



## General Assembly

Distr.  
GENERAL

A/36/513  
24 September

ORIGINAL: ENGLISH

Thirty-sixth session  
Agenda item 12

### REPORT OF THE ECONOMIC AND SOCIAL COUNCIL

#### Special measures for the social and economic development of Africa in the 1980s

#### Contributions by organs, organizations and bodies of the United Nations to the implementation of the Lagos Plan of Action

#### Report of the Secretary-General

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## I. THE CURRENT SITUATION

1. As the world enters into the third decade of global development strategies, Africa remains, by any standard, the least developed of the developing regions. It has 21 of the 31 least developed countries, and several other countries are close to that margin. It has the lowest gross domestic product and the lowest net capital formation. Although the African region suffers from endemic diseases of the cruelest type, it has the fewest doctors and fewest hospital beds; the infant mortality rate is high and life expectancy is low. Africa has the lowest rate of literacy or, from another viewpoint, the highest rate of illiteracy. The greater number of African countries are unable to feed their population. Where surpluses of any given commodity are to be found, it is a formidable problem to get them to where they are needed because the transport linkages are weak. Africa has the greatest number of refugees, and a large population of disabled persons. Unemployment in urban areas has reached unacceptable levels. All of this, and more, has brought, and continues to bring, untold sorrow and misery to large segments of the population.

2. It was in full consciousness of the fact that this disheartening state of affairs had to be redressed urgently that the Assembly of the African Heads of State and of Government of the Organization of African Unity on 29 April 1980 adopted the Lagos Plan of Action for the Implementation of the Monrovia Strategy for the Economic Development of Africa, 1980 to 2000, 1/ averring on that occasion, that Africa was unable to point to any significant growth rate or satisfactory index of general well-being in the past 20 years.

3. The General Assembly's grave concern at the critical condition of the economies of most African countries and the gloomy prospects for their economic development arising from the current crisis in the world economy was stated in its resolution 35/64 of 5 December 1980, in which it recognized that special measures should be adopted by the international community for the social and economic development of African countries in order to remedy that critical situation.

4. As the General Assembly held the view that effective execution of the Lagos Plan of Action, which forms part of the International Development Strategy for the Third United Nations Development Decade, could make a positive contribution to that purpose, it accordingly invited the organs, organizations and bodies of the United Nations system, in consultation with the Organization of African Unity and the Economic Commission for Africa, to indicate in a comprehensive manner in their next annual reports to the Economic and Social Council the contributions that they could make, within their areas of competence and within the indicated time-frames, to the achievement of the aims and objectives set out in the Plan. In addition, the General Assembly requested the Secretary-General, in consultation with organs, organizations and bodies of the United Nations to prepare a comprehensive interim

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1/ For the text see A/S-11/14, annex I.

report for submission to it at its thirty-sixth session regarding the steps which had been taken to implement the Assembly's invitation just described.

5. In keeping with the widened mandate conferred by the General Assembly upon the regional commissions through its resolutions 32/197 of 20 December 1977 and 33/202 of 29 January 1979, particularly that aspect of the new mandate which cites the regional commissions as the main general economic and social development centres within the United Nations system for their respective regions, the Secretary-General delegated responsibility for this undertaking to the Executive Secretary of the Economic Commission for Africa (ECA).

6. Fifteen organizations, including major ones, have responded; the totality of their contributions is voluminous. To illustrate the comprehensiveness of the information supplied, this report, which constitutes the response of the Secretary-General in fulfilment of the Assembly's request, highlights the salient information provided, including the means of action being taken by the principal organizations concerned with five critical areas of emphasis of the Lagos Plan of Action: food and agriculture; industry; development and utilization of human resources; transport and communications; and science and technology.

## II. FOOD AND AGRICULTURE

### A. Deterioration in the food and agriculture situation

7. The food and agriculture situation in Africa has undergone drastic deterioration over the past two decades. There are many reasons for this. In general, agriculture has not been accorded its proper priority. It has not been given an adequate share of the resources of national budgets nor have suitable policies been designed to improve productivity, increase real income on the farm, and improve the quality of rural life. Specifically, however, the Lagos Plan of Action recognizes the need for certain immediate measures to be taken in the short run (1980 to 1985) to bring about a sustained increase in the production of food (especially tropical cereals, fruits, tubers and vegetables): to secure a substantial reduction in food wastage; and to attain a higher degree of food security.

### B. Measures taken by the Food and Agriculture Organization of the United Nations

8. In addressing itself to the measures required to achieve these immediate goals, the Food and Agriculture Organization of the United Nations (FAO), pointed out that while its work in Africa already encompassed the range of subjects on which the Lagos Plan of Action recommended priority action, the launching of the action programme necessitated a certain reorientation and strengthening of its work. FAO affirmed that such an orientation would, within the limits of available resources, be fully reflected both in its programme of work and budget for the 1982-1983 biennium and in the field programme proposals that were being formulated jointly with the countries concerned for the United Nations Development Programme

(UNDP) and other extrabudgetary funding over the coming years. In general, assistance to Africa has been given higher priority in the formulation of the programme of work and budget for the 1982-1983 biennium. For example, the four main technical departments of FAO plan to step up the present level of their activities for Africa by an average of 50 per cent or more in response to growing demand, while the FAO Investment Support Programme is expected to receive a significant degree of strengthening. In addition, subject to the availability of resources, the "special action programmes" that have been instituted by FAO to focus attention on problems of exceptional importance will continue to be heavily concentrated in Africa, and the proposed new special action programme on shifting cultivation will be of primary significance to Africa.

9. There is a clear recognition by FAO, however, that the effectiveness of its technical capability in support of the efforts of Africa to implement the Lagos Plan of Action will depend to a large degree on complementary actions that are to be taken at the national and international level. These actions are:

(a) A significant increase in the amount of external resources provided for investment and technical assistance in agriculture and rural development;

(b) A substantial increase in the amount of domestic resources allocated for agriculture and rural development;

(c) The formulation by all African countries of medium and long-term national plans and programming for the development of food and agriculture;

(d) Intensified intercountry co-operation on a wide range of subjects relating to food and agriculture.

