much has been written on the importance of providing an adequate technical foundation - whether agricultural, industrial, or preparing for household arts - in the primary school curriculum itself; and, as what used to be called "elementary" education has overlapped with "secondary" education, this has extended into experimentation with "technical streams", "secondary modern schools", and "comprehensive schools". However, a technical bias in one's basic education is not a substitute for technical training after leaving primary school.

A developing African community will need to have from two to 10 per cent of its adult population skilled in the building trades, metal trades, and engineering trades. There is no substitute for apprenticeship as a preparation for these trades, but apprenticeship needs to be supplemented by some full-time and a number of part-time courses in trade or technical schools. About as many pupils should enter such schools each year as enter grammar schools; a target of five per cent of the age cohort doing full-time courses is by no means excessive.

There is just as great need to offer full-time training to farmers' sons, who number nearly half the boys leaving school. These should be encouraged to return to their farms for two or three years, and at age eighteen to enter farm schools for a year's practical training. Most African countries do not have this facility; they train a small number of agricultural assistants for the governments' extension programme, but do not offer facilities for training young people who want to be efficient farmers.

In the same way that there must be a stream from the primary schools to technical schools, so also there must be a stream from the secondary grammar schools to post-secondary institutions. One of the chief deficiencies of underdeveloped countries is their failure to make adequate provision of secondary and post-secondary education (other than in universities). Economic development requires only a very small number of graduates, and it can proceed quite rapidly despite a surprisingly high level of illiteracy. What is fatal is a shortage of intermediate personnel. Where five per cent of children go through secondary school, with 0.5 per cent going on to university, a high proportion of the other 4.5 per cent needs to go on into other educational institutions to train as nurses, medical technicians, primary school teachers, agricultural assistants, technicians, foremen, secretaries, or in other intermediate skills. Any balanced educational programme must provide considerable resources for training at this level.
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Absence of a university in the territory is not fatal to a small country, since it is cheaper to send students to universities in Europe than it is to train them in small universities at home. To be economic, a liberal arts schools of the American type needs 500 students, while a British type combination of Faculties of Arts, Science and Social Science needs about 1,200 students. Medicine to be economic needs 300 students and agriculture and engineering need 200 each. Most of the new universities founded in Africa since the war have cost their countries two to three times as much per student per annum as it costs to maintain a university in Europe. The larger African countries need universities of their own, but the smaller African countries would be wiser to share university facilities on a regional basis, where this is feasible. (As a rough guide, in an African country of 1,000,000 inhabitants, the number of persons aged 21 is about 20,000. If 0.5 per cent of these go to a university, the university will have only about 400 students.) The most important economic advantage of having a university on the spot is that one assembles in the teaching staff a group of scientists and scholars who do research on local problems, and play a part in the life of the community. This justifies spending more than it would cost to send the students to foreign countries; but these same advantages can be achieved by establishing universities on a regional basis, at least in the beginning while the number of students involved is still small.

Finally, no programme is balanced which neglects adult education. In sub-Saharan Africa 80 per cent of the adult population is illiterate, but can nevertheless be reached through systems of agricultural extension, health education and other forms of community development. It is not reasonable to make a fetish of literacy while neglecting what the illiterate can do. Japan showed, before the First World War, that through agricultural extension illiterate farmers could be taught to double their productivity over 40 years. For this one needs to put into the field one agricultural assistant for about every 700 farmers, which is four or five times the number now serving in even the more advanced sub-Saharan countries. Investment in practical forms of education for illiterate adults in the countryside is likely to be more productive than similar expenditure for illiterate children in the countryside - at any rate until such time as there is a drastic change in the curricula and effectiveness of rural primary schools. However, this comment is not intended to encourage the "either-or" approach to different forms of education. The question "which should have priority" is irrelevant. All forms of education have some priority; the heart of the problem of planning is to balance the various forms in appropriate proportions.

EDUCATION FOR AN INDUSTRIAL SYSTEM

An industrial system makes demands on human personality rather different from those made by farming on one's own.

For example, the rhythm of work is different. In agriculture, one has short bursts of intense activity from dawn till dusk, associated with planting or with harvesting, followed by long periods of idleness or leisurely activity, in the seasons unfavourable to agriculture. In industry, on the other hand, one is expected to work at an even pace for eight or nine hours every day for five or six days of every week. Nobody likes this: it is a discipline which one has to acquire.

Again, on the farm, one works as one's master, in a variety of activities, making numerous decisions. In the factory, one works under supervision, doing exactly what one is told to do, and acting merely as a cog in some very complicated mechanism, making perhaps one knows not what, to sell to almost certainly one knows not whom. An industrial community is a much more complicated organism than a farming community; more deeply intertwined, yet more impersonal. One has to learn how to find one's way.

Greater precision is demanded in industrial life. The exact hour of the day never matters on the farm; clocks were invented in towns. Time is of the essence of many industrial processes, and new habits of punctuality must be learnt. In dealing with nature, too, precision is not so important. If one damages a tree, it will heal itself. If one forgets to feed an animal, it will protest, and even if it misses a meal, this does no great harm. In industry, on the contrary. If measurements are not precise, the parts do not fit; if bolts are not tightened, they fall off. The penalties of carelessness are much greater, and it is much more important to have a sense of personal responsibility for everything that one does.
It is because industrial life demands greater personal discipline than life as a peasant farmer that advancement in industrial society depends more on personal performance and less on kinship ties, friendship, patronage or status. In most of the underdeveloped countries, success depends more upon having the right friends than it does upon competence, so it is not surprising that these countries are not good at getting things done.

Everybody knows that one of the reasons why poor countries are poor is that their people bring to industrial processes habits of indiscipline, irresponsibility and patronage which are a hangover from life on the farm. This is not peculiar to Africa or to Asia or to other new regions which are just beginning to industrialize. It is a phase through which all countries, even the most advanced, have had to pass in the course of their industrial revolutions.

Much thought has been given to adapting school curricula to technical needs, but much less thought has been given to how the schools might be used to help young people to acquire the attitudes which industrial life requires. However, this is a very large subject, involving the attitudes of political, trade union, business and religious leaders, as well as of educational authorities, so it does not belong to the narrow compass of this paper.
In this brief memorandum, it will be impossible to give an exhaustive account of all the problems suggested by its title. Its sole purpose is to single out some of the main topics that call for thought and discussion - and that are of major concern both to African leaders and to those engaged in research on African problems - and to propose a number of measures for expanding our knowledge and turning it to better account in those fields which are felt to have priority in present circumstances.

I. RESEARCH AND DEVELOPMENT PROGRAMME

The framing of any programme of development, and a correct appraisal of the difficulties that may be encountered in its application call for study of the whole of the social and cultural features of the country concerned and of the people amongst whom it is proposed to implement the programme. Knowledge of these features should be as complete and as precise as possible (in this respect, some countries are at a greater advantage than others, owing to the volume of research previously carried out). This is one of the prerequisites for success, the other being, of course, the command of adequate technical and material resources. It thus becomes possible to lessen - though never to exclude altogether - the disturbances and tensions that inevitably result from any swift social change. In tropical Africa, as in all developing countries, the whole scene is dominated by the sense of urgency. The time that was available in other parts of the world could be used to offset as it were, the effects of mistakes due to inadequate preliminary knowledge. But in these countries it is essential to avoid such mistakes if, as is desired by most African leaders, we are to reduce to a minimum the human cost of progress and modernization. In the field with which we are here concerned, the problem of the relationship between research and development programmes presents certain special aspects, to which brief reference should be made.

1. Problems peculiar to education

The foregoing general remarks are obviously applicable to development programmes relating to teaching or, in a wider sense, to education. But, they assume yet more importance because of the specific character of education. Being an overall process, it may be defined in very simple terms as the handing on of an entire cultural system from one generation to the next. However, it is never purely and simply a process of preservation and continuity for, at the same time, it involves the dissemination and the lasting assimilation by a people of its recent cultural acquisitions, and also of the cultural assets it is in process of acquiring or is planning to acquire. This is a constant feature; the culture of a given people is never static or set in a rigid mould. It is for ever changing under the impact of internal and external factors (the latter reflecting contact with other cultures, differing in varying degrees from the culture under consideration).

This ever-present aspect of change is obviously far more pronounced at the present time. Change is proceeding at a faster pace and on a larger scale. The most intractable problem arising in present-day tropical Africa is concerned perhaps not so much with the dissemination of recent acquisitions as with the anxiety not to lose the fruits of an original cultural heritage. This problem of the content of education, a content which must be balanced and must reflect the need for both change and continuity, lies at the very heart of the preoccupations of African governmental leaders and educators. It should therefore form the main subject of our attention.

However, it is not the only problem calling for careful thought on the part of African leaders and for study by research workers concerned with Africa. The questions that arise in respect of educational development programmes may be roughly said to fall into the following three main categories:
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(a) The category of purely technical questions: determination of the rate of expansion of school attendance, the character to be given to out-of-school forms of education, and the means to be adopted for meeting needs in the matter of premises, equipment, etc.

(b) The category of questions concerning conditions for the introduction of a particular education programme for a given population. Here there arise pedagogical problems and problems concerning the way in which the education is presented and these call for adaptations that are not solely technical in nature. There are also the problems created by the reaction of the people to the extension of non-traditional forms of education, and to the new organizations and structures that must be created for the purpose. In short, there are problems of adjustment and of appraisal of the "efficacy" of a given programme.

(c) Lastly, the category of questions concerning the content mentioned above. One further point we would add is that the two sets of requirements - modernization and implantation - which have to be met in this respect, may prove contradictory, owing to the vital need for speed on every hand. Educators may sometimes be faced with difficult choices.

The need for systematic research work is naturally most evident in connexion with the second and third groups of questions. The general objectives of any development plan have to be accepted by research workers as facts over which they have no control. There is therefore also the problem of adapting research to existing conditions in tropical Africa. The determination of the part that may be played by persons conducting research on African problems - most of them still foreigners - is a matter that should not be overlooked.

2. Present-day problems and tradition in African studies

At present, work must obviously be directed along two different lines. On the one hand, the findings of previous studies must be assembled (together with any new data available); this material must be assessed and co-ordinated and, lastly, it must be interpreted in the light of the uses to which it is to be put, i.e. of the aims pursued in the development programme in question. On the other hand, the results achieved and the direct and indirect effects of the implementation of this programme must be studied and appraised. Although the interpretation of data, and also the actual determination of aims and the taking of decisions are matters solely for the political and administrative authorities of the countries concerned, the other aspects of the work involved afford extensive opportunities for valuable co-operation between these authorities and the competent specialists, such as ethnologists, sociologists, historians, etc.

However, there must be a clear understanding regarding the spirit and conditions of this co-operation, particularly in the case of studies that are intended to help in fixing the content of education. Certain misunderstandings must be removed and certain past practices abandoned. The human sciences, more than any other field of study, are profoundly influenced by the social context in which they develop; this context is reflected in the selection of topics of research and, in some cases, in the methods adopted. In regard to African studies, the following points may be noted:

(a) Those who have conducted research on African problems feel they may claim to have a brilliant record of achievement with regard to the rediscovery or rehabilitation of African cultures, which for a time were scorned or unknown. They have indeed accumulated a great volume of material which can now be turned to account. It is partly due to their work, that administrators, missionaries and educators began, during the colonial period, to adopt a more understanding attitude towards the culture of the peoples among whom they were working. Their influence may also have helped certain Africans, whether obscure or distinguished, to turn towards their cultural heritage and to acquire a better appreciation of it.

(b) However, during the period of the struggle for independence, they sometimes aroused the suspicion of African political leaders who were later to assume positions of authority in their respective countries. The underlying reasons for this are varied and in some ways contradictory. They were suspect, on the one hand, because they belonged to the colonizing nation, because they were connected with the colonial administration or even subordinate to it, and, on the other hand, because of their very attachment to the traditional cultures and social organizations on which their
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(A) More recently, it has become clear from certain controversies (e.g. in the field of African historical studies) that misunderstandings still persist, responsibility for which no doubt rests in different quarters. It is not proposed to weigh up these responsibilities, but merely to draw attention to some of the subjects of controversy. Discussion has arisen on the concept of objectivity, for instance, when African research workers published—through channels other than those adopted by what might be called "official" scientific circles—ethnological or historical studies which seemed especially to be ammunition for use in the fight for emancipation. Other discussions have arisen concerning the method of approach to African cultures, for some Africans have challenged the possibility of any "outside" knowledge of these cultures. This reflected their desire to express their culture in their own way and to contest the position occupied for a certain time by foreign specialists of African studies, as exclusive interpreters of African culture to the outside world. Such a position was comprehensible at a time when Africans themselves had not yet taken their destinies into their own hands, but the situation was bound to change.

Considerable headway has already been made in clearing up misunderstandings, thanks to contacts between specialists in African studies and African cultural leaders, and thanks also to the increase—as yet too small—in the number of research workers of African origin. It is essential that such action should be continued and that there should be further contact and exchanges of views. There can be no more serious obstacle to the implementation of the essential research programmes dealt with hereunder than differences regarding the approach to scientific work, which are left unexplored or which it is not attempted to attenuate by patient effort.

II. AIMS AND OBSTACLES

The statements made by African leaders reveal two sets of aims in the field of education—on the one hand, modernization and, on the other, assertion of the African character. It is only logical that they should consider these aims to be closely linked, for they are two basic requirements of independence, which means assuming one's place in a world whose salient features cannot be challenged (e.g. in regard to the techniques employed, whether material or non-material) but to do so whilst still retaining one's special character, reflecting a cultural heritage whose essential values one is determined to make every effort to preserve. This is the twofold nature of Africa's growing awareness in the political sphere. It has a direct bearing on educational programmes.

The basic aims of these programmes are everywhere identical, resulting as they do from the very situation of countries which are now freeing themselves from a state of dependence (in the cultural field no less than in the economic and political field) but which cannot and do not wish to reject all that the state of dependence directly imposed on them or indirectly enabled them to acquire. However, although the general trend is the same, the methods adopted and the rate of the action proposed may vary considerably according to the country concerned. The differences may be due to each country's own individual characteristics, or to its choice of ideology or doctrine. If we are to analyse and understand these variations, account should be taken of at least the following factors:

(a) the degree of ethnic and cultural homogeneity varies considerably; cultural differences or, it may be, historic antagonisms between the groups now making up the new nations of Africa (the frontiers of which were invariably determined by the colonizing powers) give rise to problems of widely varying urgency;

(b) the profundity of the economic and social changes which took place in the past during the colonial period also varies considerably, and in addition, they may have been extended to the whole country or, so far as their most obvious effects are concerned, confined to strictly limited regions;

(c) the doctrines of economic and social development accepted or worked out by the leaders in the different countries are more radical in some cases than in others as regards the period
envisaged for carrying out the various phases of that development, and the extent to which methods of coercion may be applied if considered necessary, etc.;

(d) the work already undertaken with a view to the rediscovery of traditional cultures and the assessment of the values on which they rested has been carried further in some countries than in others for it has depended on the special character of what might be called the transitional elites. The general framework of any research programme designed to assist African leaders in their task must therefore remain highly flexible. The various research projects should be carried out in an order of priority reflecting that of the practical activities to be undertaken. All that can be done here is to note the need for drawing a distinction between general, regional and national research programmes.

To be specific, the immediate tasks of education assume the following forms. On the one hand, we have to create the conditions most conducive to economic and social development and train the agents of that development. This presupposes action at three main levels:

(a) the broad masses of the population must be helped to make the efforts demanded of them and must be allowed the fullest possible initiative in playing their part, the general significance of which must be brought home to them; this implies the dissemination of knowledge and guidance as to ways of action;

(b) there must be provision for the professional training of the specialists needed to implement a programme of modernization on both the rural and the industrial plane;

(c) there is a general shortage of local and national leaders, a body of which must be built up as speedily as possible; they would personify the requisite balance between tradition and modernism. On the other hand, national unity must be created or strengthened - an undertaking which is inevitably bound up with the one outlined above. It presupposes:

(a) the transition from a situation in which the individual owed allegiance only to small groups and in which direct relations were predominant, to a situation in which his links and his obligations are those of a member of a wider community in which impersonal relations will assume growing importance;

(b) the curtailment, at least partial, of local autonomies and the attenuation of cultural divergencies;

(c) the maintenance of links between the most progressive elements in the population and those social circles that are still most deeply steeped in tradition.

It is clear that, if all these tasks are to be carried through, it will be necessary to take into consideration the imperative need both for modernization and for the development of what is specifically African. Around the central problem of ensuring a practical balance between these two trends, by blending them and not merely allowing them to co-exist (the consequences of which might be disappointing) there gather a whole series of subsidiary problems calling for carefully weighed plans and choices. The following at least call for mention:

1. It is desirable that action along all the lines mentioned above should be carried out simultaneously. Otherwise no programme of development can be fully effective. But at the same time, for practical reasons, it is always necessary to establish priorities, and to work out compromises in the application of this principle. The essential thing is to avoid any excessive lack of balance in the execution of the programme undertaken. It is common knowledge that the colonial powers did not always concern themselves with this problem or did not tackle it successfully. They sometimes gave preference to rudimentary schooling for the great masses of the population, whilst neglecting to train an élite, or they trained leaders (often enough the junior ranks that are most needed in such circumstances) without attempting any intensive work. Conditions for carrying out an educational programme are obviously entirely different when countries have achieved their independence. The risks of dangerous cleavages between the intellectual leaders and the masses of the population, and between different generations, etc., are probably traceable to a diversity of causes, but they must not be underestimated.
2. Reappraisal of traditional cultures and of pre-colonial history also, may have certain ambiguous aspects. It may undoubtedly be a spur to evolution, help to rouse the desire of the masses for economic and social development, but, at times, it may also curb development, for it is difficult to separate the content of a culture from the structures to which it gave life. Similarly, it may serve sometimes as a factor of unification and sometimes as a factor of division. It is recognized that the eradication of particularism is in some cases the first task that has to be faced by the new African States. Furthermore, in the recent period of struggle for independence, manifestations of "tribalism" may have slowed down the development of coherent nationalism in a few countries. It is therefore sometimes a priority task to determine and emphasize in educational programmes, the cultural features shared in common. In the effort to bring about the integration of new nations, a larger place has to be given to traditional aspects or to modernist aspects, according to the particular case.

