

Final report

Conference on education
and scientific
and technical training
in relation to development
in Africa

Nairobi

16-27 July 1968

Organization
of African Unity

Unesco

RESOLUTIONS

RESOLUTION I: INTERNATIONAL CO-OPERATION FOR THE DEVELOPMENT OF EDUCATION IN AFRICA

The Conference,

1. Considering that the development of education and the intensified training of African scientific and technical personnel are decisive factors for Africa's economic and social development,
2. Considering that despite the efforts and financial sacrifices made since the Addis Ababa Conference (1961) by the African States to develop their educational systems, and despite the satisfactory progress achieved, the results still fall far short of those expected at the end of the first half of the Development Decade launched by the United Nations in 1960.
3. Noting that the inadequacy of the results recorded during that period is mainly due to the disproportion between the efforts required and the resources available to the African States for their economic and social development,
4. Noting that the contribution of the developed countries shows a downward trend in relation to their own gross national product,
5. Considering that the expenditures on education of most African States represent a very high proportion of their national budgets and incomes and that in present circumstances it would be difficult to exceed those percentages without endangering the entire economic and social development of those countries,
6. Considering, therefore, that the indispensable development of education in Africa is impossible without far more external financial assistance than in the past, combined with the efforts of the African countries,
7. Noting the intention of the General Assembly of the United Nations to proclaim 1970 International Education Year,
8. Invites the African governments to continue their own efforts to develop their educational systems and to ensure that the available funds from every source are used rationally, in particular by improving, through appropriate reforms, the quality and efficiency of the education in their countries,
9. Launches a solemn appeal to the spirit of international fellowship for a substantial increase by the developed countries in the amount of their aid to the African countries, particularly for educational development,
10. Requests Unesco to intercede on behalf of the Conference with the developed countries and the international organisations providing financial assistance, drawing their attention to the fact that a great many African States are liable to reach a dead end if they are not assured of more substantial external aid,

11. Invites Unesco in particular to urge the United Nations Development Programme and other international financing bodies, with special reference to the international Bank for Reconstruction and Development, to make the criteria, conditions and procedure for the provision of their aid to the African States more flexible.

RESOLUTION II: REGIONAL PRIORITIES AND OBJECTIVES

The Conference,

1. Considering that the Addis Ababa short-term targets for education have not in general been achieved,
2. Considering that this delay is due not only to the inadequacy of financial resources but also, in large measure, to such difficulties as drop-outs, lack of flexibility in the curricula and the shortage of qualified teachers, particularly in the scientific and technical fields,
3. Considering that every delay in resolving these problems merely accentuates the dispersal of the human and material resources,
4. Considering further that the necessary information for a possible overall revision of the Addis Ababa targets is lacking,
5. Considering lastly that there is a serious shortage of technical and scientific manpower which is seriously impeding the economic development of the countries of Africa,
6. Recommends:
 - (a) that during the second phase of the Plan, the Addis Ababa targets be maintained as general objectives and that the qualitative improvement of primary and secondary education be stressed; and that Member States, while keeping those objectives in mind, bring them into line with national development plans;
 - (b) that Unesco, in co-operation with OAU and ECA, prepare as soon as possible the documentation needed for a possible general revision of the previous targets, due account being taken of the true economic situation of the African countries and of the external aid likely to be available;
 - (c) that, while working along the lines of the agreed targets, due emphasis be given to the reorientation of primary education, to women's education and to preparing pupils for scientific and technical training;
 - (d) that, to this end, special emphasis be given to the training of rural-oriented primary teachers, the development of curricula and teaching techniques suited to predominantly rural populations, and the preparation of the scientific and technical training of teachers;
 - (e) that steps be taken to expand secondary education capacity in order to reduce the present bottleneck at the entry to secondary education;
 - (f) that, in the development plans of the African countries, all due attention be given to scientific and technical manpower requirements and that every effort be made to attain a certain autonomy in this respect before 1980.