10. As regards specific measures to be undertaken, the contribution of FAO is summarized below.

#### Post-harvest food losses

11. Effective control of post-harvest loss requires national and international co-ordinated plans for research, development and training. At the national level, FAO assists Governments that have a firm commitment to the reduction of post-harvest food loss in establishing national programmes for loss assessment and prevention. This assistance is directed mainly through the FAO Action Programme for the Prevention of Food Losses (PFL), which began operation in 1978.

12. A total of 45 requests for assistance under the FAO Action Programme have been received from member countries in the African region. To date, 31 projects have been approved. Financing has been arranged for 27 of them (\$US 5.9 million). In addition, 14 project request (\$US 5.4 million) for which no financing has been identified so far are being formulated. In this action programme, the major emphasis is on Africa. The projects cover the whole range of priority activities recommended in the Lagos Plan of Action, including the improvement of farm and storage structures, the design and management of pilot warehouses, the provision of grain driers, the improvement of processing facilities, the improvement of rodent

control, and training at all levels in all aspects of reduction of post-harvest loss. The programme concentrates on the reduction of post-harvest losses on staple foods (mainly food grains, roots and tubers), especially in the least developed and food priority countries.

13. Under the strategy and priorities for the biennium 1982-1983, the Special Action Programme on the Prevention of Food Losses will continue to have priority, especially for the promotion of international and national co-operation in the assessment of first-generation projects for the purpose of identifying investment follow-up and expanding the commodity coverage of the programme.

14. In the proposed Programme of Work and Budget of FAO for 1982-1983 increased provision has been made for support under the regular programme to activities relating to the prevention of post-harvest food losses (as well as for crop protection, to which it is closely related). Continued advice and direct technical support will be provided. Activities in storage pest control will continue and assistance will be given to member countries on the design and construction of storage facilities.

#### Food security

15. The purpose of the Food Security Assistance Scheme, which was established by FAO in 1976 is to help developing countries formulate national food security policies; to help identify and develop projects to implement such policies; and to mobilize external resources to fund identified projects. So far, the Scheme has concentrated on assistance in developing and maintaining the necessary food security infrastructure. The last-mentioned activities relate mainly to the construction of warehouses, stock management and maintenance, improving cereal marketing and price policies, inland transportation, the strengthening of institutions such as cereal boards and food corporations, establishment of national early-warning systems, and training in the various fields.

16. To date, FAO has allocated \$US 30 million to food security projects in Africa, or 67 per cent of the \$45 million it has mobilized from extra budgetary sources for the Scheme since its inception. Currently, 21 projects, at an estimated cost of \$14 million, are in the process of formulation for 12 African countries, but the required funds remain to be raised.

17. Out of 46 missions carried out so far under the Scheme for the purpose of formulating policy with regard to food security and of identifying projects, 27 have been in African countries. Major food security policy missions to the Sudan and Swaziland have been undertaken in 1981 and three missions to other countries will be organized during the course of the year.

18. At the request of the Council of Ministers of the Permanent Inter-State Committee on Drought Control in the Sahel, a feasibility study on the establishment of national food security stocks, to be supplemented by regional stock under the direct supervision of the committee, was carried out in 1980. The study identifies investment needs of \$US 217 million, already endorsed by Council of Ministers of the Committee, for which funding will need to be mobilized.

19. A sound crop forecasting and early warning system, which provides the Government with pre-harvest forecasts of food production and an early assessment of the food supply situation, is a basic requirement for the implementation of effective national food security measures. Some African countries have been assisted in setting up crop forecasting and early warning systems through direct advice, project formulation, technical backstopping and training. So far, FAO has organized missions to eight African countries for this purpose.

20. In 1979 and 1980, the provision of agrometeorological crop monitoring and forecasting facilities allowed the Sahelian countries to anticipate, by months, the likely shortfall in agricultural production, thus enabling them to take appropriate measures to alleviate the consequences.

21. As regards the strategy and priorities for the biennium 1982-1983, the need to strengthen food security at the global, regional and national levels remains a major concern, with emphasis on improved preparedness and action to promote collective self-reliance, especially in the African context. Some reorientation of activities towards an attack on the basic longer-term food security problem is proposed.

22. In the programme of work and budget for the biennium 1982-1983, the Food Security Assistance Scheme will be strengthened, resources permitting, to meet the growing requests for assistance in designing national and regional food security programmes. Its activities will be extended to include economic and social incentives for the production of staple foods, especially, in the most severely affected/least developed countries in Africa. New approaches will be sought to key food security problems, with emphasis on regional and subregional action to increase collective self-reliance (for example, through regional reserve schemes or the co-ordination of national reserves), improved food aid policies and targets, and better preparedness against acute food shortages. Surveillance of the food situation by African countries themselves through national crop forecasting and early warning systems will continue to be complemented and reinforced by the monitoring and reporting activities of the FAO Food Information and Early Warning System, including especially its monthly special reports on the African food situation.

#### Food crops

23. FAO pays considerable attention to the problems of increasing production and improving the quality of food crops by practical means adapted to local environmental and economic conditions.

24. Examples of concrete action are provided below:

(a) Consultations on soil correlation and land evaluation for East and West Africa have been held in Zambia and the Gambia, respectively. Assistance is being given to Benin, Botswana, Cameroon, the Central African Republic, the Congo and Ethiopia in land evaluation, land use planning and soil conservation and to Ethiopia, the Ivory Coast, Mozambique and the United Republic of Tanzania in soil management with the aim of achieving long-term physical and chemical soil improvement;

(b) The use of organic materials is being promoted and the Governments of Mali, the Niger and Upper Volta have received assistance in developing techniques for transforming city garbage and other refuse into compost for use in agriculture. Training activities relating to the recycling of organic materials were carried out in Togo;

(c) Small-scale water development - with particular emphasis on inland swamp development, efficient and reliable water-lifting devices and the proper use of the lifted water - will be promoted through training and technical assistance measures, including programmes for the improvement of irrigation water management on the farm. FAO will collaborate with the World Health Organization (WHO) and the United Nations Environment Programme (UNEP) in the prevention and control of water-borne and associated diseases and the introduction of rural water supply and sanitation in agriculture development;

