

ECONOMIC COMMISSION FOR AFRICA

PLAN OF ACTION FOR THE IMPLEMENTATION OF THE MONROVIA STRATEGY  
FOR THE ECONOMIC DEVELOPMENT OF AFRICA  
RECOMMENDED BY THE ECA CONFERENCE OF MINISTERS  
RESPONSIBLE FOR ECONOMIC DEVELOPMENT  
AT ITS SIXTH MEETING HELD AT ADDIS ABABA, 9 - 12 APRIL 1980

To

the first Economic Summit of the Assembly of Heads of State  
and Government of the Organization of African Unity,  
Lagos, Nigeria, 28 and 29 April 1980



UNITED NATIONS

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*This is a re-run of the Plan as presented to the Lagos Economic Summit in accordance with OAU resolution AHG/Res.96(XVI)/Rev.1 of 17 July 1979 and ECA resolution 398(XV) of 12 April 1980. It does not include amendments made to the Plan and approved by the Summit which will be incorporated in a final text being prepared by the secretariat of the OAU and will be published under the title of Lagos Plan of Action for the Implementation of the Monrovia Strategy for the Economic Development of Africa.*

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## FOREWORD

Introduction

1. At the sixteenth session of the Assembly of Heads of State and Government of the OAU in Monrovia, Liberia in July 1979 and following the adoption of the Monrovia Strategy for the Economic Development of Africa and the associated Monrovia Declaration of Commitment on Guidelines and Measures for National and Collective Self-Reliance in Social and Economic Development for the Establishment of a New International Economic Order, the Assembly decided to hold an Extraordinary Session on economic problems of Africa in Nigeria before the next ordinary Session of the Summit as soon as possible thereafter. In the operative paragraph of the resolution containing this decision, the Assembly directed "the Administrative Secretary-General of the Organization of African Unity in co-operation with the Executive Secretary of the United Nations Economic Commission for Africa and the Ministers of member States responsible for Economic Development, to prepare the grounds for the proposed extra-ordinary session so as to facilitate a fruitful discussion of the economic problems of Africa by the Heads of State and Government". The recommendations contained in the present document represent the response to that request.

2. It will be recalled that at the fifth meeting of the Conference of Ministers in Rabat, Morocco, in March 1979, the Conference devoted a considerable part of its time to the discussion of economic problems of Africa based principally on the report of the Monrovia Colloquium on the prospects of development and economic growth in Africa up to the year 2000, organized jointly by the OAU and ECA with the financial support of the UNEP, and the Report of the Addis Ababa Seminar on Alternative Patterns of Development and Life Styles for the African Region, organized jointly by the ECA and UNEP and came out with a Development Strategy for Africa for the United Nations Third Development Decade in its resolution 33 (XIV) which, with the reports of the Colloquium and the Seminar, it was decided should be submitted to the sixteenth ordinary session of the Assembly as working documents. The Conference of Ministers is happy to note that the Strategy and the accompanying draft Declaration of Commitment were received favourably by the Council of Ministers and by the Assembly of Heads of State and Government. The Conference is also happy to note that the Strategy document has been transmitted to the United Nations with the recommendation that the United Nations General Assembly should consider it as an integral part of the New International Development Strategy for the Third Development Decade to be adopted by the Special Session of the General Assembly in 1980. In this connexion, the Conference of Ministers is aware that, the request of the Assembly of Heads of State and Government to it to prepare the ground

for the extraordinary session so as to facilitate fruitful discussions, taking into account the necessity of translating the Monrovia Strategy for Economic Development for Africa into reality is a further sign of the confidence of the Assembly in the Conference and a logical step to the work carried out in Rabat.

3. As a basis for its work on the proposals which are presented here, the Conference of Ministers had at its disposal three types of technical documents: reports and recommendations of sectoral ministerial conferences (Conference of African Ministers of Industry, Conference of African Ministers of Trade, Conference of African Ministers of Transport, Communications, Works and Planning); report and recommendations of some of its technical subsidiary bodies (Joint Conference of African Planners, Statisticians and Demographers, Intergovernmental Group of Experts on Science and Technology for Development Regional Conference on the Integration of Women in Development) and a series of documents prepared by the secretariat, in many cases with the collaboration of the secretariat of the Organization of African Unity and other regional and international agencies. They have all been extremely useful.

4. All these documents were made available to the Technical Preparatory Committee of the Wole comprising senior officials of governments responsible for various facets of development planning and implementation, which met in Addis Ababa from 3 to 6 April 1980 to prepare the groundwork for the sixth meeting of the Conference of Ministers which took place in Addis Ababa from 9 to 12 April 1980.

#### Collective Self-Reliance and the International Situation

5. The fundamental objective of the Monrovia Strategy and Declaration of Commitment is the establishment of self-sustaining development and economic growth, based on collective self-reliance and aimed at improving the standards of living of the mass of the African people and reducing mass unemployment. Before, however, proceeding to consider the principal features of the Plan to achieve these purposes, the Conference feels that a brief review of the international setting of the Region's economy is required.

6. The first point the Conference wishes to emphasize is that the Region is not resource poor either in respect of minerals or of arable land, of forest or of fishery resources, of animal or of energy resources and that it is fully capable of feeding its own populations even if it only exploits the potentialities of its enormous river and lake basin systems. Its rural populations have proved themselves highly adaptable to innovation in crops, cultivation practices, the use of improved seeds and other inputs, new marketing systems and so on. It has, however, had fastened upon it an economic system which inhibits the range of natural resources it utilises, which puts it in the straight jacket of producing what it does not consume and consuming what it does not produce and of exporting

raw materials at low and in most cases declining prices in order to import semi-finished and finished products at high and rising prices. No programme for economic liberation can succeed which does not strike at the heart of this system of subjugation and exploitation. The Region's resources must be applied, first and foremost, to meet its own needs and purposes.

7 In its consideration of the various factors accounting for the African situation today, the Conference has taken into serious account the steady weakening of the world market for the Region's export products and the severe and in some cases automatic limitations now placed on exports of manufactures by the Third World to the developed world. These restrictions clearly show that all efforts undertaken by the countries of this Region to adopt economic models based on the export of manufactures, are likely to be frustrated. The Conference has also noted that in the process of development, life styles in the developed countries have been changing with the result that these economies are now characterized by uncertainties in the demand for the Region's export products.

8 Furthermore, the Conference notes that there are new technologies taking shape in advanced countries, which are expected to affect seriously the export prospects of some of the Region's major export products by providing new substitutes for them. Equally serious are new technologies associated with the electronics industry and with automation which are expected to erode the cost advantages of manufacturing industry in Third World countries. Three international effects are predicted: increased difficulties in the exports of labour-intensive manufactures from Third World to developed countries; a decline in the interest of foreign enterprises in locating manufacturing activities in the Third World; the reversal of the movement of foreign manufacturing enterprises from the developed to the Third World.

9 The Conference has also not overlooked either the growing impact of East/West economic relations (whether in respect of trade, loans and investment funds) on the Region's position or the continuing effect of inflation of import costs at a time of long term decline in the position of its export products in general.

10. At the same time it is noted that industrialization processes in the Region depend so much on imports of skilled manpower equipment, materials, technologies and other factors, that very little of the local value added is left to it for reinvestment. In many cases, the effect of tax holidays and other subsidies and of inter-country competition for foreign investment is that African countries not only lose the savings which local processing was expected to yield but that they find their economies burdened with extra costs to pay for imported factor inputs whose prices are not only high but continue to rise. Thus, the adverse balance of payments both for commodities and for services are further inflated and the Region continues to contribute in one form or another to the already massive capital accumulation in developed economies as it has for many past decades.

11. Whilst the Conference recognizes the importance of commodity stabilization schemes, it no longer believes that these will be sufficient to bring about the structural transformation which lies at the root of self-reliant and self-sustaining development and economic growth which is now, for this Region, a necessity. Indeed it is difficult to see how the Region can continue to base its hopes of overcoming its present difficulties by extensive dependence on those who are largely accountable for the perpetuation of those problems.

12. The Conference is of the view that member States of the Region have tended to be persuaded to believe that the drive-wheel of growth and development is the export of primary products to shrinking and changing world markets for such commodities. It now, however, recognizes that the Region's engine of growth and development must consist of a combination of Africa's considerable natural resources, her entrepreneurial, managerial and technical resources, and her markets (restructured and expanded) to serve the mass of her people, and that in this engine the development of the capital goods industries (as has been recognized everywhere) is a major component. The Region has no alternative today but to map out its own strategies and vigorously pursue their implementation. Its efforts to do so may come to grief if it continues to try to hang on to the very chains that anchor its economies to those of other continents.

13. The Conference knows and accepts that to avoid the terrible spectre of increasing mass poverty, unemployment and general instability which all projections of the world economy show will be the lot of the Region by the year 2000 and to implement the Plan of Action it now earnestly recommends, the Region shall need aid, investment and technical assistance from all parts of the world. But it insists on two guiding principles: firstly, that these contributions from the outside world are supplements to own efforts and cannot be substitutes; secondly, that they must be supplements genuinely relevant and substantially meaningful in terms of the purposes and programmes the member States have collectively resolved to pursue. It recognizes that the responsibility for ensuring this lies on member States and on their planners and managers but it wishes to convince the rest of the world that member States intend to insist on this and that this insistence is not, as may easily be misinterpreted a sign of rejection in principle of aid, technical assistance and foreign investment. It is, therefore, not the Region's intention to make the approval of the rest of the world a condition of what it does or how it does it for the African peoples, African countries and the African Region.



14. The principal concern of the Conference may thus be stated as follows. Twenty years after the majority of African countries have acceded to political independence, the African continent is facing the decade 1980-1990 seriously handicapped by its underdeveloped condition. This underdevelopment is manifested socially, among other things, by the low level of satisfaction of the basic needs of the population, continued widespread illiteracy, and the persistence of major endemic diseases. This situation is reflected in economic and administrative structures which fail to meet the requirements of development.

15. Africa's present state of underdevelopment is the direct consequence of many centuries of colonization and domination in all their numerous forms, under which both the population and the continent's raw materials were ruthlessly exploited and the African economy is therefore still based essentially on agriculture and artisan-style production, the main features of which are the low productivity of the techniques used, poorly qualified manpower and inadequate infrastructures.

16. With an average per capita income of \$US 156 in 1970 (excluding oil exporting countries) and in spite of an average rate of growth of 3.5 per cent (1970-1977) and with 20 of the 31 world least developed countries, the African continent occupies the worst position in the world-wide struggle against underdevelopment. It should be noted that manufacturing value added in Japan was six and one half times that of Africa in 1963 and nine times that of all African countries together in 1975. The share of Latin America in world manufacturing value added was 5.5 times that of Africa in 1963 and six times in 1975.

17. Like the developing countries as a whole, with which they have close ties, the African countries have undertaken to achieve their economic and social development which, while entailing the radical transformation of their societies and the establishment of an integrated economic structure, necessitates a plan for mobilizing the entire human and material resources of each one of them and requires having recourse to massive external resources which represent an essential contribution.

18. The variety of external resources needed by the African countries to complement the resources they will mobilize themselves in order to give their development activities the depth, continuity and pace without which any effort of such magnitude is bound to fail, should come to a large extent and above all from the developed countries, which owe some of their present wealth in large measure to the exploitation of the African continent. In this connection, the massive transfer of resources to the

African continent must take the form either of grants or of soft loans which will enable the African countries to achieve genuine development and ever increasing economic independence. It will have to be organized in such a way that the proportion of grants is in inverse proportions to the level of development of the beneficiary countries.

19. The African countries consider that the present underdeveloped state of the majority of the peoples of the earth, and the African peoples, more particularly constitutes not merely an obstacle to the continued development of the existing advanced countries but also a threat to world peace.

20. The African countries reaffirm the vital need to undertake global economic, social and cultural activities which will mobilize the strength of the country as a whole and ensure that both the efforts put into, and the benefits derived from development are equitably shared.

#### Main Characteristics of the Plan

21. The Plan which the Conference recommends is based on an integrated approach covering different economic and social activities taking account of the interdependence of these activities.

22. The two leading production sectors are food and agriculture and industry. The industrial sector is designed to make possible the supply of the bulk of industrial inputs required for agricultural production, processing, storage and transportation (agricultural chemicals, equipment, including implements and tools, building materials, food processing equipment, transport equipment, etc.). The food and agriculture programme (which includes forest products and textiles) thus provides not only inputs into the processing industries but also markets for industrial products of the kind just listed. But the industrial programme goes much further: it is intended to cover building materials, metal and engineering products and chemicals for the transport and communications, mining, energy, and other sectors which make heavy use of capital goods. As is well known, building and construction are fundamental to most forms of physical growth and the expansion of the population and the economy; the Conference foresees that it will be impossible if the present extreme dependency on imports for this sector is not very rapidly minimized.

23. At the base of all production lie the raw materials industries requiring location, evaluation, extraction and refining of natural resources and the planning of output of metals and basic chemicals against targets. A considerable input will obviously be required from the transport sector. It should be clear that in many cases greater control over natural resources than at present will be essential, particularly if those resources are not squandered at the expense of the African people.

24. Two features of energy policy and supply call for notice. The first is the paradox of the amplitude of the Region's resources of energy and its dependence on energy imports. The second is the mix of technologies required to tap all forms of particularly renewable energy for use at many different scales of application. Here again as noted earlier the energy sector will require considerable inputs from the metals and engineering industries.

25. The trade sector will be involved in setting up of mechanism for promoting intra-African trade in raw materials including the modalities of long term purchase and sales agreements not only of raw materials but of semi-finished and finished industrial and agricultural products.

26. The programmes for manpower and for science and technology, like intra-African trade, cut across all other sectors and the projects in the programmes are closely tied to the specific manpower requirements of the other sectors in particular the requirements of entrepreneurial cadres, and of managerial, production, R and D and marketing manpower. Although reference here is made to manpower it must be made clear that there is a need to upgrade and utilize the enormous and as yet barely tapped potential of womanpower in all sectors.

27. A brief inspection of the programme for Science and Technology will show that whilst it does not overlook wider aspects of the subject, close attention is paid to the specific priorities proposed in the programmes for the two major production sectors: industry and food and agriculture.

28. There is little need to emphasize the role of transport and communications in the Plan both as a provider of services without which the Plan is unrealizable and as a major market for outputs from the metals and engineering and the energy industries.

29 Underpinning the whole fabric of the Plan thought should be given to the establishment of appropriate institutions at the national, multinational and regional levels concerned not only with the general mechanics of co-operation but with direct services to production and distribution.

30 In respect of the environment, the programme proposed for inclusion in the Plan of Action covers such aspects as (i) pollution control as a result of industrial effluents, excess fertilizers and pesticides from commercial agricultural plantations; (ii) conservation of natural resources to combat deforestation and for rational use of energy and non-renewable resources; (iii) promotion of environmentally sound development in the choice and adaptation of technology for agricultural and industrial processes and, (iv) development of relevant infrastructure as legislation and effective law enforcement, environmental education and training, and institutional capabilities at the national and regional levels.

31 For the Plan to take off will require greatly increased capabilities at all levels for intra-sectoral and inter-sectoral planning, for spatial planning; for the preparation of prefeasibility and feasibility studies and for project design, planning and management. The lack of these capabilities has hitherto been responsible for considerable and increasing foreign exchange payments for imported services.

#### Mobilization of Financial and Real Resources

32 As regards the mobilization of financial and real resources, the Conference believes that the cost of the total programme can be significantly reduced depending on the choices of technology made and the care with which they are made taking into account the fact that the bulk of technologies in everyday use all over the world is not subject to property rights, and provided attention is paid to trade marks policy and practice. The Conference is of the view that a good deal of the technologies chosen should be designed to facilitate not only employment creation but also local reproduction of the tools, implements and machines embodying them and that the fullest use should be made of direct community participation and physical inputs.

33. The Conference feels that considerable domestic financial savings can be mobilized for reinvestment in Plan projects by both conventional and new measures and that as regards foreign exchange, there is room for savings in outpayments for such services as banking, insurance, shipping, civil aviation, marketing and

distribution. Account should also be taken of transfer pricing operations of private enterprises. All these call for close and continual scrutiny of the invisibles account in the national accounts.

34. The Conference takes note in this connexion, of the steps ECA intends to take, in collaboration with appropriate financial authorities within the Region, to investigate the opportunities for financial resources mobilization and redeployment and to advise member States individually and collectively on the exploitation of these opportunities.

35. Finally, the Conference holds to the view that no plan of the kind proposed can succeed without the identification, specification, instruction or authorization of the principal agents and instruments required for its execution. It will also not be enough to charge these agents and instruments with responsibilities without evaluation of their capabilities of discharging such responsibilities and without the deliberate creation of special supports and incentives to enable them to function as desired. In all cases, mechanisms of accountability will require to be established. Equally important, however, is the Conference's view that performance will to an important extent depend on the degree of participation of agents and instruments in the detailed planning and programming of projects comprising the Plan.

36. Among the agents and instruments the Conference has in mind are: state enterprises and public utilities; development corporations and development banks; indigenous and foreign private enterprises; R and D establishments; universities and polytechnics; farmers' organizations; community leadership groups; river and lake basin and similar authorities dealing with the development of agricultural or geological regions (such as the Great African Rift Valley); business support institutions (business consultancy organizations, industrial estates, extension services, etc.) associations of engineers, scientists and technologists; institutes of development studies and, of course, multinational development organs such as the Economic Community of West African States and the Multinational Programming and Operational Centres, who may be entrusted with the organization and encouragement of participation of some of the agents and instruments referred to earlier.

37. The Conference firmly believes that the most brilliant plan ill-executed may be worth less than an imperfect plan brilliantly carried out and this explains the attention which it feels ought to be given to problems and mechanisms of implementation.

The greatest danger in neglecting this aspect of the Plan arises, it is felt, from the possibility of the Plan slipping into the hands of others so that the Region's Plan becomes their plan, its purposes and objectives, their purposes and objectives, its agencies and instruments, their agencies and instruments, its inputs and their inputs, the results it seeks, the results they seek.

38. The Conference therefore recommends that the Executive Secretary of the Economic Commission for Africa, in collaboration with the Secretary-General of the Organization of African Unity, initiate consultations with regional and multinational organizations and with individual member States and appropriate national institutions on problems of implementation of the Plan, as far as regional and multinational projects are concerned and that member States proceed to organize similar consultations at the national level.

#### The Political Will

39. The Plan the Conference is putting forward is to the Conference the only means by which the anticipated crisis in the year 2000 can be averted. It provides for participation by every member State, and by every group or class of persons and institutions in the Region. It enables policy-makers, planners and agents of production and distribution to choose their own priorities. To the extent that any overriding priority may be identified, it is the acquisition, improvement and rapid multiplication among the people, of know-how relevant to the concrete objectives of the Plan.

40. The Conference wishes once again to recall that the population of the Region is expected to increase from 406 m. in 1975 to 827 m. in 2000 and to stress that even the maintenance of the existing levels of mass poverty and unemployment, not to say their amelioration will call for heroic and concrete efforts to build the Region's economy on a new basis.

41. In the face of the many adverse powers in front of it (industrial power, technological power, financial power, market power, transnationals' power and food power), the Region will have once more to call upon its inner resources of fortitude, sacrifice and political will which have enabled it to confront and overcome the forms of political colonialism on which economic colonialism has thrived for centuries.

42. The Region cannot wait for the New International Economic Order to arrive. It must help create it.

## I. FOOD AND AGRICULTURE

43 Over the last two decades, and at a time the African Continent is facing a rapid growth in population and urbanization, the food and agriculture situation in Africa has undergone a drastic deterioration; the food production and consumption per person has fallen below nutritional requirements.

44. The shortfall in food production, coupled with high levels of post-harvest losses and periodic severe shortages, have led to rapidly increasing dependence on food imports, resulting in a drain on foreign exchange resources and creating serious major constraints in financing the development of African economies. At the root of the food problem in Africa is the fact that Governments have not usually accorded the necessary priority to agriculture both in the allocation of resources, and in giving sufficient attention to policies for the promotion of productivity and improvement of rural life.

45. For an improvement of the food situation in Africa, the fundamental requisite is a strong political will to channel a greatly increased volume of resources to agriculture, to carry through essential reorientations of social systems, to apply policies that will induce small farmers to achieve higher levels of productivity, and to set up effective machineries for the formulation of relevant programmes and for their execution. The development of agriculture, however, should not be considered in isolation, but rather integrated within the economic and social development processes. Emphasis should also be put on the latter aspect particularly the problem of improving the conditions of rural life.

46. For an effective agricultural revolution in Africa, it is essential to involve the youth, and to arrest the rural to urban drift. Policies have to consistently emphasize the need not only to improve the living conditions on the farms but also to increase farm real incomes as a means of making agriculture more attractive and remunerative. New dimensions of inter-country co-operation are called for, but primary responsibility for a breakthrough in food and agriculture lies with individual Governments operating in their respective national contexts.

47. Over the years 1930-35, the objective should be to bring about immediate improvement in the food situation and to lay the foundations for the achievement of self-sufficiency in cereals and in livestock and fish products. Priority action should be directed at securing a substantial reduction in food wastage, attaining a markedly higher degree of food security, and bringing about a large and sustained increase in the production of food, especially of tropical cereals with due emphasis on the diversification of agricultural production. Urgent measures are recommended in each of these areas.

#### Food losses

48. The objective should be to make significant progress towards the achievement of a 50 per cent reduction in post-harvest losses.

Recommended action includes:

- careful assessment of the extent of food losses;
- formulation of national policies for food loss reduction;
- mass media campaigns to educate the public on methods of reducing food waste;
- construction of appropriate storage processing and other facilities;
- establishment of central technical units;
- promotion (through research, infrastructural development, and incentives to farmers and fishermen) of improved methods of drying, preservation, storage, pest control, and processing;
- improvement of livestock routes and holding grounds;
- training of technical staff for food loss control work, preferably through subregional/regional institutions, seminars and workshops.

#### Food security

49. Most African countries should aim, as a first step, at setting up national strategic food reserves of the order of 10 per cent of total food production.



50. Urgent steps should be taken by every African country to adopt a coherent national food security policy. National policies must be translated into concrete actions such as early construction of storage facilities, creation of grain reserves, improvement of grain stock management and better forecasting and early warning systems.

51. The need for collective self-reliance will require subregional food security arrangements similar to the one initiated in the Sahelian zone. In addition, it is recommended that African countries should examine the feasibility of setting up an African Food Relief Support with a view to assist member countries in times of food emergency.

#### Food production

52. Food development must be promoted in an integrated manner, and should take into consideration the problem of transportation and distribution of farm products at the level of consumers. And food self-sufficiency should take into consideration the nutritional values of food stuffs and solve simultaneously the problems of under and mal-nutrition.

53. The set-up of agricultural production should be based on adequate and realistic agrarian reform programmes consistent with the political and social conditions prevailing in respective countries. Improved organization of agricultural production must be given a priority so as to increase agricultural production and productivity.

#### (a) Food crops

54. For most African countries, the principal immediate goal should be to bring about a very rapid increase in the production of the tropical cereals (rice, maize, millet and sorghum) with a view to replacing a sizeable proportion of the wheat and barley that they import at present. The production of these latter two cereals should be encouraged in countries which have the potential.

55. Areas in which urgent action is recommended include:

- promotion of better agricultural practices, particularly the intensive use of improved input packages and plant protection measures;
- modification of the techno-economic structures of production so as to provide the small farmers with the necessary incentives to increase production;
- better utilization of water for irrigated cereals on on-going irrigation schemes, and initiation of new schemes;
- soil and water conservation;
- flood control and drainage;
- intensification of the use of improved hand tools and draught animals, and promotion of mechanized farming where justified;
- physical infrastructural development, including the building of small bridges, dams, access and feeder roads and the improvement of educational, health and other social facilities, much of which at this stage should, as far as possible, be undertaken through voluntary self-help participation.

(b) Livestock

56. The main areas in which increased support is recommended in the immediate future are:

- training: establishment of subregional training centres and workshops on livestock production, slaughterhouse practices, and poultry and small stock development;
- animal health: establishment of specialized trypanosomiasis control units, improving productivity of trypanotolerant breeds, and integrated development of areas freed from tse-tse, establishment

of vaccine production facilities and an effective regional quarantine system; establishment of subregional research centres in tick-borne disease; and improvement of laboratory services and disease surveillance systems;

- animal breeding;
- control and eradication of foot and mouth disease;
- controlled grazing and range management;
- development of animal feeds; and,
- infrastructural development.

(c) Fisheries

57. The target should be to increase annual fish production from African waters by one million tons by 1985, which should permit a rise of one kilogram in the level of average annual fish consumption per person between now and 1985.

58. The measures recommended are:

- development of industrialized off-shore fleets (where justified by resource availability) and increased productivity of artisanal fisheries;
- expansion of aquaculture;
- improvement of communications between landing points and markets, especially inexpensive feeder roads to fishery communities;
- improvement of traditional processing methods;
- investment in shore-based infrastructure, in particular storage facilities;
- expansion of interregional trade in fishery products;
- encouragement of subregional co-operation in the assessment of the fish potential, especially where common stocks are concerned as well as for international lakes and river basins;
- formulation of joint schemes for the rational exploitation and management of subregional fish stocks;

- review and, as necessary, re-negotiation of existing fishing agreements.

(d) Incomes and price policy

59. It is strongly recommended that governments undertake the formulation and application of effective and coherent policies to ensure that prices of farm inputs and farm produce provide an adequate incentive for increasing food production particularly by small farmers, while safeguarding the interest of the poorer consumers at the same time. Similarly, the individual activities entailed in the recommended programme of action should be designed and implemented with a view to ensuring a beneficial income distribution impact on the rural poor. In particular efforts should be made to reduce the widening gaps in income between the rural and the urban populations as well as those between the rich and the poor in the rural areas.

Forest production

60. The objective should be to integrate forestry more closely with agriculture, to ensure adequate supplies of fuelwood and to increase the contribution of forest resources in industrialization.

61. The most urgent actions that need to be taken for the development of forest production in Africa are:

- organization of inventories of national forest resources;
- intensification of programmes for integrating woodlots and trees in land use and agricultural practices at village and farm levels;
- control of soil erosion;
- expansion of areas under forestry regeneration programmes by 10 per cent per annum up to 1985, with special attention to community woodlots and agro/forestry;
- expansion of forest reserves by 10 per cent over the next five years;

- a progressive ban on exports of unprocessed logs with a view to reducing them, by 1985, to 50 per cent of their present level;
- preparation and launching of a regional plan for the development and harmonization of forest industries;
- strengthening of existing regional bodies dealing with forestry;
- increased training at national and regional levels of forest professionals, technicians and guards;
- expansion and inter-country co-ordination of applied research programmes.

### Research

62. Science and technology have a pivotal role in the development of agriculture specially in connection with agronomic research training and extension. Within the context of agronomic research special emphasis should be placed on the improvement of livestock, sheep and poultry breeds as well as the improvement of selected seeds, fertilizers, pesticides and other chemicals suitable for African conditions.

63. Agricultural research is crucial to the transformation of agriculture in Africa. National research systems should be strengthened, as also inter-country co-operative research programmes. Agricultural research work should be geared so as to support the objective of food self-sufficiency, and liaison between research and extension should be made more effective. It was therefore recommended that:

- agricultural research should put more emphasis on the development and spread of new technologies than has occurred in the past.
- Biological innovation such as plant and livestock breeding and control of agricultural pests could substantially increase agricultural production and output in Africa. They provide more productive plant and animal species and other husbandry techniques and should be emphasized in agricultural research programmes.

- research has in the past addressed itself to a narrow spectrum of food crops and has neglected a number of food crops indigenous to Africa. Such crops are grown by a large number of the rural population and constitute a major proportion of their diet. This situation should be rectified.
- research should also be intensified in the area of root crops, tubers and soya beans; and into the improvement of production and nutritional values of all food crops.
- research should also continue for export crops which not only bring in foreign exchange necessary for development but also provides raw materials for our industries.
- special attention should be given to problems affecting food production in the semi-arid areas in order to stabilize production in this fragile eco-system. Research should develop adapted crop varieties and production systems that ensure optimal utilization of the limited soil and water resources.

#### Extension service

64. It is crucial that research findings be made available to the farming community with minimum delay. It was therefore recommended that:

- a closer link be established between research and extension services.
- the extension service should lay more emphasis on the spread of existing technologies.
- the extension service should be strengthened and given additional resources in order to reach the bulk of the rural population rather than concentrating on a relatively small group of progressive farmers.
- training efforts should concentrate on extension workers who should, in turn, focus their work on rural youth and women. Extension institutions, especially farmer training centres, need to be strengthened.

### Agricultural services

65. Rational exploitation and development of natural resources, especially forestry and wildlife should be promoted as a means of improving food supply in the region within the context of integrated rural development programmes.

66. Strong institutions should be developed for rural development planning and monitoring, data collection, provision of agricultural credit and inputs, efficient transport, marketing, agro-industrial development, and storage and processing.

67. Agricultural mechanization has a priority role in the increase of agricultural production and in the modernization of farms. However, this problem must be studied very carefully and should be related to industrial development so that it will not further increase the dependency of African countries on the developed world. In the process of agricultural mechanization special emphasis should be put on animal traction in countries that have not yet reached the appropriate level of motorization.

### Resources

68. Total investments required over the 1980-85 period for the implementation of the proposed programmes amount to about US\$ 21,400 million, at 1979 prices. In addition, expenditures for inputs would rise by about US\$ 560 million over the same period. This level of expenditure will form only part of the total expenditure requirements of the agriculture sector for the 1980s as contained in the document, Regional Food Plan for Africa (AFPLAN), approved by the Ministers of Agriculture in Arusha, Tanzania, in 1978 and endorsed by Heads of State in the Monrovia Declaration in 1979. Additional resources will be necessary to cover the latter half of the decade which is not covered in this Plan of Action for only 1980-85.

69. It should be desirable to aim at financing at least 50 per cent of the investment requirements with domestic resources.

Implementation and monitoring

70. As an initial step, Governments should determine the manner in which the foregoing recommendations should be applied in the specific contexts of their respective countries. In carrying out this task, Governments may avail themselves of the services of Inter-Agency Strategy Review Missions which should be set up for this purpose.

71. High priority should be given to building up national capabilities in the identification, preparation, execution, monitoring and evaluation of agricultural development projects. UNO, in co-operation with ECA and other relevant agencies, should expand its training programmes in this field. Regional and subregional seminars/workshops should also be organized.

72. African countries should expand their economic and technical co-operation in food and agriculture through increased trade, exchange of manpower technology, and joint development programmes at the subregional and regional levels.

73. Governments should set up specific yearly goals for food and agriculture, and set up effective national and regional machineries to monitor progress towards them. At the regional level, monitoring should be an inter-agency exercise involving OAU, ECA, FAO, EPC and UNDP.

74. In the context of the new strategy and targets in food and agriculture, it will be necessary for a reappraisal to be made of the on-going projects that are financed from external sources with a view to ensuring that they too do contribute to the realization of these new objectives.



## III. HEDISTRY

## I. PREAMBLE

75. The industrialization of the African continent in general and of each individual African country in particular constitutes a fundamental option in the total range of activities aimed at freeing Africa from underdevelopment and economic dependence. The integrated economic and social development of the African continent demands the creation, in each African country, of 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 the other economic sectors;
- (e) the creation of the basis for assimilating and promoting technological progress;
- (f) the modernization of society

76. By harmonizing development activities of ensuring that optimum use is made of the limited resources of the various African countries, industrial co-operation creates conditions conducive to regional and subregional collective self-reliance, while at the same time providing the framework for strengthening the effort of each country.

77. Conscious of this situation and of the need to strive to translate development targets, African countries reiterate their support for the resolution adopted at the third General Conference of UNIDO recommending that the United Nations General Assembly should proclaim the 1980s as the African Industrial Development Decade. They are fully aware that such a proclamation will confer certain obligations on those who work for it and thus undertake to make an appropriate contribution to the efforts required to ensure its success. They are determined, furthermore, to take all necessary steps to ensure that this Decade is fully successful.

78 The African countries note with great disappointment the negative results of the third General Conference of UNIDO. In the first place, they appreciate the true significance of this failure, namely the importance of the developed countries to induce the developing countries to abandon their legitimate demand for a just and equitable new international economic order. Attention should also be drawn to the negative attitude of the developed countries towards efforts being made by African countries for accelerated industrialization in the region. This failure, inter alia, underlines the necessity for individual and collective self-reliance.

79. In addition, they draw a number of conclusions, including:

(a) the need to promote, side by side with the other developing countries, recognition of their right to development;

(b) the need for fruitful co-operation between African countries, on the one hand, and between African countries and the other developing regions on the other hand;

(c) the urgent need for each country to adopt a national development policy based, above all, on using its own resources;

(d) the urgent need to implement a plan for the collective industrialization of Africa based on the concept of self-reliance.

## II. LONG-MEDIUM-AND SHORT-TERM INDUSTRIAL DEVELOPMENT OBJECTIVES

80. In application of that section of the Monrovia Declaration relating to industrial development in Africa and bearing in mind the targets set at the second General Conference of UNIDO at Lima and the relevant resolution of the third General Conference of UNIDO at New Delhi on the African Industrial Development Decade and in accordance with the New Delhi Declaration and Plan of Action submitted by the Group of 77, the African countries adopt the following industrial development strategy for the long, medium and short-term up to the years 2000, 1990 and 1985 respectively. In doing so they underline the priority accorded to the creation of sound industrial base and related aspects embodied in the Declaration of African Heads of State and Government adopted at Monrovia. They put emphasis on major resolutions embodied in the document already adopted by the Heads of State.

1. Long-term objectives up to the year 2000

81. In implementing the long-term development strategy up to the year 2000, Africa's target shall be to achieve 2 per cent of world industrial production in accordance with the Lima target.

82. The attainment of this target will require the creation of an industrial structure at national levels within the framework of an integrated economy.

83. Stress should be put on the need to establish links between industry and other sectors as well as between various industrial subsectors so as to promote interdependence among them and achieve harmonized industrialization and overall economic development.

84. In formulating their industrial development strategy, African countries should bear in mind the need to select suitable technology which will also be socially suitable, compatible with resource endowment, and increasingly to reduce Africa's present overdependence on the developed countries for technology.

2. Medium-term objectives up to the year 1990

85. During the 1980-1990 decade, African countries intend to achieve 1.4 per cent of world industrial production and at the same time to do all within their power to attain self-sufficiency in the following sectors: food, building materials, clothing and energy. To that end they have set themselves the following targets:

(a) creation of a solid basis for self-sustained industrialization at the national and subregional levels;

(b) development of human resources to ensure that they are fully mobilized in the industrial development process;

(c) production in sufficient quantities of agricultural inputs such as fertilizers, pesticides, agricultural tools and machines;

(d) production, in sufficient quantities of building materials for the construction of decent urban and rural housing for the continent's growing population and in general to meet the economy's requirements in terms of building materials;

(e) development of the intermediate and capital goods industries and particularly those intended for other industries and infrastructure building;

(f) on-the-spot processing and upgrading of an increasingly large portion of the continent's raw materials;

(g) satisfaction of industry's energy needs by developing the different forms of energy available in the continent;

(h) satisfaction of textile requirements.

### 3. Short-term objectives up to the year 1985

86 In pursuing their medium and long-term industrial development objectives, African countries intend to achieve the following targets in the short term:

(a) to achieve at least 1 per cent of world industrial production;

(b) to lay the foundation for the phased development of the basic industries which are essential for self-reliance, since they produce inputs for other sectors. It is therefore important to conduct studies that will establish those basic industries which can be developed in the short term on a national or subregional basis, and those which must be developed in the long run and require subregional or regional co-operation. The modalities for the creation of these basic industries must be studied and established:

(i) Food and agro-industries;

(ii) Building industries;

(iii) Metallurgical industries;

(iv) Mechanical industries;

(v) Electrical and electronic industries;

(vi) Chemical industries;

(vii) Forest industries;

(viii) Energy industry.

## III. REQUIREMENTS FOR THE ACHIEVEMENT OF INDUSTRIAL DEVELOPMENT

### Objectives

87. If the whole set of long-, medium- and short-term industrial development objectives set by African countries are to be achieved, a variety of requirements will have to be met at national, subregional, regional and international levels.

1. At the national level

88. Industrial development in each African country will depend on:

(a) design of a national industrialization policy which lays down priorities, targets and the human, financial and institutional resources required;

(b) establishment of training facilities for technical personnel which will meet the requirements at all skill levels;

(c) training of Africans both at supervisory and intermediate industrial management levels should be given high priority so as to lessen Africa's dependence on foreign managerial competence;

(d) launching of a prospecting programme with a view to making an inventory of all the resources in a country and establishing how they should be exploited;

(e) establishment of institutions responsible for promoting industrialization, in the field of studies, research, standardization and other services;

(f) creation of financial institutions which offer such terms and conditions as to promote accelerated industrial development and take account of the special features of emerging sectors;

(g) taking every effort to ensure that the industrial surplus funds realized from industrial activities in Africa are reinvested in the region;

(h) creation of machinery to co-ordinate and promote industrial co-operation between the country concerned and other countries in the subregion and the region;

(i) creation of a network of small- and medium-scale industries;

(j) take effective measures and provide incentives for the development of small-scale and medium industries taking into account the need for local resource uses, employment and technological diffusion;

(k) monitoring of the activities of transnational corporations;

(l) putting strong emphasis on the utilization of local raw materials as inputs to industry so as to lessen the present excessive dependence on imported industrial inputs;

(m) careful selection of product lines, emphasizing those that will contribute towards satisfying the basic needs of their people and for development;

(n) formulate and implement policy measures to stem rural-urban drift through decentralization of resource-based, small and medium-scale industries to rural areas, and the development of rural infrastructures;

(o) develop, encourage, and support African entrepreneurs to participate effectively in industrial production with a view to gradual control of the capital ownership in the sector by Africans;

(p) utilization of research, determination of the role of private, semi-public as well as public enterprises as instruments for the implementation of the plan.