3. Any rapid, large-scale development of a system of schooling gives rise to tensions in the different groups (groups united by kinship, village groups, etc.) who regard such systems as something alien, at least in the initial stages. The factors of rupture will be less explosive if the teaching provided assigns a place to the essential values of the local culture. But this may not be enough to attenuate such factors. It is also necessary to find a true balance between school and out-of-school forms of education ("fundamental" education, etc.). Ideas of the openings available to those leaving school must also be revised (until recently the greatest importance was attached to careers outside the community to which one belonged). At the same time an exact survey must be made of the various types of openings available, since a particular country's needs at any given moment may call for a diversified system of education (e.g. as between rural and urban areas).

4. The desire to bring about modernization naturally leads to the speeding up of the training of specialists and technicians as far as that is possible. Their responsibilities will, however, not stop short at the discharge of professional duties, for they will be required to provide guidance and leadership for their compatriots who are faced with difficult problems of adaptation (problems of fitting into new social structures, the adoption of new patterns of thought and behaviour). They will have to carry out real social experiments. It is therefore necessary for specifically technical training to be rooted in broad general culture. Educational leaders will have the difficult task of determining the exact place to be given to each of these aspects of education and of formulating a satisfactory concept of the "humanities".

This brief survey of problems and difficulties reveals the importance of the choices to be made by African leaders and the extent of the assistance which may be offered to them so that they may have all the information available to facilitate their decisions. The fields of study considered to have priority may, of course, not be the same in all countries, for the reasons outlined above. However, one point has been frequently stressed, namely, the passionate upsurge to afield of interest in the study of traditional African cultures and history. Even if the ends towards the attainment of which it is desired to direct this interest are not always the same, it pertains to a field where the need for immediate action seems to be universally admitted. It is in this field therefore that African leaders and educators may be presented with a broad programme for the co-ordination of existing documentary material and for research.

III. CONTRIBUTION TO THE REDISSCOVERY OF AFRICAN CULTURES AND HISTORY

Before describing the main directions that might be decided upon for specific work, a few indications should be added to what has already been said concerning the significance of this undertaking.

1. So far mention has been made chiefly of the internal significance of the undertaking. If the African people wish to take charge once again of a cultural heritage that the recent historical period forced them in some measure to neglect, it is first of all with the intention of asserting a national personality, and of strengthening the cohesion and unity of each new country acquiring independence. The recovery of a lost dignity presupposes a renewal of continuity with the past. But such an effort has also an external significance. Not only must each country understand itself better, but it must also make itself better understood. It must assert itself as an equal partner in world-wide cultural exchanges in which Africa must be not only a recipient but also a
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contributor. This is just the opposite conception from the one held during the colonial phase of African history. In European eyes, it seemed manifest that any exchange of ideas or values and the play of cultural influences could take place only in a one-way direction, and that Africa had nothing to contribute to world civilization. The causes of this attitude were numerous: ignorance and prejudices, the application of ideas taken from poorly assimilated theories about "primitive" peoples, the vast differences between the two types of civilization confronting each other, etc.; but all of these are bound up with one basic cause: the totally dominating position occupied by Europeans under the colonial system. Even in the contributions Africa made somewhat later to European culture - for example in the sphere of art and especially in the plastic arts - she played a merely passive role. More was taken from her than she gave. One of the fundamental ambitions of the Africans of today is to participate in such exchanges as autonomous agents who are aware of what they have to offer. This could not have come about except after a long and complex process, a few aspects of which will be recalled briefly here. The differences of attitude on the part of successive generations stand out clearly.

The reactions of the African peoples to the educational efforts made by the colonial powers have differed from one region to another and from one community to another, but these reactions have varied especially with time. They have gone from the one extreme of refusal, either total or partial, to a desire for synthesis, after passing through a phase of complete acceptance of the imported culture (at least in those sectors of the populations concerned that were then called "advanced").

(a) Refusal expressed a total attachment to tradition and an opposition to a foreign domination that was tolerated only with resignation. It was feared that schools would corrupt the young people and would be likely to upset the social balance. This explains why the introduction of schools was sometimes violently opposed and why more often there were subtler forms of resistance which led, for example, in societies with a class structure, to the practice of sending to school only those children who were of inferior social status.

(b) Acceptance. However, the attitude just described could not last for ever. Africans began to accept the new ideas and new forms of behaviour that the schools imposed on them. They did not accept them as a whole, but by a process of selection that obviously varied according to the socio-cultural contexts involved. Certain ideas and certain traditional behaviour patterns were simultaneously discarded as a consequence of changes in the overall social situation and also because of the more or less strong pressure of certain forms of teaching which led the Africans to hold their own past in disdain. The desire to be associated with Western culture, which was synonymous with prestige and power, often caused the first generation of those who were "advanced" to adopt this scornful attitude. It was not until the next generation that there was a change of attitude; foreign education was for a time totally accepted. There was nevertheless at least one positive aspect to this: Africans gave proof of intellectual qualities that seemed to be doubtless in the early phases of colonization. These aspects of acceptance appeared everywhere whether the official colonial doctrine was based on the principle of assimilating the élite or not. The imported and imposed ideas, customs and methods were dominant in the social and cultural models accepted by this African élite.

(c) Change of trend. By the time this élite could be regarded as assimilated, certain European educators had begun to have doubts about continuing a policy of assimilation, either for factual or for theoretical reasons. They began then to consider adapting the school to the environment (particularly to the rural environment) and maintaining certain links with the traditional culture, even if only through its folk-lore (as in the efforts of William-Ponty in French West Africa and Achimota in the Gold Coast). The African élite moved in that direction and were to go far beyond those as yet hesitant attempts. They no longer feared that the fact of being attached to their past was a handicap to their development or to the progress of a modern form of education. They directed themselves towards the study of African cultures, the development of African literatures, etc. The ambition to be assimilated, was replaced, according to an expression that has become famous, by the ambition to assimilate contributions coming from without whilst at the same time asserting with a new-found self-confidence the possibility of enriching Western culture in return. The desire to retain and revivify cultural elements which a transitional generation had allowed to wither was to find its force and its meaning in connexion with the political movements that were to culminate in the demand for Independence. The struggle that was waged to satisfy this desire had
only limited results at first, but already countries outside Africa were becoming aware of her cultural awakening and this in itself is proof of its success. It remains for responsible Africans to consolidate these efforts, to enlarge and diversify their scope, and finally to integrate the results obtained into educational programmes and to make them ever more widely known outside Africa. For the accomplishment of this task they should receive all possible assistance.

2. Three principal aspects of this task must now be considered: the development of research (including the reorganization of documentation already assembled); the adaptation of research findings to teaching methods; and the utilization and dissemination of those findings outside the schools.

(a) Research. The present situation is characterized by a certain number of shortcomings and difficulties in the light of which it is possible to determine the immediate action that must be taken. Documentation that has already been assembled is widely scattered and much information remains to be collected; some of it, moreover, is liable to disappear or suffer from deterioration very soon. The development of the scientific disciplines concerned is not well balanced and there is insufficient co-operation among them. Qualified research personnel is not available in adequate numbers. Contacts between existing research institutes are lacking. There are not enough of these institutes and they are unequally spread through the different parts of the African continent.

Fields of study. Priorities are to be determined with due regard both to the overall aims of research - namely, to acquire the most complete and the most diversified knowledge possible of African realities - and to the immediate needs of the young African nations. The following sectors call for particular attention:

History, especially the history of the larger African States and of the chief attempts at political unification undertaken in certain regions of Africa; the study of migratory movements and focal points of cultural influence; the study of the relations (commercial and others) existing between States and between important regions.

Sets of values and Customs. It would seem that stress should in the first place be laid on the development of studies concerned with different outlooks on life, systems that interpret the place of man in the universe and in society, different philosophies and the ethical systems connected with them. Remarkable work has already been accomplished in this domain, but it has been limited to geographical areas that are too narrow.

Artistic expression. The study of the plastic arts in their technical as well as their aesthetic aspects should be systematized, and research, which is still on far too small a scale must be developed in the fields of literature, the traditional theatre and music.

Languages. The study of the greatest possible number of African languages which are still not well known may seem essential from the scientific point of view, but many African authorities may consider that this is not a priority sector because an unduly great diversity of languages might produce obstacles to unity in certain countries and because of the difficulties that would be encountered by any effort to impose or favour a particular language, which is becoming more generally used or is already in wide use. It is difficult to draw up a general programme in this field that would be of immediate interest to all the African countries. The establishment of local programmes might, however, be contemplated.

The immediate tasks fall into three groups:

Reorganization and analysis of material already collected, having regard to the goals to be attained. This entails the setting up of centres for documentation and for collections (or photographs) of objects, the reproduction and circulation of documents that are known locally but have not yet been published and the reproduction of works of art and art objects. Each country would naturally like to possess the most complete working resources possible, but the very heavy burden imposed by established and maintenance will often lead to the formation of groups on a regional basis.
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Collection of further fields data (sectors in which the gaps are largest vary greatly according to region and the "emergency programme" will not have the same content everywhere). In many cases urgent action will be necessary because those who enjoy the greatest authority in oral tradition and those who possess certain artistic treasures of the past may disappear and works and objects of art that have been scattered may be destroyed. Certain losses that have already occurred are irreparable. Equipment for collecting and recording data must be made available (photographic, cinematographic and sound equipment). The greatest possible number of research auxiliaries, both volunteers and others, must be enlisted in the campaign to preserve these threatened elements of traditional African cultures. Teachers, government employees and rural officials can here play an important part, as some of them have indeed already shown in past decades.

Close co-operation must be established among specialists in the different branches. The need for this is particularly evident in the field of historical studies. There must be collaboration between historians, ethnologists, linguists, archaeologists, etc.

Institutional problems. The number of research institutions must be increased and real co-ordination among them must be ensured in order to avoid all useless effort and duplication.

Such institutions already exist but an inventory must be made of them and there must be a critical examination of their organization and fields of work which may no longer correspond precisely to the needs that are felt at present. They must be broadened, for example, by adding to the branches of study they already deal with. It may be necessary to revise their geographical field of activity and, in cases where they are autonomous, it may be advisable to bring them within the framework of a university, thus providing a direct link between research and teaching. Work of this nature has already been undertaken in certain countries.

Wherever new institutions are founded, this should be done as a matter of co-operation between African States, not only because it may be necessary to concentrate means of research which are often costly, but also because it will frequently be necessary to cross boundary lines in order to carry out most of the study programmes. Furthermore, effective work of this nature requires not only regular meetings between research workers of the different institutes, but also permanent relations between the institutes themselves with a constant exchange of information and material.

Co-operation with institutes concerned with research on Africa which exist outside the African continent is also of great importance. It is desirable that the documentation they possess, sometimes in considerable quantities, should be made available to the new African study centres, and also that they should organize their own research programmes in the light of the needs expressed by the Africans themselves. To this effect, frequent meetings and contacts between African and non-African specialists are indispensable.

Personal problems are closely linked with those that have been mentioned above. The following points need to be stressed:

The need to intensify and accelerate the effort to train African research specialists. It is understandable that the African Governments should give priority at the present time to the training of administrators and technicians, but they would no doubt gladly accept assistance from outside which would permit them to utilize African research staff as soon as possible.

The need to utilize fully what has been referred to above as research auxiliaries. Accelerated training programmes for collectors of material could be developed everywhere at small cost. It is hardly necessary to stress the educational value of this participation in research, even on a modest scale, by all the young African elites.

Lastly, it is desirable that, whenever possible, non-African researchers who are sent by their own institutions to carry out investigations in the field should be invited to work temporarily in African study centres and that so far as necessary they should organize their own research to fit in with the programmes on which work has been started in these centres.
(b) Adaptation and use of the fruits of research for educational purposes. It is entirely the responsibility of the Ministry of Education in each of the countries concerned to determine the methods that are to be employed in this regard. They alone can decide whether or not research workers should participate directly at this level. They have in some cases done this already in connexion with the editing of new textbooks. The following two suggestions might be made: (1) to organize meetings of research workers and educators so that the former could better understand the needs of the latter (these meetings might later develop into a permanent form of cooperation); (2) to establish in research institutes in course of development a section devoted to educational problems which would be concerned not only with this question of adapting research results to education but, in a more general way, with the psychological and social effects of schooling.

(c) Utilization and dissemination of research findings outside the sphere of the school. In this regard, too, the conditions and forms of such utilization can be determined only by the responsible authorities in the countries concerned. The direct contribution of research workers, whether African or not, may be very considerable as also may the technical assistance coming from outside. The following are the directions in which action might be taken: increase in the number of museums, even small ones with limited displays of exhibits; some of these played an important part in preserving links with the past even during the colonial period; increase in the number of exhibitions of objects and documents; production of films and radio programmes; publication of books giving in popular form an idea of recently published scientific work; editing of picture books, albums of photographs etc., the compilation of card-indexes to serve as a basis for the work of those engaged in fundamental education. The experience already gained in these different domains should be appraised and a certain number of general models should be laid down so that local plans for action could, with the necessary adaptations, be brought into line with them.
COMMENTS ON THE USE OF NEW TECHNIQUES IN TEACHING

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The system of education that will be built in Africa in the next few years can and should be the best in the world. It can and should incorporate every modern development in teaching and learning.

If it were possible for the African nations to invent a system for education today, it is extremely likely that they would not invent the present system. There is a great deal of evidence to suggest that a better one can be found. Even in areas of the world where the present and generally accepted method of classroom education at all levels has had years of development, it is generally regarded as inadequate. It is costly and slow. It cannot be easily adapted to changes in the body of knowledge nor can it be shifted quickly to emphasize special kinds of training that grow out of rapid changes in our social structure. It requires highly specialized personnel who must be trained in slow and extremely costly institutions. Indeed, the present system of education may be said to have adapted more slowly to the real circumstances of our present environment than any other major social or technological institution.

Faced with the problem of building a new educational enterprise, the African nations have an opportunity to profit from the lessons to be learned from the history of conventional educational systems. They have an opportunity also to examine from a fresh point of view that is not inhibited by traditionalist backgrounds in education, those new developments in the technology of education and communication that seem to hold great promise for improving the teaching-learning process and making new levels of achievement possible in this field.

It would seem advisable for the African nations energetically to pursue the possibility that in the rapidly emerging body of knowledge about new techniques in education, there may be the hope that they can produce the world's most advanced and effective educational institutions. It seems reasonable to suggest that the rate of change in the field of human knowledge and the methods of communicating it will make obsolete much of our present educational system within the next few years. If this possibility exists then any major investment of time, money and human resources in the establishment in the newly-emerging nations of Africa of the present conventional educational institutions would seem to be to invite obsolescence long before the institutions have grown to maturity and begun to function properly.

Although it is not possible to suggest at this moment that the rapidly developing procedures that are modernizing and improving the educational process can be applied at once to all levels of education, it is certainly possible to suggest that they hold promise of being able to achieve this goal within the reasonably near future. This means that it is vital that they be examined in the light of the state of development that exists today and in terms of their potential for future expansion.

Most modern developments in the technology and communications areas of education are based on some fairly simple hypotheses. First, educators in the forefront of these developmental areas are increasingly convinced that the traditional classroom environment with its ratio of 30 or more students to a single teacher is a highly inefficient one. They are of the opinion that the application of simple techniques to this problem can change many of the traditional practices employed in education. They also believe that the rapid rate at which we are accumulating knowledge has changed the position of many of the traditional instructional facilities: textbooks, which can only be changed slowly and which tend to lag far behind new information; teachers who cannot easily be retrained and who are rarely able to find the time and facilities to incorporate much new content into their work.

The work of the innovators in education has produced these developments of major significance which seem to make it possible to now plan toward a radically different, flexible, relatively inexpensive and highly effective educational system:
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(1) Programmed learning (widely known as "teaching machines").
(2) Modern communications techniques.
   (a) the sound motion picture;
   (b) the filmstrip;
   (c) various forms of television;
   (d) demonstration devices of various kinds.

This paper will discuss and summarize some of these developments.

The body of data supporting each of them is extensive, and it appears that in each case extremely useful research is now in progress. Certainly a continuing study of the developmental and research work being done in these areas is essential in any modern educational development.

A. PROGRAMMED LEARNING (THE TEACHING MACHINE)

The development in this field has been based largely on the belief that an ideal learning environment is based on the tutorial relationship in which there is a single pupil for each teacher. In this situation, the teacher will always deal with the student at the maximum speed at which the student is capable of learning. The student has the advantage of knowing immediately what he has learned something and whether he has learned is correct. We are learning that there is great satisfaction for the student in the experience of learning under these conditions and that it is possible under the proper circumstances to achieve remarkably high rates of speed as well as learning when this technique is applied. Each student learns at his own rate of speed, using simple individual programmed-learning materials, and early test indicates that genuine learning, rather than memorization, is a common result.