(d) On the conservation of crop genetic resources, activities have included the establishment of crop advisory committees on rice, sorghum and millets, maize and phaseolus. Working groups have been convened on a number of other crops of importance to Africa; in the coming years, these activities will be expanded in Africa, particularly in relation to crops such as rice, sorghum and millet, coconut, bananas and plantains, tropical vegetables, sesamum, sweet potato and cassava);

(e) The FAO Seed Improvement and Development Programme set up in 1973 supports efforts to enhance productivity through improvement of production, quality control, and the use of seeds and planting material;

(f) The protection of crops against pests and diseases is a major concern. FAO provides assistance in the assessment of pre-harvest losses, in the safe and efficient use of pesticides, in weed management practices, and in plant disease control operations. In addition to activities at the national level, FAO supports several intercountry projects, especially for the control of migratory crop pests such as locusts and grain-eating birds;

(g) Under the Desert Locust Control Programme, FAO co-ordinates international and regional desert locust control activities and, through the FAO Desert Locust Control Committee and regional commissions, assists affected countries with material and technical aid, surveillance and practical research, the collection and dissemination of data, and emergency control campaigns. The Programme also promotes international co-operative action in the control of other migratory pests;

(h) In the field of agricultural engineering and industry, assistance is provided to member countries in the selection, development or improvement of hand tools, animal draught and tractor mechanized equipment for land clearance, land preparation, crop production and harvesting and of crop processing and conservation techniques and in the planning, evaluation and supervision of farm, community and national-level storage structures and warehouses.

25. The activities described above are still areas of priority and will be continued during the biennium 1982-1983.

26. Under the proposed FAO programme of work and budget for 1982-1983, almost all of the elements of the programmes for natural resources for crops and for research support are of relevance to problems facing Africa and to the aims of the Lagos Plan of Action. The main lines of action proposed in the African region are the assessment of land resources and irrigation potential, improvement of soil fertility, water development and management, land reclamation and, of particular importance, the multidisciplinary problems of shifting cultivation and the study of improved alternative systems. In the context of promoting a rapid increase in basic food production without neglecting agricultural exports, emphasis is given to the selection of improved varieties, the dissemination of associated packages of agro-techniques, and the promotion of seed programmes, as well as crop protection activities.

### III. INDUSTRY

27. The Lagos Plan of Action affirms the following:

"The industrialization of Africa in general, and of each individual Member State in particular, constitutes a fundamental option in the total range of activities aimed at freeing Africa from under-development and economic dependence. The integrated economic and social development of Africa demands the creation, in each member state, of an industrial base designed to meet the interests of that country and strengthened by complementary activities at the subregional and regional levels. Industrialization of this kind will contribute, inter alia, to:

- "(a) The satisfaction of basic needs of the population;
- "(b) The exploitation of local natural resources;
- "(c) The creation of jobs;
- "(d) The establishment of a base for developing other economic sectors;
- "(e) The creation of the basis for assimilating and promoting technological progress;
- "(f) The modernization of society." (A/S-11/14, annex I, para. 56).

#### A. Measures taken by the United Nations Industrial Development Organization

28. To meet the challenge inherent in the statement quoted above, UNIDO - which with ECA is one of the two principal United Nations organizations charged by the General Assembly with the programming and monitoring of the Industrial Development Decade for Africa - has undertaken a careful analysis of the Lagos Plan of Action and the Final Act of Lagos with a view to realigning its programmes in Africa in accordance with the priorities and principles enunciated therein. The result of this undertaking has been the development of a more systematic approach with UNIDO for the preparation of its industrial programme for Africa, which has as its object

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to help countries and regional and subregional organizations in defining their long-term and short-term industrial and technological programmes and structures and in adopting the relevant measures for their effective implementation. This approach includes the development of national and regional industrial bases designed:

(a) To meet the objectives of self-sufficiency in food production, textiles, building materials and energy;

(b) To increase agricultural productivity through such industrial inputs as agricultural machinery and implements, fertilizers, pesticides, irrigation equipment and packaging materials;

(c) To develop basic industries relating to such commodities as iron and steel, metallurgical, mechanical, electrical and electronics, chemical, energy, petrochemical and capital goods.

29. In 1981, in order to assist African countries in the preparation of their industrial programmes, especially those for financing by UNDP, UNIDO intensified its programme for the fielding of programming missions. Such missions were undertaken in Burundi, Ghana, Kenya, the Libyan Arab Jamahiriya, Tanzania, Zambia and Zimbabwe and to the Economic Community of West African States and the Pan African Telecommunications Union. It is planned to intensify the programme during the rest of 1981 and in 1982 to include Algeria, Angola, the Ivory Coast, Madagascar, Malawi, Mali, Mauritania, Morocco, Mozambique, Nigeria, Senegal, Sierra Leone, the Sudan, Upper Volta and Zaire.

30. At the regional and subregional levels, UNIDO will assist regional and subregional organizations, through the different ECA Multinational Programming and Operational Centres projects, as appropriate, in the following branches of the food processing industries: meat, fruits and vegetables, vegetable oil and fats, cereals, beverages and sugar. The object will be not only to produce food but to adapt it to the local conditions of nutrition. At the same time, UNIDO will encourage a strict application of the norms of quality control and standards in food processing.

31. With regard to co-operation among African countries, UNIDO provides and will continue to provide technical assistance to economic groupings and water basin development commissions. These would include the Organization for the Development of the Senegal River, the Gambia River Basin, the Niger River Basin, the Kagera River Basin, the Mano River Union, the Economic Community of West African States, the Permanent Inter-State Committee on Draught Control in the Sahel, the West African Economic Community, the Customs and Economic Union of Central Africa and Liptako Gourma, all of which form a sound base for agro-industrial development.

32. The importance of developing adequate institutional infrastructures for industrial, technological and energy development has been emphasized in the Lagos Plan of Action. Thus UNIDO plans to intensify and broaden the scope of its assistance to the African countries and regional organizations in the fields of

industrial research; industrial consultancy and management; standardization and quality control; small-scale industry; rural development; industrial financing; and industrial promotion. Active measures would be taken to harmonize the activities of these various institutions not only at the national but also at the regional and subregional levels.