## 2. At the subregional and regional level

39. African countries are convinced of the fundamental role of intra-African industrial co-operation in all its various forms as an instrument for self-reliance and acceleration of industrial development to achieve the Lima target for Africa, taking into account, in particular, the discouraging attitude of developed countries, and the present low progress in the intra-African co-operation. African countries have therefore decided to give concrete expression to their will to co-operate by adopting the following measures:

(a) preparation of subregional and regional plans for the creation of major industrial complexes whose cost and production capacity would exceed national financial and absorptive capacities;

(b) creation of multinational regional or subregional institutions to make an inventory of and exploit shared national resources. The modalities for establishing these institutions should be determined through consultations among the countries;

(c) giving high priority to the establishment of multinational industries in the African region, especially in such basic areas as metallurgy, foundry, chemicals, etc., with high investment costs; expand bilateral industrial co-operation among African countries through such means as joint ventures;

(d) strengthening of existing institutions:

(i) African Regional Centre for Technology;

(ii) African Regional Centre for Engineering Design and Manufacturing;

(iii) African Industrial Development Fund

(e) establishment of machinery to monitor industrialization at the subregional level;

(f) creation of the African Regional Centre for Consultancy and Industrial Management Services;

(g) promoting trade in manufactures among African countries; adopt measures to encourage the consumption of a national and regional industrial products;

(h) strengthening and where necessary creating industrial project financing institutions;

(i) reform of credit policies adopted by financial institutions operating in African countries with a view to increasing the volume of credit available to national public and private industrial enterprises;

(j) creation of industrial co-operation areas without customs trade barriers;

(k) adoption of measures to ensure the harmonization of tax systems at the subregional and regional levels in order to facilitate industrial co-operation among African countries;

(l) creation of multinational institutions to promote financial flows and the acquisition of technology to Africa;

(m) Undertake measures at national, subregional and regional levels to facilitate fuller utilization of excess industrial productive capacity in Africa;

(n) initiation of research work at the subregional and regional levels into new sources of energy;

(o) optimizing the utilization of existing training infrastructures before embarking upon the creation of new institutions and, strengthening of existing training centres for effective use by nationals of the various African countries;

(p) exchange of information among African countries on technical and financial specifications and costs related to contracts on the implementation of industrial projects with developed countries as a means of reducing excess costs in foreign exchange resulting from weaknesses in the negotiation capacity of developing countries due to their lack of information concerning these contracts.

### 3. At the international level

90. African countries feel that it is essential to co-operate with other regions of the world in order to attain their industrial development objectives. They insist on the fact, however, that such co-operation should be mutually advantageous and should be based on respect for the fundamental interests of

the continent and in particular sovereignty of every country over its natural resources.

91. In their relations with other developing regions, African countries will in particular strive to:

- (a) promote the exchange of industrial technology;
- (b) implement joint technical training programmes;
- (c) conclude trade, monetary and payments agreements with a view to promoting trade in finished and semi-finished products with such regions;
- (d) obtain the additional resources required to finance their industrial development from financial institutions which, like BADEA, are controlled by developing countries and in particular the oil exporting countries;
- (e) strengthen their bargaining power by working together with other developing regions and harmonizing with them the positions to be taken vis-à-vis the developed countries.

92. For African countries, co-operation with the developed countries should in particular lead to:

- (a) a massive transfer of resources to finance industrial projects which are accurately costed to take account of all types of additional expenditure borne by the industries of African countries;
- (b) acquisition of technology at the lowest cost taking into account the social cost and resources endowment factors;
- (c) free access to inventions, patents and technical know-how of industrialized countries by countries of the Group of 77, as a contribution of developed countries to the industrial development of developing countries;
- (d) monitoring of the activities of transnational corporations so as to ensure that their activities are compatible with the interests of African countries;
- (e) the adoption of an international code of conduct on the transfer of technology as well as a code of conduct for transnational corporations designed to safeguard the interests of African countries;



(f) industrial redeployment at the world-wide level which will ensure that African countries achieve the Lima targets;

(g) free access to developed countries' markets for the industrial products of African countries through the removal of protectionist tariff and non-tariff barriers.

93. Concerning the role of international organizations whose task it is to promote industrial development, and in particular UNIDO, African countries would like them to concentrate, as a matter of priority, on the least developed countries, and would want to see these organizations receive more material and financial resources so that they can play an effective role in promoting the industrialization of African countries.

94. Furthermore, they call for measures to be taken to put the system of consultations within UNIDO on a legal and permanent basis and to ensure that the decisions reached are binding. These consultations should be undertaken at the subregional, regional and international levels.

#### IV. CONCLUSIONS

95. Twenty years after the attainment of political independence by a majority of the African countries, the continent is entering the 1980-1990 decade in a state of under-development which makes Africa the least developed region in the world and which has resulted from several centuries of colonial domination.

96. Aware of their handicap and determined to follow through their action which is aimed at lifting them out of their under-development, African countries undertake to promote global and accelerated economic and social development individually and collectively.

97. African countries accord, in their development plans, a major role to industrialization in view of its impact in meeting the basic needs of the population, ensuring the integration of the economy and the modernization of society. To this end and in order for Africa to achieve a greater share of world industrial production as well as to attain an adequate degree of collective self-reliance rapidly, African countries proclaim the years 1980-1990: Industrial Development Decade in Africa.

98. In order to achieve industrial development objectives in the short-, medium- and long-terms, African countries decide to take steps at national, subregional and regional levels and in the areas of human resources, natural resources, financing and promotion institutions to lay the foundation for a total and complete mobilization of all efforts in ensuring the success of the gigantic task undertaken.
99. African countries are determined to act in concert with the rest of the international community whose co-operation in all forms is indispensable to their own action.
100. In this connexion, African countries consider they are owed a massive and appropriate contribution by the developed countries to the development of the African continent, the successful achievement of which they see as the very condition for the continued development of the advanced countries and the preservation of world peace.

## III. NATURAL RESOURCES

101. The major problems confronting the African region in the field of natural resources development include: (a) the lack of information on natural resources endowment of large unexplored areas (b) the unavailability of accurate and reliable information from the activities of transnational corporations dealing with natural resources assessments; (c) the lack of adequate capacity (capital, skills and technology) for the development of these resources; (d) a considerable dependence on foreign transnational corporations for the development of a narrow range of African natural resources selected by these corporations to supply raw material needs of the developed countries; (e) the inadequate share in the value added generated by the exploitation of natural resources of African countries due to imperfect pricing and marketing practices; (f) the non-integration of the raw materials exporting industries into the national economies of the African countries thus impeding backward and forward linkages; (g) an extremely low level of development and utilization of those natural resources that are of no interest to foreign transnational corporations; (h) the very low general contribution of natural resources endowment to socio-economic development. Because of these factors member States are unable to exercise meaningful and permanent sovereignty over their natural resources.

102. During the 1980s the strategy for the developing countries of Africa in their natural resources development should aim at:

(a) undertaking the assessment of their natural resources endowments and the use of the information on natural resources distribution and availability for national and African multinational socio-economic development projects intended to produce goods and services to meet the needs of the African countries;

(b) integrating natural resources development within national and African multinational socio-economic development programmes and projects so as to encourage the complementarity of the different natural resources available in various African countries in the production process and to promote backward and forward linkages that the development of the natural resources can generate within the African economies;

(c) undertaking comprehensive manpower, technology and capital needs surveys for natural resources development activities with a view to enabling the countries to pool their resources for the implementation of national and African multinational natural resources development programmes and projects;

(d) strengthening existing national and African multinational institutions dealing with natural resources development and conservation activities at all levels including training, research, production, processing, fabrication, marketing, finance, etc. and the establishment of new ones;

(e) harmonizing the national natural resources development policies with a view to creating a favourable environment for co-operative efforts by the African countries in the development of their natural resources to meet the socio-economic needs of their peoples; and

(f) working closely with the international community and other non-African agencies involved in natural resources development in the region so that external resources are directed principally to natural resources development projects which promote and sustain co-operative arrangements among the African countries in order to enable the region to obtain the fullest possible development benefits flowing from regional linkages.

General proposals and recommendations

103. (i) In recognition of the significance of natural resources in providing a sound base for national socio-economic development, African countries should take early steps to acquire a thorough knowledge of their natural resource endowments. These include the establishment of a manpower development and institution building programmes for the conduct of field studies and preparation of inventories of natural resources.
- (ii) In particular measures should be taken by each member State to ensure that all results and basic data especially maps, films, logs and all other information acquired by foreign transnational companies during their mineral prospection activities in the country are handed over to the Government. To ensure the best possible storage and utilization of these data, a documentation centre (Data Bank) should be established at national level.
- (iii) To enable African Governments to exercise sovereignty over their natural resources, they should take all necessary measures through the development of the relevant human and institutional infrastructure, to establish indigenous technological capabilities in the exploration, processing and exploitation of their natural resources.
- (iv) The constant aim of African Governments should be the rational development and utilization of their natural resources, employing technologies that are appropriate to their local conditions, and paying due regard to such aspects as conservation of natural resources.
- (v) At the subregional and regional levels, measures on policies should be adopted to ensure effective intra-African co-operation among member States, namely:
- (a) harmonization of national development programmes for the use of mineral, energy and water resources;
- (b) establishment of joint facilities for applied research, specialized services and training;
- (c) participation in multinational projects and enterprises for the exploration, production and processing of usable natural resources.

## MINERAL RESOURCES

104. The main development objectives of the strategy for mineral resources development during the 80's would be:

- (i) Improved knowledge of African mineral resources through adequate inventory of existing and potential resources, better forecasting of consumption pattern and research toward rational use of known reserves. Particular attention should be given to those mineral raw materials with strategic importance for building up the basic industries making-up intermediate products such as: iron and steel, aluminium, base metals, petrochemical products and fertilizer, cement, etc. In the economic evaluation of the resources it should be considered the structural changes occurred in the world as effect of the energy crises, the new technologies as well as the increased needs for local consumption of some raw materials.
- (ii) Creation at the national and regional level of the proper scientific, technical and industrial environment necessary for the development and expansion of the mineral extractive industries. At this end, the first effort should be directed towards the strengthening of the capabilities of the national geological surveys and mining departments. In promoting the new methods and techniques of research the national capabilities have to be complemented by the multinational African centres for development of mineral resources.
- (iii) Correlation of national programmes of geological research and mineral surveys at the subregional and regional levels in view of increased efficiency and establishment of joint operational activities. Of particular importance will be the co-operation among the African States for the exploitation of the resources of the sea-bed.
- (iv) Training in all aspects of mineral resources development of high level specialized personnel as well as of medium level technicians from African member States in order to alleviate the shortage of qualified manpower and to reduce the dependency on overseas expertise and specialized services.
- (v) Development of a system of transfer of know-how, and exchange of scientific, technical and economic data in geology, mining activities and mineral economies among African countries as well as with countries from other developing regions.

105. The objectives outlined above should be achieved through the following activities:

(a) The completion of preliminary studies relating to the appraisal of known African mineral resources and their present development with proposals as to how best they could be developed to meet the needs of the region, by mid-1981. The Regional Conference on the Development and Utilization of Mineral Resources in Africa to be convened by ECA in Kampala, Uganda, from 6 to 15 October 1980 is one of the steps intended to achieve this objective.

(b) The completion of preliminary studies on manpower, technology and capital needs in mineral resources assessment activities in the African countries for the specific programmes agreed upon at the Regional Conference mentioned above, including suggestion on how existing internal resources could be mobilized to effect their implementation by the end of 1981.

(c) The active participation of member States in the operation of African multinational mineral resources development institutions through political and material support. To that end those member States of the Eastern and Southern African subregion not yet participating in the subregional mineral resources centre based in Dodoma (United Republic of Tanzania) should do so by the end of 1980. A similar centre for the Central African subregion should be established in 1980-1981 and become fully operational by 1984. The establishment of such centres for the West and North African subregions should also be considered after 1982. These multinational institutions for applied research are also likely to strengthen national institutions involved in similar activities.

(d) Regular or annual meetings of experts of geological surveys of African member States to review past performance of mineral resource research activities in the region with a view to taking appropriate national measures for improvement in the years ahead. Such meetings should commence in 1980 with the Regional Conference mentioned above.

(e) Establishment of joint co-ordinating offshore prospecting committees for the rational exploration and evaluation of the sea-bed resource.

(f) The preparation between 1980 and 1983 at the country level and on a regional basis of the inventory of mineral resources of Africa using a standardized methodology for classification of reserves and evaluation of mineral deposits.

(g) A joint regional programmes for the preservation and proper use of geological documentation, reports and maps and mineral collections.

## WATER RESOURCES

106. The following recommendations are proposed in line with Mar del Plata Action Plan of the United Nations Water Conference of March 1977 and the proposals made on the follow up and implementation of the Action Plan for integrated development and Management of Water Resources at the African Regional Meeting in October 1978:

### A. Institutional strengthening

107. It is recommended that this problem should be approached at the following levels:

- (i) at the National level, National Water Committees should be established (by 1980) in countries which have not yet done so;
- (ii) at the subregional level, existing subregional organizations like river and lake basin commissions should be strengthened. A review of the requirements for strengthening these commissions should be carried out and completed by 1980. By the end of 1982, these subregional organizations should be equipped with additional resources i.e. staffing and funding;
- (iii) at the regional level, an Inter-Governmental Committee on Water for the African Region as approved by the ECA Conference of Ministers at their Fifth Meeting in Rabat in 1979 should be established.

### B. Formulation of national water plans

108. Countries should take action to formulate master plans in the sectors of water supply and agriculture and integrate them into a composite national water plan at the National level. This should be completed by 1983. The plan in water supply should represent national aspirations for the International Drinking Water Supply and Sanitation Decade and the plan for agricultural water use should be integrated with the Regional Food self-sufficiency adopted as a part of the Regional Development Strategy.

### C. Project identification, preparation and implementation

109. Countries should identify and prepare bankable water supply and irrigation project reports for implementation through external financial and technical assistance as well as domestic resources. This should be taken up without waiting for the formulation of national water plans.

### D. Subregional and regional co-operation

110. Joint river/lake basins organizations should be established to promote inter-governmental co-operation in the development of shared water resources. Countries requiring such institutional arrangements should immediately start negotiations among themselves and try to complete them so that these new joint organizations can be brought into existence by 1983. Through these organizations greater co-operation amongst countries should be encouraged so that less advanced countries may benefit from the more advanced countries in the region, within the context of TCDC.

## CARTOGRAPHY AND REMOTE SENSING

111. The strategy for development in cartography and remote sensing is geared towards providing the means to achieve self-sufficiency in qualified personnel in all branches of cartography, bring to light the present position of Africa's attainment in mapping and to provide the means to establish and strengthen national surveying and mapping institutions in order that the African countries may be in a position to undertake surveying and mapping projects essential for development.

Actions recommended:

112. (i) Member States should recognize the importance of their national surveying and mapping institutions, and rate them high among their national priorities. They should also provide sufficient funds for them and take steps to establish such institutions where none exist.
- (ii) Member States should actively participate and support regional training and services centres in cartography in order to reduce the costs of each producing needed manpower.
- (iii) Member States should share equipment and services between those with capabilities and those without especially the least developed nations.
- (iv) Considering that remote sensing is an important tool in the inventory, planning and exploitation of natural resources; taking into account the efforts already made towards the establishment of the African Remote Sensing Council and the Regional Training and User Assistance Centres, it is highly recommended that member States participate fully in the African Remote Sensing Programme and provide both political and material support for the success of the programme.



#### IV. HUMAN RESOURCES DEVELOPMENT AND UTILIZATION

113. In considering document E/CN.14/763 and Add.1, the Conference took note of the situation in the development and utilization of human resources in Africa, principal of which were the high rate of population growth, the growing level of unemployment and underemployment, the shortage of different types and levels of trained manpower, the high level of adult illiteracy, the deficiencies in educational system and the lack of co-ordinated policies and programmes of manpower training and the funding of training at the national level. It also noted the various recommendations of the regional training development conference that was held in Addis Ababa in December 1979, aimed at providing specific guidelines for achieving development oriented educational and training systems.
114. Recognizing the need to achieve increasing measure of self-reliance in the economic and other spheres, the Conference stressed the importance of trained manpower as input to activities in the various production sectors and support services as well as in education and training sector as producer of skills and know-how for its own needs and for other sectors.
115. The need for increasing employment and income as a way to achieving better living standards for the bulk of the population, particularly for the rural inhabitants was stressed. To this end it was necessary to give adequate attention to the development of indigenous technologies and methods of training that will benefit those in the production sectors at all levels, particularly in the informal sector.
116. Since Africa's greatest asset is its human resource the full mobilization and effective utilization of the labour force (men, women and youth, both trained and untrained) for national development and social progress should be a major instrument of development.
117. The importance of scientific and technical skills and know-how in modern development cannot be overemphasized. It is in this area that African countries are overdependent on imported technical and scientific manpower. It is therefore very cardinal and in accord with the principle of self-reliance that African States should give special priority to the development of scientific and technical manpower at all levels, including the training of science and technical teachers and instructors.
118. A primary objective of socio-economic development is the improvement of life for the entire population of a nation. This requires the full participation of all segments of the population in gainful and productive employment and the provision of all essential services for the enrichment of the life of the community. It also requires effective programmes of social welfare and community development, social security and the mobilization of the masses for the development of public works and community services.

119. Having regard to the immensity of the training task to be accomplished, the lack of training facilities in some fields and the scarcity of financial resources, the Conference urged meaningful co-operation among member States in developing and utilizing specialized regional, subregional and multinational training and research institutions for the training of Africans in specialized skill areas, using wherever possible existing national institutions for a base. While co-operation and collective self-reliance should be the guiding principle in human resource development, the Conference stressed that the principal responsibility for manpower training and employment promotion should be seen as resting squarely at the national level.

120. To ensure that African States achieve a good measure of self-reliance in trained manpower resource and technical know-how, that the skill input into production and service activities in the various sectors are assured and available as needed, and that member States have adequate policy and programme guidelines in this important sector, the Conference submits the following Programme of Action for consideration and adoption.

#### PROGRAMME OF ACTION

121. The foregoing highlights of the African situation have drawn attention to serious manpower and employment constraints in major sectors of development. The situation calls for action, determination and sustained efforts commensurate with the manpower challenge that faces African States if they are to achieve self-sustained, internally self-generating socio-economic development. This calls for hard options and difficult choices. The need is to realign development priorities to emphasize the development of Man - human resource - both as the object of development and as the custodian and mentor of socio-economic development; as the supplier and consumer of skills as well as the terminal products and services of all the development effort. The human resource development sector in the African region requires positive action if it is to play its proper role in ensuring the region's survival and progress.

##### A. At National Level

122. The translation of public pronouncements at international meetings into national action programmes through:

The integration of manpower planning and programming functions, development, placement and utilization services into a Ministry of Manpower Development charged with:

(a) undertaking realistic manpower assessment, projections; planning and programming and continuous monitoring of its development and proper utilization;

(b) developing a career capability for co-ordinating and planning manpower development effort and monitoring manpower placement and utilization on a continuous basis;

123. Establishing and operating definitive and comprehensive national training development policy guidelines and legislative acts that not only legitimize national commitments to human resource development but also establish and delineate the co-ordinating authority and functions of the following:

(i) Operational Training Administrative Guidance and Co-ordinating Machinery with a proviso for its manning by:

- a profession oriented Training/Staff Development Officer cadre deployed at the centre and in all centres of socio-economic activity, with established career and definitive scheme of service, and one that derives its satisfaction from its own inner standards of excellence and commitment to the development of its field of practice - training development and supported by

- sectoral/ministerial advisory committees in sectoral centres of socio-economic activity or service rendering agencies.

(ii) Maintaining a centrally administered Training Fund that ensures steady availability of funds to operate the training function and contributed to by all those that demand and use trained manpower.

124. Establishing and operating a Central Advisory Council deriving its membership from sectoral committees, and charged with training development and manpower utilization so as to ensure a timely availability of trained manpower and its proper utilization; advising on priority skill needs and the judicious utilization of available training resource.

125. Ensuring that multinational/regional/subregional project activities related to human resource development and utilization are incorporated in, and reflected in national policy guidelines, related legislative acts and development plans.

- e.g. (a) Multinational or subregional Graduate Schools being reflected in national university charter and Education Acts.

- (b) Appraisal of national employment policies providing for shared use and co-operative exchange of African expertise.

126. Periodic review, establishment and operation of strategic training development programme activities laying emphasis on those with multiplier effect, with priority to

- (a) Science and technical teacher training.

- (b) Training/staff development officer training.

- (c) Managerial/executive and supervisory cadre development training.

(d) Selected priority and key sectors accelerated skills development programmes (for industry, agriculture, transport and communications, science and technology, education, integration of women in development) based on:

- (i) Task analysis and subsequent employable skills training modular approach.
- (ii) Double intakes or other cost-saving alternatives in post-primary educational institutions.
- (iii) Non-formal programmes in adult learning through Distant Teaching, University of the Air, Workers' Education, etc.
- (iv) In-plant industrial training, teaching factories and development project attachment training.

127. Periodic appraisal and review of educational policy and training practice, institutional and staff capacity and capability and the reform and re-orientation of curricula, course content and course offerings in response to changing patterns in assessed future manpower demand.

128. Consolidation and integration of fellowship and scholarship programmes and financial resource for training under one agency within a ministry so as to ensure that:

- (i) the available resources are directed towards meeting the most critical training needs, and facilitate placement for study in areas that are not locally or adequately provided for;
- (ii) the recipient country or agency is able to determine by itself the fields in which donors are to provide institutional and financial resources for training;
- (iii) efficient and more equitable use are made of the available resources for these areas with critical skill shortages, and ensure savings in foreign exchange outflows;
- (iv) commitments and national obligations for the support of regional or multinational specialized training and research institutions and the related Fellowships and Training Programmes are duly honoured.

129. Restructuring and streamlining national administrative structures so that they are not only capable of monitoring their own internal operations, but also the implementation of the activities and programmes that they manage, and are capable of adjusting to the changing internal and external demands of development efforts through:

- (i) continuous monitoring of its own performance in relation to national development effort, making necessary structural, resource (man/materials/money) mix, and the plan it is executing;
- (ii) continuous review and monitoring of the application and effectiveness of its rules, procedures, communication patterns, and machinery and readjusting them for better results;

- (iii) setting up performance audit systems and units to ensure that (i) and (ii) above are effected and institutionalized, and that open communication systems, organizational development as well as policy examination, analysis and review process form an integral part of the organizational performance audit and renewal process;
- (iv) controlling the proliferation of administrative/organizational structures in the light of resource demands of the economic development efforts and the need to minimize government operational costs;
- (v) maintaining an efficient merit system for the attraction, retention, motivation, training and career development of public servants to ensure the use of staff motivated by internal standards of excellence and commitment to development objectives in the discharge of their duties.

130. Adopt policies and measures that would ensure increasing reduction in the dependence on the use of foreign experts and skills and at the same time promote the training of nationals in technical co-operation projects and foster the employment of African expertise within the region.

131. Development of programmes for the training of rural inhabitants and those in informal sector in various occupations and adapting such training to improve indigenous skills and technologies. This measure should provide for fundamental and comprehensive review and overhaul of prevailing methods and techniques of training and adult learning for the acquisition of skills, transfer of technologies and know-how. The role of non-formal training methods and media in the training of the masses of the population should be given adequate recognition and support.

132. To be able to respond to the increasing demand for more technical manpower input in production sectors, especially in respect of industry and agriculture, as well as in science and technology, the skill-mix ratio in the production of scientists, technicians and artisans should be increased to 1 scientist to 5 technicians to 30 craftsmen and artisans.

133. Improved income opportunities and gainful employment for youth and school leavers should remain one of the principal objectives in development activities in all production and service sectors. Such a policy should be reinforced with effective skill and managerial training programmes for the informal sector, especially the unorganized entrepreneurial economic activities in urban peripheries.

134. For improved quality in manpower resource more attention should be given to programmes that improve the quality of life and the performance of workers through improved nutrition, better housing, medical and health

care and healthy environment. To achieve this objective the requisite manpower at all levels for the execution of programmes and activities contributing to the improvement of the quality of life should be developed and effectively utilized.

135. The development of a nation requires the collective efforts of all the population, accordingly, measures should be taken to ensure the full and effective participation of the whole population in national development.

B. At Regional and Subregional Levels

136. The required action at these levels would of necessity be directed to reinforcing national action through providing guidelines for, and facilitating action in manpower development and utilization. Programme strategy therefore emphasizes co-operation and collective self-reliance in manpower resources through:

- (i) Manpower studies and preparation of manpower profiles and training programming in respect of specific branches and product lines in the main production sectors and supporting services, thus providing guidelines for the formulation and initiation of training programmes at national and regional levels designed to meet manpower requirements;
- (ii) support for an information and placement service facilitating the identification and employment of African experts and consultancy organizations such as is being operated by ECA programme for promoting the use of African experts and development of indigenous consultancy services;
- (iii) adoption of employment policies that permit the free movement of labour within subregions thus facilitating the employment of surplus trained manpower of one country in other African countries where there is a shortage of such skills.

137. Intra-African co-operation and self-reliance in human resource development needs to be directed to the following:

- (i) effective support and full use of regional and subregional training and research institutions through providing funds for the operation of the institutions and/or sponsoring of the training of nationals to them;
- (ii) pooling of resources to develop and operate now and specialized training and research institutions which need to be developed in response to the manpower requirements of **priority** development sectors and/or product lines;
- (iii) strengthening and making full use of existing institutions.

138. Support for the ECA co-ordinated and administered Expanded Training and Fellowship Programme for Africa which aims at training 8000 Africans in five years with priority to the manpower requirements of the various priority sectors and product lines already mentioned; to the development of the teaching and research staff of regional and subregional institutions; to experience transfer, and to evolving an African TCDC in utilizing available training facilities within the region. This programme needs a minimum operational budget of US\$ 1.5 million a year as well as training places. Support by African States are required through:

- (i) financial grants for the operation of the programme;
- (ii) Provision of fellowships, scholarships and trainee places through ECA for the benefit of other African States;
- (iii) nominating nationals for training under the programme, including student and teacher exchange arrangements;
- (iv) providing regular information on national training and scholarship facilities available for training nationals of other African countries.

#### C. International Action

139. The principle of co-operation and collective self-reliance which African States have adopted recognizes in respect of human resource development and utilization that African countries must first help themselves individually and collectively in striving for survival and progress. However, international support in aid of human resource development is welcome as supplementary to the African self-reliant effort. Such assistance should be seen and regarded as reinforcing the national, regional and multinational development efforts that African States must make in order that there can be development and progress. In this effort the continued and active collaboration of all international agencies within the United Nations system and other international, inter-governmental and non-governmental bodies should be effectively mobilized in support of national, subregional and regional effort for human resources development and utilization.

## V. SCIENCE AND TECHNOLOGY

### INTRODUCTION

140. In the main document E/CN.14/757, the background and evolution of the negotiation procedure and the final outcome of the United Nations Conference on Science and Technology Development (UNCSTD) were thoroughly reviewed.

141. The inevitable conclusion was arrived at that as far as African countries are concerned the Conference realized only part of its objectives and the Vienna Programme of Action leaves much to be desired.

142. Even though for Africa, the outcome of UNCSTD was not as effective and fruitful as anticipated, it was felt that African countries should take appropriate steps to ensure their active participation in the post-UNCSTD dialogue.

143. While doing this, African governments should direct their efforts to spelling out a strategy for development which should guide their thinking planning and action on bringing about socio-economic changes necessary for improving the quality of life of the majority of the people. This objective requires them to invest, science and technology resources in the raising of African standards of living and relieving misery in the rural areas.

144. Attention therefore should be paid to the role of science and technology in integrated rural development. This would require among others, the generation of financial resources and of political will and courage on the part of policy and decision makers of the continent to induce a profound change with far-reaching effects on the use of science and technology as the basis of socio-economic development as a matter of the utmost importance and urgency at this fateful juncture of history.

145. African governments should therefore adopt measures to ensure the development of an adequate science and technology base and the appropriate application of science and technology in spear-heading development in agriculture; transport and communications; industry, including agro-allied industries; health and sanitation; energy, education and manpower development; housing, urban development of the environment.

146. It was essential within this context, for governments to also take measures for exploiting markets for their locally manufactured capital and



consumer goods and services in Third World and other developing countries and to provide machinery for bilateral and/or multilateral co-operation among African or Third World countries, in a conscious effort to promote collective self-reliance.

147. The Programme of Action for Science and technology originally contained in document E/CN.14/771 was endorsed subject to the following modifications:

(a) African countries should organize science and technology fairs at annual or biennial intervals. These fairs will provide a forum for:

- (i) The exhibition of indigenous technologies;
- (ii) The exchange of knowledge and experience among African scientists and technologists;
- (iii) The promotion of technology transfer among African countries;
- (iv) The promotion of technical co-operation among African countries.

(b) African countries should formulate national policies on science and technology plans to be incorporated in the over-all national development plan as science and technology is a fundamental input to the development of all other sectors identified in the Strategy and Programme of Action for the Third Development Decade.

(c) African countries should take measures to promote research and development in science and technology particularly by providing the necessary financial resources.

(d) African Governments should take measures that will encourage the return to their country of origin skilled-labour cadres.

(e) Africa should request a total allocation of the order of at least 40 per cent of the Interim Fund for Science and Technology for Development established by General Assembly Resolution 34/218, for the implementation of projects submitted to the Fund.

(f) African Governments should endeavour to participate effectively in activities of the International Year of the Disabled Persons - more particularly in the International Symposium to be held in July 1981 on technical co-operation among developing countries and technical assistance for Disabled Persons with a view to establishing or strengthening machinery for the application of science and technology to the fabrication of prototypes and new production of medical, educational and vocational equipment by utilizing indigenous resources and expertise.

## NATIONAL LEVEL

### PROGRAMME 1. THE NATIONAL SCIENCE AND TECHNOLOGY BASE FOR DEVELOPMENT

#### INTRODUCTION

148. At the end of the second United Nations Development Decade (1970-1979) most African countries were becoming more and more aware of the role of science and technology in development. A number of institutions for science and technology had been set up. However in spite of past and current efforts, most African countries still lacked the necessary national scientific and technological capability and consequently remained dependent on foreign technical skills for the execution of their scientific and technological tasks. Some of the shortcomings in the development of scientific and technology base for development at the national level may be traced to a number of factors, including:

- (i) The persistence of the old international economic order and its technological dimensions, which have not changed;
- (ii) The ineffectiveness of existing national machinery in coping with endogenous technology development;
- (iii) The negative effects of imported foreign technology;
- (iv) Vagueness in the conception of science and technology policy and its contents;
- (v) The inability of existing science education to provide students with the essential skills for development and inappropriate clinical settings for essential skill acquisition;
- (vi) The rural/urban technological dichotomy;
- (vii) The ineffective linkage pattern of research and development and national production activity, in particular the persistent orientation towards research of general interest and free knowledge;
- (viii) Ineffective mobilization of the population for science and technology transfer transactions;
- (ix) The inadequacy of existing machinery for the regulation of technology transfer transactions;
- (x) The limited volume of financial resources devoted to science and technology;
- (xi) The low level priority accorded to science and technology, particularly where available national financial resources are concerned.

149. For science and technology to play an effective role in national development, they must operate within a national frame and be co-ordinated with other sectors of the economy.

150. A new strategy for the science and technology base has therefore to be evolved for the third United Nations Development Decade.

Programme Element 1.1: Establishment by each African Government of a national "Centre" for Science and Technology for Development

151. In this context the "Centre" is not necessarily meant to connote a physical monolithic structure. It is used as a "shorthand" for a national organ or mechanism, the form and character of which is to be determined by each Government, having regard to the structure and modus operandi of its governmental machinery.

152. The characteristic feature of the "Centre" is that it should have inputs from and effective linkages with national institutions such as:

- (i) The development planning organization;
- (ii) Investment and financial institutions;
- (iii) Research and development institutions;
- (iv) The education and training system;
- (v) public and private enterprises;
- (vi) The industrial property system technical and patent information;
- (vii) Standardization and quality control systems;
- (viii) The legal system.

153. The overall goal of the "Centre" is to help the country in determining the origins and effects of alleviating the technological dependence and in approaching technological self-reliance by striking a socio-economically favourable balance between foreign inputs and those inputs that are generated by the indigenous science and technology system and utilized by the national sectors of production and services. To attain this overall goal, the "Centre" would have to be capable of:

- (a) Formulating an explicit national science and technology policy which translates the national policy for socio-economic development into technological lines of action, delineating the requisite nature and sources of foreign and endogenous inputs;
- (b) Assisting in the guidance and maximization of endogenous inputs through:
  - (i) Initiation and monitoring of the national science and technology policy, and preparation of national science and technology plans;
  - (ii) organization of programmes for training manpower in science and technology policy formulation and planning;

- (iii) Initiation of science and technology policies in areas such as:
  - development of endogenous technology including research and development;
  - development of critical natural resources;
  - science and technology manpower development and utilization;
  - popularization of science and technology;
  - financing science and technology activities;
- (iv) creation of the missing components needed for a comprehensive science and technology system (such as research and development institutions, technological information services, consultancy services, pilot plants and testing grounds, standardization and quality control establishments);
- (v) Identification of the needs of the full range of the national economy, in terms of goods, services and techniques, which can be provided with the help of the national science and technology system;
- (vi) Establishment of the policy instruments which encourage local innovations and facilitate more rapid and less costly acquisition of technology, through the provision of incentives and programming of the integrated and co-ordinated activities of the national science and technology system;
- (vii) Promotion of the endogenous generation of technology linked specifically to design/production, research and development.
- (c) Assisting in the rationalization and regulation of foreign inputs through:
  - (i) Identification of the needs of the full range of the national economy, in terms of goods, services and techniques which must be produced with the use of foreign inputs;
  - (ii) Acquisition and analysis of information on alternative sources of technology for production and service sectors;
  - (iii) Evaluation and selection of technologies for production and service sectors;
  - (iv) Unpackaging of imported technology to progressively increase the share of the indigenous contributions;
  - (v) Promotion of the adaptation and absorption of imported technologies;
  - vi) Negotiations of transfer of technology transactions from a position of relative strength.

## PROGRAMME 2: DEVELOPMENT OF HUMAN RESOURCES FOR SCIENCE AND TECHNOLOGY

### INTRODUCTION

154. Top priority should be given to the development of human resources for the creation of a science and technology infrastructure of manpower, knowledge skills, innovative and productive capacities to absorb and adapt imported technology, on the one hand and, on the other, to develop technology locally for the identification, exploration and exploitation of natural resources and the conversion of raw materials into semi-finished and finished goods and products. This would entail a drastic change in the orientation of education and training programmes within a newly created social infrastructure in which social facilities and services are accessible to all and the dignity of labour accorded a high social value.

155. Primary education should aim at providing instructional materials highlighting the role of technology in society in a simple and demonstrative manner. At this stage, an understanding of the rural environment and the use of traditional technology by past and present African rural societies to make life easier should form major components of instruction. The 'learning by doing' method of skill and knowledge transfer should play a significant role.

156. At advanced levels, training programmes need to be reoriented towards the production of technologists and not merely engineers in the various traditional or "conventional" disciplines. This would require the introduction of courses in economics, management, technology, including the history of technology development, the impact of technology on society, technology generation and diffusion, and law.

157. At the middle level, where the need is currently acute, measures must be taken to introduce elements of the above programmes in education programmes, adequate attention being paid to students' motivation. Emphasis must be placed on "trouble shooting" techniques.

158. With regard to the development of technical entrepreneurship there is a need to direct attention to current practices in the training of technical manpower.

159. The 'learning by doing' method of skill transfer and the "demonstration effect" in production and service-type situations must be given top priority in order to produce the professional with the versatility required to solve design problems in the country.

#### Programme Element 2.1: Manpower needs survey

160. This element involves the conducting of surveys of scientific and technological manpower needs in all sectors, and the determination of the mix of professional manpower requirements on which development should be based.

Programme Element 2.2: Development of technical entrepreneurship

161. This element requires the following activities.

- (i) Expansion and intensification of the "learning by doing" method in the training of technical manpower;
- (ii) Introduction of management courses in existing conventional engineering and technical training curricula;
- (iii) Broadening of the training of engineers to include mastery of the practical elements of technology as well as the other related dimensions of the technology development process.

Programme Element 2.3: Training in technical fields of critical manpower shortage

162. This calls for the establishment of training programmes in technical fields where there are acute shortages of manpower, such as production engineering, industrial design, chemical engineering and metallurgy, and in fields relevant to project preparation, evaluation, etc...

Programme Element 2.4: Development of programmes to train and encourage more women to enter science and technology

Programme Element 2.5: Mobilization of the adaptive technology potential in the informal sector

163. In Africa today a considerable amount of adaptive technology and technical creativity exists in way-side village smithies and other mechanical workshops.

164. Programmes should be developed to mobilize these capabilities for:

- (i) feeding into the productive sectors; (ii) training (through the process of "learning by doing") of school drop-outs; and (iii) training/orientation of the rural population in general and women in particular to deal with the simple technical problems arising from living and working in these rural areas.

Programme Element 2.6: Mass popularization of science and technology

165. Adult skill and literacy campaigns in science and technology should be mounted, using the national languages, where possible, with the primary object of getting rural women to participate more effectively in agricultural and rural technology programmes and projects (e.g., food production, preservation, storage and use, nutrition, etc.), the method of "learning by doing" should be used in these campaigns.

Programme Element 2.7: Curriculum revision

166. Larger scale curriculum revision campaigns should be mounted as a matter of priority by governments to cover all levels of the education system with the aim of making scientific and technological education and training more relevant to the development needs of the local African environment. Governments should carefully define the objectives of such curriculum revision by highlighting the need to emphasize traditional cultural values and to understand the working of rural society. The curriculum revisers must aim, when their proposals are appropriately executed, at arriving at human end-products possessing skills and knowledge which would make them socially useful, either on their own or as employees, and capable of living and working in harmony with their environment. The first phase of this activity should be completed in two years i.e., by the end of 1981.

Programme Element 2.8: Training of science and technology trainers

167. Institutions and programmes should be established or strengthened for the training, on a continuous basis, of science and technology teachers and instructors. This should be a continuous activity.

Programme Element 2.9: Stopping the brain drain

168. African countries currently suffer a major loss of indigenous skilled manpower to the developed countries. Action should be initiated, in collaboration with the international community, to tackle the root causes of this problem in order to reverse this trend.

169. Special attention in the aforementioned human resources development programmes should be given to the following areas in which product development is deemed critical in the short run:

- (a) Building materials;
- (b) Pharmaceuticals and fertilizers;
- (c) Transport and communication equipment;
- (d) Agricultural tools and equipment.

**PROGRAMME 3: DEVELOPMENT OF INFRASTRUCTURE FOR SCIENCE AND TECHNOLOGY BASE**

**INTRODUCTION**

170. The African region continues to be technologically backward and dependent on industrialized countries principally because many African countries have failed to take most of the actions required to achieve self-reliance.