In order to apply it, a team of specialists produce a "programme", usually in printed form, which consists of a series of extremely small and simple statements, questions and answers based on the subject matter to be taught. The student proceeds through these questions and answers individually at his own rate of speed, exposing the answers immediately after he has answered the questions and thus assuring himself that he is learning correctly. It is possible to construct programmes of such a nature as to make it extremely difficult for the average student to make more than three or four errors in every 100 responses in a programmed-learning situation and it is this continual encouragement and satisfaction that contributes greatly to the learning.

Although it might appear on the surface that this simple fragmentation of subject matter would produce a sort of memorization, the fact is that properly constructed programmes appear to be able to develop learning at a level far beyond simple memorization. Indeed, there is evidence to indicate that in the process of teaching himself the student actually performs a kind of intellectual exercise that exceeds in value many of the intellectual activities ordinarily indulged in, in ordinary classroom learning.

The process seems to have many significant advantages. Experimental data on an increasingly large scale now indicates that it is possible for students to achieve certain kinds of learning at rates double those achieved in the conventional fashion. Students may study at home as well as in the classroom and indeed it is possible for most of the learning to take place outside the traditional classroom. It is not necessary to limit this kind of learning to students in conventional classroom situations; the technique appears to hold great promise for home study, for correspondence learning and even for on-the-job industrial training. In every one of these situations the fact that the student is able to make progress at his own rate of speed and under conditions that constantly encourage him and assure him that he is indeed learning seems to have great significance.

It is evident that programmed learning offers some substantial opportunities to decrease the cost of education. Although studies indicate that the teacher has a definite place in this kind of learning situation, the fact is that the relationship of the teacher is now greatly changed. The student is learning by himself and needs help only in the rare situation in which he finds himself in trouble (largely as a result of a defect in the structure of the programme). The teacher can therefore handle larger classes of students, and indeed teachers may handle extremely large
classes of students who are simultaneously studying different subjects and using different pro-
grammes. The primary function of the teacher here would be to isolate students who are having
difficulties and to work only with those students while the others proceed. In addition the teacher
is freed to apply herself to the implications and applications of the subject matter which may be
of far greater significance in the long run.

It has been found in early experiments that students appear to prefer this kind of learning. It
provides a constant challenge for the gifted students which it is not possible to offer him in a
traditional classroom system where the rate of learning must inevitably be that of the average
learning rate for the class. And it offers for the slow learner considerable freedom from the
unpleasant pressures of learning in a situation that is beyond his ordinary mental capacity.

It now appears on the basis of work that has been done in this field that there is great promise
for the production of programmed materials in all subject areas in which the body of content lends
itself to general agreement. Thus it would appear quite simple to programme in all fields of
mathematics, languages, grammar, spelling and the sciences. Certainly it is possible to effec-
tively programme an extremely wide range of vocational subjects, including most industrial func-
tions and many which do not appear to lend themselves to ordinary teaching techniques. In this
latter field the nature of programmed learning is such that workers may be trained on the job
without loss of time and against the background of the valuable field experiences they are obtaining
by working at lower levels.

Perhaps the most significant aspect of programming however is in its effectiveness and in the
consequent economies and efficiencies that appear to grow out of this. The important thing may
very well be that what has emerged here is a technique of instruction and learning that can be
produced in each country by specialists native to each country. This is, as a matter of fact, the
only way that good programming is likely to be done and it is reassuring to be able to say that there
are no serious obstacles to the development of such facilities in any of the African nations. It is
not likely that programmes produced to meet the subject learning needs of one nation - the United
States for example - can be easily transferred to another nation. The programme must adhere
closely to the course of study that is taught in each particular situation and must take into account
the previous educational or social experiences of the students. Thus a course in beginning algebra
produced for students in the United States of America who encounter this material in the ninth year
of school would probably not be appropriate for use in the United Kingdom or France but in either
of these two nations, as in Africa, small groups of specialists can with relatively low cost and
with the proper kind of training, produce special kinds of programmes to meet their own needs.

The essential information about programming techniques is already in the literature of learn-
ing although it has not been widely disseminated. There already exist in the United States a
number of centres where programmes are working on extensive areas of the curriculum and where
facilities may exist for the training of programmers from other countries. Indeed, my own
associates have developed such a centre in Palo Alto, California, and they would join me, I know,
in extending to the nations here assembled, an invitation to appoint fellows who may observe these
techniques and be trained in them as early as it is desirable and convenient to do so. In our
opinion, it would be possible for each of the African nations to produce teams of programmers who
could produce materials aimed directly at their own student groups which could be pre-tested and
evaluated under the circumstances that will characterize their eventual use.

It is obvious that what is suggested here is a development that has many implications for those
who are planning the structure of a new educational development. Students using programmed
materials will finish courses at varying times. They may pursue their education under circum-
stances far different than those envisaged in conventional educational institutions and they may
increasingly pursue many of their studies outside the classroom. New approaches to educational
administration, to the training of teachers and to the evaluation of instructional materials will be
required.

There are of course some questions that remain to be answered about programmed learning.
At the present moment it appears to have been most thoroughly developed at the secondary school
level and beyond, and less work has been done in the beginning years. Programming assumes that
the student can read, although a growing amount of work is being done in the field of programming
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for students who cannot read and the results here appear to hold great promise. Indeed, there is a belief on the part of some specialists in this field that programmes may very well be developed which can have a far greater impact on illiteracy than any technique yet devised. The process does require that the student work alone and while this has advantages, it also presents some special problems. Some students seem to require the group association and the disciplinary implications of the traditional classroom and there is the problem presently that materials are not available in the special curriculum areas that may be most desirable for the African nations, although this is tempered by the fact that traditional curricula wherever they exist must also be adapted to African needs.

In summary, programmed learning appears to represent a development of such significance as to make it extremely likely that large areas of education may be handled effectively, rapidly and inexpensively in a new form. It holds particularly great promise for the African nations who need most of all teaching materials that take into account the very special problems faced in each of their countries. As a development of recent origin that has not yet made an impact upon conventional education elsewhere in the world, it appears to require serious and uninhibited thinking on the part of those who are presently committing themselves to a development of educational systems with all the long-range implications and limited opportunities for future change of such systems.

B. THE IMPLICATIONS OF MODERN COMMUNICATIONS

Much education is essentially a communications activity and the communication between student and teacher has until quite recently been limited by the fact that many things we have to learn simply cannot be learned from a verbal or written description. This problem has tortured the educator from the earliest days and it has only been in recent years that he has had his first relief from the limitations of spoken and written instruction. This relief has come from the development of modern communications techniques - the sound recording, motion picture, the still film, modern instruments for demonstration purposes (the overhead and opaque projector, the projecting microscope, etc.) and television.

All of these appear to hold some promise for improving the quality of instruction. In some cases they offer significant evidence that they can provide kinds of learning that it has not been possible to communicate in the past.

1. Educational films. These are perhaps the most firmly established of the modern communications tools in education. They attack the problem of verbalism in which the student memorizes words that have no meaning for him, by giving him believable visual images that make the learning processes more meaningful. They overcome the limitations of our eyes which cannot see beyond the horizon and he can make vicarious visits to other countries where we can see how other people live and work. They enable us through the magic of modern techniques of filming, to see inside of solid objects (such as automobile engines and other intricate devices that cannot be exposed), to see things in slow motion that would be otherwise impossible to understand and to accelerate the speed of slow-moving actions so that they may be seen with understanding. The film can be produced more rapidly than many more communications devices in education and it thus becomes possible to introduce new information into the curriculum with less delay. The film has a special value as an on-the-job retraining device for teachers who have often exposed to them the first look at new developments through the showing of films to students.

The educational film has the special ability of communicating easily and in a highly acceptable manner to those who have not yet learned to read and it is thus possible to begin to teach with films under circumstances where reading and written skills have not yet been developed. Educational films have been made in almost all fields of learning and the producers of these materials have developed great skills in communicating otherwise difficult abstract concepts and insights.

The film makes it possible for the educational specialist to carefully prepare and present a lesson, knowing that the lesson will always be presented in exactly the same manner and it is a special characteristic of the film that it can be used over and over again before audiences that are almost endless in number. A certain amount of work has been done in recent years in the production of entire courses on film, using the services of an outstanding teacher and bringing before
the camera kinds of demonstrations and experiences that could not otherwise have been produced in
the classroom. Early studies of complete courses in physics and chemistry produced entirely
on the film in the United States seem to indicate that it is possible in this fashion to make far better
use of limited human resources in the field of science teaching and to increase the number of
teachers by using instructors who are not otherwise adequately prepared to teach these subjects.

Films require expensive projection equipment and can only be used under circumstances
where electricity is available and there are facilities for darkening classrooms. A certain amount
of training is required in order that teachers make the most effective use of films and of course
the films themselves are expensive to produce and manufacture. There are, on the other hand,
vast resources already in existence in the educational film field in a wide variety of subjects, and
it has been demonstrated that many of these can be adapted from the original language in which
they were produced for use in other languages and in other countries. It is reasonable to assume
today that an audio-visual library equipped with sound motion pictures and filmstrips and further
equipped with some resources for the production of local curriculum-correlated sound motion
pictures and filmstrips is an essential part of any modern flexible and effective educational system.

(2) Educational television. The use of television in education has been exposed to intensive
investigation in recent years and there appears to be a growing use of the medium. It has many of
the characteristics of the sound motion picture. The television set can serve as a sort of motion
picture projector, although the image on the screen is necessarily smaller and less satisfactory.
Colour television is not yet a reality and there is a definite degradation of the film image on the
screen. Much useful work has been done in communicating lectures to classrooms, although many
teachers feel that these have not proved to be entirely satisfactory. Television does have the
advantage of being able to serve as a spectator on behalf of teacher and student at certain important
current events and it can also be used to communicate at the educational level to adult groups and
others who are being educated outside the classroom.

Television systems are extremely expensive to construct and require trained personnel to
maintain. The television receiver needs a source of electricity and it too has maintenance prob­
lems. But television does appear to hold great promise for newly developing initial educational
systems since like the other modern communications techniques it makes it possible to communi­
cate the skills of the relatively few available teachers to an extremely wide audience of students
on what seems to be a most economical basis.

In addition to broadcast television there are of course other applications of electronic communic­
cations. Closed circuit television offers within urban areas an opportunity for a single demonstra­
tion to be viewed by a far larger number of students than would otherwise have occupied a single
classroom and the eye of the television camera does give every student a far better look at what
is going on. The same system can be used to present visiting scholars to the entire body of the
school system and there are of course many opportunities using even the most limited of television
facilities for teachers to multiply their skills and enlarge the size of their classrooms.

(3) Other modern demonstration and teaching devices. There has been an impressively rapid
flow of new teaching tools designed to make it possible for the teacher to communicate more
effectively. Some of these also make it possible for teachers to deal with larger numbers of
students or for students to do a good deal of learning without the aid of a teacher. Such modern
demonstration devices as the overhead and opaque projector, tape recorder, the language labora­
tory and others hold important implications for every nation interested in the development of a
modern effective and efficient educational system. In general, these tools require an initial capital
investment and a certain amount of training for the new teacher as well as retraining and in­
service training for the existing teacher. On the other hand, they require relatively few technical
skills, are easily maintained and make an important contribution to the level of learning that takes
place in the classroom.

Everyone who explores problems in education, whether they be those of the emerging new
nations or those of the older countries, learns that there are no simple solutions. Any approach
to education which assumes that it has values for everyone in the nation and that every citizen has a
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right to an education, learns that this can be a massive and deeply troublesome commitment. But we are now beyond the stage where the desirability of education is in question. We know that the full development of any nation in a modern society depends upon its ability to produce an educated body of citizens.

The nations of Africa have, as I have previously observed, a most remarkable opportunity in this regard and some extremely difficult decisions to make. They have the innumerable problems that grow out of the needs of the past which they are now struggling to meet, and many of these needs are in fields other than in education. With tremendous pressures coming from other fields they will find their resources in education to be extremely limited and the extremely desirable bold action frustrated by shortages of people and funds. Yet on the face of this there is every reason for them to energetically desire to build structures in the field of education that will grow and develop in accordance with growth and development in the rest of the world and provide the kinds of resources that will make for an educated population that can compete successfully with other societies.

One way to do this is to follow a conventional path. This would involve developing the present systems of education used elsewhere, in Africa. School buildings would contain the conventional classrooms. The teachers would be trained in the conventional way. The institutions would follow presently-accepted administrative procedures.

The results of this kind of educational development are not difficult to foresee. They would be slow and the cost would be incredibly high. Still at some point in the future - and one can only assume that it will be a distant future - the institutions will have matured and a process of education would exist.

But there is good reason to believe that at that point in the future this process may have become obsolete. There is reason to believe that textbooks to which these new systems would be committed and the teacher-training techniques which would be adopted would also be obsolete. The school buildings might well contain classrooms that have long outlived their hope of maximum function in a changing world.

At the other extreme lies a most unusual path - the decision at the outset to build a system of education so advanced and so unafraid of the modern technology and the new processes of teaching that it will literally have no counterpart elsewhere except in the most advanced experimental institutions. Development of this system can be effected with far greater speed and with considerably less cost. It will begin to produce larger numbers of trained and educated people in a far shorter span of time. But since it will have no counterpart elsewhere it will be a far more difficult process to measure and evaluate and it will take a very special kind of both financial and imaginative support from the governments and people involved. If a development of this kind were to be energetically and successfully pursued, the African nations might find themselves in the unique position in modern times of having struck a major blow, not only towards the solution of their own problems in mass education, but in the advancement of the level of effectiveness of education elsewhere in the world.
EDUCATION AS A BASIC FACTOR IN ECONOMIC AND SOCIAL DEVELOPMENT

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This is a background paper dealing with the rôle of education in economic and social development in general. It does not deal specifically with African problems and it will be the task of other papers, and of the Conference itself, to draw the implications for Africa.

Education provides the individual with the means of personal development, and the nation with the opportunity of integrating the individual into society. It is organized and financed at different levels, central and local, and involves the participation of both the community and the individual in it as an investment in their future: its objectives are social and moral as well as vocational.

It plays a key rôle in both economic and social development, being both a factor in production and an item of consumption. Further it is an item of consumption of a special kind in that it is one of the components of living standards, and is an end in itself and not merely a form of consumption which is a means to another end. It is listed third in the twelve indicators set up by the United Nations Expert Group on the Definition and Measurement of Living Levels, preceded by expectation of life and national average food supplies.

Its rôle as one of the priority items of consumption is important since consumption is the purpose of production. Economic measures which are in themselves items of consumption are therefore preferable to those which are not, other things being equal. This point is noted at the outset because it has relevance when choices have to be made in complex situations of the kind described later in this note. A further point to note before passing to education as a factor in production is its effect on patterns of consumption, since education tends to produce less misallocation in individual and family budgets, and the substitution of saving and the purchase of durable goods for more irrational or injurious choices.

Proceeding now to education as a factor in economic growth, it is convenient to divide the subject into the following headings: (1) manpower aspects; (2) income in relation to education; (3) education's rôle in the aggregate of production function; historical experience; the returns on investment in education; (4) problems of allocation of resources as between education and other items, and within the educational sector; expenditure norms; (5) some aspects of the financing of education.

I. MANPOWER ASPECTS

The clearest economic test of the value of a particular educational programme (using education in its broadest sense, including training) is whether it enables manpower needs to be met in employment of importance to the economy. Where all the factors of production exist except the necessary skills, the input of these skills obviously brings returns far above other possible inputs.

Many situations of this kind exist in economically underdeveloped countries. The choice has to be made in each case between creating the necessary basic facilities for an adequate supply having regard to present and future needs or relying, if numbers are small, on the loan or immigration of the necessary skills. Except where numbers are very small, and the training facilities particularly expensive, the returns on establishing local facilities are likely to be decisive, because this will enable recurrent demand to be met, whereas the import of skills from abroad involves foreign exchange costs and only meets immediate demand. Further, capital tends to be attracted to areas where skills are available, and the existence of educational and training facilities are incentives both to local capital formation and to the import of capital.

For this reason a high value is attached to surveys. Surveys are needed not only to find out present and prospective demand, but also to point out waste and deficiencies in the current facilities, by showing whether they are producing excess supplies in certain fields and deficiencies in others.

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There is no need for detailed discussions or illustrations of the economic return from meeting manpower needs, since they are self-evident, but the problem of relating education to employment opportunities needs very careful study. A phenomenon in certain economically underdeveloped countries is the existence of educated unemployed. In some countries they are made up of white-collar workers who regard themselves as having had a superior education and are not either prepared or skilled enough to take manual work. In some they consist of university trained personnel who have been educated on methods inherited from the developed countries without the employment opportunities for their attainments being available. The difficulties of this situation are not to be attributed to the failure of education as such, but to the failure of the programming of education in relation to economic development needs. This situation can be remedied by integrating educational programmes with development programming.

In closing this section on manpower, two additional points should be noted. First the organizations concerned directly with the supply of manpower for production insists that a satisfactory level of formal education is indispensable to the development of special skills by "on the job training". Thus formal education and "on the job training" are interlocked. Secondly in most economically underdeveloped countries the factor in shortest supply is capital. An educated and flexible labour force permits the use of labour intensive methods of production leading to the economic use of capital.