33. The development of appropriate mechanisms for industrial financing is very critical for industrial, technological and energy development in African countries. An important related activity, which UNIDO plans to intensify with the African countries, is assistance to Governments and intergovernmental organizations in the preparation of pre-feasibility and feasibility studies for specific investment projects. The ongoing UNIDO investment promotion activities would also be intensified, involving to a greater extent African financial organizations, as well as national, regional and subregional organizations. Special emphasis would be given to multinational industrial projects.

34. The relationship between technology and industrial development is so intimate that the development of one cannot be fully achieved without the other. Thus, UNIDO is according high priority to its technology programmes, especially those in favour of the African countries. In this connexion, the joint OAU/UNIDO Symposium on Industrial Technology, held at Khartoum, Sudan, from 5 to 11 November 1980 with the participation of 35 African countries and representatives of United Nations organizations and the ECA-sponsored African Regional Centre for Technology adopted relevant recommendations identifying specific projects for the development of technological capability in Africa. In April 1981, UNIDO and ECA developed a number of project proposals for consideration by UNDP for financing its regional programme for the third programming cycle. These include among others the development of capabilities for the acquisition of industrial technology; the strengthening of industrial technology research activities in Africa; and the development of mini-hydro power generation in Africa.

35. The UNIDO system of industrial consultations, which has been recognized by the international community as an effective mechanism for industrial co-operation, will become an important instrument for the implementation of the Lagos Plan of Action and the Final Act of Lagos. By the end of 1983, consultation meetings will have been held in the fields of food processing, vegetable oils and fats, leather and leather products, pharmaceuticals, petrochemicals, fertilizers, iron and steel, capital goods and agricultural machinery subsectors. The information to be obtained from these consultation meetings as well as the preparatory and follow-up activities in Africa would contribute to defining appropriate mechanisms in Africa for intensifying intra-African co-operation in the respective fields. They will also help in providing information for the preparation of the relevant protocols for the proposed African Economic Community. Above all, they will sow the seeds and, it is hoped, make a breakthrough for increased activity for the establishment of African multinational production enterprises.

36. Finally, an important activity is the organization of "solidarity meetings", at the ministerial level, for co-operation among developing countries in support of the industrial development efforts of selected African countries. The experience so far achieved in the organization of such solidarity meetings in Tanzania and the

Sudan has brought very positive results and has encouraged UNIDO to expand the programme in co-operation with the OAU, ECA and other interested international organizations. Other meetings are planned in 1981 (for Upper Volta) and in 1982 and 1983. Four of the least developed countries of Africa should benefit from the new programme.

#### B. United Nations Centre for Human Settlements

37. Within the field of industry, the United Nations Centre for Human Settlements (UNCHS) has focused its attention and expertise on the construction industry. Special attention is given to programmes that will assist African countries in maximizing the use of indigenous resources in order to benefit users of the final product and generate income and employment, through the various linkages, and in obtaining substantial multiplier effects. This is possible because of the considerable need in the construction industry for intermediate inputs from other ancillary industries such as the production of building materials (for example, cement), ceramics, timber processing, glass works, electrical fittings, the steel industry, plumbing, paints and the construction machinery industry.

38. With the foregoing in mind, and with a view to assisting the construction industry in Africa to sustain its growth and achieve self-sufficiency, a joint study is currently being undertaken by the Centre and ECA on the scope, criteria and prospects for increased productivity through the rationalization of industrial techniques for the production of building materials and for the structure of the building industry. Particular emphasis has been placed on the promotion of small enterprises for housing construction.

39. In the course of the 1980/1981 work programme, and with a view to promoting the development of indigenous construction industries in urban and rural areas, the current use of indigenous materials and techniques in Africa is being assessed with a view to guiding the development of the most relevant skills, tools and equipment for self-help and other indigenous approaches. Studies will be carried out on approaches to the promotion of conservation measures, the efficient use of energy in building design and innovative technologies. From these studies, criteria will be developed for the production of building materials, for building design and for the execution of building operations. A workshop on the use of solar energy in the design of buildings will be convened for architects and engineers.

40. Finally, and so as to enable the construction industry in Africa to become more responsive to the needs of low-income people, surveys of training facilities and needs for skilled construction labour will be undertaken to identify appropriate target groups, levels of training, and training techniques. These surveys will provide the basis for the formulation of a training programme, including curricula designs and training methods.

#### IV. DEVELOPMENT AND UTILIZATION OF HUMAN RESOURCES

41. The need for human resource development (training) in Africa is acute and widespread, encompassing every major development sector - agriculture, industry,

natural resources, transport and communications. The need exists for all types of training - formal education at the primary, secondary and tertiary levels; adult education; vocational training; in-service training; and training through workshops and seminars.

42. The preamble to the Lagos Plan of Action (A/S-11/14, annex I) recalls the "Monrovia Declaration of Commitment of the Heads of State and Government of the OAU on the guidelines and measures for national and collective self-reliance in economic and social development for the establishment of a new international economic order", in which African Heads of State and Government specifically committed themselves, inter alia, to:

"(a) Give important place to the field of human resources development by starting to eliminate illiteracy;

"...

"(g) Develop indigenous entrepreneurial, technical manpower and technological abilities ...".

43. Several organizations have addressed themselves to these concerns.

#### A. Measures taken by the International Labour Organisation

44. The objectives of the International Labour Organisation (ILO) in this area are in line with the analysis and strategy put forward in the Lagos Plan of Action. These issues are at the centre of the ILO responsibilities and programmes, and they are the focus of a large number of national technical co-operation projects and of several important subregional and regional projects.

45. Among the latter, special mention should be made of the Jobs and Skills Programme for Africa (JASPA) and the more recent Employment and Basic Needs Planning Team for Southern Africa (SATEP). Primary emphasis is on over-all policies for increasing employment (including the planning of manpower and its training) or human resource "utilization". Actual training is the concern mainly of another regional project: the Inter-African Centre for the Development of Vocational Training, whose task it is to help individual participating countries in the development of their vocational training policies, systems and methods. Its programme, which is established by the member countries themselves, focuses on the following themes: training policies and programmes; the organization and management of vocational training; training methods and materials; rural development and vocational training; vocation training for small industries; vocational training for disadvantaged groups; participation by employers' and workers' organizations in vocational training; and information and documentation. It is operated, with technical and financial assistance from ILO, by the Governments of 19 francophone countries. It constitutes a major experiment in the practical application of self-reliance through technical co-operation among developing countries.