171. Paragraph 154 of document E/CN.14/757 gives a detailed summary of the grave consequences that make it urgently necessary to break with conventional methods and concepts and to get away from disfunctional internal economic patterns.

172. The patterns need to be restructured and methods devised for the kind of development process that Africa should institute in the 1980s: the success of this approach will depend on the degree of political will and commitment that African governments can muster for this purpose.

Programme Element 3.1: Development and transfer of technology

173. Special attention should be paid to the socio-cultural milieu of the majority of the population and an attempt made to satisfy their needs by upgrading traditional technologies where worthwhile, developing new ones and adapting imported technology. Invention, innovation and diffusion should be given top priority in this context. Existing scientific and technological capability, a market, and some mechanism whereby capability can be transformed into goods and services to satisfy demand, are all needed.

174. Governments should, in the rural areas, encourage the balanced development of rural industry and agriculture so as to ensure that there will be a demand for rural goods and services as well as for the technologies to produce them.

175. The development of research should be encouraged in the above exercise by the creation of a competitive environment in which the research undertaken at universities and other institutions is geared to development needs, and particularly to those identified in the rural areas. When relevant inventions are made, technical entrepreneurs can transform them into practical production items, thus providing a much needed link between the innovative and productive systems.

176. Action should be taken to ensure that technology is transferred under general conditions acceptable to the recipient country and supportive of a self-reliant, self-sustaining strategy in the development of local and scientific technological capabilities. Technical assistance and foreign aid programmes should be carefully scrutinized through established machinery so as to ensure that the country will benefit to the greatest possible extent from these programmes and that balanced socio-economic development will result.

177. Such machinery should regulate the technological and other activities of transnational corporations in the recipient country so as to ensure that they make a positive contribution in areas such as the development of indigenous scientific and technological skills; the generation of local employment opportunities; and the transfer of technological and managerial knowledge to local distributors and users of capital goods and other products manufactured by the local subsidiaries.

(a) A primary activity is to conduct studies:

(i) To identify the technological needs of the majority of the population;

(ii) To understand the character of the local recipients of technology, their orientation and preferences;



(iii) To understand how technology affects development, develops and is diffused in society, technology adaptation techniques, etc.;

(iv) To understand how transnational corporations operate, their structure and policies, and how those affect the development process so as to increase the awareness and perception of policy-makers on all the above matters (seminars and workshops should be arranged for this purpose).

(b) National sectoral policies should then be formulated and laws enacted to guide the development and use of local technology, and to regulate the choice, flow, adaptation and use of imported technology and the activities of transnational corporations;

(c) National policy units to advise on the development choice, transfer and adaptation of technology, and to supervise and follow up the implementation of technology related activities should be established or strengthened. The result of the manpower survey will assist in determining the professional skill mix required in these sectors, and adequate training programmes can then be mounted to develop negotiating capacities and strengthen bargaining positions, and to improve the capacity to assess, unpackage, install, operate and maintain technology;

(d) Awards and patent incentives should be established for inventions and innovations, and for work done in local scientific and technological institutions, other types of institutions in industry, etc., directed towards satisfying the development needs of the rural population and towards other neglected development areas;

(e) Local scientific and technological personnel should be encouraged to participate in debates on development issues, and on science and technology matters, so as to ensure a wide diffusion of knowledge of technological achievement;

(f) Registers of imported technologies, classified by sector and by short-, medium- and long-term replacement potential, should be set up;

(g) National negotiating capabilities should be strengthened by crash training programmes developed with the assistance of Third World countries, regional organizations such as ECA, the United Nations and other international organizations, in areas such as the following:

- (i) The international code of conduct on the transfer of technology;
- (ii) The international code of conduct relating to TNCs;
- (iii) The revision of the Paris Convention for the protection of industrial property.

(h) The facilities and expertise of the regional technological institutions should be used in order to develop a common African position in negotiations with TNCs.

178. In many of the areas outlined above, governments can benefit from the assistance of ECA, the United Nations system, and other regional and international organizations.

Programme Element 3.2: Acquisition, processing and dissemination of technological information

179. Lack of information is one of the most serious obstacles to the selection, acquisition and use of appropriate technology options. An understanding of the local environment and the character and orientation of the transferees is as important as information on the technology to be supplied. Care should therefore be taken to ensure that the technology supplied matches the local needs identified. Machinery should be established to assess and promote the acquisition and dissemination of information on the range of alternative technologies, processes and products available for a particular application. The following measures are proposed:

(a) Establishment or strengthening of a national centre for technology information dealing with:

(i) Importation of technology:

Identification of subsidiaries of foreign firms in the region and elsewhere; compilation of information on the operation of transnational corporations and regular dissemination of such information to the business sectors of the economy; compilation of data on low-cost and other adapted technology within the country or available from other developing countries and regions; compilation of data on foreign investments, imports, raw materials, prices of products on the international market, standards and related matters, etc.;

(ii) Data and statistics on local technological capabilities and infrastructure:

Data on local capability to obtain, adapt or generate required technology; information on the relationship between demand for goods and services and efforts to supply adequate technology (and the related problems of understanding the character and orientation of transferees); information on centres capable of providing technical advice and information, existing engineering consulting firms, standards institutions, etc.;

(iii) The provision of the above services to various sectors of the economy, but especially to the production system.

(b) The organization jointly by African and Third World governments of programmes to provide fellowships and/or scholarships to enable "science and technology" students to study and visit centres of technology development in countries such as China, Japan, India, the Republic of Korea, etc., to gain experience and to collect information on the history of technology development in these countries. Such programmes should be planned by inter-disciplinary teams of experts from Third World and participating African countries as African national training programmes involving universities, research and development institutions, industry, management and business institutions, etc.

(c) Encouragement of the establishment and/or strengthening of local scientific and technological associations and societies. National technology information centres should establish or strengthen ties with other regional technology information systems, and technology information centres of Third World countries to facilitate the flow and exchange of information in all fields relevant to socio-economic development;

(d) Carrying out, with the assistance of ECA, regional institutions and other Third World country institutions, pilot studies on agricultural and industrial extension services so as to establish an improved framework for the effective diffusion of technological information to users and for feedback from them to the research and development and productive centres;

(e) Actively supporting and strengthening African regional organizations in the field of patent documentation and information, such as ESARIPO and ESAPADIC, OAPI, CADIB and PADIS.

### Programme Element 3.3: Institution building

180. Institutions and/or institutional arrangements are required at both the national and sectoral levels for the development of technology, the regulation of the transfer and adaptation of technology, for educating and training scientific and technological manpower at various levels, and for financing science and technology development activities.

181. Considerable political will and commitment on the part of policy-makers is required in order to create adequate institutions and to restructure and reorient existing ones to enable them to provide effective solutions to the problems of development

- (1) All Governments should establish by law an over-all guiding agency with economic and administrative autonomy, and make provision for the permanent financing and establishment of other sections of the science and technology infrastructure.

Programme Element 3.4: Markets

182. - Governments should take measures for collectively exploiting markets for locally manufactured capital and consumer goods and services in Third World and development countries;

Programme Element 3.5: Co-operation

183. (i) Governments should provide machinery for bilateral and/or multilateral co-operation among African or Third World countries in a conscious effort to promote collective self-reliance;
184. (ii) Such machinery would identify areas of common interest requiring collective action and make full use of the expertise available within regional and international organizations when advice and other forms of assistance are required.

**PROGRAMME 4: ESTABLISHMENT, IMPROVEMENT AND STRENGTHENING LOCAL PRODUCTION CAPACITY**

Programme Element 4.1:

185. Governments should take specific and explicit measures for making full use of local production capacity in railway and civil aviation workshops, arts and crafts centres, etc., already existing in their countries.

186. These measures should provide guidance and directives for the establishment of new workshops which would diversify their activities by manufacturing spare parts, and the agricultural and machine tools necessary for production in various sectors.

Programme Element 4.2: Mobilization of the indigenous technology potential in the formal and informal sectors

187. The workshops mentioned above should also serve as basic structures for promoting, strengthening and encouraging individual initiatives in informal local technology so that production can be improved and increased. These workshops should furthermore be used to the greatest possible extent for the in-plant vocational training of indigenous personnel in the various fields of industrial production.

**PROGRAMME 5: ENHANCEMENT OF RURAL DEVELOPMENT**

Programme Element 5.1: Development of low-cost rural technologies

188. A common characteristic of the African population is the high proportion (about 80 per cent) living in rural areas. To improve the quality of life of these rural populations and to minimize the drudgery of their existence, it is necessary to develop and diffuse low-cost rural technologies.

189. Special facilities and resources should be devoted to:

(a) The development of low-cost technologies for rural agriculture and industrial production, transportation, communication and other activities to be carried out, whenever possible, in the rural areas;

(b) The development of low-cost energy sources, particular attention being paid to solar energy, wind-power, biomass, water-power, and geothermal energy;

(c) The establishment or strengthening, as a nodal for industrial development, of small-scale industries and "artisan" enterprises, combined with the vigorous promotion of research and development capabilities in agriculture and small-scale industrial activity.

PROGRAMME 6. SCIENCE AND TECHNOLOGY INPUTS REQUIRED FOR THE ACTIVATION OF THE  
DEVELOPMENT PROGRAMME SECTOR

190. Africa has adopted a development strategy for the next decade which has the following priorities:

- (i) The attainment of self-sufficiency in food;
- (ii) The establishment of a sound industrial base;
- (iii) The physical integration of the region through the development of transport and communication;
- (iv) The development of the capabilities required to enable Governments to establish sovereignty over their natural resources;
- (v) The establishment of mutually beneficial and equitable relations between African countries and the rest of the world;
- (vi) The attainment of a substantial increase in the present meagre share that intra-African trade accounts for in total African trade.

191. This African strategy has been further translated, for operational purposes, into specific areas that deserve immediate and particular emphasis during the five-year period 1980-1985.

192. The following sectors, which have been identified as priority areas for urgent action, require science and technology inputs for their development and activation:

- (i) Research and development;
- (ii) Development of appropriate technologies;
- (iii) Evaluation and regulation of technologies that may be imported for the sector;
- (iv) Transfer of research findings and locally developed packages of technology;
- (v) Development of essential equipment and technical facilities;
- (vi) Scientific and technical training and manpower development for the various sectors, including manufacturing, production, maintenance and repairs.

6.1 Food and agriculture

193. In the area of food and agriculture, scientific and technological activities are needed in the priority areas of:

- (a) Agricultural chemicals;
- (b) Improved seeds;
- (c) Forest products;
- (d) Agricultural tools and implements;
- (e) Storage and processing techniques;
- (f) Irrigation technology;
- (g) Fisheries.

Programme Element 6.1 (i): Establishment or Strengthening of National Machinery

194. A food and agriculture development policy and policy instruments must be created with emphasis on the integrated development of the rural sector of the economy, taking into account, inter alia, the following:

- (a) The provision of an institutional infrastructure for the training of the required manpower, especially women, in identified priority areas of need (see programme elements 2.1, 2.3, 2.4);
- (b) The provision of adequate channels of communication linking the agricultural, transport and communications, industrial planning, finance, labour and employment, research and other relevant sectors of the economy;
- (c) The provision of legal machinery at the national level to regulate land use and to foster subregional and regional multinational co-operation in the use of such mechanisms when established.

195. Such a policy and policy instruments should also perform the following functions:

- (a) Development and improvement of irrigation facilities, including water conservation and management;
- (b) Intensification of the use of improved hand tools and draught animals and promotion of mechanized farming;
- (c) Ensuring that processing is carried out to a greater extent at least to the secondary if not final stages, so as to promote substitution of local for imported food;
- (d) Improvement of storage facilities in order to reduce post-harvest losses and to ensure adequacy of food supplies;
- (e) Multiplication and distribution of high-yielding seed/animal varieties;
- (f) Improvement of animal health and hygiene;
- (g) Development of industrialized off-shore fishing fleets and increased productivity of fisheries;
- (h) Intensification of plant protection.

6.2 Industry

196. In the industrial sectors, scientific and technological inputs are required in the six priority areas identified by African Ministers of Industry:

- (i) Food and agro-industries;
- (ii) Building materials and construction industries;
- (iii) Metals and metal products industries;
- (iv) Engineering and engineering products industries;
- (v) Chemical industries; and
- (vi) Forest-based industries.

Action for the development of the above areas would require the provision of facilities for a capital goods industry to produce transport and communications equipment, and agricultural tools and equipment, and to manufacture basic chemicals, leading to the production of fertilizers and pharmaceuticals, as well as key building materials, and spare parts and components for the above products.

Programme Element 6.2: Establishment or strengthening of national machinery for the establishment of industrial policies and instruments which would insure inter alia, the following:

(a) Adequate integrated rural development and backward and forward linkages between and among the subsectors of industry mentioned above, the transport and communications system, health facilities water and energy supply, finance, the education and training system, research, labour and employment and other relevant sectors of the economy.

(b) The provision of an institutional infrastructure for the training of the required manpower at all levels, and especially women, in the areas of need identified by the African Ministers of Industry (see particularly programme elements 2.2, 2.4 and 2.5);

(c) The provision of legal machinery for regulating the importation of technology, for fostering regional and subregional co-operation;

197. It would also perform the following functions in certain industrial sub-sectors, namely chemicals, metals, engineering, forestry, building materials and construction:

(a) Evaluate existing capabilities in all the above sectors, and develop appropriate manpower development programmes in them, as outlined in programme elements 2.2, 2.3 and 2.5, with a view to exploiting adequately the sectors identified;

(b) Evaluate existing potential in domestic raw materials, existing facilities for financing, markets, and production of imports for the industries;

(c) Conduct studies of the local environment and on the character and orientation of transferees and transferors, especially the TNCs, with a view to ensuring that the supply of technology matches the demand (e.g., the creation of small-scale industries) and for creating policies to regulate the business activities of the TNCs;

(d) Conduct studies of the kinds of structures developed by other Third World countries to develop scientific and technological capabilities in the industrial sectors identified with a view to using the results in pilot operations designed for initiating a self-sustaining industrialization process;

(e) Examine possible ways of generating funds locally for science and technology activities in the industrial subsectors identified;

(f) Examine the structural requirements for making the best use, at the national level, of regional institutions with functions having a bearing on the development of the various sectors.



Programme Element 6.2 (ii): Establishment or strengthening of the following National Institutions

(a) A consulting engineering and management institution with capabilities for feasibility studies, project evaluation and design, selection of equipment, evaluation of contracts, etc.

(b) A standards and quality control institution.

6.3 Natural Resources (minerals, water and forests)

(i) Establishment or strengthening of national machinery for the creation of policies to ensure that proper backward and forward linkages exist between these resource sectors and other sectors of the economy in order to promote integrated rural development.

198. Such machinery will also perform the functions listed below.

Programme Element 6.3 (i): Mineral Resources Sector

(a) Establish the mineral resource base (both land- and sea-based) by undertaking geological, mineral exploration and mapping;

(b) Prospect, evaluate, extract and market the minerals;

(c) Negotiate satisfactory agreements with foreign governments or TNCs for carrying out any of the functions mentioned above;

(d) Make provision for providing equipment, and for the training of the range and quality of the manpower required, taking into account programme elements 2.2, 2.3 and 2.5.

Programme Element 6.3 (ii): Water Resources Sector

(a) Establish an inventory of surface and groundwater sources;

(b) Develop special techniques for managing water resources, i.e., collect data on water availability and quality, forecast demand in various rural sectors, and develop and use technologies for recovery and recycling;

(c) Develop technologies for collecting water in rural areas, for distribution (e.g., hand pumps and other devices), for irrigation, for treating polluted water, sea and brackish water, and for disposal of waste water;

(d) Negotiate technology transfers for the activities outlined above, as necessary, on terms most favourable to the recipient country.

Programme Element 6.3 (iii): Forest Resources Sector

- (a) Establish an inventory of forest resources;
- (b) Introduce new plant species for increased productivity through three breeding and fertilization techniques;
- (c) Promote indigenous research and study of indigenous species in particular ecological areas;
- (d) Develop appropriate labour-utilization technologies and manufacture equipment for clearing, planting, logging and the processing of all sizes of logs;
- (e) Develop technologies for the storage and preservation of forest products;
- (f) Develop adequate treatment or management techniques for forests, through use of the most appropriate system of silviculture;
- (g) Make provision for training of manpower and dissemination of information on the management and use of forests.

6.4 Energy Resources

Programme Element 6.4: Establishment or strengthening of national machinery for the creation of policies to ensure that proper backward and forward linkages exist between the energy sector and other sectors of the economy in order to promote integrated rural development, and for performing the following functions:

- (a) Make an exhaustive inventory of the energy resources (land- and sea-based), using geological, geophysical, air-borne, etc., techniques and evaluate the potential;
- (b) Periodically assess demand and supply patterns for rural household, and for agricultural, industrial, and transport uses so as to develop energy techniques and to plan future management;
- (c) Develop efficient structures for energy distribution;
- (d) Collect, analyse, assess, catalogue and disseminate information, by means of various techniques, on technologies available locally and in the foreign market for the development and use of new and renewable sources of energy;
- (e) Make arrangements for the training of manpower at all levels, particular attention being paid to relevant manpower development under programme elements 2.2, 2.3 and 2.5;

(f) Make arrangements for the development of R and D of institutions for producing energy from waste materials, and for the development of storage or conservation techniques;

(g) Develop capabilities for negotiating agreements if necessary, for the transfer of technology to perform various functions related to energy development;

(h) Examine possible structures for making the best use of regional and subregional institutions.

#### 6.5 Transport and Communications

Programme Element 6.5 (i): Provide the Science and Technology Inputs for the Implementation of the Programme of the United Nations Transport and Communications Decade

#### 6.6 Health and Sanitation

Programme Element 6.6 (i): Establishment or Strengthening of National Machinery to Develop Policies, taking into account, inter alia, the following elements:

(a) The over-all need to provide health care to the community as a whole and particularly to its poorest segments within the context of integrated rural development;

(b) The development of environmentally and culturally sound technology so as to ensure that the equipment and drugs selected will be manufactured at low cost (e.g. from indigenous materials) and making provision for acquiring information relevant to pressing problems of health care, and for the regular exchange of information with other countries;

(c) The assessment of needs in terms of the range and numbers of personnel and institutions required within the context of integrated rural development;

(d) The development of appropriate linkages with the other vital sectors of the economy.

199. Such machinery will also be responsible, inter alia, for the performance of the following activities:

(a) Drawing up an inventory of essential drugs necessary to cure debilitating diseases;

(b) Intensive studies (R and D) of the effectiveness of medicinal plants for treating various transmittable diseases and recording of cures; special attention should be paid to identifying suitable forest resources for this purpose;

(c) The selection of middle-level manpower for training under programme elements 2.2 and 2.3 to work with health research workers in universities and hospitals in order to produce low-cost health equipment;

(d) The transfer of traditional medicine from the informal to the formal health sector especially in the rural areas, and the training of practitioners of traditional medicine in basic health procedures in various fields (e.g., family planning, preventive health care, food products available in the rural areas and of high nutritional value), and the encouragement of R and D activities in this sector;

(e) The establishment and improvement of training institutions for paramedical and nursing personnel at the required levels;

(f) Co-ordinating the collection, analysis, assessment, cataloguing and dissemination of relevant health information from indigenous and foreign sources;

(g) The expansion and improvement of medical and nursing services and facilities for both urban and rural areas.

#### 6.7 Housing and Urban Development

200. In this sector, appropriate attention should be paid to the development of specifications (i.e., building construction requirements with reference to particular materials and methods) and performance codes (design and engineering criteria) (see programme element 6.2 (i)) in relation to the building materials industry.

#### Programme Element 6.7 (i): Establishment or Strengthening of National Machinery to Perform the following functions:

(a) Establish a coherent national system of codes and standards, and develop techniques and processes, etc., for testing and quality control;

(b) Promote the development of self-help construction by providing design standards, manuals and codes, etc., for simple housing units for the urban and rural areas;

(c) Make provision for adequate utilities and in particular for water, sewerage, and waste disposal systems;

(d) Take steps to promote tropical architecture and urban and rural planning and design;

(e) Examine possible structures to be created at national level to make best use of subregional, regional and international institutions.

## 6.8 Environment

### Programme Element 6.8: Establishment of Machinery to Assess and Mitigate the Impact on the Environment of Development Activities

201. This will embrace activities in all the sectors mentioned above with a view to minimizing or eliminating altogether any harmful effects on the biosphere. This would require, for example:

(a) Establishment of techniques to manage and use forests and grasslands so as to prevent the exposure of the land to soil and wind erosion;

(b) Making provision for the training of manpower and dissemination of information on improving the environment;

(c) Establishment of techniques for the proper exploitation of natural resources so as to prevent water and air pollution.

Programme Element 6.8 (ii): Introduction of Measures to Support Research at the National, Subregional, and Regional Levels Relevant to the Establishment of Networks for Monitoring and Predicting Natural Disasters well in Advance so that Appropriate Preventive and Precautionary Action can be Taken at the National Level in Good Time

Programme Element 6.8 (iii): Establishment or Strengthening of National Machinery to Combat Drought and Desertification particularly through:

(a) Planning and managing the rational use of land, water and forest resources as part of the campaign against desertification;

(b) Developing alternative sources of energy in order to reduce the use of woody plants and charcoal as the main sources of energy;

(c) Developing innovative approaches in drought management and desertification control;

(d) Developing systems to facilitate the exchange of scientific and technological information in these fields.

202. It may be necessary in some of these sectors, prior to the submission of proposals governing the nature of the infrastructure and other facilities required for a comprehensive action plan, to undertake the following activities:

(i) Convene Expert Working Group to delineate priority fields of action, and to develop a programme of field missions;

(ii) Send missions to compile information on the status quo with respect to R and D and production facilities, manpower, technology components, etc., necessary to activate action in priority areas;

(iii) Convene a meeting of experts to examine the mission report and make comprehensive proposals for a phased action plan at national and regional level;

(iv) Convene an intergovernmental meeting to ratify proposals;

203. Projects of this nature can be undertaken by ECA or other regional organizations.

**PROGRAMME 7: MOBILIZATION OF FUNDS FOR SCIENCE AND TECHNOLOGY.**

204. The African countries should take steps to improve existing and create new funding mechanisms to provide funds on a predictable and continuous basis at the national level, with a view to substantially increasing the resources available for the development of their scientific and technological capabilities and the implementation of the African Programme of Action.

205. To demonstrate their political will and commitment to improving the lot of these peoples, African countries are urged, within the coming decade, to aim at gradually reaching the target of mobilizing at the domestic level 1 per cent of their GDP for the development of their scientific and technological capabilities. This target could be achieved, among other things, through the following:

**Programme Element 7.1: Establishment of a National Science and Technology Development Fund (NSTDF)**

206. An S and T Development Fund should be established for financing science and technology activities and for developing the technological capabilities of the relevant sectors of the economy.

207. This fund could be augmented by one of the following methods:

(i) Increasing budgetary allocations for science and technology;

(ii) Allocation of a certain percentage of taxes derived from the consumption of imported items to the R and D activities aimed at producing their equivalents locally and for using local resources;

(iii) Institution of a levy on the gross income or turnover of major public and private enterprises engaged in production activities;

(iv) Requiring all firms and enterprises with a foreign equity holding to allocate a fixed percentage (to be determined nationally) of their total expenditures to nationally approved R and D activities within these enterprises. Where this cannot be done, the firms should contribute an equivalent amount to the NSTDF.

200. The national "Centre" for science and technology for development should work closely with the National Science and Technology Development in these matters. The former will decide on the priorities for the use of the funds collected, the credit lines being allocated by the latter to the R and D institutions.

#### SUBREGIONAL AND REGIONAL LEVELS

##### Programme Element 8.1: Support for the Operations of Regional and Subregional Intergovernmental Technological Institutions

A number of regional and subregional technological institutions have been established following decisions taken by the governments of the countries of the African region. Adequate resources should be made available by Member States and also obtained from other available international sources in order to develop such institutions to full operational level. ECA should provide the means of co-ordinating the activities of these institutions, both among the institutions themselves and among member States. Member States should designate national focal points for effective linkage with the institutions and ECA so as to ensure that full use is made of their services.

The following is an illustrative list of such institutions:

- (i) African Regional Centre for Technology (Dakar, Senegal);
- (ii) African Regional Centre for Engineering Design and Manufacturing (Ibadan, Nigeria);
- (iii) African Institute for Higher Technical Training and Research (Nairobi, Kenya);
- (iv) Industrial Property Organization for English-speaking Africa (Nairobi, Kenya);
- (v) Organisation africaine pour la propriété intellectuelle (OAPI) (Yaoundé, United Republic of Cameroon);
- (vi) East African Mineral Resources Development Centre (Dodoma, United Republic of Tanzania);
- (vii) African Regional Organization for Standardization (Accra, Ghana);
- (viii) African Remote Sensing Council, and its relevant Centres (Ouagadougou, Kinshasa, Cairo, Ile-Ife, Nairobi);
- (ix) Regional Centre for Training in Aerial Surveys (Ile-Ife, Nigeria);
- (x) Regional Centre for Services in Surveying and Mapping (Nairobi, Kenya).

211. Other institutions at various stages of establishment are:

- (i) Central African Mineral Resources Development Centre;
- (ii) Regional Centre for Solar Energy Research and Development.

212. The successful operation of these intergovernmental institutions depends to a large measure on financial contributions from Member States.

213. Governments are invited to take steps to ensure the regular payment of their contributions at the agreed intervals, so as to enable these institutions to perform the functions that the governments themselves have assigned to them in furthering the development and progress of Africa.

214. Institution building constitutes an important strategic and tactical device in the process of inter-linked forward movement of socio-economic systems. African governments should therefore collaborate in the establishment of institutional machinery in new areas of science and technology development whenever it is deemed necessary to do so.

Programme Element 8.1 (i): Bilateral Multilateral Corporation in Science and Technology

215. African countries should, whenever possible, collaborate in the identification and implementation of elements of the Programme of Action for Africa as a further means of strengthening their scientific and technological capabilities.

Programme 8.2: Undertaking Feasibility Studies for the

Programme Element 8.2 (i): Establishment of Multinational Teaching Companies

216. The history of the development of technology in countries such as Japan, China, India, Republic of Korea, Mexico and Brazil, provides Africa with several lessons worthy of emulation.

217. In particular, the carefully planned institutionalization of the "learning by doing" process is recommended for serious attention. Institutions which are "engineering equivalents" of teaching hospitals should be established, initially at the subregional level.

Programme Element 8.2 (ii): Establishment of Regional and Subregional Technical Consultancies

218. The region continues to rely heavily on external sources for consultancy in the planning and preparation of development projects, including feasibility studies, project preparation and evaluation, project design and monitoring of implementation.



219. A few indigenous "consultancy" agencies exist, but these require strengthening and their capability needs to be increased.

220. Through subregional and regional co-operation, institutions of associations of indigenous technical consultants should be established at the regional and subregional levels to assist in the development and strengthening of national consultancies and to handle multinational and, where appropriate, complex national projects.

Programme Element 8.2 (iii): Establishment of Centres of Excellence for Training and Research

Programme Element 8.3: Development of Exchange Programmes for Women for the Improvement of Skills

221. Certain African subregions are noted for highly developed traditional skills in weaving, dyeing, local production of toys and general handicraft.

222. Exchange programmes should be developed for women on a subregional basis, through the ECA MULPOCs, for transferring these skills from subregion to subregion, thus diffusing them generally throughout Africa.

Programme Element 8.4: Regional Finance

223. Special efforts should be made to ensure the availability of adequate resources for funding science and technology development and activities at the regional level. These efforts should include the following:

(i) The African Development Bank (ADB), in the spirit of the African Declaration on Co-operation, Development and Economic Independence, should devote at least half of its programme resources to multinational projects, and assign a definite percentage of these resources to financing S and T projects during the period 1980-2000;

(ii) The Arab Bank for Economic Development in Africa (ABEDA) should devote at least one-third of its resources to multinational projects and assign a definite percentage of its resources to financing S and T projects during the period 1980-2000;

(iii) Regional development banks should help to build regional potential in the fields of consultancy, engineering, design and construction, by making maximum use of the potential available within the region.

(iv) ECA should seek funds from international funding and development agencies, UNDP, the newly established United Nations Financing System for Science and Technology and other international financing institutions in order to finance those projects in the region during the period 1980-2000 which contribute most to the strengthening of scientific and technological capabilities.

INTERNATIONAL LEVEL

Programme Element 9.1 Financial and Technical Assistance

224. Of the regional groupings of countries of the world that constitute the developing countries (Group of 77), Africa is the largest in terms of number of countries, has the largest concentration of the least developed countries, and is the most backward and disadvantaged in the field of science and technology for development. Africa should therefore be accorded serious and urgent attention in the allocation and disbursement of the Interim Fund for Science and Technology for Development during the two years of operation of this fund under the administration of UNDP.

225. African governments should request a total allocation of the order of at least 40 per cent of the Fund for projects submitted for the development of scientific and technological capabilities.

226. The following are proposals for disbursement of this allocation:

(i) Assistance to countries in developing and implementing projects under Programme Element 1.1;

(ii) Assistance to countries in developing and implementing projects under Programme Element 2.2 and 2.5;

(iii) Assistance to countries in developing and implementing projects under Programme Element 2.3 and 2.4;

(iv) Assistance to countries in developing and implementing projects under Programme Element 5.1;

(v) For UNDP preparatory assistance and/or full-scale projects with the appropriate executing agencies under Programme Elements 6.1(i) to 6.8 (iii);

(vi) For UNDP preparatory assistance and full-scale projects with the appropriate executing agencies under Programme Element 8.1;

(vii) For preparatory assistance for the establishment of industrial complexes under Programme Element

(viii) For preparatory assistance for the establishment of the subregional institutions or associations under Programme Element 8.2 (ii);

(ix) For the development and implementation through ECA MULPOCs of the women's exchange programmes under Programme Element 8.3.

227. African Governments should join with other Third World countries in restructuring relevant existing international funding agencies with a view to establishing a better balance and distribution of power within them. Adequate African representation at decision-making level in the newly established United Nations Financing System for Science and Technology Development should be demanded,

228. African Governments should give active support to and participate in the effort to establish a Third World Bank for Science and Technology.

Other Sources of Funding

229. (i) Governments are urged to continue to seek funding on an increased scale from the international funding agencies which have in the past provided financing for development projects, such as IBRD, World Bank, and IFAD. Emphasis should be placed as much as possible, on collaborative or multinational projects among African countries and among African and other Third World countries.

230. (ii) New regional science and technology funds should be established and existing ones, such as the UNESCO Special Fund for R and D projects in Africa and the United Nations Industrial Development Fund Administered by UNIDO, should be strengthened for appropriate utilization.

## VI. TRANSPORT AND COMMUNICATIONS

### Background

231. The African countries have always recognized that transport and communications constitute a most important sector on whose development depends not only the growth in other sectors but also the socio-economic integration of Africa, as well as the promotion of intra- and extra-African trade.

232. In recognition of the special importance of the transport and communications sector for the African economy, the Economic Commission for Africa Conference of Ministers in March 1977 adopted a resolution calling for the declaration of a Decade for transport and communications. This resolution was endorsed first by the Economic and Social Council and secondly by the General Assembly of the United Nations which accordingly proclaimed "the Transport and Communications Decade for Africa, 1978-1988".

### General strategy

233. The principal goals of the strategy for the Decade defined by the Conference of Ministers of Transport, Communications and Planning in May 1979 are that African countries should work towards:

- (a) Promotion of the integration of transport and communications infrastructures with a view to increasing intra-African trade;
- (b) Ensuring the co-ordination of the various transport systems in order to increase their efficiency;
- (c) Opening up of the land-locked countries and isolated regions;
- (d) Harmonization of national regulations and reduction to a minimum of physical and non-physical barriers with the aim of facilitating the movement of persons and goods;
- (e) Stimulating the use of local human and material resources, the standardization of networks and of equipment, research and dissemination of techniques adapted to the African context in the building of transport and communication infrastructures;
- (f) Promotion of an African industry in the field of transport and communication equipment; and
- (g) Mobilization of technical and financial resources during the Decade with a view to promoting the development and modernization of transport and communication infrastructures in Africa.

234. These goals have to be realized through the implementation of projects classified in accordance with their relevance in meeting the problems of transport and communications in Africa as follows:

- (a) (i) regional projects
- (ii) subregional projects
- (iii) national projects with a regional or subregional impact
- (b) projects for the least developed, land-locked, newly independent, island and front-line countries
- (c) projects of concern to other countries.

235. The Conference of Ministers decided also to implement the Decade in two phases:

Phase I: 1980-1983

- continued implementation of on-going projects
- implementation of projects already identified and studied and which are only waiting to be financed
- identification of technical feasibility and economic studies of other projects and a search for their financing

Phase II: 1984-1988

- continued implementation of projects undertaken in the course of the first phase
- financing and implementation of new projects
- continuation and identification of other new projects

Mechanism for the implementation of the Decade

236. To ensure a proper and successful implementation of the Decade, mechanisms for co-ordination and monitoring have been set up at both regional and sub-regional levels. These mechanisms will work in co-operation with the existing or planned national structures.

237. At the regional level, ECA has been designated by the United Nations General Assembly as the "lead agency" with over-all responsibility for the whole Decade programme, including co-ordination of the implementation of the Decade programme at all levels and assisting in the mobilization of the resources required.

238. In carrying out this work, ECA will co-operate through an Interagency Co-ordinating Committee with all relevant United Nations organizations, OAU and African regional organizations in the field of transport and communications.

239. At the regional level, a Conference of African Ministers responsible for transport and communications matters will be convened every two years to follow up the implementation programme for the Decade and to define the means for mobilizing the resources needed.

240. At the subregional level, ECA set up in 1977 Multinational Programming and Operational Centres (MULPOCs) in five African subregions (Eastern and Southern Africa, West Africa, Central Africa, North Africa and the Great Lakes Community). These MULPOCs will co-ordinate the implementation of the Decade programme at the subregional level.

241. In each MULPOC, the respective ministers of transport and communications will review annually the implementation of selected projects under the Decade.

#### The First Phase Programme

242. In order to further the United Nations Transport and Communications Decade in Africa, ECA was entrusted with the responsibility of drawing up the groundwork for the first phase of the Decade programme, i.e., the identification of projects in the different subsectors of transport and communications.

243. These projects were subsequently screened and approved by the Conference of Ministers of Transport, Communications and Planning in Addis Ababa in May 1979.

244. Resulting from the Conference, the total projects and their costs have been published in two volumes entitled "Global Strategy and Plan of Action, First Phase 1980-1983".

245. Volume I contains an analysis of the present state of the various modes of transportation and means of communications in Africa and an attempt to formulate specific recommendations in the light of which projects have been identified.

246. A technical description of each of these projects and an estimate of its advantages and costs are compiled in Volume II. This last volume is, in fact, divided into 12 sub-volumes corresponding to the 12 subsectors of transport and communications which have been analysed.

247. The total number of projects ready for implementation during the first phase comprises 450 transport projects and 100 communications projects.

248. The cost of the 550 projects that are ready for immediate implementation, plus the cost for studies relating to the 221 remaining projects, amounts to a total of \$US 8.85 billion, which is broken down into the various subsectors, as shown in the table below:

<u>Transport projects</u>	In millions of	
	<u>United States dollars</u>	<u>%</u>
I. Roads and road transport (ROP)	1,796.19	20
II. Railways and rail transport (RAP)	3,223.10	36.5
III. Maritime transport (SHP)	320.04	4
IV. Ports (HAP)	2,240.76	25
V. Air transport (AIP)	632.74	7
VI. Inland water transport (INP)	86.20	1
VII. Multimodal transport (MMP)	43.15	0.5
Sub-total	8,342.19	94

<u>Communications projects</u>	<u>In millions of United States dollars</u>	<u>%</u>
VIII. Telecommunications (TEP)	223.48	2.5
IX. Communications by satellite (SAF)	0.38	-
X. Broadcasting (radio and television) (BRP)	169.41	2
XI. Postal services (POP)	44.35	0.5
XII. Manpower training in telecommunications (MAP)	76.13	1
Sub-total	513.75	6
Total	<u>8,855.94</u>	<u>100</u>

#### Review sector by sector of the projects selected

249. Most of the projects selected by the Conference of Ministers were aimed at specific targets relating to the main problems encountered in the relevant mode of transport or means of communication.

#### Roads and road transport

250. Projects under this subsector are designed to promote the inter-connexion of national networks with those of neighbouring countries. Most of them are part of the planned Trans-African Highway (its main trunks and feeder roads) the object of which is to provide in the long run an effective network for the transportation of goods and persons which will facilitate trade and communication within and between African countries.

#### Railways and rail transport

251. The projects selected under this subsector are aimed at making the present railway services fully efficient. They deal with rehabilitation of existing tracks, purchasing of new rolling stock, and with training programmes at all levels to improve operational and management techniques.

#### Maritime transport

252. The African countries have only recently become interested in maritime transport. They require technical assistance to set up the various activities required to develop maritime transport.

253. Moreover, a large manpower training programme has been approved including the construction of two regional maritime academies as well as national nautical colleges.

#### Ports

254. African ports require a large programme of renovation and provision of modern equipment to enable them to cope with the growing traffic which they all now face.

255. Thus port projects were selected to meet these requirements. Furthermore, the importance of training for all categories of port staff has been emphasized in various identified projects.

#### Air transport

256. The development of air transport infrastructure in Africa calls for urgent improvement and provision of facilities and services required in African States to meet the minimum standards and requirements essential for the operation of the critical aircrafts to be operated in the region.

257. Projects for extension and modernization of airports represent the main body of the projects selected.

258. Projects concerning training have been stressed and the construction of a few regional schools has been recommended.

259. Projects on technical assistance in the form of task forces to undertake ad hoc advisory missions and study activities which would encourage better air transport integration for the continent have been taken into consideration.

#### Inland water transport

260. The projects selected are either studies to determine the navigability potential of African rivers and lakes as well as investments in those which are already in operation (e.g. setting up of river craft schools, renovation of ports, buying of vessels).

#### Multimodal transport

261. Among the multimodal transport projects, the study on determining the scope of a Transport Institute and the conditions for its establishment is the most prominent one.

#### Telecommunications

262. Projects in the telecommunications subsector consist first in the continued implementation of the Pan-African Telecommunication Network (PANAFTEL) for routes which have already been studied and secondly in the survey of additional routes.