II. INCOME IN RELATION TO EDUCATION

One approach in testing the economic return of education is to take the average earnings over a lifetime in occupations for which specific types of education are required, and to subtract from this total the average earnings of people in occupations not requiring specific education. The difference between the two totals is taken to represent the result of investment in the specific education given.

Figures produced by Dr. H.F. Miller in an article in the American Economic Review based on data from the United States Bureau of Census show the following results:

<table>
<thead>
<tr>
<th>Year</th>
<th>Elementary-High School Differential</th>
<th>High School-College Differential</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average Income</td>
<td>Average Income</td>
</tr>
<tr>
<td></td>
<td>School Graduate</td>
<td>High School Graduate</td>
</tr>
<tr>
<td>1939</td>
<td>(a)</td>
<td>$1,661</td>
</tr>
<tr>
<td>1946</td>
<td>$2,327</td>
<td>2,939</td>
</tr>
<tr>
<td>1949</td>
<td>2,829</td>
<td>3,784</td>
</tr>
<tr>
<td>1956</td>
<td>3,732</td>
<td>5,439</td>
</tr>
<tr>
<td>1958</td>
<td>3,769</td>
<td>5,567</td>
</tr>
</tbody>
</table>

(a) not available.

It will be seen that despite the increase in manual wage levels in the United States of America in the last decade, the differentials due to education are still rising. All of the gains cannot be attributed to education as there are important co-relations between education and parental income and intelligence and the question always has to be asked whether the gains of some people
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are the losses of others. None the less, these figures have their value, and in a developing society so long as both these figures and national income figures are rising there is a presumption that the inputs into education must be yielding high returns.

A specific comparison, which eliminates the factor of parental income, is that of veterans and non-veterans in the United States of America, which reflects the fact that veterans received special educational facilities as part of their post-war benefits. The figures show that until 1953 veterans who were 35-44 years old had only slightly higher incomes than non-veterans. By 1956 the differential increased to 15% and in 1958 rose still further to 21%.

While co-relation between income and education is easy to establish for individuals or for groups of occupations, difficult problems arise when they are attempted as between per capita national income and educational indices. The following table taken from the Unesco publication *World Illiteracy at Mid-Century* prepared by the Statistical Division indicates the relationship between adult illiteracy and per capita national income, around 1950, in 41 selected countries:

<table>
<thead>
<tr>
<th>Adult illiteracy</th>
<th>Per capita national income in 1950</th>
</tr>
</thead>
<tbody>
<tr>
<td>around 1950</td>
<td>Less than $300 (US)</td>
</tr>
<tr>
<td>High (50 per cent or more)</td>
<td>Bolivia, Brazil, Dominican Rep., Egypt, El Salvador, Guatemala, Haiti, Honduras, India, Malaya, Nicaragua, Turkey</td>
</tr>
<tr>
<td>Medium (20-49 per cent)</td>
<td>Ceylon, Chile, Costa Rica, Ecuador, Greece, Panama, Paraguay, Philippines, Portugal, Thailand, Yugoslavia</td>
</tr>
<tr>
<td>Low (less than 20 per cent)</td>
<td>Japan</td>
</tr>
</tbody>
</table>

Since the causes of economic growth are manifold it is not possible to trace the effect of education in raising national income from the above figures. None the less it is a useful exercise to study national income figures, taking into account any necessary time lags for educational measures to influence the labour force, for a large number of countries at different stages of development. This is dealt with in more detail in section (IV) of this paper dealing with expenditure norms.

III. ROLE OF EDUCATION IN THE AGGREGATE PRODUCTION FUNCTION: HISTORICAL EXPERIENCE, THE RETURN ON INVESTMENT IN EDUCATION

Growth of aggregate production depends upon capital accumulation, population growth, physical resources and technological progress. Taking aggregate non-farm production for the United States of America between 1900 and 1960, Professor Solow estimated that only 10% of the growth could be accounted for by the first three items, leaving the remaining 90% due to residual factors falling under the general heading of technological progress. Dr. Massel has published an independent estimate for United States manufacturing industry taken alone, which came to the
same conclusion. In Europe, Professor Aukrust made calculations for Norway for the whole of national production between 1900 and 1855 and his conclusions were similar. In the United Kingdom, Professors Reddaway and Smith have shown that capital and labour inputs accounted for only a quarter of the increased output per head in manufacturing industries between 1948 and 1954.

The "residual" or non-physical factor is likely to have varying importance at different stages of development and in different types of economies. The existing statistics studies apply to the well-developed countries where data is available. Although little is known at present about the role of education in lifting an economy at an early stage of development there is a presumption, and a certain amount of historical evidence, that education is one of the main prerequisites to the movement forward into sustained growth. Interesting historical cases are those of Japan and Denmark which were lacking in natural resources but obtained an earlier and higher rate of growth than their neighbour countries which were richly endowed with physical resources. In each of these cases educational development ran well in advance of that of their neighbours. Having regard to the history of those countries causal relationships between the development of education and their economic development seem to be a plausible assumption. The case of Denmark is instructive. When the opening up of the farmlands of the new world took place in the last century the agricultural systems of the European countries received very serious blows. Denmark was threatened like the other countries. But it is the view of economic historians that it was the fact that compulsory education had existed for some time which was the decisive influence enabling the Danish farmers to accept and carry through those far-reaching changes in their productive activity which remain the basis of Denmark's prosperity today. The Danes undertook a deliberate and fundamental change in their economic structure, replacing the production of grain by intensive dairy farming. Instead of exporting corn as they had done traditionally they imported it from the new competitive sources of supply and made the new cheap corn the basis of a highly rationalized dairy farming industry. The Danish farmer was able to understand and accept the advice of the agricultural experts and to learn the scientific new methods of agricultural production. Farmers in other European countries were not at that time able to meet this challenge in a similarly productive manner. Either they tried to resist it by efforts to obtain protection on their traditional production, which were in the long run doomed to failure, or they responded with large-scale emigration which was also only a temporary palliative.

The case of Japan is different but equally forcible. Whereas in Denmark it was the early establishment of the Folk High Schools which was decisive in influencing Danish prosperity, in Japan the factor was universal primary education. The sudden rise of the Japanese economy with the Meiji era is associated by economic historians with the fact that one of the first measures after the fall of Shogoun was the establishment of a system of compulsory universal education which practically eliminated illiteracy by the end of the Nineteenth century. Mean time India and China, rich in natural resources where Japan was poor, remained with high illiteracy and large-scale underdevelopment.

Evidence as to the returns from education derived from analysis of the aggregate production function and historical examples are impressive but difficult to use as an immediate guide to action. In the case of the former, although it is possible to demonstrate that growth depends upon a powerful residual factor associated with human organization and skills, it is not possible to break this factor down so as to isolate its educational component. In the case of the latter it is never possible to reproduce the same historical circumstances. Another and more limited approach is to aggregate the salaries earned over the working life of various occupations discounted for interest, and to compare this total with the cost of education for those occupations adding both compound interest and opportunity costs. On such a basis Professor Becker calculated for the United States Bureau of National Research that as of 1950 the United States male population was earning 14.5 per cent return on what they had privately invested in obtaining their high-school, college and university education, and that when public costs were added, the rate was 11 per cent. Thus we see investment in education paying itself off over nine years - a very favourable rate on ordinary market terms. Statistics enabling this exercise to be undertaken are only available for a limited number of countries, and since the countries concerned are those which have already reached an advanced stage of development, their application to economically underdeveloped countries needs caution.
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This method is also open to the criticism that, since it is calculated on a person's lifetime, long term assumptions are involved about the earnings of different occupations, and about consistencies of the supply and demand position, which are necessarily speculative. Moreover, although this method might be a useful guide to a person considering whether or not to send his son to college, it does not follow that the sum of the differentials where added would represent the total national gain. Some individuals may have gained at the expense of others. Moreover all of the gain cannot be attributed to education as there are important co-relations between education and parental income.

None the less these figures have their value, particularly when set against the figures of cost. There are no comparable figures for the United States but differential in the case of France can be seen from the following estimate made in the special study by Dr. LoebeL The gross cost of primary education for the period of compulsory education on a recent estimate was NF 3,150 per person; that of the educational cost of a skilled worker was NF 7,100, that of a boy or girl of matriculation standard NF 10,000; of a graduate NF 15,000; and that of an engineer NF 28,000 to NF 30,000. The differential of cost of education between occupations is much greater than the differential of earnings, and it is the fact that the earning life of man is several times the length of his period of education which makes the investment profitable. Longer expectation of life and later retirement has caused an increase of return on investment in education. This has special relevance to the underdeveloped areas where the expectation of life has increased greatly over the last few years. Investment in education in those countries has become correspondingly more profitable.

However, the figures of gross cost of education are inadequate for a study of the economic return on investment in education unless they have "opportunity costs" added to them. In the case of the individual, these consist of the earnings lost by him while receiving education. But at the national accounting level the range of opportunity costs covers not only wages foregone by the student but also those of the teachers. Further, the outlays on current or capital account have to be assessed against alternative possible usages, and the impact of the public expenditure on the competitive position of the country has to be taken into account. In assessing these items, it is necessary to ascertain how much of the investment involved is simply social transfer of income without involving real resources, whether the teachers are persons who are withdrawn from other productive work for which they are needed, whether school equipment has to be imported, etc. The usual pattern in a developed country seems to be that about two-thirds of the annual cost of education consists of the salaries of teachers, and the remaining third is mainly made up of the opportunity costs. In the United States of America opportunity costs have been estimated to account for half the cost of education. These costs depend upon the employment situation in each country.

The picture of costs will also vary from country to country according to the demographic situation. Most economically underdeveloped countries have a larger proportion of children to total population than developed countries, and mass education is proportionately more expensive if the same standards are aimed at. They have a higher unit cost of administration, and teachers' salaries in relation to average income is higher. The opportunity costs are different. In a developed country these begin at high school level. In economically underdeveloped countries they extend down through the elementary school ages, in conditions where most children are employed when not at school. But frequently the situation is one of manpower surplus and underemployment and opportunity costs are smaller.

It is not easy to make comparisons of cost between countries but it has been established that the percentage of national income spent on education ranges up to seven to eight per cent, the level attained in the USSR. This high level is partly due to demographic composition of the population of the USSR. It was also initially partly due to the low base from which it started. But since this rate is being continued although the "stock" of educated people in the USSR is now among the highest in the world it also reflects a profound national conviction as to the high economic and social returns to be obtained from education.

As regards the return on the costs, this can be taken on the narrowest basis, i.e. that the money should return to the pockets of the investors after a certain period, together with the interest earned on it. On this basis it should be noted that an investment in education which
increased school attendance by an extra year (e.g. to 14 years of age) starts to give its first returns when the children at the top of the school age group enter the labour market, i.e. a delay of a year. Eight years would be required before all the entrants to the adult labour force were people who had benefited from the additional education. Before the point was reached when the majority of the active population had benefited, a period of thirty years would be required, if we take the age group of forty years as the median. It is figures of this kind which have encouraged the widespread view that education is a long-term investment not qualifying for financing under ordinary market terms. But the real point is not the period taken to cover the bulk of the population. It is the annual rate of return on the money invested.

We saw above that it had been calculated that as of 1950 the United States male population was earning 14.8 per cent return on what they had privately invested in obtaining their high school, college and university education (measured by both their direct costs and their opportunity costs) and that when public costs were added, the rate was 11 per cent. Thus we see investment in education paying itself off over nine years - a very favourable rate on ordinary market terms.

In interpreting these figures we have to note they relate to investment in education in a society already having universal schooling, highly organized educational facilities, and a lively employment market. Returns of these dimensions will therefore be restricted in an economically underdeveloped country to that sector of education which is already well organized and whose product is in active demand. Investment to create new facilities, or to prolong the years of schooling, involve new capital investment and a longer time-span. But is there any reason why the educational budget should not be considered as a whole, the quicker returns in the organized sector offsetting the slower returns in the developing sector, and the developing sector aiding the organized sector by reducing the unit cost of administration? What a Finance Minister has before him in an educational budget is really a complex set of short-term and long-term investments ranging from various types of specialized training and education which fill gaps in the labour force (the returns of which are very rapid and extremely high) to changes in length of school attendance which may be extremely profitable but requiring twenty to thirty years to give its full return. But the interim partial returns may still make the investment worth while long before that period is achieved because of the progressive improvement of the labour force.

This can be seen from comparison with returns on other types of investments. The normal period for amortization of loans for development projects ranges between twelve to thirty years. A successful agricultural settlement project opening up new land can be expected to amortize itself in twelve to fifteen years. A hydro-electric project will need about the same period, and a steel mill probably somewhat less. In the case of the development of whole new industries the time will depend on the existing skills and capacity of the country at the starting point, but it is significant to note, that even with its highly efficient industrial capacity, Japan took about six years to create its own automobile industry, before any period of amortization of capital could begin.

This type of argument was used recently in a report (Carl S. Shoup and others) on the fiscal system of Venezuela when it was stated that "judged merely from a financial point of view, money put into education in Venezuela will produce a rate of return considerably above the net rate of return obtainable in most businesses or in real estate mortgages. The rate of return on education is several times the rate of interest that the government would have to pay on money borrowed to finance education"

But arguments of this kind do not cover the whole of the picture. It is necessary to take into account the "external economics" (or indirect effects on the economic environment) resulting from educational programmes. These may group under the following headings: research and inventiveness, organization, entrepreneurship, social coherence and political performance, the flexibility of the labour force, and psychological factors affecting achievement. These operate both separately and cumulatively and take us into the social as well as the economic aspects of education.

The Soviet scholar, Professor Kairov, in a paper presented to a recent meeting of the International Sociological Association stated that when universal four year education was introduced into the USSR, it was calculated that the benefit to the economy would be forty-three times greater than the sum expended on it. He did not explain how the figures had been obtained, but it seems
clear that he must have had a substantial time-period in mind, as well as substantial external economies.

Clearly research is one of the most striking external economies produced by education. The place of research in development can be seen from the ratio of research expenditure to expenditure on setting up new plants, products and processes. This varies by industry and the ratio in the United States has been estimated at 1.10 for the average and 1.3 for the chemical industry, one of the largest consumers of research. The return on research is difficult to calculate but estimates show that as of 1955 the return on the average dollar invested in hybrid corn research in the United States of America was at least 700 per annum. Results of this kind and those accruing from organizational inventiveness are clearly of an entirely different order of magnitude from those resulting from primary education. However, the highest inventive skills of this kind, whether scientific or organizational, have to be supported by ranks of middle technicians, and by entrepreneurs or educated farmers who will exploit market possibilities, and complementary technical and vocational education as required. Further they need to operate in an informed society where there is a sense of individual opportunity brought about by access to education.

This leads us to what is perhaps the second and third of the "external economies", namely the effect of education on occupational and social mobility, and the fact that the spread of education also increases the statistical probability of the country producing people of high talent by extending the base from which the supply is produced.

The relation between education and mobility is illustrated in an American context by the findings by Dr. Lewis and Professor Anderson from their study of the social origin and social mobility of businessmen in the city of Lexington. The inquiry covered all the businessmen in a city of 100,000 persons and showed that "the most important single factor favouring business success was education". If we look at economically underdeveloped areas we find the same kind of evidence. A survey by Collins in a backward rural area in Jamaica showed that "for persons in low status occupations, education is the main channel of social mobility". Professor Oscar Lewis' survey of an area on the outskirts of Mexico City, where the people lived in conditions of poverty, showed "a positive co-relation with income; those in the upper income group of the sample have approximately one year more schooling than those in the upper middle group and about a year and a half more than in the lower middle and lower groups". Studies show that at the poverty level education is such a positive factor in lifting income that even a bare medium of extra primary education enables members of a poor community to outstrip the income of their neighbours.

Educational projects are not alone in being difficult to evaluate precisely in terms of increase of national income. Many of the same difficulties apply to physical investments. The value of a new dam is the direct effect produced in power, in the irrigation of crops, etc. But its final evaluation includes a mass of indirect effects arising from rural development, the use to which the electric power is put, etc. These can never be precisely assessed in advance. Yet they enter very powerfully into the minds of development planners and influence their judgement in the choices of investment.

Projects closest to education in their economic implications are items like highways. On such projects the returns are often indirect and difficult to collect but no less important on that account. The value of a highway accrues to the community as a whole over time and its cost benefit ratio is not wholly measurable in terms of production. The public use the highway for many purposes, productive and non-productive, and it becomes part of the level of living of the community. The distinguishing characteristic of such projects, like that of education, is that the indirect benefit in terms of income does not accrue to those who bear the major costs; and that many of the benefits are indirect, and cannot be easily recouped from the beneficiaries.

In analysing the cost of education it is necessary to distinguish between money costs and real costs. In a typical underdeveloped country the real costs are considerably lower than the money costs. The real resources needed consist of building material, equipment for schools and colleges, some of which involve foreign exchange (paper, laboratory equipment, radios, professors hired from abroad, etc.), and labour which would otherwise be employed elsewhere, either in school construction or teaching. Against them must be set the returns accruing through the
mobilization of otherwise idle or misapplied resources, particularly resources of skill. Since unemployment is a common feature in economically underdeveloped countries, money costs give an exaggerated picture. The "educated unemployed", produced by errors of educational pro-
gramming, to which reference was made earlier, constitute an unused real resource for educa-
tional purposes, if they can be utilized in the education system.