46. JASPA and SATEP have been working with ECA and its multinational programming and operational centres and with a number of subregional groupings and organizations in the study and discussion of employment and income problems.

47. In regard to certain specific questions of employment policy, ILO has co-operation with African countries in regard to agriculture and rural development, science and technology, and the role of women in development.

48. Technical co-operation in vocational training has always been the largest single component of the ILO work in Africa. Projects have widely varied in nature, but most of them have involved institution building and in-plant training projects (at present in, for instance, Algeria, Benin, Gabon, Liberia, Mauritania, Senegal, the Sudan, and Swaziland). Vocational training projects for rural artisans are operational in Upper Volta, the Niger, the Sudan and East Africa. There is a project for training personnel in the Zaire Water Supply Organization, and one for training building and construction workers in Algeria. Vocational rehabilitation projects are under way in Somalia, Malawi, Swaziland and Zambia. A project for the subregional Railways Training Institute in Brazzaville is being prepared jointly with OAU and ECA. Technical co-operation in this field is likely to remain the main ILO activity in Africa.

49. "Managerial, executive and supervisory cadres development training" is among the priority training programmes with multiplier effects. In this area the ILO has for a number of years been co-operating with many Africa countries in the establishment of national institutions and programmes for the development of local managers and for improvement of the performance of enterprise management in the public and private sectors. However, major gaps of quality and quantity remain.

50. The ILO is working with a number of African management development institutions, with a view to enhancing their stability, reducing staff turnover, improving links with enterprises and Governments, and extending their competence to new technical areas. Moreover, many African institutes participate in the project for "co-operation among management institutions", which is designed to exchange information, experience and technical staff; and to carry out jointly programmes that would exceed the possibilities of single institutions.

51. The ILO has also co-operated with African countries in the management of food distribution and of rural projects and programmes. It has assisted in the vast field of developing management and entrepreneurship for small business: in services, commerce, transport, construction of curricula, training, and materials for self-development of small enterprise management, and in guidelines for the planning and management of related national programmes.

#### B. Measures taken by the United Nations Industrial Development Organization

52. In recognition of the fact that one of the main constraints to economic development is the gross shortage of technical manpower, in addition to what has been described under the section on industry above, UNIDO is intensifying and expanding the scope of its programme to African countries in the development of the

necessary high-level and technical manpower, not only in the key industrial, energy and technology branches but also at various levels of operation. In this regard, co-operative action will be taken with OAU, ECA and other relevant international organizations for the organization of an African regional preparatory meeting for the Global Consultation Meeting on Industrial Training, scheduled to take place in the United States of America in 1982. Efforts would be intensified for the development of regional specialized training institutions and centres of excellence. Surveys and forecasts of technical manpower requirements for the implementation of the relevant aspects of the Lagos Plan of Action would be made.

C. Measures taken by the United Nations Children's Fund

53. The development of human resources is one of the important aspects of the African programmes assisted. Co-operation with Governments consists of enhancing the national capacity for self-reliance in planning and managing programmes in the social and economic sectors at the national, regional and local/community levels. For this reason, a good part of this assistance goes into training, particularly of basic health workers and primary school teachers; personnel for water supply and sanitation; transport maintenance, nutrition, community development and the participation of women in development. Some non-formal educational activities for adults and youth are also supported with a view to improving the situation of mothers, children and youth through the delivery of basic services.

54. At the interregional level, UNICEF supports the programme of the Pan-African Institute of Development for the training of national cadres for work within their own countries in fields related to the improvement of the situation of women and children. At this Institute, which has separate units located in Douala and Buea (Cameroon) and Ouagadougou (Upper Volta), trainees from west African countries follow a curriculum, including courses in rural development, nutrition, appropriate technology and project management.

55. A new Regional Institute for East and Southern Africa has just been established in Lusaka for a similar programme in the region.

56. In Nairobi, interregional project activities are under way to train extension workers in social communications skills necessary to their work in national development. A regional appropriate technology programme also received support from UNICEF with the object of imparting basic technological skills to people in rural areas; it is also based in Nairobi. One of the aims of the programme of the ECA African Training and Research Centre for Women, to which UNICEF provides support, is to raise the level of technological sophistication of women's domestic and agricultural activities.

D. Measures taken by the International Maritime Consultative Organization

57. The achievement of self-reliance as expressed in the Lagos Plan of Action is a guiding principle of the IMCO technical co-operation programme, which is intended

to assist the countries of Africa (and the developing countries) in implementing their maritime programmes through, inter alia, the training of indigenous qualified personnel and the establishment of national training schemes and other infrastructural facilities. IMCO assigns the highest priority to maritime training as a prerequisite of the growth and improvement of an efficient and successful merchant marine. IMCO has accordingly sponsored regional maritime training academies in Ghana and the Ivory Coast.

E. Measures taken by the United Nations Educational, Scientific and Cultural Organization

58. The programme of activities of UNESCO is largely concerned with development of human resources. It cuts across all development areas.

59. UNESCO has been active for many years in activities concerning the role of non-formal training methods and media in the education of the masses, especially with respect to the promotion of public understanding of science and technology in Africa. A regional programme for the development of science and technology education in Africa prepared by UNESCO has received formal support from a number of African member States but awaits funding.

60. Cognizant of the fact that most of its member States in Africa lack the necessary national scientific and technological capability to carry out scientific, technological tasks and thus remain dependent on foreign technical skills, UNESCO can point to a number of major projects financed through its regular budget that are intended to overcome this defect. Among these projects, which can serve as important vehicles for the promotion of technical co-operation among Africa countries, are the following research, training and demonstration projects:

- (a) Integrated management of humid tropical zones;
- (b) Integrated management of arid and subarid regions;
- (c) Integrated management of coastal ecosystems.