263. Other projects deal with telecommunication management development, operation and maintenance systems and the introduction of rural telecommunications.

#### Communications by satellite

264. The African countries have expressed a desire to establish a regional satellite communications system for Africa as a complement to the PANAFTEL SYSTEM.

265. A feasibility study on such a regional satellite system and the holding of seminars or workshops on satellite communications has been selected for the first phase to implement this objective.



### Broadcasting

266. Projects selected relate to the setting up and improvement of broadcasting, training institutes, manpower development, the provision and expansion of broadcasting facilities to rural areas as well as the exchange of programme.

### Postal services

267. The approved projects provide notably for the training of personnel, establishment of mail sorting centres and regional transit centres, the development of rural postal services, the extension of giro centres, post office savings banks and the establishment of workshops for making postal equipment.

### Manpower development and training in telecommunications

268. The importance of qualified operational and management personnel, essential for effective communications development, will require, in the first phase, the establishment of training centres at national and subregional levels in the various fields of telecommunication operations, and the organization of specially oriented seminars and workshops.

### Expected impact of the United Nations Transport and Communications Decade in Africa on the food situation in Africa, agricultural and industrial development, and the exploitation of Africa's natural resources by African countries in co-operation with one another

269. The Programme of Action of the Decade and the strategy for implementing it are aimed at encouraging, initiating or restoring the movements of goods, information and people among the African countries. They are also fundamental to any policy for the continent having as its main economic aims:

- self-sufficiency in food
- industrialization
- the exploitation of Africa's natural resources, and of its mineral resources in particular.

270. To be effective, this policy must take into account the possibility that countries and regions, although separated by frontiers, may be complementary to one another. This situation obviously calls for close co-operation between producers and consumers, and for interconnected transport and communications systems, which must be established where they do not already exist. This is precisely what the Decade is intended to achieve.

271. The industrialized countries developed smoothly over the centuries. Economic, agricultural and industrial development therefore generated, as a matter of course, the transport and communications infrastructure to meet their needs and requirements. The same is not true of Africa, which has a good deal of leeway to make up in all fields if it is to catch up with the developed countries. Transport and communications together constitute an essential tool, which must be created, developed and maintained if African industry, agriculture, forestry and mining are to expand. African industries, however, which are an embryonic stage of development and are rapidly being

left behind by the continuous progress of technology, and African efforts in the other fields mentioned above, will not be able at one and the same time to satisfy domestic needs and also to generate the necessary resources for these purposes, at the present rate of progress. Transport and communications are thus a prerequisite for development; with their aid, the immense potential of the continent can be rationally exploited with some chance of complete success.

### The Pledging Conference

272. After the African Ministers had approved this programme and in preparation for the Pledging Conference which the Secretary-General of the United Nations was to convene, ECA took the initiative:

- of calling a meeting on 31 July 1979 with the ambassadors of the industrialized to the Government of Ethiopia.
- of calling a meeting early in September with officials of EEC/EDF and the ACP Group in Brussels; an appropriate resolution was adopted;
- of organizing in September and early October, when a large number of meetings were held in Brussels, missions to industrialized countries and financial institutions to explain to them the background, objectives and prospects for implementing the Decade, the Programme of Action and the investments to be made, and to encourage them to increase their assistance to Africa in order to finance this programme;
- of calling, in New York, prior to the Pledging Conference, a meeting of the Interagency Co-ordinating Committee on 12 November 1979 and a "pre-pledging meeting" on 13 November 1979.

273. The Pledging Conference, which was held on 20 November 1979, resulted in:

(a) Firm commitments, exclusively by African countries, totalling \$US 155,588;

(b) Pledges for contributions for the development of transport and communications in Africa in the form of bilateral assistance by a number of industrialized countries, Nigeria (for its own programme), and various international financial institutions, totalling some \$US 6.3 billion.

### Recommendations

274. ECA was appointed "lead agency" for the Transport and Communications Decade in Africa by the United Nations General Assembly. In this regard ECA should play fully its role as co-ordinator, organizer and catalyst. ECA should also prepare periodic reports on the implementation of the Decade programme and take appropriate action to prepare the programme for the second phase for which it needs resources to be placed at its disposal. African countries and funding agencies should assist ECA in playing the role that has been assigned to it.

(a) One of the essential tasks of ECA will be to ensure that African countries who took the initiative for the Decade and who prepared and even approved the programme accord it first priority by including it in their national development plans.

(b) The donor countries and the financial institutions having shown their preference for bilateral assistance, African States should take the initiative of submitting to the various funding agencies those projects approved for the first phase, also achieve a consensus among countries involved in subregional and regional projects in their financing and implementation, and to enable ECA to participate in any discussions between individual African States and donor country or organization on transport and communications projects.

(c) In order to enable ECA to prepare reports on the implementation of the Decade programme for submission to ECOSOC and to the Assembly of Heads of State and Government of OAU, African countries and funding agencies should provide ECA with information as and when ECA requires it.

(d) In order to mobilize the necessary funds for implementation of projects other than national and for specific studies, technical consultative meetings with groups of donor countries and financing institutions will need to be held under the auspices of ECA regarding specific programmes and with the participation of governments, organizations within the United Nations system and the African intergovernmental organizations concerned.

(e) With a view to participating actively in the implementation of the Decade programme, it would be advisable for African countries to consider the possibility of earmarking part of the national budget and external assistance for purposes of the Decade.

(f) The Interagency Co-ordinating Committee on the Decade should meet as quickly as possible if necessary before the ECOSOC session in order to review the promotional activities undertaken by other agencies.

## VII

## TRADE AND FINANCE

## A. TRADE

Domestic trade

275. Particular attention should be given to domestic trade and to improving the conditions under which it is now taking place so as to optimize its contribution to the socio-economic development of member States. To this end steps should be taken where appropriate:

- (a) To promote internal trade at the national level with particular attention to the potentials offered by the rural markets;
- (b) To rationalize channels of distribution with a view in particular to minimizing the number of intermediaries and to ensuring control thereof by indigenous enterprises whether private or public or a combination of both;
- (c) To keep a balance between investment in the domestic trade sector and investment in productive sectors in such a way as to ensure that the growth of the former does not jeopardize the growth of the latter.

Intra-African trade expansion

276. In so far as intra-African trade expansion which is meant to constitute the mainstay for the present strategy is concerned, the following measures are recommended:

(i) Reduction or elimination of trade barriers

- (a) The interested countries, within the framework of their respective MULPOCs based at Gisenyi, Yaoundé and Tangiers, should commence negotiations among themselves as soon as possible with a view to establishing appropriate preferential trade areas or similar institutions not later than December 1984.

In this connexion the establishment of a preferential trade area for the North African States should be accorded appropriate priority;

(b) In anticipation of establishing preferential trade areas or similar institutions by the end of 1984, intersubregional negotiations should commence not later than 1985 with a view to progressively reducing and eventually eliminating intersubregional trade barriers;

(c) Existing economic integration groupings which have advanced beyond the level of preferential trade area arrangements should be assisted in achieving more advanced co-operation arrangements among themselves;

(d) The reduction and eventual elimination of trade barriers should place particular emphasis on the exchange of essential goods while ensuring that no undue advantage is taken of the liberalization process.

(e) African countries should endeavour to eliminate all trade regulatory measures which have the effect of curtailing trade among themselves before the end of 1984;

(f) African countries should grant to each other most-favoured-nation treatment in their intraregional trade as soon as possible;

(g) All customs duties applied by member countries to intra-African trade in respect of basic food commodities produced by African countries (cereals, coffee, pulses, sugar, meat, maize, fish, oilseeds, rice, wheat, sorghum, tea, vegetable oils, etc.) should be substantially reduced not later than December 1984; and machinery for negotiating further tariff cuts at intervals of two years be established at the regional level;

(h) All food products originating from member countries should be exempted from the application of regulatory non-tariff barriers except health requirements, effective from January 1982.

(ii) Mechanisms and measures for the facilitation and development of trade

(a) To minimize the use of foreign exchange and promote intra-trade, studies should be undertaken by ECA, OAU and other competent organizations as soon as possible on the demand and supply of major intra-African trade commodities, with a view to assisting Governments in establishing agricultural and non-agricultural commodity exchange arrangements at the subregional and regional levels before the end of 1985;

(b) African countries should endeavour to establish specialized marketing organizations in respect of their major export/import commodities not later than the end of 1983, with a view eventually to establishing subregional and regional councils of buyers and sellers for each major commodity by the end of 1985;

(c) Studies should be undertaken by ECA, OUA and other competent organizations and actions should be taken to establish adequate bulk storage and conservation facilities for food commodities at the national and subregional levels not later than the end of 1984;

(d) Associations of State trading organizations should be established at the subregional levels which should evolve into a regional African Association of State Trading Organizations not later than the end of 1985 with a view to harmonizing their operational policies and procedures and agreeing on the joint procurement of selected key imports among the countries concerned;

(e) Governments should promote and facilitate the establishment of national Chambers of Commerce (where they do not exist), to include both State and private trading companies, with a view to establishing subregional associations (wherever they do not yet exist) and agree to facilitate the setting up of an African Federation of Chambers of Commerce not later than 1985.

(f) Considering the need to promote foreign trade in general and intra-African trade in particular, all countries which do not have them, should endeavour to establish trade promotion councils which should be responsible for the establishment of trade promotion centres with a view eventually to bringing such centres within subregional associations and expanding the activities of the Association of African Trade Promotion Organizations;

(g) To reduce the costs of trade promotion activities, countries should endeavour to establish, through subregional associations of trade promotion centres and through the Association of African Trade Promotion Organizations, joint facilities for conducting market surveys, disseminating information on trade and training experts in foreign trade promotion;

(h) African countries should endeavour to establish within their territory the intermediate processing plants in their industrial production chain now located outside Africa in order to maximize the potentialities of intra-African trade;

(i) Trade data banks should be established at the subregional and regional levels;

(j) Countries which have not established national standards bodies should do so as soon as possible;

(k) Membership of the African Regional Organization for standardization (ARSO) (which presently comprises only 19 countries) should be expanded to include all African countries by the end of 1982. ARSO should be entrusted with the task of establishing African regional standards for all products of interest to intra-African trade. If need be ECA should be requested to offer the necessary advice and assistance;

(l) Trade fairs and publicity campaigns should be held at least annually at the national, subregional and regional levels, with particular emphasis on publicizing the quality of African products. In this respect, ARSO should operate a regional certification marking scheme with a view to certifying the quality of and promoting African products. A permanent "Buy African goods campaign should also be vigorously launched under the aegis of OAU and ECA within the framework of the all-African trade fairs, starting with the next Fair to be held in 1980. Participation in these fairs should be confined solely to African countries with a view to promoting African products;

(m) African countries should identify goods which are largely consumed in rural areas with a view to promoting their production on a large scale and making them available for intra-African trade;

(n) ECA and OAU should conduct studies on border trade in the region with a view to examining the extent to which such trade could make an optimum contribution to the socio-economic development of the region;

(o) Efforts should be made constantly to explore and exploit possibilities of processing locally available raw materials for marketing within the African region;

(p) African countries should take all appropriate measures (including trade fairs and campaigns) to promote the exchange of commodities consumed in rural areas at the regional and subregional levels;

(q) African countries should establish distribution enterprises where they do not exist and with necessary storage facilities for their major intra-African trade commodities at the national and subregional levels;

(r) Indigenous multinational shipping enterprises and freight booking centres should be established at all subregional levels before the end of 1985 and accorded appropriate preferential treatment for trade in intra-African trade goods;

(s) Furthermore African countries should co-operate in the establishment and improvement of the necessary transport and communications links among themselves as well as insurance facilities for indigenous traders with a view to securing the quick and efficient movement of trade goods and their preservation during such movement.



(iii) Establishment of African multinational production corporations and joint ventures

It is recommended that:

(a) Given the large potential for trade creation which exists within the African region, priority should be accorded to investment in the production sector as a first step to intra-African trade expansion;

(b) Co-operation in processing of domestically available raw materials should be encouraged through the establishment of joint or multinational corporations;

(c) Countries should conclude long-term purchase and supply contracts as a means of promoting their mutual trade.

(iv) Establishment of an African common market

The above measures, including those for the establishment of subregional arrangements and the strengthening of existing ones are meant to converge towards the establishment of an African common market.

International trade

277. Measures should be taken to diversify both geographically and structurally Africa's present trade patterns including:

(a) Systematic exploration and exploitation of trade and economic co-operation potentials with other developing regions and countries and developed centrally planned economy countries, taking duly into account member States' right to determine their own individual policies in this respect;

(b) Measures to restructure commodity markets and trade;

(c) Measures to ensure control of foreign trade by national structures, whether this is effected by way of State intervention or private indigenous corporations, or a combination of both;

(d) Measures to set up a new trading framework at the international level including agreement on new trading rules and principles covering inter-alia structural adjustment, preferential treatment for developing countries and elimination of protectionist measures aimed at hampering access of manufactures and semi-manufactures from developing countries to markets of developed countries;

(e) Regulation of the operations of transnational corporations in the region with a view, in particular, to eliminating all forms of restrictive business practices and controlling transfer pricing;

(f) By the year 2000, Africa's share of world industrial production should reach 2 per cent and efforts should be made to increase the region's share of world trade in manufactures within the framework of the 30 per cent target which has been set for developing countries as a whole.

## B. FINANCE

278. At the national level, wherever appropriate, new monetary policies should be devised including:

(a) The complete restructuring and reorientation of the policies and programmes of monetary and financial institutions imported to Africa (i.e. central banks, commercial banks, etc) - in such a way as to integrate them better in the development objectives of each country;

(b) Such measures as will assist in the integration of the so-called modern (urban import-export) sector with the rest of the economy;

(c) National commercial banks and other appropriate financial institutions should be encouraged to extend credit including short-term credit to exporters of intra-African trade commodities;

(d) The establishment of institutional machinery geared to the mobilization of domestic financial resources, particularly in the form of national savings.

279. At the subregional level, the following measures are recommended:

(a) Each subregion should review whatever financial co-operation arrangements exist among member countries with a view to integrating them into one subregional multilateral clearing and payments system not later than the end of 1984;

(b) For those subregions where institutional payments arrangements do not exist, member countries should embark on negotiations to establish appropriate clearing and payments arrangements concurrently with the negotiations on the creation of preferential trade areas and not later than the end of 1984;

(c) Following the establishment of institutional clearing and payments arrangements in all subregions, member countries should embark on negotiations for linking up such arrangements to form an African Payments Union before the end of this decade;

(d) Development finance institutions should be established wherever appropriate in all subregions covered by the respective MULPOCa, not later than the end of 1984;

(e) Co-ordinated measures should be taken to establish financial markets at the national, subregional and regional levels;

(f) Special departments for financing intra-African trade should be established within subregional development banks not later than 1985, to complement the facilities offered by national commercial banks;

(g) Subregional export credit insurance systems should be established within the framework of the subregional development banks, not later than 1985.

280. At the regional level, the following measures are recommended:

(a) The African Development Bank should be financially strengthened so that it may be able to offer more assistance to African countries particularly the least developed ones among them;

(b) An African Monetary Fund should be established;

(c) An African mutual guarantee and solidarity fund should be set up.

281. At the international level, African countries should:

(a) Intensify efforts with a view to the resumption of international negotiations on a fundamental reform of the international monetary system;

(b) Take necessary steps with a view to the establishment of an adequate international framework to sustain their development efforts;

### C. PARTICIPATION IN INTERNATIONAL NEGOTIATIONS

282. The following steps should be taken:

(a) African States must urgently act to increase their effective participation in the international economic negotiations;

(b) An integrated approach to international negotiations should be adopted with a view to ensuring that African countries benefit as much as possible from negotiations. All measures proposed in different areas of negotiations should be consistent with one another and should fit into the global pattern of negotiations for the establishment of new African and world economic orders;

(c) African States should take steps to establish appropriate structures for the training of qualified senior officials in international economic relations and negotiations;

(d) All African States should establish appropriate structures and machinery for ensuring that the agreements reached and arrangements made in international negotiations are properly implemented;

(e) Measures should be taken to set up permanent national, subregional and regional machinery dealing with the information, consultation and co-ordination aspects of international negotiations.

283. At the regional level, it is recalled that the Ministerial Follow-up Committee on International Trade and Finance for African Development, which the sixth session of African Ministers decided to create, will be responsible for:

(a) Monitoring the implementation of the African strategy in the field of international trade and finance including intra-African trade and finance as part of the over-all development strategy for Africa;

(b) Co-ordinating, harmonizing and preparing the African position on issues relating to international trade and finance for development;

(c) Reviewing from time to time progress made in the implementation of multilateral agreements between African countries and the outside world in the field of international trade and finance.

VIII. MEASURES TO BUILD UP AND STRENGTHEN ECONOMIC AND TECHNICAL  
CO-OPERATION INCLUDING CREATION OF NEW INSTITUTIONS  
AND STRENGTHENING OF EXISTING ONES

284. The need for the establishment of institutions which can help African countries collectively to develop the capabilities and infrastructure essential for their economic and social development and which individually, they are too poor to set up was recognized soon after the establishment of ECA. Among the first such institutions to be established by ECA are the African Development Bank (ADB), the Association of African Central Banks and the African Institute for Economic Development and Planning (IDEP). ADB, to which all independent African States belong, has after a slow start, developed into a useful tool for development, it has enlarged its sphere of activities and its resources. Other institutions have, however, been less successful.

285. The various institutions that have been established, all at the request of African Governments, in fields such as natural resources, science and technology, industry, training and human resources and transport and communications, have all suffered from the ill effects of lack of follow-up in the implementation of political decisions. This lack of effective follow-up finds expression in various ways, the commonest being that after pressing for the establishment of an institution, many African Governments, even after having approved the legal document setting up the institution concerned, either fail to become members of the institution or if they do, they fail to give it adequate financial & material support. The net result is that the growth of

such an institution is stifled, disillusion sets in and the collective self-reliance of African countries is undermined. Member States must realize that the success or failure of the institutions which have been established at their request for their collective development, lies in their own hands.

286. A more alarming development is the fact that potential donors which promised assistance to various institutions at the time of their establishment now appear to want to give assistance to them only if their membership is increased so as to give them a more truly subregional or regional character. Potential members of institutions it is also believed, wait to see how well or otherwise institutions develop before deciding to join them. The unhealthy vicious circle thus engendered is one that frustrated the establishment and development of multinational institutions.

287. The lack of financial support in respect of multinational institutions by its members is the bane of nearly all multinational institutions established under the aegis of the ECA secretariat at the request of African Governments, and which are all to be operated principally on the basis of contributions from its members.

288. It is clear that the problems that face African multinational institutions are mainly the result of two factors, namely restricted membership which, in turn, affects the finance of the institutions, and the apparent reluctance of some members to pay their contributions, or a combination of both. It is undeniable that, given the limited resources of African countries, institutions for collective co-operation

such as those referred to in this paper are essential to the economic and social development of Africa. What is therefore required is some method of ensuring that such institutions achieve their full quota of membership and that sufficient funds are available to them to ensure their efficient and effective functioning.

289. Multinational institutions particularly affected are those in the field of natural resources such as the Regional Centre for Training in Aerial Surveys, the Centre for Services in Surveying and Mapping, the East African Mineral Resources Development Centre, and the African Remote Sensing Council. Other multinational institutions which have also been affected by the lack of political and financial supports are, inter alia, the African Regional Centre for Technology, the African Regional Organization for Standardization and the Association of African Trade Promotion Organizations.

290. Since, however, the vital role of an appropriate number of multinational institutions to the economic and social development of Africa cannot be gainsaid, steps must be taken to ensure that new multinational institutions are established only after careful consideration of their necessity, objectives and activities and where there is clear indication that they will obtain the political as well as the financial support of African countries. As regards existing multinational institutions they should also receive the fullest political and financial support of African countries. It is therefore proposed that the following guidelines should be followed for the strengthening of existing multinational institutions and the establishment of



new ones:

(i) The Executive Secretary of ECA, in co-operation with UNDP and major donors, should undertake an assessment of the objectives and operations of the various existing multinational institutions established under the aegis of the Commission with a view to making proposals as to their continued relevance and effectiveness and to advise on ways and means by which they may be better rationalized, co-ordinated or harmonized or what new multinational institutions shall be required.

(ii) Existing multinational institutions should be strengthened by the prompt provision to them of the political and material support of all African States which supported their establishment, since without such support, the purposes of the establishment of the multinational institutions would be undermined and frustrated. In this regard it is humbly proposed that the Heads of State and Government of the forthcoming Lagos OAU Economic Summit.

(a) call on all African countries which have supported proposals for the establishment of existing multinational institutions and which have not yet done so, to become members of such multinational institutions;

(b) determine where appropriate, a common formula for the assessment of the contributions of members to be applied

to all multinational institutions or alternatively what lump sum should be paid by each African State in respect of such multinational institutions as member States may determine.

(c) determine the extent of the special financial and other responsibilities of governments that host multinational institutions.

(iii) No new multinational institutions should be created unless their creation has been thoroughly examined and after the possibilities offered by national institutions, of existing multinational institutional ones, have first been fully considered.

291. In addition, appropriate arrangements should be made for the use of existing or future mechanisms and institutions in the promotion of technical co-operation among African countries on the one hand and between the African countries and other non-African developing countries on the other hand; as recommended by the Buenos Aires Plan of Action for Technical Co-operation among developing countries (TCDC).

## IX. ENVIRONMENT AND DEVELOPMENT

292. The main recommendations to promote environmentally sound socio-economic development in the Plan of Action for Africa in the context of the Monrovia Strategy for the 1980-1990 development decade are summarized below:

- (a) African Governments must identify priority areas of environmental concern within their countries for concerted effort to combat environmental problems.
- (b) The Plan of Action at the national levels should incorporate the development of policies, strategies, institutions and programmes for the protection of the environment.
- (c) Regional co-operation in tackling environmental problems with transboundary effects is recommended and member States must also seek international support, advice and financial resources to implement action on environmental assessment and management.

293. The priority areas of environmental concern requiring immediate action in Africa are as follows:-

- (a) Environmental sanitation and health and safe drinking water supply: Action is required to utilize urban wastes for the production of biogas to save energy and for the conversion of garbage into manure; the combating of water-borne diseases; the control of water pollution from agricultural and industrial effluents for the provision of safe drinking water and removal of contaminants from food and drugs.
- (b) Deforestation and soil degradation: preventive action must be taken to convince local farmers to incorporate agrisilvicultural practice in shifting cultivation to ease the pressure on firewood and charcoal production as energy sources, other alternative actions required involve creation of wood lots around urban centres as fuel for cooking, and the use of other energy sources as biogas solar and wind.
- (c) Desertification and drought: promotion of re-afforestation programmes with native trees and adaptable exotic species as wind breaks, indigenous grasses for soil stabilization, exploitation of underground water for irrigation; maintenance of carrying capacity of the arid lands, establishment of meteorological and hydrological monitoring stations, enforcement of strict land management.
- (d) Marine pollution and conservation of marine resources: pollution control from land-based industrial wastes and oil from shipping; stricter control of fish exploitation in the economic zone by foreign transnationals.
- (e) Human settlements: better planning of towns and villages for space allocation of facilities, proper ventilation of houses and construction of low-cost dwellings using local materials; creation of rural development projects using appropriate technology to ease rural-urban population migration.

- (f) Mining: establishment of programmes to rehabilitate mined out sites by removing earth tailings, filling up ponds to eradicate water-borne diseases and control of toxic heavy metal poisoning in crops grown in certain mined out soils.
- (g) Air pollution control: establishment of stations for monitoring air pollutants from factories, automobiles and electrical generators using coal; control of the importation of pollutive industries (cement, oil refineries, tanneries), maintenance of pollution standards for environmental quality, and noise control.
- (h) Environmental education and training, legislation, and information: creation of national programmes in environmental education to develop environmental consciousness in the population; improvement of legislation and law enforcement to protect the environment; and collection and dissemination of environmental data to monitor the state of the environment in Africa.

294. At the national level, the Plan of Action requires governments to define realistic policy options, strategies and programming for the incorporation of environmental considerations in development planning. For institution building, a national co-ordinating machinery to monitor environmental problems for action, develop environmental education and training programmes and advise on environmental legislation, should be set up in each African country. The work of the secretariat can be supported by a national environmental committee to advise government on policies, on national standards and norms for environmental quality, on the formulation and implementation of national programmes to combat priority environmental problems and to liaise with international organizations on environmental matters.

295. Regional and sub-regional co-operation should be strengthened by the establishment of an intergovernmental committee on environmental matters, supported by its technical group of experts, as a sectoral subsidiary body of the Regional Commission (ECA). Such a body can examine the regional environment programme order of priorities for action in the region and subregional MULPOCS and seek financial resources for the implementation of the agreed action plan, especially to combat transboundary environmental problems.

296. The Action Plan request member States to co-operate with international organizations dealing with environmental matters and the industrialized countries for technical assistance in tackling priority environmental problems. International co-operation is also required in the provision of educational software on the environment, training facilities, scientific equipment to establish environmental monitoring centres, development of environmental protection legislation and data bank storage/retrieval of environmental information for countries within the region.

## THE LEAST DEVELOPED AFRICAN COUNTRIES

297. The conference of Ministers, endorses the conclusions and recommendations of the Conference on the Problems and Perspectives of the Least Developed African Countries, 17-22 March 1980, contained in the statement adopted by that Conference on strategies, priorities and programmes for the least developed African countries. <sup>1/</sup>

298. The experiences of individual African countries indicate that common problems exist which require similar courses of action. Any success in the implementation of the Comprehensive New Programme of Action requires the assessment of priorities for domestic policy and international assistance. Therefore, the Conference recognizes the urgent need for African countries to attain the following objectives and measures:

(a) the primary responsibility of developing their economies remains with the African least developed countries themselves and the total political commitment of the member States to the pursuit of these objectives is necessary;

(b) social and economic reforms should be undertaken by these countries themselves to ensure that the benefits of all productive efforts are shared equitably by the total population and also to ensure the full participation of the people in the development process;

(c) development of national capabilities should be accelerated in order to utilize efficiently and exercise full control over their natural resources on the one hand and lay a strong scientific and technological infrastructure for rapid economic growth and transformation on the other hand; and

(d) they should establish a self-reliant and self-sustaining economy as rapidly as possible.

299. For the fulfilment of the above objectives, priority areas for action should include the following:

(a) the development of the agricultural base in order to achieve not only self-sufficiency in food production but also production of an adequate surplus. Emphasis should in particular be given to the increased production of grain and cereals which now account for a major source of foreign exchange drain. Since currently about 30 to 40 per cent of the food in African countries is wasted due to the lack of adequate handling, marketing and storage arrangements and transport facilities, there is need for an integrated programme embodying the production, processing and marketing of agricultural products along with massive investment in irrigation systems, training farmers in the use of improved techniques, price policies to ensure sufficient incentives to farmers to increase production and finally adequate transportation network. Since many African least developed countries suffer from chronic food insecurity emphasis needs to be given to national, subregional and regional food security programmes.

(b) making industry a leading sector of the national economy so that the state of gross underdevelopment is brought to an end. Emphasis should be given to the establishment of a sound industrial base with strong linkages to agriculture and priority accorded to the processing of locally produced raw materials and the production of basic inputs to agriculture.

(c) the development of transport and communications with emphasis on building local capacities for the construction and maintenance of feeder roads in order to ensure efficient production and distribution of goods and services. Stress should also be laid on the improvement of transit services for land-locked countries and on the development of multimodal transport systems. In view of the special conditions prevailing in these countries, coastal countries are requested to facilitate their access to the sea and to provide them with port facilities. The accelerated development of transport and communications is essential not only as a first step towards regional co-operation and integration but also as a means of opening up land-locked countries.

(d) the development of a national education and training programme with a view to ensuring an appropriate linkage to the production processes as well as to internal and external marketing activities and to product development.

(e) the development of energy potentials and in particular renewable sources of energy so as to reduce dependence on external sources.

(f) the improvement of their development planning and administration including data collection, processing and dissemination, in order to strengthen their capacity in the formulation and implementation of plans and programmes as well as to facilitate the monitoring of progress at the regional and international levels.

(g) the strengthening of efforts to redress drought and combat desertification.

300. The international environment in which the African least developed countries are required to sustain their economies has been extremely oppressive and indeed exploitative. The least developed countries neither get fair values for their products nor receive any protection for the accelerating cost of technology and essential imports including the cost of importing oil.

301. It is therefore recommended:

(a) that the volume of official development assistance to African least developed countries should immediately increase substantially in real terms so that these countries can realize economic and social changes and make real progress in the 1980s. In that context, donors should:

- (i) make commitments to give financial and technical assistance to individual least developed African countries on a continuous and automatic basis and on highly concessional terms,
- (ii) streamline procedures of aid in order to reduce delays in approving projects and disbursing funds,
- (iii) adopt criteria for project evaluation and selection based on the conditions and needs of African least developed countries,
- (iv) refrain from using non-economic criteria in the allocation of aid,
- (v) create a mechanism to control the implementation by donor countries of their aid commitments,
- (vi) cancel all debts so far contracted by African countries without any discrimination.
- (vii) make greater efforts in granting aid in favour of the least developed African countries.

(b) that appropriate mechanisms be created urgently at the international level in order to finance the oil requirements of African least developed countries and to reduce the existing heavy burden on their balance of payments and the uncertainty in oil supply.

302. The forthcoming United Nations Conference on the Least Developed Countries offers an unprecedented opportunity to the international community to examine exhaustively and comprehensively the historical, geographical and prevailing economic factors relating to the least developed countries and to embark on an irreversible international process committed to real economic growth and justice.

303. It is therefore recommended that:

(a) the country programmes envisaged in the Substantial New Programme of Action for the Least Developed Countries should be built on the existing development plans and programmes which the African least developed countries have and should not disrupt them.

(b) for the purpose of the United Nations Conference in 1981, least developed countries should not be asked to prepare detailed programmes for the whole decade of the 1980s but rather to focus on the first five years of the whole decade of the 1980s.

(c) the United Nations Conference on the Least Developed Countries should not degenerate into an occasion which would require the poor countries to beg for aid. This would be contrary to the concept of world economic interdependence. The United Nations Conference should emphasize the need to take co-operative measures without delay to assist the least developed countries in their efforts to attain self-reliance and self-sustaining growth. The preparation and actual conference arrangement should take fully into account the sovereignty of participating States.

304. As far as the role of ECA during the Third United Nations Development Decade within the framework of the African Strategy in the 1980s is concerned,

ECA, as the main organ of the United Nations in Africa, is responsible for initiating and participating in measures for facilitating concerted action for socio-economic development in Africa. Furthermore, considering the Development Strategy for Africa for the Third United Nations Development Decade and the mandate given to regional commissions by the General Assembly in its resolutions 32/197 and 34/206 it is imperative that ECA be totally involved in the development process of African least developed countries particularly since about two thirds of the world's least developed countries are in Africa and comprise almost half the membership of ECA.

305. Accordingly it is strongly believed that:

(a) ECA has a special role to play in the monitoring, review and evaluation of the implementation of the Comprehensive New Programme of Action on behalf of least developed African countries in accordance with resolution 5 (iii) of UNCTAD Intergovernmental Group on the Least Developed Countries.

(b) With regard to the preparations for the forthcoming United Nations Conference on Least Developed Countries scheduled for 1981, UNCTAD has the paramount role as the global United Nations organ designated by the General Assembly to prepare for the Conference. Since, however, ECA is the regional Commission covering two thirds of the world's least developed countries, UNCTAD should work closely with ECA in the preparation of the Conference.

(c) While it is recognized that UNDP, specialized agencies and UNCTAD have a responsibility for resource mobilization at the global level, ECA should be involved in the various donor-recipient consultations including the country round-tables envisaged for the preparation of the country programmes.

306. In view of the large number of least developed countries in Africa and in order to ensure the effective monitoring, review and evaluation of regional and international activities on behalf of the least developed countries it is decided that a Conference of Ministers of African Least Developed Countries be instituted by the ECA Conference of Ministers as a subsidiary organ of the Commission. The sessions of this Conference should take place a few days before the ECA Conference of Ministers. Furthermore, in order to develop the capacity of ECA to undertake the substantial and continuous technical work that needs to be undertaken on behalf of the African least developed countries, it is necessary to strengthen the capacity of ECA secretariat in coping with the additional responsibility. Accordingly, a special unit within the secretariat of ECA responsible for the special problems of the least developed countries and monitoring the implementation of the special measures in favour of least developed African countries should be set up.

307. It is also recommended that ECA should expand its work on projection models for the least developed countries since these models are a useful tool for programming and policy formulation. It is further recommended that the annual Survey of Economic and Social Conditions in Africa should contain a special section on individual African least developed countries which should contain a review of the implementation of special measures in favour of the least developed countries.



308. There is need to review the present classification of least developed countries based on in depth study of the socio-economic conditions of all countries concerned. It is specifically recommended that a review of the socio-economic conditions of those African countries which have already requested to be included in the list of least developed countries, namely Djibouti, Guinea-Bissau, Equatorial Guinea, Sao Tome and Principe and Seychelles should be undertaken as a matter of urgency and that the procedure for identifying least developed countries should be expedited so that all these countries be identified as least developed.

309. The three criteria currently used to identify the least developed countries do not permit all aspects of the level of socio-economic development of these countries being grasped. It is therefore recommended that other socio-economic criteria be developed in order to better understand the situation of the least developed countries.

**ENERGY**

310. The African energy situation is disturbing. Energy consumption is rising faster and faster to the point of arousing serious anxieties about the continent's future energy supplies. The continuous rising petroleum prices have serious impact on the economies of African countries.

311. As far as African regional is concerned, the main problems are the following:

- the lack of a national energy policy in most African countries and of short-, medium- and long-term energy development programmes,
- the non-integration of energy activities in over-all national development planning efforts,
- the need to undertake an exhaustive inventory of all energy resources, having regard to their potentials, possible development and utilization including energy needs and suitable equipment,
- the urgency to undertake an inventory of the existing and needed manpower in Africa in the field of energy,
- the need for African countries to undertake joint action for the development and utilization of existing energy resources on the continent, for which co-operation would have to be initiated or expanded (where it already exists) in the energy field at the subregional and regional levels,
- lack of funds for the implementation of energy development projects,
- the need to intensify exploration of hydrocarbons and coal resources specially in those areas which had not yet been explored,
- the desirability of an increased use of hydrocarbons for the development of petrochemical industries and transport rather than for the production of electrical energy,
- the difficulties existing in Africa in the transportation of energy, the lack of standardization in the electricity sector, the shortage of qualified manpower (scientists, technicians and management cadres) and the exorbitant prices which African governments often had to pay for imported energy and equipment,
- the lack of a suitable framework for concerted action and co-ordination which had made it difficult to apply the recommendations made at earlier meetings on the subject of energy.

312. These points emphasize the urgency of the energy issue in Africa and the necessity to find out adequate short-, medium- and long-term solutions. These solutions can be defined within the framework of the following objectives:

- the availability of energy resources in Africa should be rapidly increased and in increasing quantities so as to ensure endogenous and self-sustained development;
- energy sources should be diversified;
- a solution should be found quickly to the problems of the supply of hydrocarbons so that the existence of the most disadvantaged African countries as sovereign States was not threatened;
- better living conditions should be provided for the rural areas by making better use of energy resources and by achieving self-sufficiency in food.

313. Taking into account the above-mentioned objectives, the following priorities can be outlined:

- development and utilization of fossil fuels (hydrocarbons, coal, lignite and peat);
- increase in utilization of the continent's hydropower resources;
- development of new and renewable sources of energy (solar, wind, geothermal, biomass and others);
- utilization of nuclear energy

314. A real political will capable of promoting a genuine co-operation and active solidarity should be asserted. It is in this spirit that the following plan of action is proposed.

#### PLAN OF ACTION

##### (a) Short-term

##### 315. Hydrocarbons supplies to African countries

- everything possible should be done to ensure stable and guaranteed supplies of oil to African countries;
- arrangements must also be made for African oil-producing countries to increase their assistance to other African countries wherever possible in the training of cadres and technical staff and in prospecting for an exploiting of oil deposits;

- it is also recommended that African experts should be placed at the disposal of member States who so desire in accordance with the 1973 OAU Declaration on Co-operation, Development and Economic Independence;
- with regard to oil prices and to demonstrate African solidarity, various ways of integrating the impact of oil prices particularly on the balance of payments, can be suggested, such as preferential tariffs, a compensation fund financed from African and possibly external contributions including the planned OPEC Fund to offset partially balance-of-payments deficits and finance development projects;\*
- the lack of storage and distribution infrastructure, the existence of middlemen and the shortage of senior technical staff should be noted. To reduce the risk of misdirection of supplies, there should be direct negotiations between producing and importing countries;
- to alleviate the difficulties caused by monetary transactions, it is suggested that the possibility be studied of importing countries being allowed to pay in local currency or to use bartering.\*

(b) Medium- and Long-term

316. Fossil fuels:

- intensification of geological and geophysical exploration in non-producing countries;
- evaluation of known hydrocarbon resources and their potential;
- offshore exploration for hydrocarbons;
- development of known coal-bearing areas and exploration of new regions with similar geological conditions;
- assessment of coal reserves and integration of coal utilization in national energy planning;
- establishment of machinery to co-ordinate activities and formulate policies for national development and utilization of hydrocarbons;
- establishment of training and research institutions in the field of fossil fuels exploration, development and utilization.

317. Development of hydropower resources

- inventory of hydropower resources in all African countries taking into account their integrated utilization such as electricity production, irrigation, fisheries, navigation, etc.;
- surveys of hydroelectric power plants and master plans at the scale of whole river basins for an optimum exploitation of the resources, which should include rural electrification;

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\* Reservations from Algeria and Nigeria were noted by the Conference.

- development of economically attractive small-scale hydroelectric power schemes for rural areas;
- need for neighbouring countries to exploit hydroelectric installations jointly. In that connexion, certain commonly neglected parameters should be taken into account such as the need to protect the environment, health problems and the relocation of the people who had had to be moved;
- evaluation of the needs to be satisfied since the investment required is large. As far as the conveyance of energy over long distances was concerned, the advantages of direct current should be considered in the future;
- study on internationalizing the status of installations from the point of view of ensuring safe supplies of electrical energy;
- when finance was being sought, projects should be given a subregional and possibly regional character so as to make better use of the priority often given to undertakings of that type;
- in the search for solutions to the energy problem, priority should be given to sites with great hydropotential, since their enormous potential would make it possible to consider interconnecting a large number of African countries;
- establishment of national boards for rural electrification;
- promotion of standardization in power supply equipment and expansion of interconnexion of grids (including a decrease in number of existing voltage levels);
- manufacture of electrical equipment suitable to the needs of African countries by utilizing local raw materials.