IV. PROBLEMS OF ALLOCATION OF RESOURCES BETWEEN EDUCATION AND
OTHER ITEMS, AND WITHIN THE EDUCATION SECTOR: EDUCATION
EXPENDITURE NORMS

Allocations of investment at the national level are in the final analysis political decisions, and the role of economists is to show which choices and combination of decisions would lead to results which would maximize national income; and which choices are inconsistent with other decisions. A number of well-established techniques exist for this purpose, though much study has to be made before indirect effects and social implications can be taken into account.

The two major political decisions confronting developing countries in economic programming are those of the timing and the "coverage" of alternative programmes, i.e. the degree of sacri-
ice of current expenditure for the sake of future growth which is involved, and the proportion of the population affected. These considerations apply over the range of investment but have particu-
lar relevance to education as a resource. Education requires a time lag before it is econo-
merically effective and is a prototype of the development operation of saving now to have more later.

We saw earlier that half of the cost of education in the United States of America is made up of salaries foregone by students. In economically underdeveloped countries the area of choice is greatly limited by the cost of maintaining the economy at reasonable levels of current consumption. Further the extent to which a country chooses to extend primary education rather than build a balanced educational pyramid will reflect not only an economic decision but political and social convictions - which may be uneconomic - as to the kind of society it wants to create. Whatever policies they pursue Governments have to take into account functional or technological relations between the different categories of education. So many primary school pupils require so many teachers, who require teacher training, etc. Unless these technological relationships are kept under control waste will occur in the use of the investment.

Professor Arthur Lewis in a contribution to this subject in 1959 suggested that countries in which about 50 per cent of the children enter primary school should offer post-primary education to about 4 per cent, with the latter percentage rising to 10 when primary education becomes universal. He suggested that, in India, secondary education may have proceeded too rapidly in relation to primary, resulting in a problem of educated unemployed, while in much of Africa secondary education had not proceeded rapidly enough, resulting in a shortage of persons qualified for commercial and administrative posts, or for responsibilities in local government and voluntary organizations. The conclusion that post-primary education was lagging behind primary has been supported in respect of Nigeria by the findings of the commission headed by Sir Eric Ashby, which reported in 1960 on educational needs in Nigeria. This group found pri-
mary education quantitatively well advanced except in the Northern Region, but recommended that secondary enrolments should be almost trebled.

The problem of allocation is further complicated by the fact that a country is confronted by many other types of possible investment which also involve varying degrees of sacrifice over time and affect different levels of the population. The best that can be done from a distance is to list the main points to be kept in mind which are based on the analysis and illustration given in the preceding sections of this paper. (1) The rate of return on some types of educational invest-
ment is immediate when the missing input is skill and the returns are enormous. (2) The returns on investment in a general education system are longer term and difficult to measure (though not as long term as usually supposed). But the provision of the skills to produce these large and quick returns is dependent on the existence of a general educational system. Therefore both the long-term and the short-term returns should be considered together. If looked at this way the returns on investment in a general educational system may parallel closely those in physical development projects on an income producing basis. (3) But since education is an item of con-
sumption it will have an advantage over physical factors of production other things being equal; further it represents a stock of knowledge and educated people who can switch from one
economic activity to another. (4) Education investment also leads to indirect social, political and psychological effects which are basic to the organization of a society in which economic development can take place.

Beyond urging that these factors should be taken into account in the final judgements by planners of resource allocation, and the making of the necessary research in the case of each country, there is little more that can be done centrally than to draw attention to the norms of educational expenditure at present being applied. These represent a pragmatic test of how countries have in the past viewed education in terms of resource allocations. The norms operating in industry are also illuminating. From 3 to 5 per cent of the retail price of products sold by nationalized industries in the United Kingdom is allocated to training.

The percentage of national income devoted to education vary from 1 per cent to 7 per cent over the range of the countries of the world. These figures have to be studied with caution in relation to indices of economic growth, because of the time lag. Some countries have a smaller "stock" of educated people than others and because they are investing more in education their "stock" is not necessarily greater than those investing less. A more instructive approach is to study within sector expenditure.

It is not easy to break down education expenditure between the different categories of education (primary, secondary, higher) because the definitions of the categories vary in the different countries. However, it is possible to set out some comparisons between countries which similar systems and these reveal considerable variations as to the allocations of resources within the educational sector. To some extent this is conditioned by the nature of the economies of the different countries but the disparities cannot wholly be explained this way. In some cases the disparities are fortuitous and appear to be connected with low rates of development without significant differences in resources. This would point to the need for investment in particular categories of education in different countries. A further approach is to study norms in terms of historical experience of comparable countries. Country A is in the same educational state as country B was twenty years ago, and has the same level of national income as country B had then. Country C, if its economic growth is projected, will in ten years' time have an educational pattern similar to country D which has already obtained that income level. Thus some guidance as to the desirable direction of educational investment is possible from a study of norms.

The establishment of the necessary data to enable conclusions of the above kind to be drawn from a study of existing educational expenditures and norms in relation to the other indices of economic development is a large task. It involves not only central research as to the best manner to handle available statistics but also the creation, inside the economic programming organizations of the underdeveloped countries, of units which will be able to handle such data, and integrate educational with economic development.

V. SOME ASPECTS OF THE FINANCING OF EDUCATION

Given decisions as to the place of education in the allocation of resources, the question is how education is best financed. This is a technical problem covered by another item of the agenda but the following points of a general economic character can be made. At present underdeveloped countries follow the traditional practice of financing education from current revenue and allocated between recurring and non-recurring expenditure, treating recurrent expenditure which is the largest of the two sums under the heading of consumption. Thus the funds available for education depend upon the fiscal possibilities in those countries which tend to be inelastic and operating through inefficient systems. The present treatment of education in national income accounts is out of keeping with current economic theory; it seems to have occurred fortuitously rather than by design and is preserved for reasons of comparison. The first step for a realistic education programme is to secure the recognition that even recurrent expenditure in education is an investment rather than a consumption and should be treated in the same way as other forms of capital investment.

Loans for the development of educational systems are in effect loans to a country's economy since there is no way of ensuring that the individuals educated will pay it back and the task falls upon the economy or society as a whole. Banking institutions do not normally take education into
account as a necessary input in development projects and therefore the amount of development loans often do not cover provision for educational purposes. At the same time education may be one of the key inputs in order to make the development project a success. It is desirable therefore that loans for development projects should include sufficient sums to provide for the necessary educational input. The science of education has now developed to such a degree that it is possible to establish technological relations between different categories of education in order to permit the economic requirements of education as an input in a particular project to be calculated in monetary terms.

Problems of this kind are avoided when education is treated as a matter of grant. The case can be made out at an international as well as a national level that the economic and political returns to the world community of establishing general educational systems are so great that an obligation falls on the wealthier countries working through international organizations to provide for the development of education by systems of grants.

A problem facing Finance Ministers in many underdeveloped countries is that the revenue they can raise is limited by the fact that a substantial proportion of the population are outside the monetary economy and living on a subsistence basis. There is a vicious circle, namely that revenue cannot be raised to educate people, and yet education is needed to lift these people into the monetary economy. At any given time there is a substantial number of people in the subsistence sector who are on the edge of coming over into the monetary economy. Studies made by ECAFE show that the amount of capital formation in the subsistence sector in Asian countries is much higher than supposed. There is considerable evidence that adult education, including agricultural extension courses, can greatly hasten the movement into the monetary economy and so help to break the vicious circle in which many Finance Ministers are enclosed.

In the foregoing paper the attempt has been made to cover, in the shortest possible space, the range of problems which this subject presents, research on which has hitherto been largely neglected. A number of examples are drawn from countries which are in the position of having obtained high standards of living and sustained growth, and caution is required in applying them to countries now only starting on the path of full economic and social development. None the less, the examples of the countries already developed and their story contains lessons of courses to be followed and to be avoided, which newly-developing countries will want to have before them.

The lack of statistical evidence of causal relations between education and economic growth, which can be applied to countries at an early stage of development, must not be taken as pre-judging whether its effect is less or even more powerful than at the stage when development has already been obtained. Many economists believe that the basic impulses which lead a country into sustained growth (or bring about "take off" to use Professor Rostow's term) are social in origin and deeply intertwined with that of organization of the country's social and political skills, as well as its "stock" of knowledge and educated manpower. Studies are being initiated on these questions so that the role of education in the whole process of economic growth in countries at different levels of development can be fully analysed.
Up to the Second World War, economists - from Adam Smith to John Maynard Keynes - were practically unanimous in forecasting that economic growth in the more developed countries would first slow down and then come to a standstill. Although they were agreed in this conclusion, the reasoning which led the economists to this conclusion was very diverse, ranging from diminishing returns in agriculture (Ricardo), demographic improvidence (Malthus), collapsing markets and purchasing power and growing inequalities of income distribution (Marx), the dying out of the entrepreneurial spirit or the environment in which entrepreneurs flourish (Schumpeter), exhaustion of natural resources (Jevons) to the exhaustion of investment opportunities and a fall in the marginal productivity of new capital into the bottomless pit of the liquidity trap (John Maynard Keynes).

These great economic thinkers also disagreed in that some of them viewed the coming of the stationary state with satisfaction as the dawn of civilization and a new golden age or as the birth-stage of a new social order - whereas others viewed the coming of the stationary state with alarm as a time of trouble, chaos and possible collapse. The interesting point to note is how closely the various reasons given for a slowing down of progress in developed countries resemble the reasons which nowadays, in the post-war decade or two, give us so much concern - not for the continuation of progress in developed countries but rather for the achievement or starting of progress in the underdeveloped countries: low productivity in agriculture, the population explosion, the lack of markets, the absence of managerial and entrepreneurial talent, low productivity of capital due to lack of infrastructure, etc.

It is surely one of the most dramatic reversals in the history of human thought that at present we should have thrown overboard the belief in a coming stationary state for the developed countries, and replaced it by a picture of a possibility of indefinite progress, whereas all the "dismal" elements should now have become transferred in our thinking from the mature developed countries to the underdeveloped countries. When we ask ourselves for the reasons for this dramatic change of views, we are beginning to approach the heart of the matter which is the subject of this Conference, namely, the relationship of education and economic development.

Broadly speaking, the new factor which has upset our belief in the coming stationary state and replaced it with a picture of continuing progress, once a certain "take-off stage" has been passed, can be summarized in the words "technical progress" and "human capital". For instance, John Maynard Keynes, after demonstrating that given enlightened economic policies, deficiencies of effective demand need not be an obstacle to full employment, firmly believed that even if full employment were successfully maintained, the marginal efficiency of capital accumulation would continually fall and it would ultimately come to a standstill, and with it economic progress in the ordinary sense. In fact Keynes went as far as to predict that this would be the case within one or two generations - presumably he had Great Britain in mind. If this belief has vanished from our thinking and if it has been replaced by the opposite picture, it is because we now contemplate an economic system in which technical progress and the increasing efficiency of production constantly create new investment opportunities, at the same or a faster pace than the pace at which existing investment opportunities are being used up by capital accumulation. In the mature industrial economies of Europe and North America, progress has become, as it were, a definite industry. Progress, as it is often put, has become a "built-in" feature of the economy, and as a result economic "miracles" of growth abound and are sustained, specially in the European countries and Japan.

This new insight has been made possible by a shift in our whole thinking about the problem of growth and development. The fundamental problem is no longer considered to be the creation of wealth, but rather the creation of the capacity to create wealth. Once a society has acquired this capacity to create wealth, the creation of wealth itself becomes almost incidental; it follows quasi-automatically.
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What is this "capacity to create wealth"? Essentially it resides in the people of a country. It consists of brain power, it is based upon the application of systematic research to the problems of production and of the best organization of the economic institutions of a country, research systematically pursued and systematically applied. The history of post-war years has shown that given this underlying capacity and systematic application of research, economies in a surprisingly short time can make up for gaps or destruction in their physical capital equipment. The history of the post-war era also shows that the systematic application of brain power seems to transcend in its importance for economic growth the distinctions between different economic and social systems, however important and fundamental these differences may be in other respects.

One facet of this development of research and brain power as a "built-in" growth element is the systematic expenditure of about 1 1/2 to 2 per cent of the national income on "research and development" (excluding military research and development). Where this is done in a society in which a willingness and capacity to apply the results of this expenditure on research and development exists, and where the educational level of the population makes this application with its necessary adjustments possible, this level of expenditure seems to be sufficient to create a flow of new investment opportunities sufficient to maintain the productivity of new capital accumulation at a high level, even though capital accumulation itself proceeds at the high rate of 15-20 per cent of the national income, i.e., ten times the expenditure on "research and development". Thus, the rate of pre-investment expenditure on research and development (not counting the cost of education itself in progressive mature economies stands to total investment in the general ratio of 10 per cent. In the underdeveloped countries, total new investment is presently of the order of magnitude of about $10 billion per annum; but it ought to be of the order of magnitude of $20 billion per annum to convert them into progressive economies. This means that pre-investment expenditure on the creation of new investment opportunities in the underdeveloped countries (not counting the cost of education) should be of the order of magnitude of about $2 billion per annum. The actual figure is only a fraction of this sum, and so are the international resources available to aid them in this purpose.

Two points are of importance to note. First of all, such a systematic expenditure on brain power and the application of its results to production is not subject to the law of diminishing returns. Quite on the contrary, it is governed by increasing returns. In any individual piece of research, the early expenditure may merely serve to rule out certain possibilities. In that sense, money spent on "unsuccessful" research is "wasted" - but only if it is not followed up by further expenditure which can then be concentrated on the areas which the previous "failures" have shown to be more promising. It is typical of research expenditure that one cannot learn from one's mistakes. More important even is the second point, that as our total body of knowledge extends, the linkage effects of any new additions to our stock of knowledge are multiplied. New knowledge links up with previous new knowledge to produce quite unexpected new combinations of progress. Even more startling, new knowledge links up with previous failure and converts it into success.

Certainly, with the systematic pursuit of expenditure on new knowledge applied to production, the elements of the "lucky break", the haphazard, the "brain wave" are more or less removed. The law of large numbers begins to apply when thousands of research projects are going forward simultaneously. Although one cannot be certain at all in advance which projects in particular will bear fruit, yet one can be reasonably certain about the proportion which will bear fruit and about its approximate total effects. This is what is meant when we say that in a progressive economy the production of knowledge has become a more or less predictable annual industry. In fact, it has become the growth industry, or the "leading sector", par excellence.

This view of economic growth and progress is strongly supported by more recent results of economic and statistical research. It has invariably been found that of the total increases in output over longer periods, only a minor part can be attributed to increased physical inputs, such as more labour, more physical capital or more natural resources. The greater part of the increase is attributable to non-physical factors, broadly described as technical progress or increases in the productivity of the physical factors. Different economists have expressed this result in different terminology. Some say that this shows the importance of the intangible and human factors in production; while others prefer to say that the production function is not linear and homogeneous but that at certain stages of growth economies seem to enter upon an era of increasing returns, due to both external and internal economies of production. This apparent controversy, however, really
conceals an underlying identity of views, namely, that the capacity of the economy to absorb and apply increasing knowledge rapidly and diffuse it throughout the economic system is capable of offsetting any tendencies towards the stationary state or towards diminishing returns, and instead to produce considerable and comparatively frictionless economic growth.

In fact, the possibilities inherent in systematically produced and "built-in" technical progress are now so highly rated as the result of the evidence which has come to light that not only would very few economists now agree that the marginal efficiency schedule of capital is likely to decline or disappear; even beyond this, most economists would now say that even if net investment should in fact disappear, this would by no means be the end of economic progress as was taken almost for granted before the Second World War. Since most of the progress of the more developed countries is statistically attributed to non-physical inputs (either changes in production function, or increasing returns within the production function, according to the predilection of individual economists) it follows that even without new capital accumulation rates of economic progress are still possible which are much higher than the rates actually experienced in most underdeveloped countries, even with increased labour inputs and capital accumulation.

In any case, technical progress via increased knowledge is embodied in gross investment rather than net investment. When a given piece of capital is replaced by value, this does not represent new capital accumulation; but the new piece of capital will represent a more advanced state of knowledge and be designed for operation in amore efficient organization and with a more efficient labour force. Hence even without capital accumulation, technical progress is embodied also in capital replacement. The fact that in economies with technological progress, capital replacement does not wait for physical obsolescence but is undertaken as a direct result of technological progress, adds further force to this line of thinking.

Of the total investment in research and development which in advancing economies amounts to about 10 per cent of total investment, or 1.1/2 to 2 per cent of the national income, about one-third consists of the cost of training the scientific and other high-level professional personnel required for research and development. To that extent the problems of education and training on the one hand, and of financing research and development on the other hand overlap. This means that about 1/2 to 1 per cent of the national income ought to be spent on the training of scientific and other highly technical research personnel. We may take this figure in conjunction with the estimated cost of training one such highly qualified person, which was calculated for Nigeria ("Investment in Education", report of the Ashby Committee based on the Harbison survey) as approximately $13,000 per person exclusive of capital expenditure, and about $15,000 per person inclusive of capital expenditure. If underdeveloped countries like developing countries could spend 1/2 to 1 per cent of their national incomes on such training and would not encounter any other bottlenecks, it should be possible for the underdeveloped countries, as part of a programme of general expansion to double the number of such highly trained people in relation to the general population within the next ten years. While this would still leave the corresponding figure far below the present ratio in the more developed countries, it would at least be the beginning of a process of having progress "built-in" into the economic system of the underdeveloped countries.