F. Measures taken by the International Monetary Fund

61. In recognition of the fact that sound financial management is essential to sustained economic growth, if not a prerequisite of it, the International Monetary Fund (IMF) has been providing substantial technical assistance to African countries and training to African officials, with a view to strengthening the institutions and manpower in charge of economic and financial management. In 1980, the Fund provided African countries with 17 experts in the field of budgetary and public sector finance, an increase of nearly 50 per cent over the number provided in 1979. During the same year, the Fund provided 57 experts and consultants in the area of central banking. Recognizing the importance of a reliable statistical base in policy formulation, the Fund has provided technical assistance in this area, with the number of experts increasing by about 75 per cent in 1980. Training of manpower in economic and financial management is being carried out by the IMF Institute at the Fund headquarters in Washington. Such training is being offered

in various economic fields; the duration of the courses ranges from eight weeks to about five months. In 1980, 83 officials from African countries participated in the IMF Institute courses, an increase of about 36 per cent over 1979. In addition, senior officials of the IMF Institute responded to requests of African countries and gave lectures in various capitals.

62. In short, the financial, management, production, technical, institutional and manpower problems confronting African countries are formidable. However, IMF has responded and will respond promptly and effectively within its competence and in the context of the Lagos Plan of Action, which emphasizes implementation at the national level.

#### G. Measures taken by the World Bank

63. The World Bank considers the strengthening of human and institutional resources to be a significant contribution that it could make to development in Africa. Technical assistance is becoming, to a steadily increasing extent, an integral part of Bank activity in Africa. Bank projects frequently include a technical assistance component and the number of free-standing technical assistance loans has increased significantly. Of the loans to Africa in fiscal year 1980, 69 included technical assistance loans. The Bank's technical assistance activity includes a role as executing agency for UNDP-financed projects. At the end of fiscal year 1980, there were 31 active Bank-executed projects in Africa.

64. The Bank's Economic Development Institute (EDI) has stepped up its programme of training for African nationals by increasing the number of national and regional courses and seminars. In these, attention is paid to achieving a balance between French and English. There were 128 participants in regional courses co-sponsored by EDI in Africa in fiscal year 1980. The Bank has undertaken active on-the-job training for staff of the African Development Bank. It has offered to assist in the training of OAU staff through participation in EDI courses in Washington, and through consultations between EDI and OAU concerning the OAU secretariat's identified training needs.

65. The Bank assigns high priority to improving skills in Africa by seeking to raise educational levels and improving access to education. It plans to increase significantly the investments in primary, secondary and non-formal education in Africa; these would help to meet the needs for trained manpower identified in the Lagos Plan of Action. In the five-year period 1976-1980, the Bank lent \$851 million for 40 education projects in Africa. In the next five years, it is proposed to increase the scale of lending to the sector by more than 33 per cent, to \$1,181.5 million.

### V. TRANSPORT AND COMMUNICATIONS

#### A. The Transport and Communications Decade for Africa

66. The General Assembly of the United Nations proclaimed the decade 1978-1988 the Transport and Communications Decade for Africa, designating the Economic Commission



for Africa as the "lead agency" with over-all responsibility for the programme, including co-ordination of implementation of the programme at all levels and assisting in the mobilization of the resources required (General Assembly resolution 32/160). In carrying out this task, ECA works through an Inter-Agency Co-ordinating Committee with all relevant United Nations organizations.

67. In May 1979, the ECA Conference of Ministers of Transport, Communications and Planning adopted a strategy for the Decade which is embodied in the Lagos Plan of Action. Several United Nations organizations, members of the Inter-Agency Co-ordinating Committee, have developed relevant programmes of work in pursuance of the objectives of the strategy.

B. Measures taken by the Inter-Governmental Maritime Consultative Organization

68. The Inter-Governmental Maritime Consultative Organization (IMCO) contributes to the implementation of the transport component of the Lagos Plan of Action and participates, in co-ordination and co-operation with ECA, in projects and activities within the framework of the Decade.

69. At the request of individual countries, IMCO has acted as executing agency for numerous national projects concerning maritime safety, maritime administration, maritime legislation and technical port operations. IMCO-executed projects are underway or envisaged in Algeria, Angola, Benin, Cape Verde, Egypt, Ghana, Guinea-Bissau, Kenya, Liberia, the Libyan Arab Jamahiriya, Madagascar, Malawi, Morocco, Mozambique, Nigeria, Sierra Leone, Somalia and Tunisia.

70. IMCO co-operates with the Council and the High Commissioner for Namibia in two projects: the Transport Survey for Namibia and the Maritime Training and Harbour Survey.

71. Continuous advice and support for maritime transport and development in Africa are available through IMCO regional maritime advisers stationed in Lagos, Nigeria and in Abidjan, Ivory Coast. Moreover, interregional maritime consultants, based at IMCO headquarters in London, are available to African countries on request to advise on maritime questions within their specific field. The IMCO secretariat may also be consulted regarding the use of personnel, materials services, equipment, facilities, or joint undertakings. Appropriate arrangements may be made for co-operation in the use of training and research facilities.

C. Measures taken by the International Civil Aviation Organization

72. The International Civil Aviation Organization (ICAO) is playing its full part in implementation of the plan of action for the Transport and Communications Decade and participates actively in the work of the Inter-Agency Co-ordinating Committee for the Decade.

73. The ICAO Technical Assistance Programme, which is entirely financed through external sources such as UNDP and trust funds, comprises three elements: the

provision of technical experts in the field; assistance in the provision of civil aviation and related equipment; and training through fellowships. The programme also plays a major role in the establishment of both national and regional training centres.

74. ICAO has sent planning missions to developing countries to assist their Governments in identifying their requirements for technical assistance to civil aviation during the 1982-1986 UNDP funding cycle.

75. The Sixth ICAO African-Indian Ocean Regional Air Navigation Meeting has undertaken a thorough review and revision of the Air Navigation Plan for that region. Constant attention is given to implementation of the Plan, with assistance from the ICAO African Office, the Middle East and Eastern African Office, and from the ICAO technical assistance programme.

76. ICAO has published a study entitled, International Air Passenger and Freight Transport - Africa, which contains a factual analysis of air transport in Africa and identifies obstacles to the development of international air passenger and air freight transport and suggest measures for overcoming them.

77. ICAO maintains a close and continuous working relationship with the African Civil Aviation Commission, and provides expert advice and secretariat assistance to the Commission upon request.