318. Development of new and renewable sources of energy

- intensification of geothermal exploration with the use of modern exploration methods;
- continuation of scientific and technological research for industrial application of geothermal resources as a source of generating electricity, for heating, cooking processes, extraction of minerals and production of water and steam;
- establishment of geothermal power-generating pilot plants;
- surveys of the possibilities and feasibilities of harnessing tidal, waves and ocean thermal energy including research into the techniques to be used for such forms of energy;

- intensification of research on economic conversion of solar energy into mechanical or electrical energy; examination of potentialities of solar heating systems and solar distillation of saline water; development of instruments for measuring solar radiation and establishment of modern stations;
- establishment of subregional and regional machinery for co-operation and co-ordination of solar energy activities in Africa.

319. Utilization of nuclear energy

nuclear-fuel-producing countries should think of conserving their resources for the future;

- the necessary technical cadres should be trained and research encouraged so as to follow technological developments in the field and be able to make the right choice when the time comes;

future thought should be given to using the uranium produced in Africa as a source of energy by building nuclear power stations in the form of joint projects among neighbouring countries in view of the size of the plants which would probably be available.

MODALITIES FOR IMPLEMENTATION

320. In order to rapidly and efficiently implement the proposed plan of action it is recommended:

(i) Urgent establishment of an African Energy Commission\* responsible for:

(a) co-ordinating all activities being undertaken in the field of energy in Africa, assisting African States in the formulation and co-ordination of energy policies and programmes and in disseminating of data and information pertaining to the energy on the continent;

(b) promoting the preparation as a matter of urgency, of an exhaustive inventory of all energy resources on the continent;

(c) promote the establishment of an African Nuclear Energy Agency with a view to follow development in nuclear technology, formulate and harmonize nuclear energy development programmes in Africa and provide manpower training in the nuclear field;

(d) promote the establishment of a Regional Geothermal Energy Centre, to assist African countries to explore and exploit their geothermal resources;

(e) to establish an appropriate framework for the implementation of recommendations made at earlier meetings in the field of energy.

\* Reservation from Nigeria was noted by the Conference.

- (ii) Possible establishment of an African Energy Development Fund, designed specifically to finance the implementation of energy projects in Africa.
- (iii) Urgent establishment of a Regional Solar Energy Centre the objectives of which are outlined in the constitution, already approved by the ECA Fifth Conference of Ministers, held in Rabat in March 1979. In this connexion, it is urgent to invite the member States to accelerate the signature of the said Constitution in order to make the Centre operational as soon as possible.
- (iv) Particular attention should be paid to renewable energy resources, such as solar energy, wind energy, biomass and geothermal energy, and research and development in these fields should be intensified.
- (v) Special attention should be given to reforestation following the intensive use of wood for heating and of charcoal as the main sources of energy.
- (vi) The highest priority should be given to the use of hydroelectric resources, particularly by developing small hydroelectric power stations.
- (vii) National arrangements for controlling and managing activities involving hydrocarbons should be strengthened.
- (viii) The African countries should take joint action to develop and use the energy resources available in the continent, through co-operation, and solidarity, with a view to safeguarding their economic development and survival.
- (ix) Priority should be given to the rapid implementation of the recommendations and resolutions already adopted on energy problems.

## XII. WOMEN AND DEVELOPMENT

### I. Introduction

321. The sixth meeting of the Conference of Ministers took note of the report of the Second Regional Conference on Women and Development and the strategies proposed.

322. It recognized the importance of integration of women in the development process and requested that information regarding women's programmes be disseminated as widely as possible.

323. It was pointed out that action taken during the first half of the Women's Decade was not enough in spite of the efforts which have been made within the Region.

324. It was agreed that the strategy relating to women should include the following fields: agriculture and nutrition, handicrafts and small-scale industries, employment, education and training, science and technology, trade, natural resources especially water supply, energy, health and family life, population, research, mass media and establishment of national and subregional machineries for integration of women in development.

325. Steps should be taken to include women in higher administrative and policy making levels.

326. Steps should also be taken to lessen the domestic burden of rural women and also provide supporting services for women workers.

327. Considering the many sectors which should be covered, the following fields have been chosen for the period 1980-1985:

### II. National Machineries

328. To make these machineries functional it is necessary for governments to provide adequate resources and technical personnel. The experience gained indicate that the variety of socio-political and economic structures of member countries necessitates a less rigid formula for the establishment of these machineries. Provided that the organizations established for the needs of women are functional, technically competent and reach rural women, they should be considered adequate. A strategy that should complement the establishment machineries is the promotion of Women's Unit in planning



ministries and commissions to feed and monitor national development plans, with data on women and to integrate a plan of action in national strategies. The establishment or strengthening of the Women's Unit in collaboration with member States will be a major preoccupation of ECA in the second half of the Decade.

329. The Strategy for 1980 - 1985 will involve the strengthening of the Women's Programme of each MULPOC by provision of manpower and resources for projects. Assuring their research capabilities will be given high priority. The part of co-ordinator of women's programmes should be strengthened, making it the major channel of communication between the countries of the subregions and ATRCW.

330. ATRCW strategy is to include a women's dimension in the different divisions of the ECA. The Centre will endeavour to use existing research and training institutes within the Region as additional instruments for the implementation of its programmes. ECA will assist both (a) in the development of programmes in institutions directed to women and (b) in the introduction of programmes which meet the special needs of women, such as development planning and upgrading intermediate rural workers. Some of the institutions concerned include PAID, ENDA, CAFRAD, the Arusha Management Institute and the Centre for African Family Studies.

331. Since data collection remains an important tool for planning, ECA/ATRCW will co-operate and co-ordinate its activities with Centre for Social Development and Humanitarian Affairs and with the International Institute for Training and Research for Women.

### III. Education and Training

#### 332. Planning and Policy Implications

(a) All projects for increasing and diversifying the education and training of women and girls must be planned and executed within the context of overall national planning for manpower needs;

(b) National educational policies and programmes must take due cognizance of the national economy and employment objectives in order to provide education and training geared to equipping women for effective participation in the economic life of Africa. The new international (c)

economic order should be taken into account in preparing national education and training policies.

333. Formal Education

(a) Special efforts should be made to ensure that girls with the ability to advance to higher levels of education or specialized training receive education and training suited to their aptitudes, with the help of special bursaries for those whose parents could not meet the costs.

(b) Special subjects in nutrition, family law, and sex education, for example, should be introduced to both girls and boys.

(c) In the fight against juvenile delinquency, out-of-school activities improvement of playgrounds, cinema clubs, etc. should be developed further, manual and cultural activities should be given their proper place in intellectual training and in order to develop a sense of what is good and beautiful.

Literacy

334. (a) Because illiteracy among women constitutes that major obstacles to their participation in economic life of Africa, dynamic programmes to eradicate illiteracy should be adopted and target dates set for its elimination.

(b) In literacy campaigns the emphasis should be on functional literacy and numeracy and on the teaching of subjects which are of special interest to the community.

(c) In accordance with the Algiers Cultural Charter, functional literacy programmes should be conducted in national languages. In this connexion an appeal should be made to UNESCO to provide the national institutions with teaching materials adapted to teaching national languages.

(d) Cheaper transistor radios and inexpensive graded literature for mass education should be made available. Radio and television programmes should also include more items on the civic and political education of women.

335. Adult Education

(a) Adult education programmes should be geared towards increasing awareness and full participation of women in modern world of science and technology.

(b) Women should be encouraged through adult education programmes to take part in trade unions and to be informed of their civic responsibilities.

(c) Adequate facilities should be made available in the community for

women to continue their education with opportunities made available in such fields as nutrition and family health.

### Training

336. (a) The number and variety of vocational institutions for women should be increased bearing in mind the difference in the level of education, those who have no education at all, the existing employment opportunities and future job opportunities in the light of growing industrialization and technological advancement.

(b) Vocational training should be encouraged and valued.

(c) The training of agricultural extension workers, social welfare workers, community development officers and other rural workers should be carried out keeping in mind the needs of rural women.

(d) Emphasis and priority should be put on the training of trainers with equal access for girls and boys at all levels, giving special consideration to appropriate agricultural technology.

(e) Training should be offered to women in the field of promoting management and administration of co-operatives.

### 337. Training for formal and informal employment in business, commerce industry and handicrafts

(a) There should be more in-service training for women already at work in order to prepare them for the supervisory and managerial posts. Chamber of Commerce and industry should participate actively in providing more opportunities for such training.

(b) Women should be trained in all aspects of running small-scale industries and of trade management, marketing and co-operatives, by holding conferences, seminars and organizing course for the exchange of experience among countries.

(c) The apprenticeship system in handicrafts training should be encouraged.

### 338. Training women for their multiple roles

(a) Vocational training institutions should adapt their programmes and schedules to the multiple roles of women as wives, mothers, citizens and workers.

(b) Leadership and internship programmes to be encouraged so that women take an active role in village activities.

#### IV. Employment

339. Rural Areas: Governments are beginning to pay attention to the economic roles of women in the rural areas and measures are being undertaken to improve this contribution. Nevertheless, the situation of rural women does not seem to have undergone much improvement since 1975. Lack of accessibility makes it impossible for information and training to reach many rural women and lack of transport and assured markets for their farm produce and handicrafts tend to decrease their productivity.

340. The Regional Food Plan emphasizes the importance of roles women can play in the promotion of substitute foods, in changing eating habits and in nutrition education. In conjunction with the Regional Food Plan, to strengthen the Plan of Action regarding women's labour in rural areas, the following strategies are suggested:

- Based on continuous research to promote the recognition and documentation of women's contribution to agriculture as a productive activity contributing to the gross national product, especially in terms of food supply;
- In national plans to recognize women as vital instruments for solving the food crisis and make deliberate provisions to upgrade women's skills and lessen their labours;
- In the choice of appropriate technologies to make women's work more productive and less onerous, improve traditional techniques in food preservation and storage.
- Devise appropriate training programmes to familiarize women with new and improved technologies suited to their situation and resources.
- To give priority attention to employment in rural areas in order to keep there those young women who, to escape the hard and dull life in the countryside, go off to seek adventure in the cities, where they swell the numbers of the unemployed.

341. Special attention should be paid to the development of women's co-operatives, in particular those dealing with agricultural marketing, labour and production. More female extension officers should be trained.

342. Urban areas: The women who work in urban areas are either self-employed in trade and business or in paid employment. Despite legislation and constitutional provisions to the contrary, many employers continue to prefer men to women in certain fields and in higher categories of employment where

decisions are made. Possibilities for women's self-employment could be increased by the provision of guarantee or loan funds for small and medium-scale enterprises in urban and rural areas. The following strategies are suggested:

- (a) Provision of relevant education and training,
- (b) Provision of credit facilities and seed capital to enable women to be self-employed
- (c) Campaign for the change of attitudes and traditions relating to women and employment;
- (d) Maternity benefits should be provided to both women and girls;
- (e) Government commitment at planning levels to the improvement of women's contribution in employment by including measures for employment of women in all national plans;
- (f) It is necessary to improve the provision of present labour laws concerning women workers in rural and urban districts;
  - Trade unions should be asked to train young women workers
  - States should prepare a labour and welfare legislation code adapted to African conditions, and ensure its implementation.

343. In-service training and refresher courses organized by employers should take into consideration the family responsibilities of women employees and adequate provisions should be made in this regard.

#### V. Communications and Mass Media

344. In this subject the Plan of Action (Regional and World) remain useful guides for constructive selection of priorities within the realities of national plans and budgets. Beyond the Plans thought must be given to the following areas in the 1980s:

- (a) Training of women for careers in journalism, and specialized training for journalists in the particular problems of women.
- (b) Increasing women's access to the media.
- (c) Establishment of subregional and regional networks for information exchange among women and government policy organs.
- (d) Analysis of folk media and developing a systematic adaptation of these media in promotion integration of women in the development process.
- (e) More exchanges of experience should take place among the countries of the Region.

## VI. Health, Nutrition and Family Life

345. The following are suggested strategies for the future:

(a) Encourage research on and promotion of traditional medicine so as to alleviate the dependence on foreign imported drugs; promote the local manufacture of necessary pharmaceuticals. Measures should be taken to prevent the dumping of dangerous drugs in African countries.

(b) Upgrade training of traditional midwives and family health workers. Recruitment and training should be undertaken at the village level to prepare villagers as health workers to provide basic health services for their community.

(c) Strengthen centres for training health personnel and research, paying attention to the techniques of organizing primary health care.

(d) Strengthen maternal and child health centres by expanding their trained staff, and increasing their material means to make proper use of local products.

(e) In order to help physically handicapped persons, national centres for the rehabilitation and integration of such persons in the economic system should be established.

(f) Encourage analysis and exchange of country experiences through analytical case studies particularly in the following fields;

- approaches and models which have had good results.
- methods and techniques of obtaining the active involvement of communities.
- methods of identifying, training and evaluating community health workers.

(g) Develop appropriate technologies to ensure the provision of adequate and safe water supplies.

(h) Encourage both men and women to take interest in better methods of producing food crops to improve the nutritional status of the community.

(i) Establishing appropriate child-care facilities for pre-school children, managed by well-trained staff including a systematic programme of training day-care workers.

## VII. Population

346. Any population programme attempting to improve the quality of life should stand on a firm knowledge base that covers the most important social, economic and demographic factors related to the family. Although some research has already been undertaken, the following are some topics on which research should be encouraged:

(a) Research on population characteristics (micro and macro), and perceptions of these characteristics in selected countries to provide a comprehensive knowledge base for programme content in these countries. This could be handled on inter-country basis.

(b) Research on socio-economic and cultural factors impinging on, or influencing, the growth and development of concepts related to population and other socio-cultural issues.

(c) Research on the identifiable sources from which concepts which are population-related or based are learned (e.g. family, peer groups, other adults, the mass media, etc.).

(d) Research on communication channels suitable for the diffusion of new innovations and population concepts.

(e) Research on effective values, beliefs, taboos and traditions which control decision-making processes in the family in selected countries, and the ways in which levels of understanding of population issues affect these values and attitudes.

(f) Research on government and public reinforcement contingencies with population implications in selected African countries.

#### VIII. Research, Data Collection and Analysis

347. The areas identified for study in the Plan of Action remain valid, particularly in light of the fact that few national censuses and surveys have been undertaken since 1975. When they are about to commence, it is important to stress to national directors of statistics the need for breakdowns by sex in order to identify areas for action relevant to women, particularly in the subtheme areas of employment, health and education. The lack of such sex breakdowns has in the past hindered identification of the special needs of women.

348. More research needs to be done on women as food producers, on cropping methods used by women and possibilities for introducing improvements, on poor (urban and rural) women who perform multiple roles and on women as heads of household, in view of the new development emphases since 1975, particularly in agrarian reform and rural development as well as alternate development and the New International Economic Order. Research should be done on the following fields:

- Study of self-help methods in the urban and rural areas;
- Research on data collection system in sectors such as agriculture, small businesses, etc.
- Study on conservation and storage methods;
- Study of integrated development projects to establish areas of integrated development through the better exploitation of family plots.

349. In order to implement the activities spelled out in the Plan, the following strategies are suggested for the remainder of the Decade:

(a) Co-operation between existing research institutions, specialized non-governmental organizations (such as the Association of African Women for Research on Development - AAWORD), international agencies and the ATRCW to further common research aims.

(b) Establishment and promotion of research wings of national machineries, with stress on assuring their technical capabilities to undertake research in line with national priorities.

(c) Encouragement of the collection of annotated bibliographies and dissemination of research results and their translation into action programmes through the fostering of Region-wide information networks, emphasis on the role of the ATRCW as a clearing-house for information on women and development in the Region, and the establishment of effective mechanisms for the exchange of information between the Regional Commission, the Subregional Committees on the Integration of Women in Development at the MULPOCs and member States.

(d) Further research on changing attitudes towards the full participation of women in all aspects of society, and the spreading of the results of this research through, inter alia, the establishment of small information/communication units in institutions involved with research.

(e) Emphasis should be placed on the exchange of information on economic changes and their impact on women, along with measures to be taken to overcome negative impacts, in accord with the themes of the New International Economic Order.

#### IX. Legislative and Administrative Matters

350. Strategies for the future should be directed to:

(a) Establishment of appropriate bodies to be responsible for monitoring and reviewing the implementation of equal treatment provisions in the laws; infringement of these laws should be punishable.

(b) The standardization within each State of the various legal systems governing marriage, personal relationships in the family and inheritance in order to eliminate existing discrepancies and inconsistencies.

(c) One of the reasons why many women shy away from enforcing their rights is the fear of the intricacies and expenses involved. Free legal aid centres staffed by lawyers who are committed to the principle of equality between the sexes should be established in low income urban and rural areas. These should include free consultation and discussion hours. Such offices should inform women of their rights.

(d) Re-orientation of law enforcement agents to the need of strictly enforcing equal treatment provisions.

(e) Publication of rights and duties of both men and women in the society and as husbands, wives, fathers, mothers in the home. This should be done through campaigns in the mass media as well as through wide circulation of booklets on these issues.



(f) Women and girls should be more aware than men of the disadvantages of the institutions such as polygamy and payment of bride-price and of the diminution of status in marriage caused by these practices and should recognize that they themselves must take steps to eradicate old customs, traditions and prejudices which tend to give women an inferior position in the family. Women's organizations must therefore as a matter of priority make extensive use of discussion forums as well as of other modern techniques of mass education and communication to educate public opinion on the values of women as human beings.

(g) Special attention should be paid to the legal situation of women under apartheid, through promotion of legal defense funds among other means.

(h) Basic family codes should be prepared in countries where they do not yet exist.

(i) Involvement of women in the law-making process in order to ensure that legislation is better adapted to current realities.

### XIII. DEVELOPMENT PLANNING, IMPLEMENTATION AND MANAGEMENT, INCLUDING STATISTICS AND POPULATION

#### Planning

351. The poor performance of the African region in the 1970s and the bleak prospects in the 1980s if past policies and trends continued is a cause of great concern. Therefore, the planned scenario proposed by the ECA secretariat for the African region in the 1980s which is in line with resolution 332(XIV) of the fifth meeting of the Conference of Ministers/ fourteenth session of the Commission and endorsed by the OAU Summit at its last session held in Monrovia in 1979 is sound and challenging.

352. According to the planned scenario, developing Africa is projected to grow by around 7 per cent per year in the 1980s. The major oil exporting countries which constitute over 40 per cent of the total GDP of Africa are projected to grow by about 8 per cent while the non-oil exporting countries were projected to grow by around 6 per cent yearly in the same period. The over-all growth has other consistent sectoral growth targets and has various policy implications. Agriculture would have to grow by 4 per cent yearly while manufacturing would have to attain a growth rate of 9.5 per cent in the period 1980-1990. Exports would also have to expand by about 7 per cent yearly in real terms while imports would have to be maintained at growth rates of less than 8.2 per cent yearly implying a reduction in the import elasticity to less than 1.2.

353. It is necessary to put into practice in the 1980s the concept of collective self-reliance at subregional and regional levels especially in the field of self-sufficiency in food, trade, industry and in financing development. Every effort should be made in promoting regional co-operation and physical integration through the rapid implementation of the United Nations Transport and Communication Decade for Africa, especially for landlocked and island African countries.

354. For the 1980s, emphasis should be given to the development of agriculture and agro-based industries, development of socio-economic infrastructure, African co-operation and eradication of mass poverty, unemployment, under-employment and the satisfaction of basic needs.

355. African countries should accord high priority to a complete and in-depth survey of their potentials in natural resources especially in agriculture, mining, energy, water and environment.

356. In agriculture, individual African countries are urged to draw up food production; efforts would have to be directed towards land reform, appropriate mechanization, remunerative prices for agricultural products, establishment of efficient storage facilities, distribution and processing of agricultural products, better utilization of human resources, and development of scientific research centres related to adequate extension services.

357. For industry and particularly for large-scale industries (e.g. iron and steel, metal, chemical and petro-chemical industries) capacity utilization studies are needed as a basis for national resource mobilization and allocation for such projects at subregional and regional levels. Similarly, also it is necessary to identify types of import substitution industries which can best be undertaken at multinational levels.

358. In the energy sector, modelling work should be undertaken on the supply and demand of energy in the African region and short-term and long-term projections be carried out so as to enable the building-up of a regional energy programme in the field of production, consumption and conservation.

359. Africa should establish a regional system for domestic resource mobilization for development and, as a starting point for such system, it is proposed that appropriate mechanisms be established for mobilizing and channelling resources from surplus African countries - particularly the oil-exporting surplus countries - to the deficit countries and especially the African least developed countries.

360. Action should be taken to reinforce measures to redress drought and desertification.

361. In transport, the opening up of land-locked countries must be considered as a priority and a fundamental stage in the physical and economic integration of the African region.

362. In technology emphasis has to be put on the acquisition, development and utilization of labour intensive techniques and to take this aspect into consideration during the selection and implementation of projects.

363. In Plan formulation and implementation appropriate steps should be taken to ensure the strengthening of the planning machinery at the national level and a greater integration of national plans within subregions. This would facilitate the concretisation of collective self-reliance.

364. Greater political backing should be given to the implementation of development plans and all efforts aimed at efficient management of the economy.

#### Statistics

365. As a matter of urgency, African countries must strengthen their statistical infrastructures as a basis for effective policy-making and planning. In this connexion, they are urged to formulate statistical development programmes and these should be included in national development plans. These programmes should incorporate a list of data requirements in line with its needs and priority.

366. In order to mobilize external resources for the implementation of the African Household Survey Capability Programme, the 1980 round of Population and Housing Censuses and the System of National Accounts, African Governments should reaffirm their priorities in these programmes and provide the necessary counterpart financial support.

367. Each Government should institute appropriate mechanisms for collection, processing, evaluation, analysis and dissemination of data. These mechanisms should ensure proper linkages between data collectors, analysts and users.

368. It is desirable that a statistical data base for the storage and retrieval of information be established in individual countries.

#### Population

369. Appropriate machinery should be established where necessary to ensure the greater integration of population variables in development planning, bearing in mind the expected doubling of the regional population between 1975 and 2000 and the impact on economic planning and development.

370. African countries should attach more importance to analysis of relevant demographic data from both the 1970 and 1980 rounds of censuses and other demographic surveys.

371. Nationals must be trained to undertake the collection and analysis of demographic data. In this regard support should be given to the existing training centres.

372. Better collaboration is needed between demographers, planners and statisticians in their work at the national level and mechanisms should be deliberately established for this purpose.

373. The current excessive rural-urban migration calls for the establishment of a programme of planned distribution and re-distribution of population, tied to policies and programming for human settlements and integrated rural development.

374. The current levels of fertility and mortality are of concern. The resultant high rates of growth have implications for meeting the needs of a majority of the population.

## ANNEX I

## AGRICULTURE

## SUMMARY AND RECOMMENDATIONS

A. The problem

1. Over the last two decades, the food and agricultural situation in Africa has undergone a drastic deterioration. Today, each person in the region has, on the average, considerably less access to food than was the case ten years ago, and average dietary standards have fallen below nutritional requirements.
2. In the face of a rapid growth in population and urbanization, food production in Africa has tended to stagnate. Indeed, average food production per person has steadily declined since 1960.
3. This alarming trend reflects an insufficient increase in areas cultivated and in yields. These, in their turn, have resulted from inadequate spread of improved technology, damage caused by disease and pests, lack of infrastructure, inadequate incentives, inappropriate research, poor extension and other services, recurring droughts, and, more fundamentally, social and political constraints.
4. Not only has food production failed to match population growth and urbanization, but also losses of food during and after harvest have seriously reduced the amount of food available to the population. Mechanical and biological damage leads to a loss, every year, of at least 10 percent of the total grain harvest, and as much as 50 percent of the harvest of some perishable foods. These losses are due to late harvesting and improper drying, transport, storage and processing practices.
5. Regarding livestock, significant losses occur during trekking to consumption centres, during slaughtering, and in the handling of meat and other livestock products including small stock. All this is additional to a calf mortality rate which is as high as 50 percent in some countries. Losses in livestock and livestock products are due, principally, to lack of veterinary care, inadequate attention to animal tracks, deficient slaughtering facilities, and backward post-slaughter processes.

6. Some 500,000 tons of the total annual fish catch in Africa are lost every year due to poor storage, handling and curing. In rich marine areas catches by African countries are still below one third the total harvest. In addition, large quantities of fish are discarded at sea by trawlers.
7. The supply of food in Africa is not only grossly inadequate but also highly insecure. Most countries of the Region frequently experience acute food shortages, and starvation is a permanent threat in many parts of the continent.
8. The shortfall in food production, coupled with high levels of post-harvest losses and periodic severe shortages, has led to rapidly increasing dependence on food imports. The resultant drain on foreign exchange resources constitutes one of the major constraints retarding the development of African economies.
9. The evolving ~~over~~-all energy situation may result in increased dependence on the already strained traditional sources of fuelwood, with consequent depletion of the forest cover and environmental degradation over larger and larger areas whose potential for food production is thus compromised.
10. At the root of the food problem in Africa is the fact that Governments have not usually accorded the necessary priority to agriculture in the allocation of resources, despite the sector's dominant importance for the livelihood of the population of the region. Nor have they given sufficient attention to policies for the promotion of productivity in agriculture. Participatory rural development has remained largely a slogan and, in much of the Region there is no evidence of significant alleviation in rural poverty.

B. Recommendations

11. For an improvement of the food situation in Africa, the fundamental requisite is a strong political will to channel a greatly increased volume of resources to agriculture, to carry through essential reorientations of social systems, to apply policies that will induce small farmers to achieve higher levels of productivity, and to set up effective machineries for the formulation of relevant programmes and for their execution. New dimensions of inter-country ~~co-operation~~ are called for, but primary responsibility for a breakthrough in food and agriculture lies with individual Governments operating in their respective national contexts.

12. Over the years 1980-85, the objective should be to bring about immediate improvement in the food situation and to lay the foundations for the achievement of self-sufficiency in cereals and in livestock and fish products. Priority action should be directed at securing a substantial reduction in food wastage, attaining a markedly higher degree of food security, and bringing about a large and sustained increase in the production of food, especially of tropical cereals. Urgent measures are recommended in each of these areas.

Food losses

13. The objective should be to make significant progress towards the achievement of a 50 percent reduction in post-harvest losses.

14. Recommended action includes:

- careful assessment of the extent of food losses;
- formulation of national policies for food loss reduction;
- mass media campaigns to educate the public on methods of reducing food waste;
- construction of appropriate storage and other facilities;
- establishment of central technical units;

ANNEX I

- promotion (through research, infrastructural development, and incentives to farmers and fishermen) of improved methods of drying, preservation, storage, pest control, and processing;
- improvement of livestock routes and holding grounds;
- training of technical staff for food loss control work, preferably through subregional/regional institutions, seminars and workshops.

Food Security

15. Most African countries should aim, as a first step, at setting up national strategic food reserves of the order of 10 percent of total food production.

16. Urgent steps should be taken by every African country to adopt a coherent national food security policy. National policies must be translated into concrete actions such as early construction of storage facilities, creation of grain reserves, improvement of grain stock management and better forecasting and early warning systems.

17. The need for collective self-reliance will require subregional food security arrangements similar to the one initiated in the Sahelian zone. In addition, it is recommended that African countries should examine the feasibility of setting up an African Food Relief Support with a view to assist member countries in times of food emergency.

Food Production

(a) Food crops

18. For most African countries, the principal immediate goal should be to bring about a very rapid increase in the production of the tropical cereals (rice, maize, millet and sorghum) with a view to replacing a sizeable proportion of the wheat and barley that they import at present. The production of these latter two cereals should be encouraged in countries which have the potential.

19. Areas in which urgent action is recommended include:

- promotion of better agricultural practices, particularly the intensive use of improved input packages and plant protection measures;
- modification of the techno-economic structures of production so as to provide the small farmers with the necessary incentives to increase production;
- better utilization of water for irrigated cereals on on-going irrigation schemes, and initiation of new schemes;
- soil and water conservation;
- flood control and drainage;
- intensification of the use of improved hand tools and draught animals, and promotion of mechanized farming where justified;
- physical infrastructural development, including the building of small bridges, dams, access and feeder roads and the improvement of educational, health and other social facilities, much of which at this stage should, as far as possible, be undertaken through voluntary self-help participation.

(b) Livestock

20. The main areas in which increased support is recommended in the immediate future are:

- training: establishment of subregional training centres and workshops on livestock production, slaughterhouse practices, and poultry and small stock development;
- animal health: establishment of specialized trypanosomiasis control units, improving productivity of trypanotolerant breeds, and integrated development of areas freed from tse-tse; establishment of vaccine production facilities and an effective regional quarantine system; establishment of subregional research centres in tick-borne disease; and improvement of laboratory services and disease surveillance systems;



- controlled grazing and range management;
- development of animal feedstuffs; and
- infrastructural development.

(c) Fisheries

21. The target should be to increase annual fish production from African waters by one million tons by 1985, which should permit a rise of one kilogram in the level of average annual fish consumption per person between now and 1985.

22. The measures recommended are:

- development of industrialized off-shore fleets (where justified by resource availability) and increased productivity of artisanal fisheries;
- expansion of aquaculture;
- improvement of communications between landing points and markets, especially inexpensive feeder roads to fishery communities;
- investment in shore-based infrastructure, in particular storage facilities;
- expansion of **interregional** trade in fishery products;
- encouragement of subregional **co-operation** in the assessment of the fish potential, especially where common stocks are concerned as well as for international lakes and river basins;
- formulation of joint schemes for the rational exploitation and management of subregional fish stocks;
- review and, as necessary, re-negotiation of existing fishing agreements.

(d) Incomes and price policy

23. It is strongly recommended that governments undertake the formulation and application of effective and coherent policies to ensure that prices of farm inputs and farm produce provide an adequate incentive for increasing food production particularly by small farmers, while safeguarding the interest of the poorer consumers at the same time. Similarly, the individual activities entailed in the recommended programme of action should be designed and implemented with a view to ensuring a beneficial income distribution impact on the rural poor.

Forest production

24. The objective should be to integrate forestry more closely with agriculture, to ensure adequate supplies of fuelwood and to increase the contribution of forest resources in industrialization.

25. The most urgent actions that need to be taken for the development of forest production in Africa are:

- organization of inventories of national forest resources;
- intensification of programmes for integrating woodlots and trees in land use and agricultural practices at village and farm levels;
- expansion of areas under forestry regeneration programmes by 10 percent per annum up to 1985, with special attention to community woodlots and agro/forestry;
- expansion of forest reserves by 10 percent over the next five years;
- a progressive ban on exports of unprocessed logs with a view to reducing them, by 1985, to 50 percent of their present level;
- preparation and launching of a regional plan for the development and harmonization of forest industries;
- strengthening of existing regional bodies dealing with forestry;
- increased training at national and regional levels of forest professionals, technicians and guards;

- expansion and inter-country co-ordination of applied research programmes.

#### Agricultural services

26. Strong institutions should be developed for rural development planning and monitoring, data collection, provision of agricultural credit and inputs, efficient transport, marketing, agro-industrial development, and storage and processing.
27. Training efforts should concentrate on extension workers who should, in turn, focus their work on rural youth. Extension institutions, especially farmer training centres, need to be strengthened.
28. National research systems should be strengthened, as also inter-country co-operative research programmes. Agricultural research work should be geared so as to support the objective of food self-sufficiency, and liaison between research and extension should be made more effective.

#### Resources

29. Total investments required over the 1980-85 period for the implementation of the proposed programmes amount to about US\$ 21,400 million, at 1979 prices. In addition, expenditures for inputs would rise by about US\$ 560 million over the same period.
30. It should be desirable to aim at financing at least 50 percent of the investment requirements with domestic resources.

#### Implementation and monitoring

31. As an initial step, Governments should determine the manner in which the foregoing recommendations should be applied in the specific contexts of their respective countries. In carrying out this task, Governments may avail themselves of the services of Inter-Agency Strategy Review Missions which should be set up for this purpose.

32. High priority should be given to building up national capabilities in the identification, preparation, execution, monitoring and evaluation of agricultural development projects. FAO, in co-operation with ECA and other relevant agencies, should expand its training programmes in this field. Regional and subregional seminars/workshops should also be organized.

33. African countries should expand their economic and technical co-operation in food and agriculture through increased trade, exchange of manpower technology, and joint development programmes at the subregional and regional levels.

34. Governments should set up specific yearly goals for food and agriculture, and set up effective national and regional machineries to monitor progress towards them. At the regional level, monitoring could be an inter-agency exercise involving OAU, ECA, FAO and WFC.

## I. INTRODUCTION

1. An Inter-Agency Working Group comprising representatives of OAU, ECA, ADB, IFAD, WFC, and FAO convened in Addis Ababa and Rome in February 1980 to determine the broad framework of a Programme of Action for food and agricultural development in Africa during the first half of the 1980s, to be considered by the Economic Summit meeting of the Heads of State and Governments of the Organization of African Unity (Lagos, 1980). This document, which is the report of the Working Group, presents the main elements of such a Programme.
2. Although the focus of the report is on food self-sufficiency and security, this is not intended to belittle either the importance of non-food commodities or the other critical tasks facing African agriculture, but, rather, to confine attention to the problems of the most immediate concern to the welfare of the peoples of the continent.
3. The document attempts, in a realistic manner, to highlight the problems of food in the African region as a whole and offers recommendations on some of the major action programmes that are feasible at the national, subregional, and regional levels as a minimum package to halt and, if possible, reverse, within 1980-85, the alarming trends of the Sixties and Seventies.
4. Further, the document attempts to estimate the resources required and to suggest ways and means of implementing and monitoring the recommended programmes and activities through concerted and co-ordinated efforts of the African governments, intergovernmental organizations in Africa as well as international organizations of the United Nations and bilateral agencies, with a view to achieving maximum effectiveness of these programmes.
5. Due to the dearth and unreliability of statistical data on African countries, only orders of magnitude could be considered. They, however, distinctly portray the enormity of the task ahead.
6. The food situation and problems in Africa differ from one country to another. Thus, the framework that this document presents for increased food self-reliance in Africa is, of necessity, only an indicative one, within which national Governments should formulate and execute policies and programmes that are country-specific.

## II. THE CHALLENGE OF FOOD AND AGRICULTURE IN AFRICA

7. African Nations face a grave food and agriculture situation which threatens their very survival in an environment that nature has, in many respects, endowed generously. The future social and political stability, the much sought economic independence and the entire economic development of Africa will be sadly frustrated if urgent steps are not taken to improve the state of food and agriculture in the continent.

8. Agriculture is the direct source of livelihood for the great bulk of the African populations; it is the mainstay of African economies; and it provides the principal means through which the continent participates in the world economy. Practically all development that has taken place in Africa during the past has had its roots in agricultural activity. Over the past decade or so, however, there has been an alarming slowdown in the growth of agricultural production in Africa. This deceleration has been most dramatic with regard to food production.

9. During the 1970s, African agriculture failed, by ever-widening margins, to produce sufficient food for the population of the region. While population increased at a rate approaching 3 percent every year, and urbanization proceeded at unprecedented rates, food production merely inched ahead. A negative annual rate of increase in average food production per head of population (-0.7 percent) during the sixties worsened (-1.1 percent) during the seventies.

10. This decline is attributable to an insufficient expansion in cultivated areas, and persistently low yields. These, in their turn, have resulted from inadequate spread of improved and adapted technology, disease and pest damage, lack of infrastructure, inadequate and inappropriate research, poor extension and other services, recurring droughts, and, more fundamentally, social and political constraints that inhibit the flow of resources to agriculture and militate against enhanced productivity in the sector. Very little has been done to improve the socio-economic condition of rural dwellers in Africa who make up 80-90 percent of the population of the Continent. By and large, they subsist on uneconomically small holdings or as landless labourers. The rural dweller remains a citizen only

in name; he is often neglected and forgotten especially in the distribution of the national revenue to which he is usually the first and most dependable contributor.

11. Food supply in Africa has suffered not just on account of the lag in food production. The sad fact is that a large part of the little that is produced never becomes available to consumers. In many parts of the Region, more than one third of the potential harvest of certain food crops is wasted before harvest, in the harvesting process itself, or during the subsequent phases prior to final consumption. This type of loss is particularly striking with respect to cereals and vegetables but it is also notable in other food crops and in the livestock and fisheries subsectors.

12. The consequences of all these phenomena have been grim. Hunger, malnutrition and starvation afflict more and more people every year. Today, in Africa, the food available to each person, on the average, is 10 percent less than a decade ago. The dietary energy supply per person has fallen below requirements.

13. An indication of the deterioration in food self-sufficiency is given in Table I below.

Table I: Levels of self-sufficiency in basic foods<sup>a/</sup>

Subregions	1962-1964		1972-1974	
	Deficits	SSR <sup>b/</sup>	Deficits	SSR <sup>b/</sup>
	... '000mt...	%	... '000 mt..	%
Northern Africa	- 1 146	94	- 5 798	78
Sahel	- 79	99	- 1 000	83
Western	- 12	100	- 1 921	94
Central Africa	- 54	99	- 506	94
Eastern & Southern Africa	- 269	99	- 597	98
TOTAL AFRICA	- 1 560	98	- 9 822	90

Source: FAO Regional Food Plan for Africa.

<sup>a/</sup> Cereals, roots and tubers, pulses, meat and fish, all in wheat equivalent calculated on the basis of calories.

<sup>b/</sup> SSR stands for Self-Sufficiency Ratio. It represents total domestic supply as a percentage of total domestic utilization or demand.

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14. Parallel with the decline in the growth of foreign exchange earnings of most African countries, partly in direct consequence of the sluggish performance of the agricultural sector, the need for food imports has increased. Thus, net grain imports, which stood at 4.2 million tons in 1970, rose to over 11 million tons in 1978 and, on current trends, would reach 15 million tons by 1985. The rise in food imports has entailed immense sacrifice of essential imports not only for other consumption requirements but also for the development of all sectors of activity including agriculture itself, thus rendering the prospect of self-sufficiency more and more elusive.

15. In Africa, food is not only generally inadequate but also chronically insecure. Periodically, large numbers of the population are subjected to acute shortages attaining, on occasions, starvation proportions. The calamities that befell the Sahel countries during the late 1960s and early 1970s were a poignant and tragic reminder of the fact that huge areas of the continent are famine-prone, and that in practically all countries of the region severe recurrent food shortages are endemic. The crisis also revealed that food shortages in the continent often also have socio-political causes.