Beyond the financing of research and development with its associated cost of training of scientific and related personnel there looms the much larger cost of general and vocational education and training. If the present United States figure be taken as a standard, the cost of elementary education in 1956 formed 9 per cent of the total cost of gross physical capital formation; the cost of high school education was 13 per cent of that of gross physical capital formation; the cost of higher education was 12 per cent of that of gross physical capital formation. The total cost of education in all its forms therefore added up to 34 per cent of the cost of gross physical capital formation. This was the 1956 figure which would be higher now. Thirty-four per cent of gross physical capital formation is equivalent to about 50 per cent of net investment or capital accumulation. In a progressive economy, this should amount to about 7-8 per cent of the national income. This measures the burden of a full programme of education and human capital formation in an underdeveloped country. It would be larger than the total domestic savings rate in most underdeveloped countries of today.

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Most of the cost of educational investment consists of the loss of time, and hence of earnings, by high school students, students in higher education and full-time trainees. In this sense, education is true investment in the pure sense, i.e., a sacrifice of production now for the sake of higher production in the future. A number of calculations have been made relating to the yield of the investment in education, in terms of the additional earnings of individuals as a result of the educational investment made in them. Such calculations have invariably shown that educational investment is at least as productive as physical capital investment. Since the personal earnings differential of individuals after education is almost certainly an understatement of the contribution of educated persons to the national product - as they raise also the productivity of the less educated - this means that the productivity of educational investment is in fact considerably higher than the average yield of physical investment.

In underdeveloped countries, where the loss of time of persons going through the process of education is less highly valued than in developed countries, and where the yield differential between skilled and trained people and others is much higher than in developed countries, the yield of educational investment is bound to be even higher than in developed countries. This of course is on the assumption that the educational output is adjusted to the needs of the educational system, and that the graduates and trainees will obtain jobs corresponding to their training and can make a proper contribution to national production.

The educational basis is an absolute pre-condition for the fruitful application of "research and development" to the process of production. It is only where the working force at all levels is sufficiently literate, educated, trained and mobile to take advantage of new advances in techniques and organization of production that the creation of a "built-in" industry of progress becomes possible. Even so, such a "built-in" industry of progress, involving as it does the expenditure of 7-8 per cent of the national income in educational investment, the expenditure of 1.1/2 to 2 per cent of the national income on research and development, and the expenditure of 1/2 per cent of the national income on the training of scientific personnel, in addition to far-reaching adjustments in social outlook and adaptability, is evidently a matter which in underdeveloped countries cannot be achieved overnight. It is probably best thought of as a long-term objective to be achieved over three or four generations.

This of course leaves open many questions of more immediate educational policy. As in other branches of development planning, the problem is that so many things have to be done at the same time. The productivity of new capital investment has to be raised immediately by providing the complementary inputs of trained workers who are taken for granted in the more developed countries. The more obvious gaps in the ranks of business administrators and technicians, both private and public, have to be filled. The educational basis of literacy has to be created, or at least started. Educational institutions, specially in the field of secondary and higher education have to be created. Above all, the essential first step of teacher training has to be taken.

This situation of a choice having to be made between many different things which all need doing is a familiar situation to the economist in underdeveloped countries. On the question of weighting the more immediate requirements against the necessary long-term planning no general pronouncements can be made. Where resources are limited, it makes sense - since a choice has to be made in any case - to select those projects in educational investment which make the greatest short-term contribution to economic output, provided this does not interfere with the long-term development of the educational system. This principle of selecting educational investment which, other things being equal, is also economically most productive does not seem in any way to deduct from the long-term importance of educational investment, nor from the fact that education is of great value in itself and that its role in a progressive society is not exhaustively measured by a direct cost-benefit analysis. To illustrate: where the introduction of general elementary education cannot be made in the whole country simultaneously, there seems no harm in selecting for priority development those regions and areas of the country where economic development is expected to be more strongly concentrated, e.g., in a river valley region where a good deal of physical and agricultural investment is expected to take place.

The educational deficiencies of underdeveloped countries can, in the short run, be dealt with by measures other than the development of an educational system. Apart from the employment of foreign experts and technicians which can provide temporary solutions, it is also possible to
substitute for lacking skills by mechanization. Some economists have pointed out that while underdeveloped countries are short of capital, they are even shorter of skills, so that higher capital-intensive or even automated methods of production which reduce the amount of skills required would be appropriate to the conditions of underdeveloped countries. Although on occasion it may be inevitable to follow this line in order to get something vital done, or get a vital bottleneck removed, generally speaking this is short-sighted advice. It is short sighted because it perpetuates the disadvantage of underdeveloped countries of low marginal productivity of capital due to the absence of skills. It prevents the underdeveloped countries from developing a technology of production appropriate to their resource endowment, developing learning processes and adjusting both their resource endowment and the technique of production harmoniously in step with each other. Only in this way can an ultimate state of "built-in progress" be achieved by the presently underdeveloped countries as well. The substitution of skill by "fool-proof" mechanical equipment may look like a convenient short-cut solution but it is likely to prevent the only true long-term solution to the problem which is in the development of the required skills at all levels.

Another short-cut often recommended is the transfer of existing technology by means of technical assistance to the underdeveloped countries. This is a much more hopeful approach than the introduction of "fool-proof" equipment. But even so, it is not the fundamental solution. It is true that the stock of technological knowledge of all kinds is constantly increasing, and that participation in this increasing stock of knowledge is one of the benefits of later development which should be exploited to the full.

On the other hand, as our stock of knowledge grows, it becomes at the same time of a kind less and less suitable to the needs and resource endowments of the underdeveloped countries. Since it is the developed countries which have a virtual monopoly of research and development, it is not surprising that the kind of research and the direction of progress should be based entirely on the situation and needs of these more mature societies. In particular, the prevailing direction of research is to save labour and substitute capital, and also to develop lines of production suitable for a highly educated and sophisticated population. What the underdeveloped countries need, is technological progress corresponding to their specific situation which means a relative shortage of capital, and a population which is not so highly sophisticated and trained to begin with. Only in this way can a situation be created in which by harmonious interaction knowledge of a suitable kind can be assembled and diffused through the economic system and human investment enable the population to take full advantage of progressively advancing and more complicated degrees of knowledge.

To be sure, there are areas of knowledge accumulated in developed countries which are capable of transfer or suitable application. Moreover, technical assistance can also be used to assist underdeveloped countries in making their own type of investment in human capital and in research and development. There are possibilities here in technical assistance which are by no means yet fully explored. Yet while technical assistance may help underdeveloped countries to achieve "built-in" progress, it can never be a substitute for it. True progress, based as it is on human investment must always be a domestic product, even though it can be nursed, assisted and stimulated from abroad.
BASIC PROBLEMS OF ADULT EDUCATION IN THE COUNTRIES OF AFRICA

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Adult education, and first and foremost the elimination of illiteracy among the adult population in the countries of Africa, presents an extremely urgent and complex problem. At the present stage in the development of the countries of Africa, where many of them have now achieved sovereignty and independence the solution of this problem cannot wait. The extension of education in Africa, the development of primary and secondary, technical and vocational and adult education, is a vital factor not merely for cultural progress but also for the economic and political advancement of the countries concerned.

Adult education, as opposed to the education of children and young people, has its own specific character of course. Its main distinguishing feature is that it concerns the education of people who, unlike children, are not freely available - who have little time for study, are engaged in physical and sometimes exhausting labour and are burdened by family cares and sometimes also by financial difficulties. This accounts partly for the complexity of the problem. Nevertheless, complicated though it is, it can in our opinion be solved, given goodwill, earnestness and decisive action on the part of those people - educationalists and politicians - who are responsible for running the country.

It would be useful if the Conference of African States begins by discussing vitally important questions relating to adult education. These questions should be examined and discussed thoroughly so that those taking part on the Conference may go back to their own countries and embark, with due regard to special local conditions, in the practical work of organizing adult education or of extending that work where it is already in progress.

Objectives of adult education

The education of adults and especially of young people in Africa should not be limited to the elimination of illiteracy. It should if possible be attuned to local living and cultural conditions and to the present level of school education, even where this does not go beyond the primary-elementary level, and should make use of all effective means and methods. It should be organized in such a way as to enable adults and young people who have had no schooling to become literate and acquire education and a scientific training; in this way, adult education besides furthering the intellectual development of the population, can also serve in some degree to improve living conditions and be a factor for progress.

The point to be borne in mind is unless the illiterate African sees the material benefit to be derived from education and literacy, he will co-operate unwillingly in this matter, and will not devote himself, after a day's physical labour, to concentrated brain work or study with the diligence and persistence necessary to achieve satisfactory results. This is an indisputable pedagogical fact. Hence adult education must be so organized that students are able, after completing a specific school syllabus, to continue their education on their own, and acquire further knowledge, by individual reading and by attendance at evening courses on various subjects - particularly technical and agricultural subjects, so that they can later obtain a vocational training or even a higher education through assiduous attendance at evening courses or by taking correspondence courses.

The Soviet Union has had a great deal of experience in this field. At the time when the USSR embarked on a mass campaign for the elimination of adult illiteracy, a campaign which had to extend to virtually the whole of the population, the country was set a real and concrete task: the people were called upon to eradicate illiteracy and acquire knowledge so as to be able to run their economy efficiently, improve their working qualifications, obtain a technical secondary education and then go on to enter higher educational establishments for specialized training - all this in order to improve the material conditions of their families and serve and govern their country to
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good purpose. By these means, thousands of people raised their educational level and then trained for a trade or speciality.

Beginning in 1919 and continuing until the 30's, the universities and institutes had what were called "workers' faculties" attached to them which concerned themselves solely with providing a general secondary education for adult workers, agricultural labourers, peasants and other workers who had completed a literacy course followed by a course for new literates at primary school level (persons who had completed a course at a general education school being excluded). Graduates from these "workers' faculties" could go to higher educational establishments; and many of our qualified specialists, scientists and public workers today are people who "made their way" by this means.

Such was the stimulus - and not the only one - supplied to illiterate adults whom the USSR aimed at - and succeeded in - educating.

Adult education is of course possible in the countries of Africa as elsewhere, in some a little sooner and in others a little later. But it requires the maximum attention on the part of the authorities in all of them, and the campaign has to be put on a mass footing and given State significance.

This does not mean however, that adult education is counterposed to school education. Every African country will have to solve both these problems simultaneously, subject to the availability of teaching staff and material and other resources. This is possible, given the necessary determination and belief in the vital importance of educating adults and children alike.

The main questions of adult education which may be discussed are as follows:

(1) Questions of principle.
(2) Purely pedagogical questions.
(3) Questions of organization.

I. QUESTIONS OF PRINCIPLE

Important questions of principle must be solved in order to pave the way for any real extension of adult education in the various countries of Africa. There is first the question of the need for adopting a special law on the education of the adult population. The decision as to whether or not to adopt a law on this matter rests, of course, with each country's government. But the experience of the USSR and more particularly of the Azerbaijan SSR in this matter clearly indicates that the adoption of such a law is both useful and necessary. The Tsarist régime which existed until not so long ago in Russia left a heritage of large-scale illiteracy among the population. According to the 1897 census, only 24% of the population could read and write. The percentage for women was even lower - 12.4%. In the borderlands of Tsarist Russia, and especially in Central Asia and Transcaucasia, practically the whole of the population was illiterate - a state of affairs which remained practically unchange up to the eve of the October Revolution of 1917.

In Azerbaijan, where the overall figure for literacy in that year was only 10%, the figure for the rural areas was as low as 3%, and for women a mere 1%.

Obviously, the Soviet Government, after the victory of the Revolution, could not countenance this situation, and determined measures were taken to eradicate illiteracy. Immediate action was taken to set up a network of schools, for teaching illiterates, and in 1919, the Government of the RSFSR issued a decree on the eradication of illiteracy which was signed by Lenin, the leader of the Revolution and the founder of the Soviet State. Under this decree, the Council of People's Commissars laid it down that all citizens of the Republic between the ages of 8 and 50 unable to read and write must attend literacy classes either in their own language or in Russian, at their choice, in order to enable them to take an active part in the political life of the country.

The Soviet Government set up special commissions for the elimination of illiteracy on both the central and on the provincial and district levels and brought the campaign to the notice of all party, trade union and youth organizations. The decree gave the drive a nation-wide State
character, and compelled all educational bodies to give this question their constant attention.

Similar laws were adopted in other Union Republics (including my own, the Azerbaijan SSR, in 1920, after the triumph of Soviet power). This law, which was of historic significance in my country, is no longer in force since the population is now fully literate. Some such law is essential in order to specify the adult age-group to be covered by education, the period of application and duration of the educational measures, the method of financing the literacy campaign, the language of instruction, the obligations of citizens in this respect, and so on.

Illiteracy is not of course automatically eliminated by the adoption of a law on the subject - that has to be done by educational and other organs. What it does do is define the methods for solving the problem and specify the principles to be adopted.

It is on the basis of our own historical experience that we urge the advantages of adopting similar laws in the countries of Africa with due regard - it goes without saying - to their particular conditions and possibilities.

Financial questions are also extremely important. The African States, which have only just embarked on the road of intensive development, are experiencing financial difficulties, and can hardly be expected to be able to devote the necessary funds to adult education forthwith. But one thing is certain: that if the government and the leaders of a country treat the question of education really seriously, the financial problems will appear to be capable of solution.

In this field, also, the Soviet Union has acquired its own experience. During the early years of Soviet power, the country was faced with financial difficulties, since it had suffered serious destruction as a result of the First World War and civil war. Nevertheless, the leader Lenin pressed his point and managed to set a considerable proportion of the State budget (25-30%) earmarked for education, and in particular for the gradication of illiteracy. He said at the time that in the event of the national budget having to be cut down on account of economic difficulties, the other departments’ funds should be curtailed before those of People’s Commissariat for Education and the sums thus released transferred to meet educational needs. Subsequently, with the economic development of the country, all necessary resources were provided for educational bodies (and nowadays we educators, it has to be confessed, are not even able to spend all the funds allocated to us). Another source of funds was established by national aid for education. This took various forms: collection of funds for schools through “Help the schools weeks”, the construction and repair of school buildings through the efforts and resources of the workers themselves, and so on. This experience, we feel, could also be applied in many of the countries of Africa despite the differences of political systems.

The financial aspects of education in Africa are to be discussed in other Commissions of the Conference.

However it should be stressed that planning and financial experts should begin by defining the needs of adult education, preparing plans of work for a given period and stating yearly requirements.

My own country’s experience clearly indicates that there are many sources of finance for adult education that could be tapped. We too needed an enormous amount of money for the elimination of illiteracy. Apart from the State budget, local budgets and extra-budgetary sources also contributed towards paying for this work. In the 1929-1930 school year, for example, there were 53,647 schools in the USSR engaged in eliminating illiteracy and teaching new literates, of which only 2,410 (4.6%), were paid for out of the State budget; whereas 37,778 (74.4%) were supported by local budgets (municipal, district, rural) and 10,777 (21%) were financed from extra-budgetary sources for example (trade unions, co-operatives).

Thus apart from the money allocated from the State budget for adult education, large sums came from local budgets, trade unions, co-operatives, voluntary societies and industrial and other undertakings.

Another important question requiring careful discussion is that of the language of instruction.
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In what language are children and adults to be taught in the countries of Africa? This is one of the major questions which should be discussed.

Traditional, democratic and progressive modern schools of pedagogic thought all recognize, of course, the indisputable fact that a child's mother tongue is more natural to him, and that quicker educational results can be obtained through that medium. This is a pedagogic truth which no one openly challenges. It is argued, nevertheless, that it is impossible to teach people in their native tongue in Africa in view of the large number of tribes all speaking different languages and dialects, apart from which there is the fact that many of the African peoples do not possess a written language.

Further it is pointed out since European languages are universal, that scientific, technical and literary works are written in them and that they are used for conducting diplomatic relations, etc., they should be used as the medium of instruction for Africans so that the latter can be educated more quickly. The European languages - English, French, Russian - are indeed universal, there is no doubt that they have to be studied seriously. It is absolutely essential for a cultured person in the modern world to have a sound knowledge of at least one of these universal languages in addition to his own. This is also the case in the Soviet Union, where considerable importance is attached in schools to the teaching of English, French, German and various Eastern languages. In Azerbaijan, for example, 49% of the schoolchildren learn English and 39% of them learn French; while all of them, besides studying a foreign language, learn Russian as well of their own accord. In many schools Arabic and Persian are also taught. But this does not alter the fact that the children, or the adults, as the case may be, are taught in their own language, since this language is more accessible to the child and provides a better vehicle for their instruction and promotes their development.

It is clear from Unesco documents that in African schools, where teaching is not conducted in the children's mother tongue, the wastage assumes alarming proportions from the lowest grades onwards. May this not be due above all to the fact that African children have difficulty in studying in a foreign language? Children who fall behind, as every teacher knows, always lose interest in their studies, become apathetic, lose confidence in themselves and end up by abandoning school, since they are without faith in their power to succeed. That is why we assert that education, if it is to be made accessible to the masses, must be conducted in the mother tongue.

There is no need for us to demonstrate the proven fact that a child's mother tongue is closer to him than any other, and that he will derive greater benefit from a school where the teaching is done in that language. The only point we wish to make here is that it is absolutely essential to use the native tongue as the language of instruction for adults also, for if that is done, all that the students will have to do will be to acquire literacy, a matter of several months at the most. If that is not done, on the other hand, it will take them several years - at least three or four - to acquire an elementary understanding of the language of instruction and to be able to read and write in it.

In view of the above, the question of language to be used in adult education should be discussed.