78. In addition to the advisory services provided to States by the two ICAO regional offices serving Africa,, through correspondence, informal meetings and an active programme of visits to national civil aviation administrations, ICAO-assisted workshops and seminars, on such subjects as civil aviation statistics, air transport forecasting and planning, airport and route facility economics, facilitation, aviation medicine, operational requirements and aviation security, provide an opportunity for participants from civil aviation administrations to pool ideas and discuss problems of common concern.

#### D. Measures taken by the Universal Postal Union

79. The Universal Postal Union (UPU) is a member of the Inter-Agency Co-ordinating Committee for the Decade and participates actively in its work programme and projects. Fifty-nine national and multinational postal projects have been earmarked for phase I of the Decade. The more important of these are:

- (a) The establishment or improvement of 10 regional postal transit centres;
- (b) The mobilization of savings by postal means;
- (c) The establishment of workshops for the manufacture of postal equipment;
- (d) The establishment of multinational schools;
- (e) The improvement of intra-African traffic.

E. Measures taken by the United Nations Conference on Trade and Development

80. The United Nations Conference on Trade and Development (UNCTAD) is co-operating with ECA in preparing for implementation of the programme for the Decade. A number of subregional and national projects in maritime transport executed by UNCTAD are currently being implemented, including assistance for the modernization and harmonization of ports statistics and the introduction of performance indicators in east African ports, training in the field of maritime transport, assistance to the Ministerial Conference of Western and Central Africa on Maritime Transport, and assistance to the southern Africa subregion in the shipping field. A few subregional projects to be executed by UNCTAD are included in phase I of the Decade programme. One of these relates to the organization of seminars on multimodal transport. The project documents concerning those seminars are being prepared. Further projects will be elaborated under phase II.

81. In addition, UNCTAD has provided direct technical assistance at the national level to a number of Governments of African States at their request.

F. Measures taken by the International Telecommunication Union

82. The proclamation of the Transport and Communications Decade prompted the International Telecommunication Union (ITU) to undertake a careful appraisal of the status of public telecommunication and broadcasting systems and services in order to determine the best approach for co-ordinating and accelerating development in this sector. The conclusions of the evaluation were consolidated in a document entitled "Transport and Communications Decade in Africa - ITU preliminary proposals for the telecommunication sector, 1978-1987". This document, which represented the contribution of ITU in the preparatory activities for the Decade, was presented to the inter-agency and intergovernmental meetings held in 1979 to finalize and adopt the programme of action for the Decade. Its purpose is to set out reasonable targets in each subsector with recommendations of the various actions required from the telecommunication administrations concerned to attain the targets by the end of the Decade. This over-all framework for development activities aroused great interest in many telecommunications administrations, some of which already have taken definite steps to formulate national targets accordingly.

83. The Third African Telecommunication Conference, held at Monrovia in December 1980, examined the ITU proposals as elaborated for the programme of the Transport and Communications Decade and endorsed the proposals and the programme as far as the telecommunication sector was concerned.

84. The ITU Technical Assistance Programme, which is largely financed by UNDP, is concentrated in the following areas within the programme of the United Nations Transport and Communications Decade for Africa:

- (a) Development and extension of national telecommunication networks;
- (b) Implementation, development and extension of the Pan-African Telecommunication Network (PANAFTEL);

- (c) Training;
- (d) Management;
- (e) Planning;
- (f) Maintenance and operations;
- (g) Rural telecommunication;
- (h) Radio and television broadcasting;
- (i) Manufacturing; with a view to the industrialization of telecommunications and the promotion of local production using existing industries.

85. The PANAFTEL project is by far the most extensive project in which ITU has been involved for over 10 years. The object of the project is to provide a telecommunication network spanning the entire African continent in such a way that intra-African telecommunication traffic can be directly connected without routing via other continents, notably Europe. The PANAFTEL network consists of communication such as open-wire systems, submarine cables and satellite lines.

## VI. SCIENCE AND TECHNOLOGY

### A. Measures taken by the United Nations Conference on Trade and Development

86. The Advisory Service on Transfer of Technology provides the institutional basis on which UNCTAD meets the requests and requirements of developing countries for technical and operational assistance in respect of issues related to technology transfer and development. Since its inception in 1977, the Advisory Service has assisted a number of developing countries, individually and in co-operation among themselves, in the formulation and implementation of programmes designed to strengthen their own technological capacity and accelerate their technological transformation.

87. The Lagos Plan of Action calls for the formulation of technology policies and plans in the context of development plans and strategies. The Advisory Service has organized a workshop on this specific subject, with the participation of government officials from all African countries using English as a working language, and would be pleased to organize a similar workshop for African countries using French as a working language, provided that adequate resources for the purpose were forthcoming.

88. The Advisory Service has also co-operated with a number of African countries and groups of countries in evolving suitable national sectoral policies, and co-operative arrangements in specific sectors of critical importance to these countries, including pharmaceutical agro-industries and food processing, capital goods and machinery, and energy.

89. The Lagos Plan of Action repeatedly stressed the need for the training of personnel at all levels in order to strengthen the capacities of the countries of the region regarding policies, evaluation, negotiation, planning and implementation aspects of the transfer of technology. In this respect, the Advisory Service has regular programmes for in-house, on-the-job and in-field training and exchanges among developing countries and reiterates its readiness to give favourable consideration to additional candidates from African countries.

90. The Advisory Service provides continued support to the ECA-sponsored African Regional Centre for Technology, which, one year after its establishment, is moving steadily towards the stage at which it will become fully operational as a powerful instrument for implementation of those parts of the Lagos Plan of Action that deal with technology.

#### B. Measures taken by the World Intellectual Property Organization

91. The development co-operation activities of the World Intellectual Property Organization (WIPO) in the African region have as their purpose to assist African countries in training specialists, in setting up or modernizing legislation and public institutions (particularly by drafting model laws and giving direct advice to Governments), stimulating inventive activity and technology transfer, exploiting the technological information contained in patent documents, and facilitating access to foreign works protected by copyright.