16. At the same time, the food deficiency in Africa has undermined social and political stability in the Region, and threatens to compromise the political independence of those countries that must accept donations of food from outside the Continent.

17. The Monrovia Strategy for the Economic Development of Africa stresses self-sufficiency in food supply as a primary objective of African development. The climatic, land and water resources of Africa are fully adequate for the attainment of this objective, provided only that the necessary concerted action is initiated now and sustained. Any delay will only ensure aggravated deprivation for increasing numbers of people, reinforced constraints on overall development, mounting social and political instability, and further jeopardy to the sovereignty of countries of the Region. All this is unacceptable and, indeed, unnecessary.



12. Over the years 1980-85, the objective should be to bring about immediate improvement in the food situation and to lay the foundations for the achievement of self-sufficiency in cereals and in livestock and fish products. With this in view, priority action should be directed at securing a substantial reduction in food wastage bringing about a significant and sustained increase in food production (especially the production of rice, maize, millet and sorghum), and establishing the policy and infrastructural framework for a markedly higher degree of food security. It is towards this end that the establishment of a Regional Food Solidarity Fund would be not only a step towards the concretization of African unity but also an act of faith in the better future of the Continent.

13. The achievement of these objectives calls, first and foremost, for a strong political will on the part of African governments to adopt and execute policies and programmes constituting a radical break with the past. The flow of resources to food and agricultural production must be raised to entirely new levels. The central role of the small farmer has to be unequivocally recognized and supported with concrete actions. Far-reaching reorientations in social systems must be effected regardless of short-term political costs. Effective machineries for programme development and management have to be set up.

14. Government policy can have an immediate impact on food supply through the adoption of appropriate price, monetary and fiscal measures that enable farmers to improve their earnings and to enhance their access to inputs and essential consumption goods.

15. African governments have to rededicate themselves to the principle of the "big push" in food and agricultural production. This approach has been strongly recommended by the World Food Conference in 1974, the Tenth FAO Regional Conference (which adopted a Regional Food Plan for Africa, AFPLAN), the ECA Rabat resolutions, the OAU Monrovia Declaration, the World Conference on Agrarian Reform and Rural Development (WCARRD), and the World Food Council in its Mexico Declaration.

22. The responsibility for a breakthrough in food and agriculture lies primarily with individual governments operating in their respective national contexts. Nevertheless, the attainment of food self-sufficiency in Africa implies new dimensions of cooperation among the countries of the Region. The multiplicity of existing arrangements for inter-country cooperation in specific aspects of agricultural development are of limited effectiveness in terms of food self-sufficiency in the Region, partly due to their overlapping responsibilities but mainly because of shortage of well-trained personnel, and, most of these organizations have not been accorded the necessary financial resources and political support by the participating countries. The situation calls for urgent remedies.

23. The essential development challenge facing Africa over the next five years is to muster the courage and determination to meet the rapidly growing food requirements of the Continent's population while, at the same time, bringing down the level of food (especially cereal) imports. The implementation of a strategy to meet this challenge will not be smooth and painless. There are ecological, economic and institutional constraints to be surmounted, but Africa no longer has an option in the matter. It has to move forward towards food self-sufficiency through self-help.

### III. FOOD LOSSES

24. Considerable food losses occur during all phases of the production/storage/processing/distribution cycle. This Section only deals with problems of losses:

- in crops, during and after harvest;
- in livestock, during off-farm operations; and
- in fisheries, during post catch handling.

Losses occurring during production itself are dealt with in Section IV.

A. Crops

The problem

25. Since 1975, at least 10 percent of total cereal production, amounting annually to more than 4.5 million tons and worth about US\$ 620 million at 1975 prices, is lost to the Continent during and after harvest. This is about 40 percent of total cereal imports into the Continent which amounted in 1978 to 11.0 million tons. The trend has persisted for decades and may become chronic if immediate action is not taken to halt and reverse it. With glaring evidence of starvation or malnutrition in most of the African States, it is deplorable that such waste should be allowed.

26. The major causes of post-harvest food crop losses include late harvesting and over-maturity, and mechanical damage arising mostly during harvest, drying, handling and processing operations. Losses due to mechanical damage occur to the extent of 5-10 percent of the grain crop, 10-20 percent in roots and tubers within the three months following harvest and 10-30 percent in fruits and vegetables. Further, the biological damage that occurs during storage mainly as a result of insect and rodent attack accounts for average annual losses of 10 percent for grains, which, on occasions, may reach 20 percent. Since up to 75 percent of the foodgrain harvest remains on the farm for family consumption, these storage losses occur mainly at the rural farm and village levels. With marketed perishables, the damage which results mainly from mould and bacteria decomposition may amount to 50 percent of the harvest.

Proposed measures and targets

27. From the foregoing, it is clear that there is an urgent need now, more than ever before, for prompt attack on food losses. Efforts should be directed towards the application of massive inputs and financial assistance to the food and agriculture sector, coupled with consistent infrastructural development and adequate levels of investment for the small farmer, so that by 1985 the objective of arresting 50 percent of food losses could be approached in line with the Resolution of the seventh session of the United Nations General Assembly of 1976.

28. In the past, national efforts to minimize food crop losses were largely constrained by lack of adequate information on the magnitude of the problem and by underdeveloped infrastructure. Relevant programmes should be developed through establishment of a national policy for reduction of food losses which should include the following steps:

- a development phase to start immediately through a number of model projects at farm and village levels which combine food loss assessment (surveys), proper drying and storage methods and facilities, pest control, improved processing; and establishment of a Central Technical Unit to co-ordinate these activities;
- expansion and development of these projects into an overall national programme supported with relevant research and manpower development, and reinforced through mass media campaigns to create awareness and to educate the public on methods to reduce food losses.

29. Efforts at the national level have to be supplemented with training and manpower development programmes at the subregional level. The establishment, by 1985, of at least two subregional higher-level training institutions should be given high priority. Meanwhile, arrangements could start immediately for two subregional seminars/workshops every year to provide on-the-spot training for existing national staff engaged in work related to the reduction of food losses. Regional and subregional networks of research and training institutions would be of tremendous benefit to keep up the momentum of research and improved manpower development. These networks

should be supplemented with travelling seminars/workshops, and should be supported with external assistance.

30. If all these efforts at the national, subregional and regional levels are vigorously and conscientiously pursued, well co-ordinated and adequately financed, there should result a progressive decrease in food losses leading towards the objective of 50 percent reduction.

#### Resource requirements

31. Project costs will vary depending on a number of interlocking factors which can be considered simultaneously and in depth only when national programmes are being formulated. Projects listed in annex I are only indicative of the nature of desirable activities in this field.

32. A tentative regional assessment of costs for the initial phase of national programmes, assuming three projects and one project per large and small country, respectively, indicates a total outlay of about US\$ 75 million for the first two years, of which US\$ 15 million are already committed for on-going activities. The next step would be the full implementation of national programmes which would require much larger commitments. Needed investments can be estimated only after completion of the initial phase.

33. While it is not possible, at this stage, to spell out in detail the full programme at the regional level, there is no doubt that immediate attention should be given to the provision of new storage facilities to cater at least for the expected 18-20 percent increase in food output between 1980-85, amounting to about 17 million tons of which cereals alone represent 13 million tons. Assuming that of this volume 40 percent would be stored at farm level, 20 percent at village level, and 40 percent at urban locations, the total storage programme in the region for this limited purpose would cost about US\$ 270 million annually (of which US\$ 100 million for storage at farm and village levels) or a total of about US\$ 1,350 million immediately following the initial phase.

**B. Livestock****The problem**

34. In the absence of reliable and relevant data, quantification of livestock losses is difficult. However, significant losses in livestock (including small stock) and livestock products occur in several ways. A great amount of these losses takes place during the production process before the animals leave the farm or range. These are considered in the section dealing with livestock production; only losses occurring off the farm or range are discussed hereunder.

35. Off-farm losses occur during trekking of animals from supply sources to consumption centres. This phenomenon is particularly true of livestock movements from inland to coastal countries in West Africa, during which there are significant losses in weight, as well as depreciation of meat quality. These losses have been estimated to range between 10 and 25 percent of liveweight.

36. Livestock losses (estimated at 2.5 percent) from diseases and death, result from the lack of veterinary care and inadequate attention (especially watering) to cattle tracks commonly used by herdsmen. Calf mortality in some countries is as high as 50 percent. Losses, mostly in the form of by-products, arising from lack of adequate slaughtering facilities, typically constitute some seven percent of body weight.

37. During the handling of meat, meat products, fresh milk and other perishable livestock products, losses do occur due mainly to putrefaction and decay. These losses vary from 10-20 percent depending on the methods of post-slaughtering processes (salting, smoking, transportation, etc.) and the length of period between processing and consumption.

38. The main losses in processing which occur during collection and manufacturing arise from the absence of better trained technicians and from the inefficient organization of marketing of both raw and processed products.

Proposed measures and targets

39. Most of the measures necessary to bring about a reduction in losses of livestock and livestock products are at the same time the measures required for the improvement of livestock production and are mentioned in Section IV.B. In this Section, only recommended remedies specifically relating to livestock losses are indicated:

- improvement of veterinary services on trekking routes;
- increase in density of watering points to reduce stress;
- improvement of urban slaughter facilities including facilities for by-product utilization and limited chilling facilities;
- improvement of milk collection and processing facilities to permit diversification.

Resource Requirements

40. Definite estimates of resource requirements are difficult to make, but assuming a 10 percent annual loss of production and a 2:1 benefit-cost ratio a 50 percent reduction in losses would require annual expenditure in the order of US\$ 180 million for this purpose.

C. FisheriesThe problem

41. Although detailed estimates of post-harvest losses in African fisheries are not available, it is generally agreed that they are substantial. Losses of fresh fish due to lack of ice and cold storage facilities, as well as poor handling, are estimated to range between 10 and 15 percent, or some 150,000 tons per annum. Losses of cured fish due to insect infestation can reach up to 40 percent which suggests an annual wastage of some 350,000 tons. To this should be added the fish discarded at sea by trawlers very speculatively estimated to be above 100,000 tons every year. The total value of the above losses is of the order of US\$4200 million annually.

Proposed measures and targets.

42. For fisheries, achievement of a 50 percent reduction in losses would add some 10 percent to the present low level of protein intake from fish of just 2.5 grammes per person per day.

43. At the national level Governments have a major role to play by increasing awareness of the problem and by disseminating information on means of tackling it. Governments should also promote research into improved methods of fish preservation and provide increased credit and other incentives for the introduction of improved techniques (e.g. solar tent dryers) as well as the more widespread adoption of proven existing methods, such as ice plants and cold storage units.

44. A number of institutions are already working on these problems but they need to be strengthened. At the subregional level, there are great opportunities for co-operative programmes and TCDC in this field. These opportunities should be vigorously exploited.

Resource requirements

45. Much losses could be avoided with relatively low investment costs. An investment of US\$ 100 in equipment for improved drying in artisanal fisheries, for example, could be adequate for treating some four tons of fish per year. The use of improved drying equipment to treat half of the present quantities of fish lost through poor processing would require capital investment of some US\$ 40 million but would produce annual gains well in excess of this figure. Ice plants to treat 100,000 tons of fish annually would cost around some US\$ 20 million and cold storage facilities might add a further US\$ 5 million, all the above costs spread over five years.



IV. FOOD SECURITYThe Problem

46. The world food crisis of the early 1970s which virtually caught the whole world unawares and resulted in the dislocation of the economic structure of many countries, created untold hardship in the form of serious starvation and malnutrition. In Africa, the most devastating effect of this crisis was felt in the Sudano-Sahelian zone. Between 1972 and 1974 some 28 percent of the population of Africa had been so severely affected that they had to depend on a diet which was below the critical minimum required to sustain life.

47. The situation in the Sahel continues to be desperate. In Southern Africa, an especially precarious food security situation arises not only on account of the occasional severe droughts, but also because of the increasing political and economic threat from South Africa and the fact that most of the countries in the subregion are landlocked. Recurrent food shortages of varying severity are equally common in the other parts of the Continent.

Proposed measures, targets and resources requirements

48. In order to cope with this predicament in the future, concerted efforts should be made by African governments not only to increase local production but also to keep adequate stocks of the basic foodstuffs, primarily cereals, which can be drawn upon, while arrangements are being made to augment supplies from domestic sources or from abroad. A just and equitable food security policy will also call for critical and adequate attention to distribution and nutritional issues.

(a) At national level

49. The foodstocks needed for adequate food security vary from country to country and from one subregion to another depending on many local factors. It is estimated that in some countries food reserves sufficient for six weeks consumption would be needed, while in others the need would be to guarantee consumption for a period of two to four months. In spite of growing imports, consumption in most African countries is satisfied

predominantly from domestic production. In view of this, an appropriate proportion of total production (e.g. about 10 percent, as a first step) should be set aside in the form of strategic national food reserves, to tide over food emergencies.

50. Following the recommendations of the World Conference in 1974 a number of African countries have formulated national food security programmes but this is not yet true of all countries in the Region. It is imperative for every African country to adopt a coherent national food security policy and to undertake the measures called for by that policy.

51. For food security to be effective the following measures are essential:

- increase of food production;
- formulation of national food reserve policies and programmes;
- construction of storage facilities for cereal reserve stocks;
- creation of grain reserves from domestic and external sources;
- strengthening of grain stock management;
- improvement of related marketing and transport facilities;
- improvement of crop forecasting and national early warning systems supported by improved national weather information;
- training of national staff in the above fields.

52. In the absence of detailed national surveys, the investment needs for the Region as a whole, cannot be but roughly estimated. However, based on the level of resources required to institute national food security programmes in selected countries (see Annex 2), the total resources required for this purpose, for all African countries together, may reach or exceed US\$ 1 000 million over the five-year period.

(b) At subregional level

53. The need for collective self-reliance calls also for the establishment of subregional food security arrangements in Africa. This approach has already been initiated in the Sahelian zone, where a concrete scheme has been

adopted by the eight member countries of the Interstate Committee for Drought Control in the Sahel (CILSS)<sup>1/</sup>. This scheme consists of:

- national stocks belonging to the countries individually, which are directly managed and utilized by themselves;
- sub-regionally owned stocks placed under the administrative and financial management of a sub-regional authority, and involving stocks held by national and/or sub-regional institutions.

54. Under this sub-regional food security arrangement there would be complementarity and interaction between nationally and sub-regionally owned stocks. In case of emergency, the member countries of the sub-region would first use their national reserves and then, if necessary, drawn upon the sub-regional reserve. Any utilization of sub-regional stocks would be subject to the agreement of the member countries in advance who would thus commit themselves to the necessary replenishment. In all cases, the sub-regional authority would be kept informed of the utilization of national stocks.

55. Investment and operating costs for nationally and regionally owned food stocks for the eight Sahelian countries are estimated, respectively, at US\$ 100 million and US\$ 40 million, of which approximately 90 percent would cover storage construction, equipment and grain supplies.

56. Arrangements similar to the Sahelian scheme are under consideration for other sub-regions.

(c) African Food Relief Support

57. Owing to logistical difficulties an all-Africa regional food reserve is not a feasible proposition. However, as a measure towards collective self-reliance in food security, it is recommended that OAU and ECA in collaboration with FAO study the feasibility of establishing the mechanism of setting up an African Food Relief Support. The report of the study should be submitted to the ECA Conference of Ministers and OAU Summit in 1981.

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<sup>1/</sup> Countries included are Cape Verde, The Gambia, Upper Volta, Mali Mauritania, Niger, Senegal and Chad.

## V. FOOD PRODUCTION

58. In this Section problems of food production, livestock and fisheries development, as well as problems of production losses, are discussed. Relevant action programmes are recommended.

### A. Food crops

#### The Problem

59. The production of foodcrops in Africa is constrained by a variety of problems. In some parts of the Continent land is inadequate, infertile or inaccessible. Elsewhere, production is hampered by scarcity of water. Production techniques and farming practices remain backward in most parts of the Region, as is evidenced by a very low application of improved inputs. A problem of peculiar importance to Africa is the immense damage caused to food crops by plant diseases and a great number of major pests—migratory locusts, desert locusts, grasshoppers, grain-eating birds, armyworms, caterpillars etc. and many other insects and vertebrate pests.

60. The food picture in Africa is dominated by cereals and root crops. Regarding the choice of a strategy for cereal development, a distinction should be made between wheat and barley on the one hand, and the tropical cereals (rice, maize, millet, sorghum) on the other. Wheat and barley are mainly grown in Northern, Eastern and Southern Africa, and make up the bulk of the imported cereals into the Continent. Increasing the production of wheat and barley in countries which have the potential, while at the same time promoting the replacement of the import of these two cereals with substitute grains in the other countries, is a major issue which, if positively resolved, could release substantial amounts of foreign exchange for development. In this regard, the enormous opportunities for substituting composite flours for wheat in breadmaking deserve serious exploitation. Vigorous policies along these lines should be a cardinal element in a strategy for increased cereal self-sufficiency.

61. By and large, four broad strategic options are open to African countries in their attempt to increase food production: area expansion or yield intensification; rainfed or irrigated agriculture; food crops or export crops; and local resources or foreign resources. In fact, however, these choices do not necessarily present a dilemma, and are often complementary. Moreover, they have great diverse importance among subregions of the continent.

62. While in the five-year period 1980-85 various quick return actions need to be instituted for the achievement of the targets proposed, these actions will have to run concurrently with longer-term activities to lay a firm foundation for the future. Otherwise the Continent may face an even more chaotic food situation in the period after 1985. Therefore the action programme proposed below consists of a blend of measures designed to yield immediate results with others whose impact on food availability will only be evident in the medium to longer term.

#### Proposed measures and targets 2/

63. The following priority areas for action are proposed: plant protection, input use, irrigation, land development, soil and water conservation, flood control and drainage, mechanization, physical infrastructure, and incentives to farmers, the last discussed separately at the end of this Section.

64. Plant protection. Food production in most of the countries of the Region will make no headway without the mobilization of considerable additional efforts to eliminate the pests and diseases that plague crops.

65. At the national level, required action consists principally in an overall improvement in husbandry practices, generally. This will involve, in part, judicious application of pest and insect killers in a manner consonant with the overriding ecological exigencies. In addition to the strengthening of

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2/ All costs indicated below for the programmes for crop production, are expressed in 1975 prices.

existing services, effective plant protection will necessitate the organization of farmer education campaigns. Governments should also accord priority to the establishment of appropriate pest and disease surveillance systems so that early defence measures can always be instituted against threatening or incipient outbreaks.

66. Plant protection is an area where tremendous benefits can be reaped through permanent mechanisms for inter-country co-operation. Indeed only action organized this way can prevent widespread outbreaks of some of the major crop pests and diseases. There are several intergovernmental organizations active in this field in Africa (OICMA, OCLALAV, DLCO/EA, IRLCO-EA etc.). 3/ They need to be strengthened, giving added emphasis to the integrated approach to pest management already being initiated in some parts of the Region.

67. Additional expenditure on use of pesticides in country level programmes, is roughly estimated at US\$ 35 million, during the period under consideration.

68. Package input. Countries with scarce land resources and where irrigation development is difficult, will rely principally on yield increases through better agricultural practices, particularly on intensive use of improved inputs (fertilizers, seeds, pesticides, etc.). Proposed targets for the period 1980-85 are as follows:

- the volume of improved cereal seeds annually needs to increase from 443,000 metric tons in 1980 to 545,000 metric tons by 1985, representing an added annual cost of US\$ 25 million.

3/ OICMA: Organisation Internationale Contre le Criquet Migrateur Africain  
OCLALAV: Organisation Commune de Lutte Antiacridienne et de Lutte Antiaviaire  
DLCO/EA: Desert Locust Control Organization/East Africa  
IRLCO-CSA: International Ped Locust Control Organization for Central and Southern Africa.

- increased fertilizer use by 360,000 tons (NPK) from 2,050,000 tons in 1980 to 2,410,000 metric tons in 1985, costing US\$ 165 million above the cost of US\$ 937 million in 1980. Parallel to this, organic manure use, wherever appropriate, should be encouraged to complement chemical fertilizers;
- increases in annual inputs (comprising fuel and repairs) for tractor mechanization which could add US\$ 81 million to the 1980 level of US\$ 229 million.

This input package, considered as a minimum, amounts to about US\$ 400 million (including pesticides for plant protection) over the next five-year period.

69. Irrigation schemes. A big share of the existing irrigation schemes in Africa is for growing export crops. At present cereals cover about 4.6 million ha of irrigated land. Due to vagaries of climate and frequent droughts in many parts of the Continent, there is need for better utilization of water for irrigated cereals. The following targets are consequently proposed:

- improvement of an area of one million ha under irrigated cereal cultivation in schemes that are now only partly equipped, requiring a total investment of US\$ 300 million over the next five years;
- expansion of areas equipped for irrigation under cereals by 155,000 ha at a total cost of approximately US\$ 550 million over the five-year period.

Thus, total investments required to improve and expand irrigation schemes for cereal production would amount to about US\$ 1,350 million over the next five years.

70. Land development. Most crops in the region are grown on non-irrigated land, and most of the increase in production will likely come more from area expansion than yield increase. Rainfed agriculture, therefore, deserves priority attention. The target should be to bring 1.7 million ha under cultivation during the coming five years, about 5 percent of available land currently unutilized. The opening up of this area would cost about US\$ 430 million over the five years, of which, however, a good share would be represented by the farmers' own labour.

71. Soil and water conservation. Due to the danger of degrading land and shortage of soil moisture for plant growth in many countries of the Continent, soil and water conservation programmes are essential for the development and maintenance of agriculture in these areas. It is proposed that for the Continent as a whole, the area under effective conservation be increased by about five percent between 1980 and 1985. This would involve a total cost of around US\$ 600 million (at 1975 prices) which may be reduced to the extent that works are carried out with farmers' own labour.

72. Flood control drainage. There are relatively few activities in this field in Africa. At present, probably less than ten percent of naturally flooded flooded arable land has been provided with protection against flood hazards and submergence. It is estimated that an additional 56,000 ha of flood-affected arable land could be provided with simple flood protection and drainage works by 1985 at an average cost of US\$ 800 per ha to permit cropping with an acceptable risk. The cost of this development would be about US\$ 45 million.

73. Mechanization. With the exception of Northern Africa, adoption of mechanization has not been widespread in the Continent. The situation is, however, improving. In North Africa, mechanization is rapidly replacing draught animals, but the policies for the rest of the Continent need to be different. Since the widescale use of tractors by average African farmers in most countries South of the Sahara is a very long-term prospect, it is recommended that the increased use of hand tools and draught animals be intensified as an interim measure in those countries. To implement this programme the number of draught animals should be increased by about 200,000 units, and training programmes for this purpose should be increased. This would represent an additional investment of around US\$ 80 million over the five-year period. Together with costs of tractorization annual average investment cost for mechanization (including replacements) would reach about US\$ 1,145 million giving a total of US\$ 5,725 million over the 1980-85 period.



74. Physical infrastructure. In support of the priorities identified above, various types of physical infrastructure are indispensable. These would obviously be costly and funds may not be immediately available, from national or foreign sources to meet the massive commitment. However, some of the infrastructure could be built through labour-intensive self-help programmes. This would require a strong sense of devotion and duty and clear-cut recognition of potential benefits on the part of the people who will be expected to voluntarily participate in the building of small bridges, dams, access and feeder roads, and in improving education, health and other social facilities. Large-scale infrastructural development of this kind will entail huge financial costs whose magnitude will depend on the degree of self-help participation and cannot, therefore, be reliably estimated in advance.

75. Resource requirement. The total investment required to carry out the above selected programmes relating to food crop production is estimated at about US\$ 8,100 million (at 1975 prices) over the five-year period 1980-85. This is equivalent to about US\$ 11,400 million at 1979 prices. It should be stressed, however, that total resources required to reverse the deteriorating trend in food self-sufficiency, would be considerably higher than this figure.

## B. Livestock

### The problem

76. In Africa the major problem of livestock production is the critical dearth of adequately trained personnel at all levels. Other problems comprise limited livestock numbers; inefficient utilization and management of feed resources including crop residues and agro-industrial by-products; lack of knowledge of the most suitable breeds for the various environments and of optimum production systems. The situation regarding processing and animal health is different because knowledge of what can and should be done is fairly adequate. The problem here is the lack of facilities and competence to apply existing techniques.

77. Insufficient emphasis is placed on the improvement of husbandry practices for meat production from the small stock (sheep, goats, pigs, poultry, and rabbits). Very little work also has been done to improve the animal protein intake in the Continent from wildlife sources. The use of draught oxen and their impact on meat production, and the integration of livestock with agriculture have also been neglected.

78. In the area of animal health, there are inadequate facilities for field control of livestock diseases, for laboratory services, and for disease surveillance systems. This applies in particular to tick-borne diseases, to trypanosomiasis, rinderpest, contagious Bovine pleuropneumonia and Food-and-Mouth Disease.

79. Trypanosomiasis deserves special mention. This disease limits livestock production in 36 African countries covering a potentially productive area of about 10 million sq. km. with an estimated carrying capacity of 140 million heads of cattle. The control of this disease at the country level requires positive measures to establish the necessary national technical and administrative structures. The Ndama breed, a trypano-tolerant animal, could offer a distinct possibility for coping with the problem.

#### Proposed measures and targets

80. The priority areas to which support should be channelled in the immediate future are training and infrastructure building. Of primary importance also are controlled grazing through better range management and the use of crop residues and agro-industrial by-products for the production of animal feedstuffs.

81. There is also a great need to improve laboratory services, disease surveillance systems, vaccination centres, training institutions, and the capability of countries to handle animal health problems. It is estimated that the improvement of animal health systems will require an increase in the number of veterinarians and veterinary assistants of at least 30 percent during the 1980-1985 period.

82. Further support for the control of trypanosomiasis should include the establishment of specialized control units, and the improvement of the productivity of those breeds of cattle which have been determined to be trypanotolerant. In addition, many countries need to set up land use plans for the integrated development of areas freed from tse-tse infestation. These activities should be undertaken with the support of the African Animal Trypanosomiasis Commission recently established.

83. Effective control of Foot-and-Mouth Disease will require the establishment of vaccine production facilities and effective quarantine systems at national, and possibly, regional levels.

84. At the subregional level, training centres for meat production, slaughter-house management and practices, and poultry development are needed. For a start, four training workshops (one every year during 1980-84) should be launched in 1980.

85. Proposals for the establishment of training and research centres in tick and tick-borne disease in Malawi (East and Central Africa), Khartoum (North Africa), Nigeria (anglophone West Africa) and Senegal (francophone West Africa) have been strongly supported by the African governments. Every effort should, therefore, be made to establish and put these centres into operation by the end of 1983.

86. Regional typing centres should be established to assist African countries to determine rapidly and effectively the types of infectious organisms with which they are confronted. A preliminary survey for establishing these centres should be carried out in 1981 to decide whether existing facilities should be expanded or new centres established. The decision should be implemented in 1982. In all cases, the centres created will supplement and co-ordinate national programmes.

Resource requirements

87. Due to many direct and indirect costs involved, the investment needs of the complex livestock development programmes can be best approximated by breaking down future growth into two components, a "natural growth" component based on rural population growth with little formal investment beyond strengthening of health services, and "a project-based growth" component. For the latter it is estimated that the production of an additional ton of meat and milk, annually, would require a capital investment of about US\$ 4 000 and US\$ 300, respectively (at 1975 prices). The two items together will amount to about US\$ 1,700 million for the Continent, or US\$ 2,400 million at 1979 prices, over the five-year period.

C. FisheriesThe problem

88. Fish represents one of Africa's major economic resources. Fish production by African countries in 1978 amounted to some 3.3 million tons of which 1.4 million tons came from inland waters. It should be noted, however, that landings of marine fish by African countries - 1.8 million tons in 1978 - represented only some 30 percent of total catches from coastal waters, with vessels from non-African countries taking an estimated 4.0 million tons annually. The over-all supply and disposition of fish and fish products in the Region are summarized in Table 3 below.

Table 2. Supply and Disposition of Fish and Fish Products, 1978

	Production	Dom. feed uses	Post-harvest losses	Trade with rest of World	Dom. Supply
				Exports	Imports
.....	1 000 m.t. live weight equivalent				
Africa	3 320	60	600	450	810
					3 020

89. Production has stagnated in recent years and is at present no higher than it was in 1972. Reasons for the decline are complex but include political, institutional, economic and environmental factors.

90. The over-all potential catches in all waters surrounding the African continent is estimated to be of the order of 9.0 million tons every year of which less than six million tons are at present being harvested. To this ~~and~~ should be added the potential in inland waters, possibly of the order of two million tons, of which less than 1.5 million tons are at present being taken. This estimate excludes aquaculture which has considerable technical potential in both fresh and brackish waters. Full realization of the fisheries development potential in both marine and inland waters could add an estimated US\$ 1,500 million, at current prices, to African gross domestic product, excluding any value added in processing and distribution.

91. Lack of capital, managerial capabilities, skilled manpower, markets, planning and other factors have so far impeded some African countries from deriving full benefits from their off-shore fishery resources. At present the larger stocks are exploited by foreign vessels under various arrangements including joint ventures and licensing agreements. While these arrangements normally enable countries to earn or save foreign exchange they often do little to help develop local fishing capacity.

#### Proposed measures and targets

92. The target should be to raise the level of average fish consumption per person per annum by one kilogram between now and 1985. This will require the production of an additional one million tons per year by 1985 - a figure well within the resource potential.

93. With the objective in view, and in order to reduce dependence on imports, the following measures are recommended:

- development of industrialized off-shore fleets (where justified by resource availability) and increased productivity of artisanal fisheries.

- expansion of aquaculture;
- improvement of communications between landing points and markets, especially inexpensive feeder roads to fishery communities;
- investment in shore-based infrastructure, in particular storage facilities;
- expansion of interregional trade in fishery products;
- encouragement or subregional co-operation in the assessment of the fish potential, especially where common stocks are concerned as well as for international lakes and river basins;
- formulation of joint schemes for the rational exploitation and management of subregional fish stocks;
- review and, as necessary, re-negotiation of existing fishing agreements.

94. In all fields and at all levels of the fishery sector, training, both formal and through strengthened extension services, remains an important prerequisite to ensure effective use of new technology and investment.

#### Resource requirements

95. To achieve the fish production target recommended, would require, an investment of the order of US\$ 300 million at present prices, in vessels alone. If emphasis is given to the industrial fisheries, supporting shore-based infrastructure (including harbours) and improvements to the marketing and distributive sector, additional investment requirements could be of the order of US\$ 200 million. Total gross investment resources, needed, including those for replacement will be of the order of US\$ 750 million.

#### D. Incentives to farmers

96. The expansion of food production cannot be achieved without modification, in a radical way, of the techno-economic structures of production systems. This implies better access by small farmers to productive resources (through credit, subsidies, etc.), availability of marketing facilities, remunerative

prices for agricultural produce, close links between farming and complementary activities, widespread adoption of more intensive techniques and wide availability of social services. Efforts on such a broad front in rural development would have the desired impact only if supported by a strong political will, and if based on the fullest participation of the population affected.

97. Government policies must aim at giving the small producers the necessary incentives to increase their food output beyond their immediate consumption needs. The peasant farmer must see clear prospect of benefit from his extra effort. Perhaps the most powerful incentive to the small farmer is a system of input and output prices that ensure maximum financial returns to him. Farm prices and income policy have been at the root of most of the agricultural problems in many African countries. Prices received by farmers for their major commodities have usually been kept at a low level through policies which favour the consumer and industrial sector. In some cases the objective of price policy has been to maximize government revenue. In many instances Governments have not given sufficient consideration to the effect that monetary and fiscal measures have on farmers' incomes and on their access to inputs and essential consumption goods.

98. Farm policy decisions have also been influenced by a number of government Ministries and marketing corporations and boards to fulfil objectives unrelated to an over-all integrated national programme with the result that prices have sometimes served as disincentives rather than incentives to farmers. Subsidies have not generally had the effect of increasing food production in the long term; and taxes on farm commodities have added to stifle the initiative that farmers could take to increase agricultural production. It is imperative, therefore, that Governments should accord the highest priority to policies governing prices received and prices paid by farmers to achieve an accelerated rate of food and agricultural production.

## VI. FOREST PRODUCTION

The Problem

99. Forest and trees play an essential role as suppliers of basic products and services, and have a very important environmental impact which is more and more recognized. They contribute to maintaining the productivity of eco-systems and preventing soil erosion by wind and water, regulating the quantity and quality of waterflows and preserving amenable conditions of life for man. Forests and trees therefore contribute directly to the rural development and food production potential and bring important benefits to rural communities.

100. Uncontrolled destruction of the forest vegetation, through land clearing for agriculture or for fuelwood and grazing, has already had critical impact on agriculture, resulting in flooding, soil erosion, siltation and desertification.

101. Consumption of wood products in the region is expected to increase from 261 million cubic meters of fuelwood in 1975 to 275 million in 1985 and from 32 million cubic meters of industrial wood in 1975 to 45 million in 1985. If adequate supplies existed everywhere, consumption would actually be much higher. The projected trends carry both an opportunity and a challenge. The importance and magnitude of the contribution of woody vegetation to the satisfaction of basic energy needs deserve particular attention, as large numbers of people, especially the poor, will continue to depend on this renewable source of energy in the foreseeable future.

102. Tropical high forests are currently depleted by creaming exploitation directed mainly to export-oriented removals of industrial wood. Moreover, out of 7.6 million cubic meters of wood products exported by Africa in 1977, only about 1 million cubic meters had been processed locally. The rest were exported in the form of raw wood to be processed in industrialized countries. Of still greater concern, Africa is importing a huge volume of paper from Europe, at a cost which is increasing much faster than the revenue derived from exports of round wood.



Proposed Measures and Targets

103. Inventories of forest resources and potential should be organized and expanded at country level within the coming five years in order to serve as a basis for forestry development programmes and to help in the monitoring of the evolution of forest cover.

104. Countries should intensify programmes for integrating woodlots and trees in land use and agricultural practices at village and farm levels for the production of fuelwood, food, fodder, building materials and for protection against desertification and erosion. One of the most effective ways of achieving these objectives is through mass education and public campaigns backed by field activities such as "Plant-A-Tree-Day" not only in the rural areas but more significantly in urban and sub-urban fringes.

105. Wood exporting countries should progressively reduce exports of unprocessed logs to 50 percent of their present level, by 1985, with the objective of reducing exports of this raw material with an equivalent amount of processed wood.

106. Simultaneously, a regional plan for the development and harmonization of forest industries should be prepared and launched before 1985, particularly to cater for the fast-rising demand for paper and paper products. A basic initial step toward the plan should be provided by the Timber Trends and Prospects in Africa being initially undertaken by ECA/UNDP/FAO/UNIDO. Feasibility studies should be prepared and investment decisions made regarding large industrial units aimed at supplying subregional or regional markets.

107. Particularly, in areas where critical imbalance exists between the supply of and demand for forest products and services, forest regeneration programmes should be intensified with special attention on village or community woodlots or agro/forestry schemes. Such programmes will require special efforts in information, extension and support. A sufficient number of afforestation/reforestation projects should be identified by the end of 1981 so that enough projects are formulated for increasing areas under

forestry regeneration programmes by at least 10 percent every year up to 1985. At the same time forest reserves should, in total, be expanded by 10 percent between now and 1985.

108. Cooperation between Member States, exchanging experiences and harmonizing and coordinating forest policies, should be actively reinforced particularly through strengthening existing regional bodies.

109. Such intensified forestry policies and programmes will only be possible if strong and early emphasis is placed on adequate training of forestry personnel at all levels. Few countries in the Region dispose of adequate forestry training institutions, and a general effort will be indispensable both at national and regional levels in order to strengthen existing facilities and to create new facilities of the appropriate capacities. It is estimated that by 1982 it would be necessary to train annually in the Region as a whole over 150 professionals, 400 technicians and 1 500 forest guards in order to meet the minimum requirements in the public sector. Similar levels of training would have to be considered in order to build up the envisaged forest industries potential.

110. Applied research programmes would also need to be substantially expanded particularly in the selection and silviculture of fast growing species for fuelwood and pulpwood plantations and on the management of tropical forests. Efforts and resources for larger coordinated research programmes as well as for higher and specialized training could more efficiently be organized on a regional or subregional basis. By the end of 1981 preparations should have been completed for the expansion and development of such institutions and enough resources committed to them. T

#### Resource requirements

111. The investment requirements for forestry plantations both for industrial and fuelwood production in the Region are estimated at approximately US\$ 3 000 million between 1980 and 1985, excluding requirements for the management of existing forest resources. These investments could be notably reduced if they form part of agro-forestry schemes integrating tree growing in land use practices at village and farm levels.

112. Assuming a much higher level of utilization of existing capacities, investments needed for new forest industries would be of the order of US\$ 400 million over the five-year period, and would permit a 50 percent substitution of log exports with processed wood products.

## VII. AGRICULTURAL SERVICES

113. This Section deals with institutions and services related to food supply and food security in Africa and the welfare of the small farmer. The latter presents a challenge not only to agriculture but also to several other sectors of rural development such as education, health and communication, which, however, are not discussed hereunder.

### Institutions

114. It is well known that a lack of strong support institutions has limited the impact of technology transfer and the implementation of national and sub-regional programmes in the agricultural sector.

115. There is clearly a need for rural development planning and monitoring. The data base for rational rural development planning is generally insufficient. Therefore efforts should be made to improve the data base and the countries' planning capacity, especially capacity to identify constraints on small farmer development. Improved constraint identification would enhance the design of research and extension programmes.

116. As a major ingredient in the creation of participatory structures in rural development, it will be important to give special attention to small farmer organizations, with particular emphasis on informal and traditional peasant institutions, as main vehicles for channelling credit and other services. This should be coupled with a reconsideration of the role of existing formal organizations so as to enable small farmers to participate more effectively in the activities of these organizations.

117. The small farmer is remote from urban centres and therefore development programmes need to be supported by development communication systems including farming press, radio and other audio-visual means of disseminating marketing information, promoting new technologies, etc..

118. Governments have to pay particular attention to the need for effective marketing systems to ensure timely provision of fertilizers, pesticides, seeds, hand tools and other agricultural inputs.