RESOLUTION III: REFORM OF PRIMARY EDUCATION

The Conference,

Invites the African governments:

1. To ensure that the primary education systems of the African countries, in ways varying from country to country,

- (a) achieve as soon as possible the 100% school enrolment at primary level which was scheduled for 1980 in the Addis Ababa Plan and which is in conformity with the right to education, the desire for education shown by the peoples of Africa and the democratization willed by the governments;
 - (b) contribute to the strengthening of national unity;
 - (c) bring about the social and cultural integration of children in the community;
 - (d) act as factors of change and of economic and social development;
2. To reform, for that purpose, the content and orientation of primary education with a view to ensuring that:
 - (a) the risk of the child being uprooted is reduced to the minimum;
 - (b) the aim of the primary school is not only learning but preparation for life as well;
 - (c) the primary school inculcates in the child a respect and taste for manual work;
 - (d) the requisite attention is given to the possibility of using the national languages FITS languages of instruction and to determining the optimum age and the most effective methods for learning the first language of wide communication;
 - (e) primary education, in both rural and urban areas provides all the children with the same basic knowledge and offers them the same chances of continuing their education;
 3. To improve the output of the primary education systems, in particular by reducing the enrolment wastage rates,
 4. To provide for the continuous in-service training of the teachers,
 5. To create rural-oriented primary teacher training institutions,
 6. To reform the structures of primary education and post-primary education in accordance with the new objectives assigned to primary education,
 7. To introduce adult education measures and the different educational activities which are needed to supplement the expansion and reform of primary education as part of rural and, more generally, social and economic development,
 8. To make the necessary provisions for integrating primary school-leavers in society,
 9. To bring the school closer to the community and the community closer to the school;
 10. To improve rural living conditions and to raise the prestige of the farmer, in order to prevent the school from accelerating the trend towards a rural exodus,
 11. To encourage greater co-ordination, between the work of educational planners and of those responsible for economic and social development,
 12. To convene, in consultation with ILO, Unesco, FAO, ECA, and OAU, National Commissions to study the means of introducing into the production circuit, and particularly into the rural sector, pupils coming out of primary education and not going on to secondary education. These Commissions should examine the problems involved in the post-primary education and training which those concerned should be given and in finding employment for them later on.

RESOLUTION IV: PREREQUISITES FOR SCIENTIFIC AND TECHNICAL TRAINING

The Conference,

Invites African governments:

1. To ensure, through appropriate arrangements, that the physical development of pupils is accorded an important place in school programmes;

2. To give prominence in the curricula to the practical teaching of the mother tongue and the languages widely used nationally and internationally;
3. To accord, in all sections at the various levels of education, an adequate place to training in mathematics, science and technology;
4. To develop the study of environment to the maximum both in primary education and in junior secondary education;
5. To introduce the teaching of technology more particularly into the first cycle of secondary education in order to enable young pupils to improve their understanding of the surrounding technical world;
6. To accord a place to civic education and to the social sciences with a view to the pupil's integration not only in professional life but also in national and international life;
7. To ensure that prevocational education is accompanied by a humanistic and artistic education that will bring out the full potential of the pupil;
8. To revise teaching methods in all disciplines along experimental and practical lines, so that school and modern life may be fused in one attractive whole;
9. To equip the specialised training sections (languages, technology and science) of teacher training institutes with the most modern material and to provide the necessary infrastructure and staff to maintain and repair that material.

RESOLUTION V: SCIENCE TEACHING AT SECOND AND THIRD LEVELS

The Conference,

1. Noting that the provision of science and technical teachers in secondary schools has fallen far short of demand, and that the shortage of teachers is partially due to the variety of more remunerative posts available to graduates with scientific qualifications,
2. Recalling the recommendations of the Lagos and Tananarive Conferences,
3. Invites the African governments:

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- (a) To use all possible means of information, publicity and national awards for science and technical graduates to take up teaching;
- (b) To ensure that salaries and promotional opportunities for fully qualified science teachers are comparable with those expected by other equally qualified professional cadres in public services;
- (c) To ensure that all students in the first cycle of second level education receive adequate instruction in mathematics and general science. Particular emphasis should be given to fostering observation and deduction, the study of environment and the application of science to everyday technology. All schools should have a practical bias in the junior forms;
- (d) To make full use of existing television and radio facilities and other mass communication media for teaching both children and adults;
- (e) To maximize the use of existing personnel, school buildings and other such facilities;
- (f) To take full advantage of such regional projects as the Unesco Pilot Schemes in Science Teaching;
- (g) To aim at giving all science teachers in secondary schools some knowledge of applied science and technology as well as of the disciplines of pure science;
- (h) To ensure through legal provisions that teachers in higher education have the opportunity of taking part in the elaboration, revision and adaptation of secondary school curricula;

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- (i) To establish manpower boards to fix enrolment targets in higher technical institutions and universities bearing in mind the recommendation of the Lagos Conference (1964) that within 20 years from now 200 science teachers and research workers per million inhabitants are trained, and that 10 to 15 engineers per million inhabitants are trained each year in Middle Africa, more than twice that proportion in North Africa, and, in each area, at least four times more technicians;
 - (j) To strengthen all institutes of higher education with a view to bringing them into university structures on a national or regional scale as this would facilitate the co-ordination of higher scientific and technical education and inter-African co-operation in this field;
 - (k) To provide high level institutions as far as possible with buildings and equipment which meet their functional needs;
 - (l) To provide incentives to prevent the "brain drain" and ensure an adequate supply of trained personnel in such critical fields as university and secondary school teaching, research, industrial and agricultural development;
 - (m) To plan the development of high level manpower on the basis of needs so as to avoid any wastage;
 - (n) To collaborate on a regional basis in developing specialised fields of study in universities or higher technical institutions.
4. Invites institutions of higher education:

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- (a) To ensure that curriculum content in the field of science and technology pays due regard to a comprehensive approach before proceeding to the specialised fields;
- (b) To maintain contact with government, industrial and economic interests so as to define more accurately goals for both training and research;
- (c) To improve the methodology of teaching, and in particular to accord considerable importance to integrated practical training.

RESOLUTION VI: TECHNICAL AND VOCATIONAL EDUCATION

The Conference,

Invites the African governments:

- 1. To create among the peoples the motivation which prepares the way for setting up and developing the basic structures that are necessary for introducing scientific and technical innovations;
- 2. To grant real priority to scientific education and technical training, particularly in agriculture, and to reverse the present trend of falling proportions of students going to technical and vocational schools in some African countries;
- 3. To take steps to obtain the participation of scientists, engineers and other specialists in national planning and to revise any policies which tend to exclude scientists and engineers from access to top policy-making positions in government administration;
- 4. To ensure that ministries whose activities are primarily concerned with the application of science and technology are staffed at policy-making level by administrators with professional qualifications in the appropriate field;
- 5. To plan the development of technical education in close agreement with economic development plans and in collaboration with the economic sectors concerned; to set up the appropriate co-ordinating agencies; to adopt adequate legislation to facilitate training and to ensure that trained personnel will find employment;

6. To make certain that technical training institutions are equipped in such a way as to give students satisfactory and adequate practical training;
7. To encourage those responsible for technical and vocational education to integrate as far as possible general culture, particularly in its national and African forms, with scientific and technical culture; and to develop scientific and technological studies in such a way as to make increasing use of the African context and environment.

RESOLUTION VII: ROLE OF TEACHERS AND OF EDUCATIONAL TECHNOLOGY

The Conference,

Invites the African governments:

1. To undertake research on the rational utilisation of secondary school teachers and teaching staff in general;
2. To make a more thorough study of teacher-pupil ratios at the different levels of general education, taking account of the possibility of resorting to educational technology;
3. To engage as soon as possible in the training of laboratory technicians with a view to a more effective utilisation of science teachers in the various disciplines;
4. To proceed with research on the local production of teaching aids and their efficiency, and with the training of technicians for the maintenance of aids and of electronic equipment;
5. To improve the circumstances of teachers in order to make their profession more attractive and thus avoid their exodus to other callings;
6. To pursue experiments in both pre-service and in-service teacher training in order to achieve the best output possible, both quantitatively and qualitatively;
7. To make optimum use of educational facilities through careful planning at the national level;
8. To encourage inter-African co-operation with respect to the exchange of students and teachers so as to promote better inter-African understanding and overcome the present language difficulties, and to this same end to encourage the teaching of both English and French in all secondary schools and universities.