However, while urging the advantages of teaching both children and adults in their native tongue, we should not close our eyes to the fact that this presents serious difficulties. Conditions in the African countries vary in this respect. In some, the native language is also the official one - in Ethiopia and the Arab countries, for example. There the problem of adult education is relatively simple. It is merely a matter of eliminating illiteracy. On the other hand, there are some countries where there are many tribes all speaking different languages and dialects; and where the official language is not the native language but one of the European ones. These countries will be obliged, before starting to teach children and adults in their native language, to create a written language. But to create written languages for all tribes, including the small ones, whose numbers are legion in Africa, is impossible. To create a special school system for them would be difficult.

Azerbaijan may be perhaps taken as an illustration of solutions adopted both in school and in adult education. Prior to 1920, Azerbaijan had practically no primary schools using the mother tongue; instead, they used Arabic, which is a very difficult language, as we all know. Subsequently,
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when Azerbaijan had set up its own sovereign Soviet Republic with the help of its elder brethren, the Russian people, its educators and scholars went over to the system of instructing the children in their native tongue. At the same time, numerous courses were organized in the vernacular with a view to eliminating adult illiteracy. The Azerbaijanis went on to adopt a new script based on European models so as to facilitate the education of children and adults alike. Universal education was introduced and an extensive network of primary, secondary, secondary specialized and higher educational establishments set up with instruction given in the mother tongue. Many schools for adults were also founded, and vernacular textbooks and an educational terminology prepared. All this presented tremendous difficulties which were, however, overcome by the persistent efforts of the Azerbaijan people. We now have thousands of 8-year and primary schools, and hundreds of secondary schools in Azerbaijan, and a system of compulsory and universal 8-year schooling is being introduced. The following data give an idea of the people's present standard of education.

Azerbaijan now has a national university and 12 higher educational establishments catering for over 35,000 students. There are nearly 100 students for every 10,000 people; 21 out of every thousand have had a higher education and 270 a secondary or incomplete secondary education. Azerbaijan has its own Academy of Sciences, dozens of scientific establishments and scores of newspapers and periodicals, while thousands of books are published in the native language, as a result of the new social system. It has become a republic characterized not only by highly developed industries and a mechanized agriculture but also by its 100% literacy. And the fact that education has been, and is, conducted in the native language played an important part in this progress.

The case of Azerbaijan is no exception. The position is similar in Uzbekistan, Kirghizia, Georgia, Armenia and other Republics of the Soviet Union. There is one small republic - the Daghestan Autonomous Soviet Socialist Republic - where the population speaks 36 languages and teaching in the primary schools is conducted in 6 of them.

All this indicates that the problem of the language of instruction in the countries of Africa, vexed though it is, is capable of solution - a solution which will pave the way for the rapid development of education in those countries.

Another important question of principle is whether adult education should be organized by the State only, or whether the public should also make its contribution. We consider that it should. The USSR has had experience in this field, too. At one stage (1923), as already indicated, every Soviet Republic had its own "Anti-illiteracy" society, which played a vital part in solving the problem by explaining the urgency and importance of eliminating adult illiteracy, collecting funds, organizing hundreds and thousands of literacy courses, and bringing the problem to the public's notice.

Then, towards the end of the 20's, a cultural campaign against illiteracy was proclaimed, with the participants enrolled as "fighters for culture". This campaign, which was organized on a mass basis, likewise played an extremely important part, and consisted of getting every educated citizen, every student and every member of the senior classes at secondary schools to play an active part in eliminating illiteracy as a voluntary, unpaid service. The "fighters for culture", moved by a spirit of patriotism and the desire to "help their illiterate compatriots to free themselves from the yoke of ignorance", undertook various duties and taught from 2-5 or even more people individually or in small groups.

The scale of this nation-wide drive can be judged from the following data regarding schools staffed by paid and unpaid teachers for the 1929-30 school year; number of schools in the USSR with paid teachers was 50,965; with unpaid teachers, 45,142. The number of pupils taught was 2,139,925 for the first category and 1,344,403 for the second. As to the organizations which set up the schools with unpaid teachers, they were the national education departments, the trade unions, the "Anti-illiteracy" societies, institutions, factories, workshops and other undertakings of various kinds. It is clear from the above that not all the burden of eliminating illiteracy was borne by the State, and that a considerable part of the work was done by unpaid volunteers. It seems to us that this experience could also be applied to the countries of Africa.
While the work would not perhaps be on so large a scale as in the USSR, this method would certainly prove advantageous in any country regardless of its political system. But there is one other vitally important factor in the "Eradication" of illiteracy - the institution of universal and compulsory primary education.

The reason why the USSR managed to wipe out illiteracy in essence in the 30's was that primary education had been made universal in the early years of the decade, thus blocking the source of adult illiteracy at the fountain-head as it were. Once primary education is made compulsory and universal, the problem of providing literacy teaching or primary education for the adult population solves itself automatically within 5-10 years.

A concerted drive against illiteracy should be made by all cultural forces in every African country. Education organs, societies, individual initiative and patriotic convictions should all play their part in this campaign: for it is only by this kind of popular movement that ignorance and backwardness can be speedily eliminated.

One basic question requiring discussion is that of the age-group for which literacy teaching should be compulsory. In our view, the campaign should be directed towards all persons from 12-15 to 40-45; but individual African countries could work out their own arrangements in accordance with their special conditions and facilities.

Planning and scientific research are also needed in connexion with the eradication of illiteracy, and adult education. It would be desirable for every country to have a special scientific research institute; however, should this prove difficult on account of financial considerations, then planning and research work could be centred in the relevant institutes, universities and so on.

II. PURELY PEDAGOGICAL QUESTIONS

Adult education, and in particular the elimination of illiteracy, raises a number of purely pedagogical questions, the timely and correct solution of which largely determines the success of a literacy campaign.

1. The first problem concerns the type of education selected for adults. It is not advisable, we think, to use the same type as for children, at least as far as the duration of study is concerned. Several types of organizations are in our opinion suitable:

   (a) Short literacy courses (from 6 months to 1 year) in cases where the instruction is given in the mother tongue;
   (b) Courses of from 1-2 years for new literates in cases where the instruction is given in the mother tongue. It is possible in these courses (as was done at one stage in the USSR) to give students the same general educational grounding as in primary schools;
   (c) 3-4 years primary courses for adults, giving the same education as ordinary primary schools, in cases where the instruction is not given in the mother tongue;
   (d) Advanced courses for adults, lasting 2-3 years, designed to train students for life in society and teach them a trade.

   In short, it is advisable to provide a several types of education for adults so that each individual can choose for himself to suit his own needs.

2. Another category of problems is related to the programme for these schools and courses, for example preparing curricula and syllabuses, publishing textbooks and popular literature and working out terminology for countries transferring to the use of the native tongue for school purposes.

3. The problem of training teachers for adult education is also extremely important. We consider it unnecessary to train special teachers to deal with adult education as opposed to mass schooling. To do this would involve an excessive financial burden. The best method would be to use the same teachers for adult education as for ordinary schooling, after giving them the necessary training in teaching methods. These teachers would then be able either to do both types of...
teaching or to specialize in adult education. But more than the teachers' efforts will be needed: the entire educated section of the population can – and must – take part in this great campaign. All students at higher educational establishments and all pupils in the senior classes of secondary schools can be recruited for this purpose, on a paid or unpaid basis, after receiving the necessary training in teaching methods.

4. A final category of problems deals with questions relating to education methods at adult schools, school inspection, training of inspectors and so on.

III. QUESTIONS OF ORGANIZATION

Questions relating to the organization of adult education are also of considerable importance. There is the question of where and how mass adult education is to be organized, for example. Various organizational forms could be adopted.

(a) Group activity. This can be organized in the general school buildings. However, it is also possible, provided the necessary facilities are available, to establish special schools for adult education particularly in places where no general schools exist.

(b) For nomadic tribes, mobile schools could be organized.

(c) Individual adult education could be extensively organized by means of a patriotic campaign enlisting the services of the educated section of the population and of students at higher educational establishments and schools.

Arrangements could also be made for paid individual tuition in cases where a fixed remuneration is set for every adult student.

(d) Where available, use must be made of new means and methods for adult education (i.e., radio, television, press and so on).

(e) It is both possible and necessary to publish special newspapers, for the newly literate containing special "lessons" for adults, etc.

CONCLUSION

The complexity and many-sidedness of adult education makes it impossible to attempt to cover all of its aspects in this paper. Nevertheless, we feel we have drawn attention to the main points. Many particular aspects, particularly those relating to methods, the preparation of textbooks and so on are necessarily matters for future discussions, and will be settled by each country at the national level.
ANNEX V
CLOSING ADDRESSES

DR. M. S. ADISESHIAH, ASSISTANT DIRECTOR-GENERAL
OF UNESCO

Mr. Chairman and Delegates,

This Conference of African States, jointly convoked by Unesco and ECA, that we are concluding
today, is a memorable one and will be a landmark in Unesco history and, I personally feel, in
history generally. I would like to recall some of the facts that make this Conference a memorable
one. First, only six months ago, Africa did not exist for Unesco. Unesco had developed a world
programme of intellectual co-operation and intergovernmental action to develop education in
Europe, Asia and the Americas during the 15 years of its existence. It was in November 1960,
that Africa entered Unesco, and it is within six months that Africa organized itself into this im-
portant Conference which has made historic decisions and launched a programme equal in quality
and volume to that in the other three great regions of our world.

Second, we will remember this Conference and its qualitative performance which is due to the
participation in it of 39 Member Governments and 24 observer Governments, making a total of 63
governmental delegations, who have worked and lived together for ten days and made history. We
owe a particular debt of gratitude to the 23 Ministers of Education, who have led, guided and
made the great decisions, at this Conference. I have referred to 23 Ministers of Education, be-
cause I include our beloved colleague from Chad, His Excellency the Minister of Education Mr.
Mangue, who lost his life on his way here with his delegation, but who is very much alive as far
as African education is concerned, and who has been leading and inspiring us in unseen and so
eternal ways. Yes, this Conference and the achievements of the 63 governmental delegations, 10
United Nations Agencies, and 24 international organizations and foundations, are unique in Unesco
history. None of our regional Conferences has attained this high mark of governmental and minis-
terial participation so far.

Thirdly, this Conference will be remembered, because at its outset, it defined for itself its
technical aims and the magnitude of the educational tasks facing it, and adhered strictly to this
technical and educational mandate. I recall your call to the Conference, Mr. Chairman, on our
opening day, May 15, when in your inaugural address, you declared "Let us, in face of the heavy
educational tasks awaiting us, leave aside all irrelevant issues and adhere to our mandate - of
laying the foundations for building African education". I heard some of our delegates later ques-
tion the feasibility of your directive, in face of the many issues, political and ideological, that
divide the world and are beginning to divide Africa. I believe it has been a salutary lesson to all
of us and to Unesco, how under your firm guidance and that of the General Committee and the
unanimous decision of all African States, it has been possible to unite loyally and whole-heartedly
in carrying out our educational mandate.

Fourthly, there is a further salutary example you have in this Conference, set for Unesco
and the United Nations family generally. For years, the General Conference of Unesco has been
grappling with the problem of bringing order and focus into the opening statements of the delega-
tions at the plenary sessions of the Conference. Here in this Conference, the opening statements
concentrated as they were on their priority educational needs by the 32 (tropical) African countries
were a model of coherence, unity and factuality, and in the high level maintained throughout, pro-
vided the basis for subsequent important decisions by the Commissions and the Conference.

Fifthly, this Conference will be remembered because it is the first intergovernmental body
which has looked at, not only the enormity of the educational task Africa faces, but equally has
turned bodily to analyse, discuss and endorse the new knowledge building up, around the fact that
education is a sound and gainful investment. We, educationists, have been somewhat shy of this

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aspect of Education - the economics of Education - and in fifteen years of its existence, no Unesco conference has turned its attention to this important and consequential facet of education. Mr. Chairman, this Conference has given the lead to Unesco, in an authoritative intergovernmental declaration on the Economics of Education and its many consequences - some heartening and some harsh.

Sixthly, all of us have been struck with the sense of realism, moderation and practicability, together with a towering vision, which the African Member States have brought to the analysis of African educational problems, readiness to face the painful and arduous tasks and choices that lie ahead of your educational planners and builders in the unambitious goals and targets you have set for yourselves. In fact, it was some of the outstanding non-African delegations here, who have committed themselves to walk with you in partnership in the weary and burdensome road ahead of you, that are responsible for the slightly higher goals and educational targets you have adopted for the next five, the next twenty years. This is truly international, intergovernmental cooperation, and will be long remembered.

Finally, Mr. Chairman, while recording memories, I have to tell you how impressed I am with the way in which you have worked at this Conference unswervingly and unremittingly. You have paid a price for it in health and sacrifice of many social events. Our Chairman, all three of our Vice-Chairmen and two presidents of our Commissions, as well as many delegations, went down sick during these days. But we worked on, undaunted. The night sessions of plenary commissions and report committees attended by all delegations, including the busy Ministers were probably even more impressive in the excellence and standards of discussions and decisions reached, as were our long hours of work during the day. Here again, some of us from outside the region, who doubted whether you could stand the pace, are going back chastened and wiser.

Mr. Chairman, may I turn now briefly to the major decisions of the Conference.

First, you have given the world and established for yourselves, a clear picture of the educational needs of Africa. They are: (a) Finance, particularly for school construction, school equipment and textbooks; (b) Teachers in hundreds of thousands at all levels of school and out-of-school education; (c) Reform and change in curricula in relation to African cultural and social realities and demands of a growing technological society; (d) Rapid expansion of education of women and girls; (e) Creation of higher education institutions and facilities; (f) Adult Education to eradicate, in part, the illiteracy of the 100 million men and women in Africa; (g) Establishment of national educational planning Boards.

Second, you have faced fairly and squarely the economics of this educational situation. You have agreed that, under appropriate conditions, education is an important and profitable investment. You have made consequential decisions. This involves making painful choices in the short run: it involves hard work and study of manpower needs, resources and facilities; it involves giving priority in educational expenditure and investment to those sectors of education which emerge from analysis and survey as constituting economic bottlenecks; it involves bringing a daring and open mind, which will also pioneer for the more advanced countries of our world, to the application of the new technologies opening up for education - technologies which will speed the pace and improve the quality in producing the skilled manpower needed. It will mean Africamizing curricula and textbooks within the context of universality which is the true aim of education; it will mean establishment of manpower and educational planning, information and research units in each country; finally, it will mean going beyond the orthodox means of financing this great educational revolution - through tax revenue, contributions in kind and from private sources, external grants and, under appropriate conditions, using loans - internal and external - for both recurring and non-recurring expenditure.

Third, with your heads in the clouds and your feet on the ground, you have sat down and counted the cost. And in doing that, you have made what I can only and truly call historic decisions. (a) Unesco Member States, up to this Conference, have never in any part of the world, been able to do anything but just advocate universal primary education; you have reaffirmed it and decided that this should be achieved by you in Africa in two decades. But what is historic is that you have also decided that (a) for the short-term plan which you have approved for the period 1961-1965, you
will increase the number of children entering primary school by 5% of that age-group each year, so that by 1965 (the end of the first plan period) more than 50% of the children will be in primary schools. (b) You have decided to increase the enrolment at the secondary stage from the current 3% to 6% of the age-group by 1965, which is a gigantic threefold increase, indicating your priority clearly. (c) You have decided for the long-term (1961-1980) plan period, to increase the enrolment in higher education from the present 0.2% to 2% of the age-group, tenfold increase. Moreover, nine-tenths of these students will be in African institutions by 1980. These are important and dramatic decisions, but the minimum needed and, therefore, realistic decisions. What will they cost? In the short run (1961-1965) the cost will increase from over half a billion to around 1.2 billion dollars. In the long run, 1961-1980, your educational plan will be costing around 2.6 billion dollars in 1980. You have, after careful and responsible consideration of the many complex factors involved, decided that you will increase by a third the portion of the national income devoted to education by the end of the first plan period, 1965, and gradually increase it still further until, by 1980, it will be double what it is now. On certain very generalized assumptions, this means that, during the five-year plan period, you will increase your contributions from around the current 450 million dollars to around 700 million dollars in 1965, and to 2.2 billion dollars by 1980. You have pointed out that these are broad orders of magnitude, that they are indications of the size of the problem, that there are many quantities that are unknown and unknowable, and that they cannot be forecast with the present state of our knowledge in Africa, and that there are important differences between countries, based on their different levels of development. Even so, the picture is clear. You face an overall annual deficit if you are to achieve your modest educational goals, estimated to rise from around 140 million dollars in 1961 to 450 million dollars in 1965, and almost 1 billion dollars in 1970, the peak deficit year, and then declining sharply to less than 400 million dollars in 1980.

Mr. Chairman, in so planning as realistically and as carefully as we can, in establishing a short-term plan and long-term plan we are laying the foundations for lasting social progress in this continent. You notice that the gap between national resources and educational expenditures is heaviest in 1965-1970, for that is when the secondary level bottlenecks are being broken and the heavy investment in higher education in Africa is being undertaken. That is the period also when the highest amount of foreign aid is needed. After that, if economic and social programming develops effectively in Africa, national income ought gradually to meet the heavy costs of education, lessening the need for international aid to the point where it may not be necessary after 1980. African education, like education in developed countries, could stand on its own.