92. One of the more important activities conducted by WIPO at the regional level is its association with the African Intellectual Property Organization (OAPI) in the form of its responsibilities as executing agency for the UNDP-financed project for the establishment of a patent documentation and information centre within the framework of OAPI. The Centre serves the needs of 12 francophone member States by providing information on technology disclosed in patent applications deposited not only with OAPI but also in principal industrialized countries with the object of facilitating the efficient choice, acquisition and development of technology. A similar project is being developed for the establishment of a patent information and documentation centre within the Industrial Property Organization for English-speaking Africa (ESARIPO). The immediate and development objectives of these two projects are to assist countries in increasing their technological potential in the context of intergovernmental co-operation in industrial property, through such outputs as the provision of technological information system supplying information to research development planners and decision-makers in the selection, transfer, adaptation and application of technology.

#### C. Measures taken by the Universal Postal Union

93. The Universal Postal Union (UPU) plans to take dual action in the field of science and technology: in applied research and in manufacture in African countries. Two projects are planned: one on the establishment of a centre for postal studies and research and another on the establishment of workshops for the manufacture of postal equipment.

94. The establishment of the Centre for Studies and Research will allow the postal administrations of African countries to develop their own mechanism for the exchange of information and to test new experiments that might be adapted to local conditions at low cost.

95. In the next five years, action by UPU will centre on studying ways of improving the production capabilities of small-scale processing equipment in African countries.

96. It is therefore planned to create an appropriate project. In the course of time, five workshops will be established (one for each subregion) to produce postal equipment for a group of small-scale enterprises.

97. UPU has already approached the United Nations Interim Fund for Science and Technology and UNDP for financing these two projects.

D. Measures to be taken by the United Nations Educational, Scientific and Cultural Organization

98. The contribution of UNESCO to the application of science and technology for development covers a broad range. This agency, for example, works towards the attainment of a better understanding of science and technology and their role in a changing society. It works also in the development of human resources in this sphere of activity mainly through training programmes - UNESCO co-operates closely with the agencies in the United Nations system (for example, FAO and WHO) on development programmes and the training of personnel, and generally pursues activities in line with the recommendations of the United Nations Conference on Science and Technology for Development.

99. As regards the formulation of national policies on science and technology highlighted in the Lagos Plan of Action, UNESCO has pursued the establishment of a mechanism at the regional level in the form of a standing conference of heads of science and technology policy-making organizations in Africa to facilitate the co-ordination and exchange of views and information.

100. UNESCO collaborates with ECA in the development of marine science and technology and is executing, jointly with ECA, a project funded by UNDP in this field. The main object of the programme is to enhance the capabilities of African coastal States to enable them to make fuller and more rational use of their marine resources through infrastructural development in marine science and technology. When successfully completed, the project is expected to produce qualified indigenous scientists and technologists in the major disciplines of marine science and technology - biological oceanography and fishery science, chemical oceanography and marine pollution, physical oceanography, marine geology and ocean engineering.

E. Measures taken by the International Labour Organisation

101. The approach of the International Labour Organisation (ILO) to science and technology is entirely in line with the general themes of the Lagos Plan of Action

in this sector. Thus, some of the ILO activities contribute to the development and dissemination of low-cost rural technology covering agricultural tools and implements as well as technology for small-scale industry and artisan enterprises. A set of ILO case studies examines innovations in the use of farm tools and equipment in the Sudan, Kenya, Malawi and Zambia, providing useful insights into their impact on productivity and employment, into obstacles to their dissemination and application, and into the possibility of increased local manufacture of farm implements.

102. The ILO proposals for the establishment of a regional information network concerning farm tools and equipment coincides with the stress placed on technical co-operation among developing countries in the field of technology in the sense that this network would provide for the exchange of information on developments in this field, with a view not only to avoiding duplication of effort, but also to assisting in the transfer of prototypes of new farm equipment. For instance, in a programme for improving animal capability, "the Indian method" of training in the use of draught animals would be relevant to ox-cultivation in Africa. Also, in most parts of Africa the transition from hand to ox-cultivation would require a substantial flow of information from Asia to Africa, and among African countries.

103. In recent years, ILO has undertaken technical co-operation projects relating to rural industries and handicrafts in Madagascar, Gabon, Guinea, the Seychelles, Senegal, Mauritania and Zimbabwe. In most cases, the focus is on the promotion of appropriate technology through the development of national institutions and the dissemination of information. In accordance with the recommendation in the Lagos Plan of Action for national "centres" for science and technology, ILO is instrumental in the establishment of rural technology centres in several African countries; their main functions are to provide direct assistance to farmers and small rural entrepreneurs in the choice and application of appropriate technology, on the basis of research and development, dissemination of information, training, the organization of production, and the procurement of raw materials and intermediate inputs.

104. At the regional level, ILO has rendered technical advice to the ECA-sponsored African Regional Centre for Technology in Dakar. It is also involved in activities in Africa financed by the United Nations Interim Fund for Science and Technology for Development.

105. In the informal sector, the ILO has helped in conducting surveys, with a view to determining ways of strengthening and developing economic activities in Rwanda, Cameroon, Togo, Mali and Mauritania. A number of these countries have now requested ILO assistance in the launching of operational projects.

106. The Lagos Plan of Action pleads for the use of science and technology for the benefit of disabled persons. In this connexion, the ILO has proposed the establishment of an African Rehabilitation Institute, to carry out training and research projects in various parts of the continent.

## VII. CONCLUSION

107. The Secretary-General has had occasion to emphasize that the Lagos Plan of Action is one which, if faithfully and fully implemented will lay the foundation for the achievement of an increasing measure of national and collective self-reliance, and that its implementation in a co-ordinated manner will particularly test the mettle of all parts of the United Nations system to work constructively under the leadership of the Economic Commission for Africa, as mandated by the General Assembly through its resolutions 32/197 and 33/202, to help steer Africa on its new course.

108. Finally, there is the question of resources. No development plan can be implemented without the requisite resources, and while implementation of the Lagos Plan of Action remains the primary responsibility of the African Governments and peoples themselves, the support of the international community is vital in ensuring the success of the Plan. The Secretary-General is confident that, given the right international economic climate, the international community will respond generously, so that Africa, in combined effort with its development partners, can attain, by the year 2000, a large measure of self-sufficiency and that its peoples will be healthy, free of hunger, properly housed, and literate; and above all that their lives will be culturally and spiritually enriched.

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