RESOLUTION VIII: INTER-AFRICAN CO-OPERATION IN HIGHER EDUCATION

The Conference,

1. Considering that:

higher education and scientific research are indispensable for the scientific, technical, economic and social development of Africa and that it requires resources which are not available in most African countries in the present situation;

2. Believing that:

- (a) the most effective solution might be to resort to a planned programme of all African co-operative research;

- (b) attending the same universities may promote understanding and solidarity among the young educated Africans;
 - (c) African unity, may be strengthened by studying together economic, social and cultural problems, with each country respecting the political options of the others;
3. Recommends the African governments, in the interests of a better utilisation of available means (premises, equipment, teachers and research workers) and with a view to promoting a harmonious development of higher education and scientific research:
- (a) to take practical steps wherever necessary to pool their efforts and their means and, wherever possible, to create inter-State universities, integrating into them, if necessary, higher educational and higher technical schools or institutes located elsewhere;
 - (b) to examine the current university map of Africa with a view to encouraging specialization of the universities or their complementarity in the different technical and scientific fields (including the human sciences and economics) as well as in different lines of research;
 - (c) to institute effective co-operation between the African universities, in particular by organizing:
 - (i) exchanges of teachers, students and research workers;
 - (ii) the creation of documentation and information centres for exchanging results of research work;
 - (iii) the organisation of periodical symposia and training courses
 - (d) to convene, under the auspices of the African Scientific Council and with the co-operation of the Association of African Universities, a conference of African research workers to prepare the ministerial conference on science policy in Africa which Unesco proposes to organize.

RESOLUTION IX: CENTRES OF EXCELLENCE AND EDUCATIONAL REVOLVING FUND

The Conference,

1. Congratulates the OAU on having proposed the establishment of centres of excellence in Africa,

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2. Recommends to the OAU:

- (a) that the initial fields of study mentioned in OAU resolution CM/116(IX) include the basic sciences, documentation, teaching and research in the social sciences, and such other disciplines as it may deem appropriate;
- (b) that it undertake at all stages the necessary preliminary consultations and seek advice from Member States and international organisations and other authorities implementing the decision to establish centres of excellence in Africa;
- (c) that in formulating their plans for the individual Centres, the proposed learns of consultants take into account, among other aspects, the existing facilities and natural resources potential in Member States in the disciplines concerned, and the experience acquired in those fields by international organisations and individual States, so as to avoid previous mistakes and to profit from results already achieved;
- (d) that in executing this programme, it take all necessary steps to ward off the economic, social and political problems which may arise from the presence of those centres of excellence in Africa;
- (e) that it establish a permanent committee to review continuously the execution of the programme concerning the centres of excellence, and co-ordinate the activities and promote the expansion of the latter;

- (f) that it continue to co-operate closely and effectively with the United Nations family of organisations and with non-African States which are in a position to assist, in any way, the early and effective establishment of the proposed centres of excellence.

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3. Requests the OAU and the ADB, with the co-operation of Unesco, to study in detail the proposed establishment of an Educational Revolving Fund, including its financing, paying special attention to the possibilities of external financing, and to present their study to the meeting of the Assembly of African Heads of State and Government.

RESOLUTION X

The Conference,

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Invites Unesco and the regional organisations, upon request of the African governments concerned:

1. To help the African countries to reach the targets set forth in resolutions I to VII;
2. To help to set up a network of centres for the design, manufacture, repair and maintenance of scientific apparatus and equipment;
3. To help create and develop in Africa immediately, as a matter of priority, a network of technical teacher training colleges or departments like those already existing for teachers in general education;
4. To undertake thorough studies in comparative education on the subject of technical education and to ensure the dissemination of the relevant information.