119. The technological package offered to the small farmer should be supported by agricultural credit and insurance. Similarly, the movement of farm produce from farm market calls for improvements. Appropriate marketing institutions should be set up to handle the produce as expeditiously and carefully as possible so as to ensure a high quality of produce reaching the market. They should also ensure timely and equitable payments to the farmers. Such marketing institutions need to be staffed by fully qualified and experienced managers.

120. Governments should also recognize the importance of an adequate transportation and access system to ensure the rapid development of rural areas, to reduce the spoilage of crops and to reduce delays in delivery of inputs.

121. One problem encountered is a tendency on the part of the government institutions to assume increasing responsibilities for commercial activities in agriculture for which they often do not have the requisite capabilities. This is particularly the case in agricultural marketing and transport. A more appropriate balance between state and private enterprises is therefore called for.

#### Extension

122. In the rural sector, training of extension workers should be given the highest priority if small farmers and youth are to be drawn into the development process. A failure in extension training in the past has resulted in farmers, particularly small farmers, not readily accepting improved technology. Extension training should prepare the extension worker to reside in the village where he will come to understand rural matters and the aspirations of the farmers. On technical matters he should be supported by specialists in the various fields of agriculture.

123. Farmers' training centres should be used both to train farmers and as a forum in which to exchange experiences. Extension workers should direct their efforts particularly towards rural youth who are the future leaders as well as the next generation of large and small farmers. Unlike their parents

these youths often face land shortages and must be trained on proper methods of land development and use in intensive natural resource-conserving technology. Agricultural training of youth should start as a standard feature of primary education and continue during secondary and vocational schooling. Such training should be as practical as possible and should develop a concern for and an interest in rural living.

124. Governments should strengthen their extension institutions as a vital link between both government agencies and research institutions, on one hand, and small farmers, on the other.

### Research

125. The food and agricultural production system in Africa clearly reflects the need to generate new technologies and better adapted improved techniques and packages of inputs. It also requires the strengthening of national research and extension systems, inter-country co-operative research programmes, and closer links with international endeavours.

126. Agricultural research should focus on major question of food self-sufficiency, conservation and management of natural resources, and should place emphasis on food production. The major constraints facing research are insufficient trained manpower and lack of equipment. Further, many research centres in Africa are not of a size which would enable them to conduct efficient research. Lack of liaison or collaboration between research and extension services means that the resource-poor farmers in particular, can make little use of research findings. The research, itself, needs to be better adapted to their specific requirements.

127. Africa hosts several international research centres such as IITA, ILRAD, ILCA, IBAR, WARDA and sections of CIMMYT, ICRISAT, CIP and ICIPE.<sup>4/</sup> Although these centres have the necessary human, financial and technical resources to work on problems common to agro-ecological zones, there has been a lack of collaboration and co-ordination among them and between them and the respective countries. It is therefore strongly recommended that OAU, ECA and FAO arrange a meeting (early 1981) with these organizations in order to discuss ways and means for evolving a mechanism for collaboration, co-ordination and monitoring of agricultural research in Africa. Specifically, OAU, ECA and FAO should take immediate steps to arrange a top level meeting with IITA and ILCA (both with headquarters in Africa) with a view to discussing their agricultural research activities in the region. The meeting should also work out a periodic reporting system of their research findings. The report and recommendations of this meeting should be submitted to the ECA Conference of Ministers and the OAU Summit in 1981. National centres should adapt as far as possible the results of the work of the international centres to the specific requirements of their country. Governments should take particularly active interest in support of subregional centres such as IBAR and WARDA.

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- 4/ IITA - International Institute for Tropical Agriculture  
 ILRAD - International Laboratory for Research on Animal Diseases  
 ILCA - International Livestock Centre for Africa  
 IBAR - Inter-African Bureau for Animal Research  
 WARDA - West African Rice Development Association  
 CIMMYT - International Centre for the Improvement of Maize and Wheat  
 ICRISAT - International Centre for Research In Semi-Arid Tropics  
 CIP - International Centre for Potatoes  
 ICIPE - International Centre for Insect Physiology and Ecology

**VIII. RESOURCES**

128. The success of the above recommended action programmes will largely depend upon the financial support they receive from both domestic and external sources. Three aspects are considered in this section:

(i) the total amount of investments required to put into effect the proposed programmes;

(ii) the adequacy of current financial flows; and

(iii) measures and targets to increase future flows.

**Financial requirements**

129. The total investment required to effectively carry out the recommended programmes has been estimated at about US\$ 21 400 million over the five-year period excluding costs for infrastructural development and agricultural services. In addition, expenditure to cover increases in input use will amount to some \$US 560 million. Thus, total expenditure for the proposed selected programmes will be of the order of US\$ 22 000 million or about US\$ 4.400 million annually. Levels of expenditures of this order are the minimum needed to initiate, during the first half of the 1980s, a reversal of the present deterioration of trends in food and agriculture in Africa. It should be noted, however, (annex 4) that, forestry alone, makes up about 16 percent of total investment requirements, and mechanization 37 percent much of which relates to tractorization in Northern Africa where mechanization is already well established and constitutes an integral aspect of agricultural systems.

**Current financial flows**

130. Development programmes may be financed from domestic and external sources.

**(a) Domestic sources**

131. Information regarding government capital expenditure on agriculture is generally scanty and often not specific enough for detailed analysis. However, it is certain that, in most countries of Africa, only a very small proportion of

public investment has been earmarked by Governments for the development of food and agriculture during the past two decades. According to the World Bank, the share of Government capital expenditure on agriculture in developing countries over the period 1967-73 was less than one third of the share of the sector's contribution to GDP. At the same time, agriculture was allocated only 5 to 6 per cent of total public recurrent expenditure over the same period.

132. In Africa the formal private sector which should constitute an important source for the financing of agricultural development, has in fact, contributed even less than Governments.

133. By and large, available domestic resources are inadequate and fully insufficient to meet the amount of investment needed to achieve the objective of improving self-sufficiency through the action programmes proposed in preceding sections.

**(b) External sources**

134. During the past decade there was a large increase in funds available to international and regional financing agencies for assistance in financing investment programmes and projects in developing countries. In addition, the last decade has seen the entry into the international financing scene of a number of multinational and national funds and banks which draw their resources mainly from oil incomes.

135. Official Development Assistance (ODA) has played up to now a major role in the financing of development in Africa. The present flow of ODA financial assistance to the Continent is around US\$ 8 billion per annum, or about 55 per cent of total receipts from external sources. This flow originates from three major sources: DAC countries (45 per cent, multilateral agencies (35 per cent) and OPEC countries (20 per cent).

136. Since 1974, the ODA financial flow to Africa has increased significantly, but the trend of Africa's share in the ODA total is alarming, having fallen from 62 per cent in 1974 to around 50 per cent at present. This may be an



indication of the difficulties African countries are facing to absorb external resources under the prevailing terms and conditions of ODA financing.

137/ Total official commitments<sup>5/</sup> of external donors to the development of agriculture in Africa have increased from \$US 580 million in 1973 to \$US 1,020 million in 1977, in constant values (1975 prices). The doubling of official commitments between 1973 and 1977 was partly in response to the drought and the food crisis of the early 1970. However, it is disturbing to note that the share of soft and concessionary assistance in the total has fallen from 85 per cent in 1973 to 72 per cent in 1977.

#### Measures and targets for increased financial flows

138/ To meet the requirements of the proposed action programmes, substantial increases of financial flows are called for from both domestic and external sources.

##### (a) At the domestic level

139. There should be a deliberate reorientation in the allocation of government resources with a view to treating agriculture commensurately with the important role the sector has in over-all economic and social development. This may involve difficult policy decisions for governments with scarce resources and many conflicting demands on them. It may involve allocating local resources to match external financing being made available for investment, but it will also involve an increasingly heavier burden for inputs and for the expanded government services required to yield benefits from such investments. In all events, African Governments should reconcile their priority for increased food production with other priorities such as assistance to urban consumers. This reconciliation can take place only within a balanced approach to development. Governments, obviously through fiscal and other measures, should make serious efforts to transfer resources from other sectors to agriculture as well as to reallocate resources from within the sector to the greater benefit of small farmers.

5/ ODA and others.

6/ "Narrow definition", OECD.

140. The setting of targets for increased domestic resource allocation to food and agriculture can only be done at the national level. Nevertheless, it would be desirable to aim at providing domestic resources (both government and private and including both monetary and non-monetary resources) to cover at least 50 per cent of the total expenditure requirements for the development of the sector. This yardstick may not be applicable to some countries. However, it serves as a useful measure for maintaining a reasonable balance between domestic and foreign financing, in line with the Continent's self-reliance strategy, and, it may induce increased external assistance as more confidence in the recipient countries is thereby established.

(b) External level

141. A more flexible approach to development financing by external agencies is required. In some cases, this would involve radical departure from present policies and practices by providing, in addition, financing of investment-related recurrent expenditures and input costs during appropriate period of time. External financial resources should preferably be made available on highly concessional terms, especially for the LDCs.

142. On the basis of recent trends, external resources to African agriculture<sup>2/</sup> are expected to reach, at 1975 prices, the level of about US\$ 1 500 million in 1980 and US\$ 2 000 million in 1985, or a total amount of about US\$ 9 000 million over the coming five years. Even if this level of external financing is attained, it will still leave a gap between all resources available to agriculture and the financial requirements of the proposed action programmes. Such a gap will need to be filled, particularly from ODA with special emphasis on highly concessional loans from multilateral lending agencies. Several measures will be needed in this respect:

- to increase the resources of agencies specialized in agricultural development, such as IFAD whose Agreement requires it, particularly to take into account "the need to increase food production in the poorest deficit countries, the potential for

<sup>2/</sup> "Narrow definition", OECD.

increasing food production in other developing countries and the importance of improving the nutritional level of the poorest populations in developing countries and the conditions of their lives"; unless, IFAD's actual capital of US\$ 1,000 million is substantially increased, it will be extremely difficult to fill the resource gap;

- to increase the African share of ODA resource flows from the present level of around 50 per cent to at least 60 per cent. Africa has a strong case in this respect vis-à-vis the other developing regions. It consists of more than 50 per cent of the total number of developing countries and counts 18 countries of the 25 LDCs. In addition, it has the most acute problems in comparison with other regions;
- to increase the financial allocation to the food and agriculture sector, will call for:
  - (a) a review of the investment portfolio of the African Development Bank to reflect the priorities agreed on at the Summit;
  - (b) BADEA should also devote a larger share of its loan and grants accordingly;
  - (c) The World Bank should be called upon to assist as far as possible in the implementation of the decisions of the Summit;
  - (d) in their efforts to raise funds under the EEC-ACP Convention, member States should make their requests in a way and manner to reflect a consistency with the Summit decisions and place priority on food and agriculture projects; and
  - (e) Member Countries should accept the idea of matching funds whereby countries would be expected to contribute dollar for dollar for external funds received.

## IX. IMPLEMENTATION AND MONITORING

A. Implementation

143. Responsibility for implementing the actions recommended in preceding sections rests primarily with national governments. As the food situation and problems differ from one country to another, the first step is for governments to examine how the proposed priorities and suggested action programmes apply in the context of the concrete situations of their own countries.

Strategy Review Missions

144. With this in view, FAO in collaboration with ECA, OAU, WFC and any other relevant organizations should mount Strategy Review Missions which, on request, would visit interested countries and assist them in the review of their policies, plans and programmes for food production and for agricultural and rural development. In providing such assistance, the Missions will be guided by the recommendations and proposed programmes for action at the national level indicated in the Regional Food Plan for Africa, the WCARRD Programme of Action, the relevant recommendations and resolutions of the WFC, ECA, as well as the Monrovia Declaration and the decisions of the OAU Extraordinary Economic Summit, 1980.

145. The exact terms of reference for the Missions will be drawn up for each Mission separately in consultation with the Government concerned. The general functions of the Missions are given in more detail in annex III. The cost of fielding the Missions will vary according to the specific tasks to be undertaken. As a rough estimate, the cost per country may vary from US\$ 50,000 to US\$ 150,000. Assuming that 25 country missions will be mounted during the next five years, total cost involved would amount to US\$ 2.5 million.

146. In order to speed up action on the Strategy Review Missions, the decisions of the Summit should be communicated to the Conference of Ministers of Agriculture to be held in June 1980 (Lomé, Togo) for approval of the broad terms of reference for these missions.

### Preparation and execution of development programmes

147. Development, in the final analysis, boils down to the implementation of policy actions and projects. Following the delineation of priority fields of action, a major task will be identification, formulation and execution of well specified programmes and projects.

148. The lack of skilled "cadres" for the preparation and execution of investment programmes and projects constitutes one of the most serious constraints that African Governments are facing in the effective allocation of increased resources to food and agriculture. To alleviate this particular problem and accelerate the pace of identification, preparation, execution, monitoring and evaluation, high priority should be given to training aimed at building capabilities in project analysis and management, at the national level.

149. It is furthermore recommended that FAO, in co-operation with ECA and other relevant agencies, also expand its programme of training in project analysis at the subregional and regional levels with particular emphasis on project preparation in the areas of food losses, food security, food production and agricultural development schemes as defined in this report.

150. At the subregional level, two Seminars/Workshops should be held annually at an estimated cost of US\$ 75,000 each over the next five years (total cost 1980-85 = US\$ 750,000). Simultaneously, at the regional level, two similar Seminars/Workshops but relatively more advanced than the former, should be held annually in Addis Ababa at the cost of US\$ 55,000 each over the next five years (total cost 1980-85 = US\$ 550,000). The above training programmes during the period 1980-85 would thus involve, excluding participants costs, a total of US\$ 1.3 million.

### Technical and Economic Co-operation

151. In implementing the recommended action programmes, adequate external support is needed in many countries. The small and fragmented nature of many national markets and the variety that exists in national resources endowment as well as in national skills and capabilities for development administration,

make it imperative for governments to explore and vigorously pursue avenues for increased collective reliance in food and agriculture through co-operation (ECDC and TCDC) among countries of the region, in trade, exchange of manpower and technology, and joint development of programmes at the subregional and regional levels.

152. Generally, ongoing regional programmes for agricultural development have purposes which are in harmony with the objectives of AFPLAN and WCARRD. They include, with indications of agencies responsible for them in collaboration with government:

- rice, oilseed and grain legume development, etc. (WARDA, AGC)<sup>8/</sup>
- integrated pest management (OICMA, OCLALAV, DLCO/EA and IRLCO-CSA)<sup>9/</sup>
- ecological management of arid and semi-arid rangelands (FAO-UNEP)
- control of African animal trypanosomiasis (FAO/TRYPs Commission).

153. Some of the areas in which further cooperation should be sought are the following:

- development of manpower and technology;
- eradication of human and animal diseases, such as trypanosomiasis and onchocerciasis for which subregional programmes are under way;
- integrated pest management and control;
- development and supply of inputs (seeds, fertilizers, etc.);
- food losses;
- food security;
- Marine fisheries and fisheries resources of international lakes and river basins;
- fuelwood and charcoal production;
- regional institutions dealing with forestry and forest industries.

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<sup>8/</sup> WARDA: West African Rice Development Association  
AGC: African Groundnut Council

<sup>9/</sup> See footnote 3/ on paragraph 66/ page 18/.

**B. Monitoring**

154. African governments must immediately take fundamental policy decisions and set specific goals and yearly targets for agriculture in the 1980s. It is recommended that the Extraordinary Economic Summit, 1980, establishes a machinery for monitoring the execution of its decisions on the Programme of Action it may adopt. As a first step, the Heads of State and Government of OAU should request OAU, ECA and FAO to convene a meeting of the Ministers of Agriculture of Africa, for early 1981, preferably before the ECA Conference of Ministers in April, to work out the implementation of the decisions of the Summit with respect to food and agriculture.
155. The monitoring machinery could be established on an inter-agency basis and jointly involve: OAU, ECA and FAO. They would closely co-operate in preparing progress reports and in providing the resulting feedback. The progress reports would cover the periods June 1980 to December 1981, January 1982 to December 1983, and January 1984 to December 1985. These reports would be submitted to the FAO Regional Conference, ECA Conference of Ministers and the OAU Summit Conference.
156. Monitoring at the national level will essentially be a component of the existing, if any, co-ordination system for monitoring agricultural programmes and projects. In many countries, responsibility for programmes for agriculture, forestry, and fisheries development is spread over a number of Ministries or departments. The Strategy Review Missions mentioned earlier could advise governments, at their request, on the establishment of appropriate national monitoring systems.
157. The national monitoring agency will prepare progress reports at the end of each year and submit these to OAU, ECA and FAO for consolidation and presentation to the FAO Regional Conference, ECA Conference of Ministers, and finally the OAU Summit.

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158. Standard methods and procedures for monitoring and reporting should be jointly developed by OAU, ECA and FAO in collaboration with national and concerned subregional, regional and international organizations.

159. OAU, ECA and FAO should develop quantitative indicators for measuring the impact of the Summit's decisions on the target subsectors and commodities in the area of food and agriculture development as expounded in this document.



## ANNEX I: TYPES OF NATIONAL PROJECTS ON FOOD LOSSES

Action can start by combining various model projects/elements such as:

- Project A: Farm Grain Storage Improvement
- Project B: Improved Farm Storage of Yams
- Project C: Construction of Village/Co-operative Stores
- Project D: Construction of Grain Warehouses
- Project E: Warehouse Management and Pest Control
- Project F: Small-scale Grain Drying
- Project G: Small-scale Rice Milling Improvement
- Project H: Rodent Control in Agricultural Areas
- Project I: National Campaign to Reduce Food Losses in Marketing Channels
- Project J: National In-Service Training Programmes in Post-harvest Technology

Each of the above model projects requires external assistance ranging from US\$ 70,000 to US\$ 500,000, and needs to be accompanied by twice this volume from local resources.

## ANNEX II: SELECTED NATIONAL FOOD SECURITY PROGRAMMES

Country	Investment/ Construction	Grain	Technical Assistance	Total
.....US\$ million .....				
Cameroon	1.3	1.4	1.0	3.7
Chad	0.7	1.4	0.8	2.9
Ghana	1.2	3.0	0.39	4.59
Mozambique	13.6	7.0	7.56	28.16
Nigeria	40.0	25.0	0.8	65.8
Somalia	0.85	3.03	0.17	4.05
Tanzania	12.5	18.5	0.7	31.7
Total	70.15	59.33	11.42	140.9
Percentage	49.8	42.2	8.2	100.0

### ANNEX III: STRATEGY REVIEW MISSIONS

#### Purpose

The purpose of the Strategy Review Missions is to advise governments on the adoption of appropriate policies and institutions, as well as the determination of priority areas for programmes in the field of agricultural and rural development with focus on increased food production, improved self-sufficiency and food security.

#### Duties

In general terms, the Missions will undertake the following tasks:

- (i) review existing policies and programmes in the fields of agricultural and rural development with a view to assessing their impact on improved food self-sufficiency and food security;
- (ii) Assess the major constraints - economic, physical, technical and institutional - as well as the possibilities for increased food production and improved agricultural and rural development;
- (iii) in the light of the above review and assessment, determine the priority areas for short- to medium-term action, discuss with the government the need for possible adjustments in existing policies and programmes and indicate the broad implications of such adjustments in terms of resource allocations (domestic and external);
- (iv) identify priority areas for new programmes and projects and indicate possible needs for further technical and financial assistance in the formulation and appraisal of such programmes and projects;

**ANNEX III: STRATEGY REVIEW MISSIONS (Cont'd)**

- (v) any other relevant tasks agreed upon in consultation with the government.

**Composition**

The composition of the Missions could be limited to the provision of expertise in policy and programme analysis, in rural development, including expertise in finance and resource mobilization, and if so required, also in one or more technical fields such as land and water development, crop production, livestock and fisheries.

The exact composition of the team will be determined in consultation with the government concerned.

## ANNEX IV: INVESTMENTS REQUIRED FOR PROPOSED SELECTED PROGRAMMES

	1980-1985 <u>US\$ million</u> <sup>1/</sup>
<u>Food losses</u>	
crops	1 425
livestock	900
fisheries	65
sub-total	<u>2 390</u>
<u>Food security</u>	
programmes	1 000
solidarity fund	20
sub-total	<u>1 020</u>
<u>Food production</u>	
crops inputs (including plant protection)	(560)
irrigation	1 890 <sup>2/</sup>
land development	600
soil and water conservation	840
flood control	65
mechanization	8 015
livestock	2 400
fisheries	750
sub-total	<u>14 560</u>
<u>Forest production</u>	
plantations	3 000
industries	400
sub-total	<u>3 400</u>
<u>Total investments, excluding inputs</u>	<u><u>21 370</u></u>

<sup>1/</sup> at 1979 prices.<sup>2/</sup> of which US\$ 550 million is for expansion of areas equipped for irrigation.

F

AFRICAN STRATEGY IN THE FIELD OF INTERNATIONAL  
TRADE AND FINANCE INCLUDING INTRA-AFRICAN  
TRADE AND FINANCE

Proposals submitted by the Conference of African  
Ministers of Trade to the Extraordinary Session  
of the OAU Assembly of Heads of State and Government

1. In examining the question of a new African strategy in the field of international trade and finance and in proposing the following draft strategy for the African region as part of the over-all development strategy for Africa for the Third Development Decade, the Conference of African Ministers of Trade in addition to being aware of various Declarations and Programmes of Action subscribed to by developing countries in recent years including the Arusha Programme for collective self-reliance and framework for negotiations took into account the following considerations:

(a) The African region's external trade is excessively biased towards the developed world, and in particular, towards the developed market economy countries, with no less than 80 per cent of its total exports and about the same percentage of its imports going to, and originating from this latter group of countries;

(b) In contrast, intra-African trade accounts only for about 5 per cent of the region's total trade and is tending to decline;

(c) Substantial increases in trade exchanges with developed countries over the last ten years and before have failed to have a corresponding favourable impact on the socio-economic development, either of the region taken as a whole or of individual countries. On the contrary, the terms of trade of many countries have in fact been deteriorating steadily as a result of persistent inflation in the developed countries which more than proportionally affected the unit prices of goods imported therefrom, and of less substantial increases in the prices of many African exports, for which it was becoming increasingly difficult to find markets in developed countries;

(d) Foreign trade enterprises, particularly transnational corporations, not only dominate both the production and internal distribution of products in many countries of the region, but also have control over the import/export trade and a broad range of such services as transport, insurance, financing, ordering and shipping;

(e) African countries in general and least developed countries in particular have accumulated large deficits on current account and are faced with mounting public debt problems. Furthermore, the instability of the major currencies to which those of African countries are pegged, not only has generally failed in protecting the economies of African countries from the shock of foreign inflation, but has created fluctuations in the real value of Africa's external assets;

(f) The poor transport and communications networks and the inadequacy of appropriate machinery for the exchange of information within the region, which inhibits the promotion of intra-African trade.

(g) To remedy most of these ills, countries in the region have over the last ten years and more, enthusiastically and at great cost to themselves, been participating and are still participating in a number of major international economic negotiations which have resulted in lesser or greater failures and from which they have failed to derive any meaningful benefits from the standpoint of the impact thereof on their socio-economic development;

(h) Africa, inspite of being the least developed among the developing regions, has benefited less than any other developing region from its participation in international negotiations.

2. From the above considerations the conclusion that should be drawn is not that African countries should not participate any longer in international trade and finance negotiations, let alone cease to have trade and financial relations with the rest of the world, including developed countries, but rather that they should conceive and conduct the former differently, and restructure the latter.

3. In so far as negotiations with the rest of the world are concerned, it is of critical importance that very thorough technical and political preparations take place at the national, subregional and regional levels.

4. In the first place, objectives and priorities at the various levels need to be identified and ranked with as great a degree of precision as possible and be closely related to over-all socio-economic strategies, taking into account the sovereignty of all countries over their natural resources. Care should be taken to ensure that the strong and weak points of all the parties to the negotiations including African countries, are adequately analysed.

5. There is an urgent need to set up, wherever they do not yet exist, appropriate permanent machineries or to strengthen existing ones, with a view to preparing for, backstopping, and monitoring progress in negotiations as well as ensuring necessary co-ordination with respect to participation in various interrelated negotiations. Similarly these machineries should ensure necessary follow-up action regarding assessment of the outcome of the negotiations, and implementation of whatever agreements may be reached.

6. However fruitful the recent or on-going international negotiations within the framework of the New International Economic Order might be, it should be clearly understood that the new international economic order cannot be fully beneficial to the region as a whole, particularly the least developed countries, if that new international economic order is not accompanied and even preceded by a new African regional socio-economic order. And this, in turn, needs to be based on a new national and subregional economic order.

7. Serious efforts should be directed towards the development and expansion of transport and communication systems and the establishment of appropriate mechanisms for the exchange of trade information with a view to facilitating trade among African countries.



8. In short, a real African strategy in the field of international economic relations, including that of international trade and finance, should be part and parcel of the African strategy for the establishment of the new African socio-economic order mentioned above. Better still, the former should serve to establish the latter.

9. This means in particular that, however useful it might be to improve the international economic environment within which African countries are endeavouring to implement their development policies, these policies should first of all be based on the internal needs and socio-economic realities of the continent. It should be clear that the region's varied resources and potentials including its markets should be used and exploited as a matter of priority before any recourse to aid or foreign assistance is considered.

10. In other words, the development engine should come primarily from within, at the national, subregional and regional levels. This, of course, does not mean that there is to be no room for significant participation in international trade or in major international economic negotiations. Rather, Africa should participate with a clear mind about its global and sectoral objectives, which should outweigh other considerations and to whose attainment international trade and economic relations should provide an additional contribution on the basis of very selective criteria.

11. All this means that sustained efforts should be made to refute the old adage that "Africa produces what it does not consume and consumes what it does not produce". To do this, collective self-reliance must be developed, not only at the national level, but also at the subregional and regional levels.

#### International trade

12. From the foregoing, it is clear that a new African strategy in international economic relations, including international trade, should reverse present trends, and accord the highest priority to a systematic well-planned policy for expanding intra-African trade as a means not only of assisting in the attainment of African unity, or in the required diversification of trade but also of promoting self-sustained growth.

13. While African countries should be willing to accept and use the possibilities and potentials that are offered in various ways by economic relations with the rest of the world, they should endeavour to tap and utilize existing potential and capacity for action by strengthening intra-African economic co-operation to the best advantage.

14. In this regard there is an urgent need systematically to explore and exploit trade and economic co-operation potentials with other developing regions and countries within the framework of collective self-reliance within the Third World. In doing so, however, great care should be taken to ensure that Africa's present lower level of development compared to those of

the other regions is duly taken into account and that the type of unequal relationships resulting from colonization that has prevailed between the North and the South generally, and between the North and Africa in particular is not reproduced in Africa's relations with the other regions. In other words, while due recognition should be given in all negotiations with the other regions to the fact that Africa as a whole is the least developed among the developing regions and appropriate safeguard worked out, there is need to conceive and implement economic co-operation schemes including the establishment of agricultural and industrial production enterprises, in such a way as to assist significantly in the development of the region.

15. African countries should give priority to the implementation of the Transport and Communications Decade and the Industrial Development Decade, given their importance for the development of intra-African trade.

16. Furthermore, in accordance with the resolutions adopted by UNIDO General Conferences in Lima (1975) and New Delhi (1980), African countries should strive to achieve the following targets:

(a) By the year 2000, Africa's share of world industrial production should reach 2 per cent and efforts should be made to increase Africa's share of world trade in manufactures within the framework of the 30 per cent target which has been set for developing countries as a whole.

(b) The imports of technology by African countries from the developed countries should be covered by 50 per cent of their exports of manufactured goods to the developed countries by the year 1990, and be covered up to 100 per cent by the year 2000.

17. As regards trade with developed centrally planned economy countries, there is need to diversify both geographically and structurally Africa's economic and trade relations with them, so as to ensure that more and more meaningful benefits can be derived therefrom by all member States.

18. It is of the utmost importance for African countries to ensure control of foreign trade by their national structures, whether this is effected by way of State intervention or private indigenous corporations, or a combination of both with a view to ensuring that benefits accruing from foreign trade operations make a much more meaningful contribution to the economic development of the region than has been the case hitherto.

19. In the area of international negotiations, the African region together with other developing regions must endeavour to ensure the restructuring of the existing international economic framework within the context of the New International Economic Order since such restructuring is an essential element for accelerated development of developing countries.

20. Thus in order to launch the new strategy on a sound footing, it is of fundamental importance that:

(a) Current and projected international negotiations and conferences relating to the establishment of the New International Economic Order should be completed speedily and successfully;

(b) Fundamental changes are brought about in the existing mechanism, systems and structures governing economic relations between developed and developing countries. More specifically these basic changes in the area of international trade require the establishment of a new trading framework including agreement on new trading rules and principles covering, inter alia, structural adjustments and preferential treatment for the developing countries, regulation of the operations of transnational corporations, elimination of protectionist measures as well as control of an elimination of all forms of restrictive business practices;

(c) The activities of transnational corporations in Africa, with particular regard to transfer pricing, should be regulated as a matter of urgency at the national, subregional and regional levels.

21. As regards the commodity sector, efforts to restructure commodity markets and trade urgently need to be intensified.

(a) The new strategy will need to set quantitative goals which will have to be substantially higher than those of the last development decade;

(b) African countries need to rationalize their own institutional machinery to ensure their own effective participation in international negotiations and strengthening their bargaining power.

#### Financial and monetary matters

22. While efforts to resume international negotiations on a fundamental reform of the international monetary systems and financial policies should be pursued, the need for African countries to devise and pursue monetary policies that will serve first and foremost their domestic needs and not be externally oriented should be stressed.

23. At the national level, such a new monetary policy should include:

(a) The transformation of the banking system into a dynamic instrument for promoting development;

(b) Such measures as will assist in the integration of the so-called modern (urban import/export) sector with the rest of the economy;

(c) The complete restructuring and reorientation of the policies and programmes of monetary and financial institutions imported to Africa (i.e. central banks, commercial banks, etc.) - in such a way as to integrate them better in the development objectives of each country.

24. Sound foundations must of necessity be laid for setting up rational monetary and financial systems in Africa at both the subregional and the regional levels to overcome the problems of the multiplicity of currency zones; the inconvertibility of most of the currencies in the region; and the non-existence, or at best the grossly underdeveloped nature of financial and capital markets. It is only when this is done that meaningful monetary and financial relations can be established with countries outside the region to ensure that Africa derives optimal benefits and consequently minimizes costs resulting from current international monetary and financial imbalances.

25. Efforts should therefore be undertaken for the establishment of an African Monetary Fund during the decade of the 1980s to assist in overcoming the problems indicated above. Similarly for the same reasons an African Mutual Guarantee and Solidarity Fund should be set up as soon as possible.

26. A high-level expert group should be set up as soon as possible to study and recommend the modalities for the establishment of an African Monetary Fund and submit its report thereon to the Ministerial Follow-up Committee on International Trade and Finance for African development not later than 1982.

27. Furthermore, both ECA and OAU should jointly intensify their efforts with a view to establishing subregional clearing and payments arrangements, where they do not exist at present, and to strengthening existing institutions. Such subregional arrangements should ultimately be linked up into an African Clearing and Payments Union.

#### Strengthening the negotiating capacity of the African region

28. There is an urgent need to strengthen the negotiating capacity of the African region by establishing, at all levels, appropriate structures and machinery for use in the effective preparation of international negotiations. To this end the following steps should be taken:

(a) An integrated approach to international negotiations should be adopted with the view to ensuring that African countries benefit as much as possible from negotiations. All measures proposed in different areas of negotiations should be consistent with one another and should fit into the global pattern of negotiations for the establishment of new African and world economic orders;

(b) African States should take steps to establish appropriate structures for the training of qualified senior officials in international economic relations and negotiations;

(c) All African States should establish appropriate structures and machinery for ensuring that the agreements reached and arrangements made in international negotiations are properly implemented;

(d) Measures should be taken to set up permanent national, subregional and regional machinery dealing with the information, consultation and co-ordination aspects of international negotiations.

29. At the regional level it was decided to set up a Ministerial Follow-up Committee on International Trade and Finance for African Development which will be responsible for:

(a) Monitoring the implementation of the African strategy in the field of International Trade and Finance including intra-African trade and finance as part of the over-all development strategy for Africa;

(b) Co-ordinating, harmonizing and preparing the African position on issues relating to international trade and finance for development;

(c) Reviewing from time to time progress made in the implementation of multilateral agreements between African countries and the outside world in the field of international trade and finance.

Intra-African trade expansion

30. Intra-African trade expansion is meant to constitute the mainstay for the present strategy, both as a means of diversifying the over-all trade of the region and of concretizing continental and subregional self-reliance and assisting in the economic development of the region.

31. At present, intra-African trade is not only small compared with total African trade (averaging about 5 per cent), but is also declining. That is true not only in respect of over-all intraregional trade, but also for trade between some of the subregions. Furthermore, the major exports of African countries consist of unprocessed or semi-processed raw materials, which are subsequently imported back at exorbitant prices in the form of finished goods from the developed industrialized countries. Hence, most of the African countries are faced with acute balance-of-payments problems and escalating public debt commitments.

32. Regarding the major problems experienced in intra-African trade and finance, countries within the region often follow different commercial and economic policies, thus, making co-operation in trade and other fields rather difficult. The inadequacy of the transport and communication systems within the region, the insufficient flow of trade information, the unco-ordinated nature of production enterprises in member States, the locating, outside the continent, of intermediate processing plants in the chain of industrial production, the smallness of national markets, the restrictive business practices of transnational corporations, the low production capacity which arises from the shortage of the necessary investment resources, tariff and non-tariff barriers imposed on trade, the inadequacy or absence of appropriate payments arrangements within the region, the skewed nature of income distribution between rural and urban communities, the lack of confidence in the quality of African goods and the lack or inadequacy of trade promotion mechanisms are among the major constraints experienced in the promotion and development of intra-African trade and finance.

33. The level of intra-African trade and finance cannot be improved without restructuring the economic systems of the region including production and domestic trade structures. Similarly the restructuring of the economic systems of African countries cannot be fully achieved through resolutions or decisions taken at various international fora in which foreign metropolitan Powers are involved. African countries will therefore have to adopt their own strategies at the national, subregional and regional levels, and agree on concrete, positive actions to be taken by them if intra-African trade is to make the best possible contribution to the achievement of self-sustained and meaningful economic development in the region within the shortest possible time.

34. No doubt, taking into account the large number of countries involved and the differences which exist today not only in their socio-economic policies but also in their levels of development, it may take some time for member countries fully to co-ordinate their activities in all the required areas. However, in view of the undertaking specifically expressed by member countries to implement the Monrovia Declaration and Plan of Action, there is no reason why the necessary action should not commence immediately and be systematically pursued over a definite time-span within the framework of the Third Development Decade. Hence the following measures are proposed:

(i) Reduction or elimination of trade barriers

35. The Plan of Action for the African region in the International Development Strategy for the Third United Nations Development Decade as adopted at the thirty-third ordinary session of the OAU Council of Ministers held in Monrovia, Liberia, from 6 to 20 July 1979, calls for an undertaking by member countries to enter into negotiations aimed at reducing or eliminating tariff and non-tariff barriers among themselves at the subregional, intersubregional and regional levels.

36. Conscious of the need to promote inter-State trade among themselves, the Central African countries, in the context of the Economic Community of the Great Lake countries, like the West African countries in the context of the Economic Community of West African States, have already embarked upon a programme to eliminate all trade barriers within their subregions. Some North African countries have bilateral preferential arrangements between themselves. Similarly the countries of Eastern and Southern Africa are about to conclude negotiations on the Treaty for the Establishment of a Preferential Trade Area which, among other things, provides for the progressive reduction and eventual elimination of trade barriers among themselves, commencing with certain selected commodities.

37. Taking into account the experience gained from the negotiations on the creation of the Preferential Trade Area for Eastern and Southern African States, it is proposed that:

(a) The interested countries, within the framework of their respective MULPOCs based at Gisenyi, Yaounde and Tangiers, should commence negotiations among themselves as soon as possible with a view to establishing appropriate preferential trade areas or similar institutions not later than December 1984. In this connexion the establishment of a preferential trade area for the North African States should be accorded appropriate priority.

(b) In anticipation of establishing preferential trade areas or similar institutions by the end of 1984, intersubregional negotiations should commence not later than 1985 with a view to progressively reducing and eventually eliminating intersubregional trade barriers.

(c) Existing economic integration groupings which have advanced beyond the level of preferential trade area arrangements should be assisted in achieving more advanced co-operation arrangements among themselves.

38. While it may take quite some time to eliminate tariff and non-tariff barriers, trade regulatory measures instituted by member countries can be reduced or even eliminated over a relatively short period. It is therefore further proposed in this connexion that all African countries should:

(a) Endeavour to eliminate all trade regulatory measures which have the effect of curtailing trade among themselves before the end of 1984;

(b) Grant to each other most-favoured-nation treatment in their intra-regional trade as soon as possible.

39. Furthermore, taking into account the emphasis laid by the Strategy on the need to attain self-sufficiency in food and also considering one of the provisions of the resolution on Regional Food Plan for Africa <sup>1/</sup> which calls for the promotion of regional trade in food products by the progressive reduction of both tariff and non-tariff constraints which remain obstacles to regional and subregional trade, it is proposed that:

(a) All customs duties applied by member countries to intra-African trade in respect of basic food commodities produced by African countries (cereals, coffee, pulses, sugar, meat, maize, fish, oilseeds, rice, wheat, sorghum, tea, vegetable oils, etc.) should be substantially reduced not later than December 1984; and that machinery for negotiating further tariff cuts at intervals of two years be established at the regional level;

(b) All food products originating from member countries should be exempted from the application of regulatory non-tariff barriers except health requirements, effective from January 1982.

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<sup>1/</sup> Resolution adopted by the Regional Conference of the African Ministers of Agriculture, Arusha, 18-28 September 1978.

(ii) Mechanisms and measures for the facilitation and development of trade

40. Because of the poor trade links established by the former colonial Powers, intra-African contacts and consultations on trade matters are rather limited. No doubt, whatever levels of tariff and non-tariff preferences are exchanged among member countries, intra-African trade cannot be expanded unless appropriate mechanisms and measures are established for disseminating systematic information on what types of commodities are available, where, when, how and at what prices. Hence, the plan of action aims to bring about direct contacts between competent organizations in African countries, both State and private, particularly those dealing in the major export and import commodities within the region.