You have referred repeatedly to the many unknowns on which educational and economic planning rests today in Africa. Some of the assumptions made in our two plans are based on unknown and unknowable factors. It is therefore wise that you have called upon Member States in Africa to develop their own national educational plans for short and long-term periods, and cost them, using as appropriate the costing techniques and planning methodology used at this Conference. In this context, your call to Unesco to convocate again jointly with ECA, a conference of African Member States in 1963, both to check on these tentative plans approved today and compare them with national educational plans which you would have developed and to help in integrating them with national development programmes, is a timely one, and one that the Director-General and the General Conference will, I am sure, support.

Fourthly, you have indicated that time is not on the side of the laggard, of slow and gradual progress. On a previous occasion, I quoted from one of your leaders to indicate the tempo and rhythm of educational development you have set yourselves. In light of that, it is heartening, as it is imperative, that you have decided on the two pre-conditions which are essential for your realizing - unswervingly, without fear or favour, without turning back or looking around, undistractedly - the minimum educational goals you have set for yourselves. First, it is that you will make your maximum contributions to education, increasing it by a third by 1965, and doubling it by 1980. This is a heavy sacrifice, calling for mobilization of all internal resources, and calls for your maintaining a stout heart and undaunted purpose, during the five years and the twenty years ahead. Second, it is that you will work together in groups, sub-regional groupings, in order that the stronger among you may help the weaker, that programmes may become educationally and economically viable. Inter-African co-operation, like maximum national effort in financial and non-financial resources, are the twin pre-conditions for the success of the plan you have decided on today.
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I would now refer to the call for international co-operation that goes forth from this Conference - international co-operation in building the fabric of African Education during the next five and next twenty years, on which the peace and happiness of people here and people everywhere rest. In money terms, what African education needs from abroad rises from 140 million in 1961 to 450 million dollars in 1965, reaching a peak of almost 7 billion in 1970, declining to less than 400 million in 1980. This deficit could be wiped out by the transition from extra-African costing standards now current in this continent to a more Africanized educational system and costing standards which, when added to your other recommendations on a more economic administration of African education and economies of scale flowing from the greatly expanded educational system in 1980, make the possibility a very real one. That represents the call for co-operation with Africa - in the realm of ideas, finance, personnel, equipment, training facilities and development and research centres. That call is addressed to the United Nations family, to Unesco first, to ECA, to the United Nations itself and all the Specialized Agencies including the World Bank. You have had the assurance from the UN family of full and free co-operation. That call is addressed to all Member States of Unesco to help you build your educational model on lasting foundations. You have had assurances from the Member States represented here and those who are absent but who have spoken in Paris and New York at the Unesco General Conference and the United Nations General Assembly that they will join with you in this great enterprise. Your call for co-operation goes out to the great international non-governmental organizations, private enterprises and agencies and the great Foundations with their known willingness and traditions of help and aid to Africa and its people in achieving their educational goals. Mr. Chairman, may I repeat, once more, Unesco’s hope and conviction that, based on your decision to assure the conditions for effective international partnership - through taking responsibility at the national level for the coordination of all resources, national and international, for educational development and for ensuring their sound and effective use - Africa will become the focus of international co-operation in our world and enjoy the twice blessed role of giver and receiver.

As we come to the closing hours of our Conference, Mr. Chairman and delegates, I would like once more to thank His Imperial Majesty the Emperor of Ethiopia, for his leadership to this Conference and his gracious hospitality, the Minister of State for Education, the Minister of Foreign Affairs and the city of Addis Ababa, for the intellectual, social and cultural climate they created for us during our sojourn here. I would like to express Unesco's and my personal thanks - to you, Mr. Chairman, the three Vice-Chairmen and the five Chairmen and Vice-Chairmen of the Commissions and the Report Committee, for your inspiring guidance and wise and indefatigable leadership which assured the success of the Conference. I thank our colleagues from the Economic Commission for Africa for all their material and more important intellectual partnership in this Conference, together with the many unseen workers - our interpreters, translators and secretarial staff - who have toiled so ceaselessly and selflessly.

And so, Mr. Chairman, I end with a thought and a question. Can we - Africans and Unescans - do it? I believe we can. I know we can. You have, at this Conference often quoted the African saying: "Be strong! Be faithful, if you are afraid of your mother-in-law, you can never have a child". In the part of the world I come from, we have a similar saying: "In the hands of a strong man - a man of faith - even a blade of grass becomes a sword". Yes, friends, it does not matter that we are a small group, a somewhat weak group today. Gautama, the Buddha, the wise one, who lived over 3,000 years ago, in my part of the world, described the vastness of the challenge facing us and our apparent smallness and weakness simply and pointedly thus: "Look at the mustard seed", he said, "it is so small that it gets easily lost. Yet, if it is planted in fertile soil, and nourished and cherished, it grows into a tree looking up to the heavens with branches spread out, under whose majestic shelter the birds of the air make their nests, the beasts of the field find their haven, and the weary traveller, shade and protection from wind, storm, sun and rain". Yes, our smallness, our apparent weakness can be our source of strength, when we bring to our task courage - courage born of faith.

It is in that faith and in that courage born of hope, that I wish success in the realization of the momentous decisions and plans of this great and memorable conference.
Your Excellencies, Ladies and Gentlemen,

A little over a week ago you conferred on me the honour of being the President of this auspicious gathering comprising people from all parts of Africa and other parts of the world to deal with the important question of the Development of Education in Africa. The last eleven days have seen us hard at work at Plenary Sessions and at Commissions. During that period I, as Chairman, have been able to get the views of the various delegations and the reports of the Commissions. I have also had the opportunity at the sessions and at parties to make my views on the various points raised known. In view of this, I had not expected to make any speech, but since I am required to address you formally at this closing session, I do so gladly.

The weight of the load that was put on me by my office has bent me but has not broken me because, in line with a well-known Ghanaian saying, you have not allowed only one tree to bear the full impact of the wind.

Unesco and the Economic Commission for Africa (ECA) have been the co-sponsors of this Conference and I need hardly say that whatever we have been able to achieve, has been the result of the co-operative effort of these two bodies and of the Conference delegates, consultants, representatives of the other Specialized Agencies, observers, and the staff of the Unesco Secretariat, including the translators and the interpreters. I am aware of the difficulties we have given to the interpreters, particularly through being long-winded on several occasions when we could easily have been concise. Be that as it may, I would like to commend the co-operative effort to which I have already referred and hold it up as a sure means by which we can achieve our aims as African nations.

To some of us at this Conference this is the first occasion on which a Specialized Agency of the United Nations Organization has dealt with such a specific subject in so comprehensive and effective a manner. We realise that this has meant late hours, less food and less alcohol for some of us; but considering the importance of our objective, I think these little sacrifices in leisure, food and alcohol have been worth while and may well open a way to better living for some of us when we return to our countries!

It is gratifying to note that the various Commissions have produced reports which clearly indicate that their recommendations have followed frank discussions, well considered views and the application of mature judgement. It is equally gratifying to note from the reports that our target to avoid irrelevancies has been achieved. These reports provide us with adequate material for embarking on the important task of educational development in Africa.

At Plenary Sessions the fact of education being a basic factor in economic and social development was established and an inventory of educational needs for this economic and social development was drawn up, including such matters as the organization of the education system, information, research and planning of services and material needs including educational buildings. A study was also made of the patterns of international co-operation, making for the promotion and implementation of educational development programmes. Attention was also given to cultural and socio-cultural factors in the development of African education.

I now direct my attention to the work of the Commissions:

(a) Commission I dealt with the financing of education in Africa. It also indicated possible savings in the cost of education and dealt with the questions of methods of financing education and the construction of schools in some detail.
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(b) Commission 2 dealt with the process of educational planning to provide for the overall needs of each country, dwelling on the critical problems of planning, the steps to be taken in planning and the machinery for implementing planning. It also gave attention to the content and method of school education, teaching and such subjects as textbook production and teaching methods and aids. The training of teachers and other educational personnel also received the Commission's attention.

(c) Commission 3 concerned itself with the preparation for technical and vocational training which can be given in the general educational system of the country. In this connexion it set out the pattern of the levels of education and considered the areas of study associated with each level. Appreciation of the value of work with the hand as well as the mind and the association between school and community were stressed.

(d) Commission 4 dealt with the aims and methods considered satisfactory for Adult Education. In this connexion it recommended the establishment of a national literary service wherever possible; legislation by Government for the promotion of Adult Education; and the assumption by Government of primary responsibility for Adult Education through Government and private organizations, wherever possible.

The warm acceptance of the various reports by the Plenary Sessions is proof of the satisfactory results achieved in this direction.

We have now completed our work at this Conference through hard thinking, discussions and formulation of plans. But all these plans which have been produced will be of no avail if they are not implemented effectively and promptly. The attention which has been given to economic development stems from the realization of all statesmen that national freedom resulting from independence is an illusion unless the economic development of the country concerned is soundly based and is entirely in its own hands.

It is natural for those of us who have British or French or other European connexions to use our ties in our interest; but this should not prevent us from developing new associations with other nations and communities in the world. For it does happen that the assistance which an African country can obtain through these ties may not be adequate to meet its urgent needs because the donor country concerned is not able, through its budgetary provision, to provide further aid. When this happens the African country concerned is placed in a position which is best described by the Ghanaian proverb portraying a man who wants to get the kernel in a palm nut but has no stone to crack the nut. In such a situation the African country concerned should not, and will not, hesitate to use the benefits of the international co-operation typified by Unesco and its activities. The country concerned will be entitled to seek assistance from whatever other sources it can obtain such assistance; and where this happens the African country concerned need not necessarily barter away its national status and sovereignty. We therefore say to our French, British and other European friends we cherish our connexions with you and we sincerely believe that you concede to us our right to supplement what we can get from you from other sources in the international field.

We all know that, as representatives of African countries, we have, through the accident of history, found ourselves speaking to each other in either English or French and requiring interpreters, for that reason, to make ourselves understood to each other. But the mere fact of an African speaking English or French does not make him a European as he is basically African. The official language barrier cannot therefore prevent Africans from pursuing and achieving their common objectives, progress and welfare.

The timing of this Conference has been most opportune; there is abundant goodwill for the African nations from the other nations of the world; educational techniques are being improved through the application of science; there is increasing production of material resources; and the African nations are more than ever eager and prepared to make the best use of the available opportunities. With the provision of the necessary resources and assistance it will only be a question of time when the African nations can put their own Gagarins and Shepards into space to breathe out the African wind of freedom on to the other continents.
We pray that the machinery for giving us assistance from our "elder brothers" direct or through Unesco may work efficiently and quickly so that the task of implementing this bold "Master Plan" for Africa formulated here may be undertaken without delay and without any risk of dampening the enthusiasm which this Conference has engendered.

It may appear that I have been too frank in expressing certain views; if this is so; it is only because I am following a Ghanaian proverb which says that "if a stranger is too shy to make his needs known he runs the risk of dying of hunger". We have expressed our needs because we have reason to believe that we can be assisted to meet them. We would like to give the assurance, as African countries, that the material resources placed at our disposal by way of assistance will be put to the very best use.

Delegates will, I am sure, agree with me when I say that this Conference has been more than a success. This "Master Plan" which has resulted from this Conference is a masterpiece. It is the first of its kind for Africa. We have every reason therefore to be in high spirits and to leave here in great hope that the success which will attend the implementation of this Plan will be such as has never occurred in the history of any international conference.

If, in the course of discharging my official duties as President of the Conference, I have by way of comment or action, offended any delegation or person, I sincerely apologize.

In conclusion, I would like to express on behalf of this Conference our sincere gratitude to His Imperial Majesty Haile Sellassie I, Emperor of Ethiopia, the Imperial Ethiopian Government and the people of Ethiopia for the generosity and goodwill which have made for the happiness of all who have taken part in the Conference. And I would also like to express my gratitude to the delegates and officials for their warm co-operation which has contributed to the success of the Conference.

Once again, to all of you, I say Thank You.
addendum
ADDENDUM

RELATED DECISIONS ADOPTED BY THE EXECUTIVE BOARD OF UNESCO AT ITS 59th SESSION


The Executive Board,


I

Conveys its thanks to His Imperial Majesty, the Emperor of Ethiopia and to the United Nations Economic Commission for Africa and the Specialized Agencies for all the help given in the organization and running of the Conference;

Pays tribute to the spirit of co-operation and the concentration on key problems combined with attention to practical solutions demonstrated by the African Member States;

Expresses its satisfaction on the significant proposals and plans for the development of education in Africa and on the supporting framework of national and international action which emerged from the Conference;

II

Agrees that the Director-General should present the Report of the Conference and the Outline of a Plan for African Educational Development to the Economic and Social Council at its thirty-second session, together with the comments of the Executive Board;

III

Invites Member States and Associate Members in Africa with the aid, as appropriate, of UNESCO, the Economic Commission for Africa and the Specialized Agencies, to implement the recommendations and decisions for the development of education in Africa set forth in the two documents;

Invites Member States and Associate Members in Africa, which share similar problems to consult and co-operate for the provision of better specialized education and scientific services at a lower cost, in accordance with recommendation 9 of the Outline of a Plan;

Further invites Member States and Associate Members in other regions, the United Nations and Specialized Agencies, the international non-governmental organizations and foundations to help and contribute to the greatest possible extent in the realization of the plans and programmes for African education development established at the Conference.

IV

Requests the Director-General:

(a) To use the UNESCO Emergency Fund for Africa, in accordance with the decision of the General Conference, further elaborated by the Conference
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in Addis Ababa to meet the urgent priority needs of the African countries in accordance with the Executive Board's decision 7.1.3.

(b) To extend Unesco's participation in the Expanded Programme of Technical Assistance to provide aid to the African countries in manpower, planning facilities, all aspects of primary and rural schools, in educational research, in the development of higher education and in the planning of second level education.

(c) To co-operate with the Special Fund in developing educational institutions for the training of secondary school teachers, for technical and agricultural education and engineering and science faculties of universities.

(d) To co-operate with foundations and other private bodies in helping in the establishment of institutes or centres for development and research.

V

Invites the Director-General, in accordance with recommendation A of the Outline of a Plan, after due consultation with the interested Member States, the United Nations and the competent organizations of the United Nations system, to submit to the Board at its next session appropriate proposals, including the establishment of machinery within the framework of Unesco:

1. To maintain a clearing house of information on national educational plans, offers of assistance and agreements of co-operation concluded between governments.

2. To invite periodic reports from African Member States and Territories on their national plans, the lags and difficulties encountered and the aid and co-operation required in their implementation.

3. To assist the African countries concerned, at their request, to keep under review the provision of aid in order to help them to carry out their national educational plans as summarized in the Addis Ababa plan for the next five years, 1961-1965; and to assist them to relate this aid to their needs and their established priorities and to integrate it with their plans.

(Item 7.1.3): Emergency programme of financial aid to Member States and Associate Members in Africa: Report and proposals of the Director-General

The Executive Board,

Having examined the Director-General's report and proposals on the emergency programme of financial aid to Member States and Associate Members in Africa (59 EX/5 rev.),

Expresses its appreciation to Member States, particularly those in Africa, who have contributed to the Fund,

I

Approves the project for a central planning group on school construction to be established in Khartoum at an estimated cost of $165,000;
II

Approves the project for a textbook production centre to be established in Yaoundé, Cameroun, at an estimated cost of $400,000;

III

Approves the provision of 50 teachers to Cameroun, Ghana, Liberia, Mali, Niger, Nigeria, Sierra Leone, Somalia, Tanganyika, and Uganda, as set forth in Table III of document 59 EX/5 rev., at an estimated cost of $569,000;

IV

Considering the present and prospective importance of recruiting school-teachers for Member States and Associate Members in Africa, and the necessity of securing harmony between the rates of remuneration offered by Unesco and those current in potential donor and recipient Member States,

Requests the Director-General:

(a) To study the scale of remuneration offered to teachers in relation to those prevailing in the educational systems of the donor and recipient countries concerned;

(b) To examine this problem and to submit a restricted report and proposals to the Executive Board at its next session;

V

Approves the additional educational surveys proposed for Sierra Leone and Upper Volta at an estimated cost of $70,000,

VI

Authorizes the Director-General to include in his report and proposals on this programme for the next session of the Board, projects in the provision of school equipment which have been given a high priority by the Conference at Addis Ababa;

VII

Authorizes the Director-General to take, prior to the next session of the Board, such interim decisions as are needed, for the provision of teachers which are being requested of Unesco by the African countries, provided the total number of teachers made available by Unesco maintains a proper balance between the four needs set out in resolution 1.2323 of the General Conference;

VIII

Authorizes the Director-General to maintain the clearing house of needs as set forth by him, required in paragraph 5 of resolution 1.2323;

IX

Having taken note of the inventory of education needs established at the Conference in Addis Ababa and the appeal then made to Unesco to assist the African States to meet them,
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Bearing in mind that progress in African educational development will depend on the provision of overseas school and university teachers, on the rapid expansion of school building, the production of teaching aids, the provision of equipment and aiding in the educational surveys of the countries as evidenced by the requests to meet these needs received by Unesco,

Bearing in mind also that Unesco should be directly responsible for meeting some of these needs during the emergency period,

Recalling the appeal for a spirit of solidarity made in resolution 1.2323 approved by the General Conference,

Renews the appeal to all Member States and Associate Members to contribute further, as a mark of international co-operation, to the Emergency Fund for African educational development to ensure its reaching the target of $4,000,000;

Requests the Chairman of the Executive Board to give the Director-General his assistance in obtaining wide publicity for this appeal and in giving effect to paragraph IX of this resolution.