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5. Requests Unesco and ECA and other interested organizations, in liaison with universities and specialised institutions of learning and research in Africa, to initiate feasibility studies on the possibilities of manufacturing laboratory equipment and other teaching aids locally with a view to setting up national and regional production centres;
6. Requests Unesco and other organizations, in liaison with universities and specialized institutions of learning and research in Africa, to set up machinery to study the standardization of school teaching equipment used at all levels in order to facilitate their mass production and distribution at economical cost;
7. Requests Unesco and OAU to set up commissions of African specialists to study the problem of harmonising history and geography curricula in the secondary schools of English-speaking and French-speaking African States. The commissions, where necessary should suggest changes to improve the knowledge of African history, cultures, and economic and social problems.

RESOLUTION XI

The Conference,

Invites Unesco, upon request of the African governments concerned:

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1. to assist in carrying out pilot projects for rural primary schooling;
2. to ensure the exchange and dissemination of information concerning such projects and concerning the numerous experiments carried out by the African governments in this domain;

3. to define more precisely the concept of enrolment wastage and to undertake studies of the various causes of this phenomenon, as well as of measures for remedying the situation;
4. to continue and to intensify, with the help of the United Nations Development Programme (Special Fund), its assistance towards the establishment of rural-oriented teacher-training schools.

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5. to continue to assist governments in the establishment and operation of teacher-training institutions;
6. to help governments to set up and operate institutions for training laboratory technicians;
7. to supply aid in the form of qualified staff able to undertake research on the utilisation of educational technology for remedying the shortage of teachers or their lack of adequate qualifications;
8. to assist in the preparation of programmes, adapted to the needs of Africa, for educational technology use;
9. to help these countries to procure and to produce teaching aids which are too costly for the African governments to purchase;
10. to ensure the dissemination of information and studies on methods of utilising educational technology;

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11. to include in the agenda of the forthcoming regional conference on the application of science and technology to development in Africa, a specific study of problems concerning higher science education and the training of engineers and technicians.

RESOLUTION XII

The Conference,

1. Noting with satisfaction the important role of Unesco in the development of education, science, culture, and mass communication in Africa,
2. Appreciating the initiative taken by Unesco to establish various regional centres in Africa,
3. Noting further with satisfaction the efforts of the Director-General of Unesco to ensure the effectiveness of these centres,
4. Taking into consideration the findings of the committee set up by the Director-General in 1967 to evaluate Unesco operated or aided regional offices, centres and institutes in Africa,
5. Believing that a Unesco regional office in Africa is urgently needed,
6. Invites the Director-General of Unesco, acting in full co-operation with the African Member States,
 - (a) to take due account of the recommendations made by the Committee which appraised the centres;
 - (b) to make, within the next two years, a report on the progress made towards improving the performance of these centres since the 1967 evaluation;
 - (c) to make a detailed study, within the next two years, of the implications of establishing the Unesco Regional Office in Africa.

RESOLUTION XIII

The Conference,

Convinced that the immediate implementation of the conclusions of this Conference will go a long way towards solving some of the educational, scientific and technical problems of Africa,

Requests the Director-General of Unesco:

1. to take note of the recommendations made by the Conference with a view to the discussion of the Draft Programme and Budget for 1969-1970 by the General Conference;
2. to ensure in co-operation with the OAU, that the date of subsequent regional meetings at ministerial level is chosen in such a way that their conclusions are available when the programme and budget to be submitted to the next following General Conference is being prepared, in order that appropriate provision can be made for their implementation.

RESOLUTION XIV

VOTE OF THANKS TO THE KENYAN AUTHORITIES AND PEOPLE

The Conference on Education and Scientific and Technical Training in Relation to Development in Africa,

Having met in Nairobi (Kenya) from 16 to 27 July 1968,

Deeply appreciative of the generous facilities put at its disposal by the authorities of the Republic of Kenya, and of the unfailing courtesy and kindness shown to its members by the Kenyan people,

Places on record its gratitude to His Excellency Mzee Jomo Kenyatta, President of the Republic of Kenya and his Government for having invited the Conference to meet in Kenya and for the measures they have taken to ensure its success; and to Dr. Kiano, Minister of Education, and his staff for the part they played in the preparation and conduct of the Conference.