41. A close examination of Africa's principal exports which constitute about 90 per cent of the region's total exports, reveals that most of these are primary commodities, largely raw and semi-processed agricultural and mineral products. Those commodities of special significance are cocoa beans, coffee beans, cement, oil seeds and vegetable oils, basic chemicals, raw cotton, sugar, rice, wood and timber, copper ore and copper concentrates, pharmaceuticals, phosphates and fertilizers, crude petroleum, etc. In recognition of the special importance of these commodities, a number of countries have established specialized organizations (including State trading organizations) to deal with the production and/or marketing of their respective commodities. What is required is for those countries which do not have such organizations in respect of their major export and import commodities to establish them, and institutionalize direct contacts among such organizations at the subregional and regional levels. In the circumstances, it is proposed that:

(a) To minimize the use of foreign exchange and promote intra-trade, studies should be undertaken by ECA, OAU and other competent organizations as soon as possible on the demand and supply of major intra-African trade commodities, with a view to assisting Governments in establishing agricultural and non-agricultural commodity exchange arrangements at the subregional and regional levels before the end of 1985;

(b) African countries should endeavour to establish specialized marketing organizations in respect of their major export/import commodities not later than the end of 1983, with a view eventually to establishing subregional and regional councils of buyers and sellers for each major commodity by the end of 1985;

(c) Studies should be undertaken by ECA, OAU and other competent organizations and actions should be taken to establish adequate bulk storage and conservation facilities for food commodities at the national and subregional levels not later than the end of 1984;

(d) Associations of State trading organizations should be established at the subregional level which should evolve into a regional African Association of State Trading Organizations not later than the end of 1985 with a view to harmonizing their operational policies and procedures and agreeing on the joint procurement of selected key imports among the countries concerned;



(e) Governments should promote and facilitate the establishment of national Chambers of Commerce (where they do not exist), to include both State and private trading companies, with a view to establishing subregional associations (wherever they do not yet exist) and agree to facilitate the setting up of an African Federation of Chambers of Commerce, not later than 1985;

(f) Considering their need to promote foreign trade, all countries which do not have them, should endeavour to establish trade promotion councils which should be responsible for the establishment of national foreign trade promotion centres, with a view eventually to bringing such centres within subregional associations and expanding the activities of the Association of African Trade Promotion Organizations;

(g) To reduce the costs of trade promotion activities, countries should endeavour to establish, through subregional associations of trade promotion centres and through the Association of African Trade Promotion Organizations, joint facilities for conducting market surveys, disseminating information on trade and training experts in foreign trade promotion;

(h) African countries should endeavour to establish within their territory the intermediate processing plants in their industrial production chain now located outside Africa in order to maximize the potentialities of intra-African trade;

(i) Trade data banks should be established at the subregional and regional levels.

42. No doubt the prejudice against African manufactured goods and difficulties in promoting intra-African trade arise partly from the lack of co-ordination of standardization and commodity quality control activities among African countries. While a number of countries have already established institutions and programmes for standardizing and controlling the quality of their products and embarked on programmes and campaigns to promote the sale and consumption of national products, very little has been done in promoting the consumption of African goods at the subregional and regional levels. It is therefore proposed that:

(a) Countries which have not established national standards bodies should do so as soon as possible;

(b) Membership of the African Regional Organization for Standardization (ARSO) (which presently comprises only 19 countries) should be expanded to include all African countries by the end of 1982. ARSO should be entrusted with the task of establishing African regional standards for all products of interest to intra-African trade. If need be, ECA should be requested to offer the necessary advice and assistance;

(c) Trade fairs and publicity campaigns should be held at least annually, at the national, subregional and regional levels, with particular emphasis on publicizing the quality of African products. In this respect, ARSO should operate a regional certification marking scheme with a view to certifying the quality of and promoting African products. A permanent "Buy African goods" campaign should also be vigorously launched under the aegis of OAU and ECA within the framework of the all-African trade fairs, starting with the next Fair to be held in 1980.

43. It should be noted that the dual structure of the African market has the effect of attenuating intra-African trade. There is therefore need for the physical integration of rural and urban markets with a view not only to harmonizing rural and urban development, but also to widening the present narrow markets and systematically promoting intra-African trade in commodities which are largely consumed in rural areas. Accordingly, it is proposed that all African countries should:

(a) Identify goods which are largely consumed in rural areas with a view to promoting their production on a large scale and making them available for intra-African trade;

(b) Constantly explore and exploit possibilities of processing locally available raw materials for marketing within the African region; and

(c) Take all appropriate measures (including trade fairs and campaigns) to promote the exchange of commodities consumed in rural areas at the regional and subregional levels.

44. It is also clear that without adequate distribution mechanisms the promotion of intra-African trade cannot be achieved. Since it would be unwise for African countries to rely on foreign enterprises for the effective distribution of their trade commodities, there is an urgent need not only to restructure their domestic trade and in particular their commodity distribution channels, but also to establish or strengthen indigenous commodity distribution enterprises. Indeed, a number of countries have already established such agencies but they are confined to domestic markets. In the circumstances it is specifically proposed that:

(a) African countries should establish distribution enterprises where they do not exist and with necessary storage facilities for their major intra-African trade commodities at the national and subregional levels;

(b) Indigenous multinational shipping enterprises and freight booking centres should be established at all subregional levels before the end of 1985, and accorded appropriate preferential treatment for trade in intra-African trade goods;

(c) Furthermore African countries should co-operate in the establishment and improvement of the necessary transport and communications links among themselves as well as insurance facilities for indigenous tradesmen with a view to securing the quick and efficient movement of trade goods and their preservation during such movement.

(iii) Monetary and financial co-operation measures

45 The adoption of the trade promotion measures proposed above, apart from the fact that they would assist in taking action for promoting monetary and financial integration within the African region, in order to guide intra-African trade in the required direction will certainly need corresponding financial and monetary measures. It is in this regard that the plan of action proposes not only the strengthening of existing payments arrangements and the creation of new ones, but also the establishment of export credit insurance systems and the mobilization of resources within the region for financing trade and development.

46. Experience gained from the operations of the payments arrangements established within the region [including subregional ones such as the West African Clearing House (WACH), Banque Centrale des Etats de l'Afrique de l'Ouest (BCEAO) and Banque des Etats de l'Afrique Centrale (BEAC)] confirms the view that financial co-operation may not only reduce transaction costs and promote savings of foreign exchange but also assist in promoting intra-trade among the countries concerned. It is no doubt to these ends that countries members of BEAC and the Bank of Zaire have recently signed an agreement to establish the Central Africa Clearing and Payments Union, and the countries of Eastern and Southern Africa are about to conclude negotiations on a protocol on clearing and payments arrangements.

47. In the circumstances it is proposed that:

(a) Each subregion should review whatever financial co-operation arrangements exist among member countries with a view to integrating them into one subregional multilateral clearing and payments system not later than the end of 1984;

(b) For those subregions where institutional payments arrangements do not exist, member countries should embark on negotiations to establish appropriate clearing and payments arrangements concurrently with the negotiations on the creation of preferential trade areas and not later than the end of 1984.

(c) Following the establishment of institutional clearing and payments arrangements in all subregions, member countries should embark on negotiations for the creation of appropriate payments arrangements for the whole region, with a view to achieving a payments union for the whole region, before the end of this decade.

48. Experience gained from the operations of existing multinational development banks indicates that such institutions could also be used as mechanisms for adjustment and compensation for those member countries which appear to be gaining less than others under economic co-operation arrangements. It is therefore proposed that:

(a) Development finance institutions be established in all subregions covered by the respective MUFECs, not later than the end of 1984;

(b) The African Development Bank be financially strengthened so that it may be able to offer more assistance to African countries particularly the least developed ones among them.

49. Finally, it is proposed that:

(a) Co-ordinated measures shall be taken to establish financial markets at the national, subregional and regional levels;

(b) National commercial banks should be encouraged to extend credit to exporters of intra-African trade commodities;

(c) Special departments for financing intra-African trade be established within such subregional development bank not later than 1985, to complement the facilities offered by national commercial banks;

(d) Subregional export credit insurance systems be established within the framework of the subregional development banks, not later than 1985.

(iv) Establishment of African multinational production corporations and joint ventures

50. It will be observed that complete unavailability, periodic or permanent shortages of specific goods constitute a major obstacle to intra-African trade expansion. While serious and sustained efforts can bring about an increase in intra-African trade in existing commodities, there is no question that a big potential for substantial trade creation could and should be exploited if groups of countries, whether or not belonging to the same subregions, could agree to engage in joint ventures such as African multinational production corporations for the production of goods which could automatically find outlets in all the interested countries. Such companies exist already in some subregions, for example, the joint project between Algeria and Tunisia for the establishment of a gas pipeline or CIMMO, a joint venture between the Ivory Coast, Togo and Ghana for the production of clinker. Many more such corporations should be systematically established for the production of capital or consumer goods or even raw materials which would be identified on the basis of existing and potential needs.

51. Therefore, it is proposed that:

(a) Co-operation in processing of domestically available raw materials be encouraged through the establishment of joint or multinational corporations;

(b) Countries should conclude long-term purchase and supply contracts as a means of promoting their mutual trade.

## INDUSTRY

## I. PREAMBLE

1. Twenty years after the majority of African countries have acceded to political independence, the African continent is facing the decade 1980-1990 seriously handicapped by its underdeveloped condition. This underdevelopment is manifested socially, among other things, by the low level of satisfaction of the basic needs of the population continued widespread illiteracy, and the persistence of major endemic diseases.

This situation is reflected in economic and administrative structures which fail to meet the requirements of development.

The African economy is still based essentially on agriculture and artisan-style production, the main features of which are the low productivity of the techniques used, poorly qualified manpower and inadequate infrastructures.

With an average per capita, income of \$US166 (1970)<sup>1/</sup> and in spite of an average rate of growth of 3.5 per cent (1970-1977) and with 20 of the 30 least developed countries, the African continent occupies the worst position in the world-wide struggle against underdevelopment. <sup>2/</sup>

2. Africa's present state of underdevelopment is the direct consequence of many centuries of colonization and domination in all their numerous forms, under which both the population and the continent's raw materials were ruthlessly exploited.

3. Like the developing countries as a whole, with which they have close ties, the African countries have undertaken to achieve their economic and social development which, while entailing the radical transformation of their societies and the establishment of an integrated economic structure, necessitates in addition to a plan for mobilizing the entire human and material resources of each one of them, requires having recourse to massive external resources which represent an essential contribution.

4. The variety of external resources needed by the African countries to complement the resources they will mobilize themselves in order to give their development activities the depth, continuity and pace without which any effort of such magnitude is bound to fail, should come to a large extent and above all from the developed countries, which owe their present wealth in large measure to the exploitation of the African continent.

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1/ Excluding oil exporting countries. For the low-income group of countries, the figures are \$145 for Africa and \$155 for other developing regions. For the middle-income group, the figures are \$390 for Africa and \$990 for the other developing regions.

2/ Manufacturing value added in Japan was six and one half times that of Africa in 1963 and nine times that of all African countries together in 1975. The share of Latin America in world manufacturing value added was 5.5 times that of Africa in 1963 and six times in 1975.

5. The African countries consider that the present underdeveloped state of the majority of the peoples of the earth, and the African peoples, more particularly constitutes not merely an obstacle to the continued development of the existing advanced countries but also a threat to world peace.
6. In this connexion, the massive transfer of resources to the African continent must take the form either of grants or of soft loans which will enable the African countries to achieve genuine development and ever increasing economic independence. It will have to be organized in such a way that the proportion of grants is in inverse proportions to the level of development of the beneficiary country.
7. The African countries reaffirm the vital need to undertake global economic, social and cultural activities which will mobilize the strength of the country as a whole and ensure that both the efforts put into, and the benefits derived from development are equally shared.
8. The industrialization of the African continent in general and of each individual African country in particular constitutes a fundamental option in the total range of activities aimed at freeing Africa from underdevelopment and economic dependence. The integrated economic and social development of the African continent demands the creation, in each African country, of 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 the other economic sectors;
  - (e) the creation of the basis for assimilating and promoting technological progress;
  - (f) the modernization of society
9. By harmonizing development activities and ensuring that optimum use is made of the limited resources of the various African countries, industrial co-operation creates conditions conducive to regional and subregional collective self-reliance, while at the same time providing the framework for strengthening the efforts of each country.
10. Conscious of this situation and of the need to strive to translate development targets, African countries reiterate their support for the resolution adopted at the third General Conference of UNIDO recommending that the United Nations General Assembly should proclaim the 1980s as the African Industrial Development Decade. They are fully aware that such a proclamation will confer certain obligations on those who work for it and thus undertake to make an appropriate contribution to the efforts required to ensure its success. They are determined, furthermore, to take all necessary steps to ensure that this Decade is fully successful.
11. The African countries note with great disappointment the negative results of the third General Conference of UNIDO. In the first place, they appreciate the true significance of this failure, namely the impotence of the developed countries to

induce the developing countries to abandon their legitimate demand for a just and equitable new international economic order.

12. In addition, they draw a number of conclusions, including:

- (a) the need to promote, side by side with the other developing countries, recognition of their right to development;
- (b) the need for fruitful co-operation between African countries, on the one hand, and between African countries and the other developing regions on the other hand;
- (c) the urgent need for each country to adopt a national development policy based, above all, on using its own resources;
- (d) the urgent need to implement a plan for the collective industrialization of Africa based on the concept of self-reliance.

## II. LONG- MEDIUM- AND SHORT-TERM INDUSTRIAL DEVELOPMENT OBJECTIVES

13. In application of that section of the Monrovia Declaration relating to industrial development in Africa and bearing in mind the targets set at the second General Conference of UNIDO at Lima and the relevant resolution of the third General Conference of UNIDO at New Delhi on the African Industrial Development Decade and in accordance with the New Delhi Declaration and Plan of Action submitted by the Group of 77, the African countries adopt the following industrial development strategy for the long, medium and short-term up to the years 2000, 1990 and 1985 respectively.

### 1. Long-term objectives up to the year 2000

14. In implementing the long-term development strategy up to the year 2000, Africa's target shall be to achieve 2 per cent of world industrial production in accordance with the Lima target

15. The attainment of this target will require the creation of an industrial structure and national levels within the framework of an integrated economy.

### 2. Medium-term objectives up to the year 1990

16. During the 1980-1990 decade, African countries intend to achieve 1.4 per cent of world industrial production and at the same time to do all within their power to attain self-sufficiency in the following sectors: food, building materials, clothing and energy. To that end they have set themselves the following targets:

- (a) creation of a solid basis for self-sustained industrialization at the national and subregional levels;
- (b) development of human resources to ensure that they are fully mobilized in the industrial development process;



- (c) production in sufficient quantities of agricultural inputs such as fertilizers, pesticides, agricultural tools and machines;
- (d) production, in sufficient quantities of building materials for the construction of decent urban and rural housing for the continent's growing population and in general to meet the economy's requirements in terms of building materials;
- (e) development of the intermediate and capital goods industries and particularly those intended for other industries and infrastructure building;
- (f) on-the-spot processing and upgrading of an increasingly large portion of the continent's raw materials;
- (g) satisfaction of industry's energy needs by developing the different forms of energy available on the continent;
- (h) satisfaction of clothing needs with special reference to textiles.

### 3. Short-term objectives up to the year 1985

17. In pursuing their medium and long-term industrial development objectives, African countries intend to achieve the following targets in the short-term:

- (a) to achieve at least 1 per cent of world industrial production;
- (b) to lay the foundations for the development of the following industrial branches:
  - (i) Food and agro-industries;
  - (ii) Building industries;
  - (iii) Metallurgical industries;
  - (iv) Mechanical industries;
  - (v) Electrical and electronic industries;
  - (vi) Chemical industries;
  - (vii) Forest industries;
  - (viii) Energy industry

## III. REQUIREMENTS FOR THE ACHIEVEMENT OF INDUSTRIAL DEVELOPMENT

### Objectives

18. If the whole set of long-, medium- and short-term industrial development objectives set by African countries are to be achieved, a variety of requirements will have to be met at the national, subregional, regional and international levels.

#### 1. At the national level

19. Industrial development in each African country will depend on:

- (a) design of a national industrialization policy which lays down priorities, targets and the human, financial and institutional resources required;

- (b) establishment of training facilities for technical personnel which will meet the requirements at all skill levels;
- (c) launching of a prospecting programme with a view to making an inventory of all the resources in a country and establishing how they should be exploited;
- (d) establishment of institutions responsible for promoting industrialization, in the field of studies, research, standardization and other services;
- (e) creation of financial institutions which offer such terms and conditions as to promote accelerated industrial development and take account of the special features of emerging sectors;
- (f) creation of machinery to co-ordinate and promote industrial co-operation between the country concerned and other countries in the subregion and the region;
- (g) creation of a network of small- and medium-scale industries;
- (h) monitoring of the activities of transnational corporations.

## 2. At the subregional and regional level

20. African countries have decided to give concrete expression to their will to co-operate by adopting the following measures:

- (a) preparation of subregional and regional plans for the creation of major industrial complexes whose cost and production capacity would exceed national financial and absorptive capacities;
- (b) creation of multinational regional or subregional institutions to make an inventory of and exploit shared national resources;
- (c) strengthening of existing institutions:
  - (i) African Regional Centre for Technology
  - (ii) African Regional Centre for Engineering Design and Manufacturing
  - (iii) African Industrial Development Fund
- (d) establishment of machinery to monitor industrialization at the sub-regional level;
- (e) creation of an African Regional Centre for Engineering Consultancy and Industrial Management Services;
- (f) promoting trade in manufactures among African countries;
- (g) strengthening and where necessary creating industrial project financing institutions;
- (h) creation of industrial zones;
- (i) creation of multinational institutions to promote financial flows and the transfer of technology to Africa;
- (j) initiation of research work at the subregional and regional levels into new sources of energy.

### 3. At the international level

21. African countries feel that it is essential to co-operate with other regions of the world in order to attain their industrial development objectives. They insist on the fact, however, that such co-operation should be mutually advantageous and should be based on respect for the fundamental interests of the continent and in particular the sovereignty of every country over its natural resources.

In their relations with other developing regions, African countries will in particular strive to:

- (a) promote the exchange of industrial technology;
- (b) implement joint technical training programmes;
- (c) conclude trade, monetary and payments agreements with a view to promoting trade in finished and semi-finished products with such regions;
- (d) obtain the additional resources required to finance their industrial development from financial institutions which, like BADEA, are controlled by developing countries and in particular the oil exporting countries;
- (e) strengthen their bargaining power by working together with other developing regions and harmonizing with them the positions to be taken vis-à-vis the developed countries.

22. For the African countries, co-operation with the developed countries should in particular lead to:

- (a) a massive transfer of resources to finance industrial projects which are accurately costed to take account of all types of additional expenditure borne by the industries of African countries;
- (b) transfer of technology at the lowest cost;
- (c) monitoring the activities of transnational corporations so as to ensure that their activities are compatible with the interests of African countries;
- (d) the adoption of an international code of conduct on the transfer of technology as well as a code of conduct for transnational corporations designed to safeguard the interests of African countries;
- (e) industrial redeployment at the World-wide level which will ensure that African countries achieve the Lima targets;
- (f) free access to developed countries' markets for the industrial products of African countries through the removal of protectionist tariff and non-tariff barriers.

23. Concerning the role of international organizations whose task it is to promote industrial development, and in particular UNIDO, African countries would like them to concentrate, as a matter of priority, on the least developed countries, and would want to see these organizations receive more material and financial resources so that they can play an effective role in promoting the industrialization of African countries.

24. Furthermore, they call for measures to be taken to put the system of consultations within UNIDO on a legal and permanent basis and to ensure that the decisions reached are binding.

#### IV. CONCLUSIONS

25. Twenty years after the attainment of political independence by a majority of the African countries, the continent is entering the 1980-1990 decade in a state of underdevelopment which makes Africa the least developed region in the world and which has resulted from several centuries of colonial domination.

26. Aware of their handicap and determined to follow through their action which is aimed at lifting them out of their underdevelopment, African countries undertake to promote global and accelerated economic and social development individually and collectively.

27. African countries accord, in their development plans, a major role to industrialization in view of its impact in meeting the basic needs of the population, ensuring the integration of the economy and the modernization of society. To this end and in order for Africa to achieve a greater share of world industrial production as well as to attain an adequate degree of collective self-reliance rapidly, African countries proclaim the years 1980-1990; Industrial Development Decade in Africa.

28. In order to achieve the industrial development objectives in the long, medium and short terms, African countries decide to take all measures at the national, subregional and regional levels and in the areas of human resources, natural resources, financing and promotion institutions in order to lay the foundation for the total and complete mobilization of all energies in ensuring the success of the gigantic task undertaken.

29. African countries determined to act in concert with the rest of the international community whose cooperation in all forms is indispensable to their own action.

30. In this connexion, African countries consider they are owed a massive and appropriate contribution by the developed countries to the development of the African continent, the successful achievement of which they see as the very condition for the continued development of the advanced countries and the preservation of world peace.

ANNEX TO

PLAN OF ACTION FOR THE IMPLEMENTATION OF THE MONROVIA STRATEGY FOR  
THE ECONOMIC DEVELOPMENT OF AFRICA RECOMMENDED BY THE BCA CONFERENCE  
OF MINISTERS RESPONSIBLE FOR ECONOMIC DEVELOPMENT AT ITS SIXTH  
MEETING HELD AT ADDIS ABABA, 9-12 APRIL 1980

1. The medium-term objectives up to the year 1990 in the above-mentioned Plan of Action in regard to industry reflects the aspirations of African countries, as far as it lies within their power, to attain, among others, self-sufficiency in food, building materials, clothing/textiles and energy. The Extraordinary Meeting of the Follow-up Committee on Industrialization in Africa which formulated these objectives called upon BCA and UNIDO to provide in an annex to the draft proposals a preliminary estimate of quantified short- and medium-term investment and manpower implications for the proposed self-sufficiency sectoral objectives. In response to this request which was endorsed by the Sixth Meeting of the Conference of Ministers, an attempt has been made in this annex to give very rough investment requirements in regard to some specific products in the food, building materials and textiles sectors. As explained by the Executive Secretary to the Sixth Meeting of the Conference of Ministers, note should be taken of the difficulties involved in undertaking this exercise.

I. Food (food crops, livestock and fish)

Objective

2. The objective in the food sector during the decade 1980-1990 is for African countries to make every effort to attain self-sufficiency in food and consequently alleviate hunger, malnutrition and starvation.

Constraints

3. These include inadequate and increasing dependency on imported industrial inputs for:

- (i) production: agricultural implements and machinery, transport equipment (including fishing vessels), fertilizers, pesticides and animal feed and vaccines;
- (ii) processing: food processing machinery and equipment for milling and baking; slaughtering, canning and curing; pasturization; freezing and smoking;
- (iii) marketing and distribution: transport equipment and storage facilities for farm inputs and outputs and processed foodstuffs.

### Linkages and implications

4. As implied under constraints, the production and processing of food necessitates the development of the industrial inputs, particularly from the metals, engineering, chemicals and building materials industries. These industries have already been accorded priority for development and are geared towards meeting the requirements for food and the other agricultural products.

### Proposed measures

5. At national level: identification of priority needs and formulation of programmes taking account of inter-sectoral planning assessment and strengthening of national capabilities for identification, preparation and implementation of food processing and industrial inputs producing projects, as well as organizing, producing and distributing such inputs setting up consulting engineering services for project preparation and implementation, and creation of mechanisms for implementation of projects and operation of production facilities.

6. At subregional and regional levels: formulation of subregional food plans (industrial aspect) considering inter-industry and inter-sectoral linkages; consultations on the capabilities, facilities and co-operation for the implementation of above plans creation of multinational corporations for production and distribution of industrial inputs; establishment of facilities for the manufacture of selected industrial inputs; mobilization of resources; exchange of information; monitoring progress; establishment of an association of food processing industries.

7. The investment requirements shown in the table below for food processing (cereal milling, oil crushing, sugar processing and fruit and vegetable processing) are those from Agriculture Toward 2000. 1/ They were derived from estimates for 1980 and 2000 by interpolation. With respect to facilities for the manufacture of selected agricultural inputs, rough orders of magnitude of capital investments for agricultural handtools and implements and tractors were estimated by applying investment per unit of output and for fertilizers by applying investment per plant for competitive size plants, using requirements for these inputs as given in the Regional Food Plan for Africa. 2/ It should be noted that these investments, particularly those for processing which cover a limited number of products, refer to facilities needed to process or produce additional requirements and are therefore incomplete and underestimated.

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1/ Agriculture: Toward 2000, FAO, July 1979.

2/ Regional Food Plan for Africa, FAO, July 1978.

**Regional plant investment requirements for the manufacture of  
selected industrial inputs**

	<b>Million US dollars at 1975 prices</b>	
	<b>1980-1985</b>	<b>1986-1990</b>
<b>Food processing</b>	200.0	240.0
<b>Agricultural handtools</b>	60.0	80.0
<b>Agricultural implements</b>	50.0	60.0
<b>Tractors</b>	540.0	740.0
<b>Fertilizers</b>	500.0	500.0
<b>Total</b>	<b>1,350.0</b>	<b>3,620.0</b>

## **II. Building materials and construction industries**

### **Objective**

8. To endeavour to achieve self-sufficiency in cement and building steel by 1990 and in the building materials and construction industries as a whole by the year 2000. (Target for self-sufficiency by 1990: 83.5 per cent for cement and 66 per cent for building steel).

### **Constraints**

9. The major constraints to the development of this sector include (i) heavy dependence on foreign supplies of building materials and construction services; (ii) institutional deficiencies in respect of project finance, promotion of building materials production and construction activities, research and technology and manpower development; (iii) inadequate recognition of African needs and conditions in most aspects of construction systems and services, in particular building codes and regulations.

### **Linkages**

10. Linkages cover a wide area because construction forms the physical base of all development projects. Linkages therefore include: mining, forestry and agriculture sectors; manufacturing industries (metals, industrial machinery, chemicals, etc.); vocational education and training; transport and energy sectors; institutional finance.

### **Proposed measures**

11. At the national level: creation and strengthening of capabilities for policy formulation, raw materials investigations, project planning and implementation, management, product standardization, distribution and marketing of building materials, research and technology development; creation, upgrading and widening of production capacities and construction skills; mobilization of adequate measures for increased production of building materials from existing plants and establishment of new plants taking account of possibilities for decentralized production units; examination of possibilities for subregional co-operation in respect of joint production and distribution and marketing, joint utilization of available expertise as well as research and training facilities.

12. At the subregional and regional levels: Development of a subregional plan for building materials based on demands and capabilities at national level; consultations on and definition of modalities for joint action in the fields of raw materials evaluation, project planning, execution and management in the field of building materials, distribution and marketing, training for building materials production and construction personnel, research on building and building materials, all geared to meeting the requirements of the subregional plans; establishment of multinational building materials corporations for development of technology, trade, co-operation, etc.; setting up of a Building Materials and Construction Industries Development Council as a subregional intergovernmental machinery to advise subregional decision making



bodies on joint actions in the field of building materials and construction industries; study current barriers to trade in building materials including standardization of products and plan measures to remove bottlenecks; study existing building codes and regulations and their harmonization to facilitate increased use of building materials other than cement and steel, promote intra-regional trade and joint utilization of construction systems and expertise available in the countries of the region; establishment of a regional centre for building industry education and research and a centre for training construction specialists.

#### Provisional investment implications

13. Provisional estimates of investments required for installing the additional capacity needed to step up production of cement, steel and glass in order to achieve self-sufficiency in these materials by the year 2000 are presented in the table below. Investment in cement plants during 1980-1985 and 1985-1990 come to 2,000 million and 3,800 million US dollars, respectively. The corresponding figures for building steel are 600 million and 990 million US dollars, respectively.

14. The estimates presented in the table below are based on assumed growth rates of production required to meet anticipated self-sufficiency ratios and current 1980 unit investment cost data for plants of economic size. The investment cost estimates will be subject to variation due to inflation between now and the year 2000.

#### Regional plant investment requirements for the manufacture of selected building materials

Million of US dollars at 1980 prices					
	1980-1985	1985-1990	1990-1995	1995-2000	Total
Cement	2,000	3,800	7,400	9,850	23,000
Steel	600	990	1,650	6,470	9,660
Glass	125	205	470	450	1,250
<b>Total</b>	<b>2,725</b>	<b>4,995</b>	<b>9,520</b>	<b>16,770</b>	<b>33,910</b>

### III. Textile

#### Objective

15. The objective in the textile sector during the decade 1980-1990 is for African countries to make every effort to attain self-sufficiency in textile/clothing.

#### Constraints

16. The constraints include the ability to pay for increasingly expensive imported major inputs, namely machinery, spare parts, chemicals and raw materials.

- (i) production: agricultural implements and machinery, fertilizers pesticides and transport equipment
- (ii) manufacturing: machinery for ginning, cleaning, spinning, weaving and finishing
- (iii) marketing and distribution: transport equipment, packaging storage for farm inputs and outputs and processed goods.

#### Linkages and implications

17. As implied under constraints, the production and transformation of raw fibres into cloth necessitate the development of farm and industrial inputs, particularly metals, engineering, chemicals and building and construction materials. These sub-sectors have already been accorded priority for development and are geared toward meeting the requirements for agricultural products and other basic needs.

#### Proposed measures

18. At national level: determination of demand requirements and productive capacities; identification of most serious problems and solutions, including capabilities for formulation of programmes, organizing, production and promotion of inputs designing instruments for implementation taking into account inter-sectoral linkages.

19. At subregional and regional levels: formulation of plans and arrangements for intra-African trade in cotton and textile/clothing; co-operation among African countries in textile training and technology and manufacture and procurement of spare parts and components creation of African multi-national textile corporations for promotion, production and marketing, exchange of information; mobilization of resources; and creation of bargaining machinery for removal of tariff and non-tariff barriers to markets of advanced countries.

Provisional investment implications

20. The major industrial inputs for the production of cotton textiles being considered here include mainly new textile mill capacities, incorporating ginning, spinning, weaving and finishing. The figures given in the table below show the approximate additional volume of cotton to be processed into textiles. These figures are derived from the FAO estimated magnitudes based on FAO normative scenario which embodies economic policy objectives which would result in significantly improved living standards for most people. The additional plant investments were based on capital cost per unit of output.

Regional demand balance and corresponding plant investment for cotton textiles, 1980-1990

	1980-1985	1986-1990
Balance to be processed (million tons) a/	1.44	0.40
Additional plant investment (million US\$ at 1975 prices)	5000.0	1400.0

a/ Based on FAO, Agriculture: Toward 2000, July 1979.

ANNEX IV

STRATEGIES, PRIORITIES AND POLICIES

FOR THE AFRICAN LEAST DEVELOPED COUNTRIES

(Proposals and Recommendations submitted by the Conference on the Problems and Prospects of the African Least Developed Countries convened in accordance with Conference of Ministers resolution 353 (XIV), Addis Ababa, 17-22 March 1980)

1. The original list of the least developed among the developing countries was established in 1971 by the General Assembly at its twenty-sixth session in resolution 2768 (XXVI). The list was recommended by the United Nations Committee for Development Planning on the basis of indicators of per capita gross domestic product, the level of industrialization and literacy rate. To date, there are 30 countries in the world which are included in the list of the least developed countries. Among these, 20 are in Africa; these are: Benin, Botswana, Burundi, Cape Verde, the Central African Republic, Chad, the Comoros, Ethiopia, the Gambia, Guinea, Lesotho, Malawi, Mali, the Niger, Rwanda, Somalia, the Sudan, Uganda, the United Republic of Tanzania and the Upper Volta. Six other African countries, namely Angola, Djibouti, Equatorial Guinea, Guinea-Bissau, Sao Tome and Principe and Seychelles, have requested to be included in the list of least developed countries. The Committee for Development Planning at its fourteenth session held in March 1978 found that, on the basis of the available information, none of those countries satisfied the stipulated criteria for inclusion in the list. It however resolved to consider their case as part of a general review of the present list on the basis of recent information and additional criteria for identifying the least developed countries which will be carried out early in the 1980s.

2. The list of least developed countries was established so that the international community could give special attention to the particular problems and structural difficulties facing these poorest and weakest developing countries. Special measures to be implemented in their favour were established at the third and fourth sessions of UNCTAD in resolutions 62 (III) and 98 (IV). Unfortunately, many of the appeals in these resolutions for "special attention" in trade policy matters and in other fields have so far led to only limited actions or have not been implemented at all and thus the development performance in the least developed countries has continued to be disappointing and the prospects for the future remain extremely bleak.

3. It is against this background that the ECA Conference of Ministers at its fifth session held at Rabat in March 1979, adopted resolution 353 (XIV) which inter alia invited the Executive Secretary of ECA, within the framework of Africa's Development Strategy, to draw up a special programme of aid and assistance for the least developed, land-locked and island developing countries and appealed to member States to take the necessary measures to ensure the success of ongoing bilateral and multilateral negotiations aimed at facilitating access to ports for land-locked countries including goods transit facilities as well as appropriate application of customs charges. The Executive Secretary of ECA was further invited, in co-operation with donor countries, international, intergovernmental and non-governmental organizations to give substantial aid to the least developed countries, particularly land-locked countries, in their endeavours to open up their economies. The resolutions also called on all member countries to give their full support to the crash programme and the new programme of action for the 1980s elaborated in the Arusha Programme for Collective Self-reliance and Framework for Negotiations adopted at the fourth Conference of Ministers of the Group of 77 in Arusha, United Republic of Tanzania.

4. On the basis of the Arusha Programme for Collective Self-reliance and Framework for Negotiations, the international community at large took a major step at the fifth session of UNCTAD in adopting resolution 122 (V) in which it decided to launch a comprehensive and substantially expanded programme for the least developed countries with both immediate and longer-term phases as follows:

"Phase One: An immediate effort to meet the critical situation of the least developed countries in the form of an Immediate Action Programme 1979-1981 of greatly expanded assistance for the least developed countries, aimed at (1) providing an immediate boost to their economic and immediate support for projects for the provision of the most pressing social needs, and (2) paving the way for much larger longer-term development efforts, and

"Phase Two: A Substantial New Programme of Action for the 1980s for the least developed countries with the objective of transforming their economies toward self-sustained development and enabling them to provide at least internationally accepted minimum standards of nutrition, health, transport and communications, housing and education as well as job opportunities to all their citizens, and particularly to the rural and urban poor".

5. Against this background and in view of the fact that 20 out of the 30 least developed countries are in Africa, the Executive Secretary of ECA convened an intergovernmental conference from 17 to 22 March 1980 at Addis Ababa to consider the problems and prospects of the African Least Developed Countries and more specifically the implications of the Comprehensive New Programme of Action regarding national programmes of development, mobilization of external resources and required machinery at regional level. In addition to the officials of the African least developed countries, the Executive Secretary of ECA invited the following high-level African and other personalities as senior advisers to the Conference: Mr. M. D. Ary, Mr. R.K. Gardiner, Prof. Ambica Ghosh, Mr. A. Jamal, Mr. Mersie Ejigu and Mr. Albert Muganga. The least developed African countries represented at the meeting were: Benin, Burundi, Cape Verde, Chad, the Comoros, Ethiopia, the Gambia, Guinea, Lesotho, Malawi, the Niger, Rwanda, the Sudan, the United Republic of Tanzania and Uganda.

6. Participants reviewed the critical circumstances of the least developed African countries, identified areas requiring urgent action, analysed provisions made for the least developed countries at the international level and adopted a set of specific proposals and courses of action.

The African least developed countries:

Past trends and perspectives

7. For many historical reasons, most of the African least developed countries continue to suffer from a serious deterioration of their economic situation. The per capita GDP growth rate has declined to a mere 0.8 per cent per year against 1.1 per annum in the 1960s, mainly as a result of the serious lag of agricultural and food production whose growth rates have fallen far behind that of population. This has had a direct impact on the manufacturing sector, the growth of which was reduced drastically from 8.8 per cent in the 1960s to only 3.3 per cent in the 1970s. Given such a weak performance in production, investment has had to be financed by increased external resources worsening in most of the countries the balance-of-payments deficit and their external indebtedness. Further, the purchasing power of the exports of the African least developed countries has declined substantially because of the deterioration in their terms of trade. African least developed countries are among those countries which have most suffered from rising oil prices and world inflation. Rising food and oil import bills are becoming a burden on their balance-of-payments and capital markets are more and more beyond their reach.

8. In those conditions the prospects of African least developed countries are extremely bleak, entailing continuing stagnation or even a decline in absolute levels of living for the majority of the population already living in extreme deprivation. Unless major fundamental domestic structural changes are initiated as a matter of urgency and unless massive domestic mobilization efforts are undertaken by the Governments to bring about these structural changes and unless these domestic efforts are strongly supported and complemented by substantially external material and financial assistance in the critical sectors, the projections made by the ECA secretariat show that the average over-all growth rate will be just equal to or even fall below population growth rates in the African least developed countries.

9. The 11 land-locked and the two island least developed countries are further handicapped by the high cost of transport and the lack of reliability and security of transit services. Similarly the ten drought-prone least developed countries suffer from continuous natural impediments. In addition, the impact of the external uncertainty and upheavals which prevailed in the 1970s have aggravated the economic and social problems faced by these countries.

10. In these circumstances, African least developed countries have not received the external financial assistance commensurate with their needs. Actually, not only is the absolute amount of financial flows per capita to African least developed countries half the African average, but flows to the least developed countries have grown less than for other African developing countries. In addition, conditions of aid have deteriorated with a declining proportion of ODA and other concessional flows. Also the growing time lag between the negotiation of aid and the receipt thereof as well as discriminatory practices by some donors has been putting a brake on the development effort of these countries.

Priority areas for action

11. From the accounts given by representatives of individual African least developed countries of their respective country experiences it has been found that common problems exist which require similar courses of action. It is agreed that any success in the implementation of the Comprehensive New Programme of Action requires the assessment of priorities for domestic policy and international assistance. Therefore, it is recognized that there is an urgent need for African least developed countries to assert that

(a) the primary responsibility of developing their economies remains with the African least developed countries themselves and the total political commitment of the member States to the pursuit of these objectives is necessary,

(b) social and economic reforms should be undertaken by these countries themselves to ensure that the benefits of all productive efforts are shared equitably by the total population and also to ensure the full participation of the people in the development process.

(c) development of national capabilities should be accelerated in order to utilize efficiently and exercise full control over their natural resources on the one hand and lay a strong scientific and technological infrastructure for rapid economic growth and transformation on the other hand; and

(d) it is the wish of African least developed countries to establish a self-reliant and self-sustaining economy as rapidly as possible and to take their rightful place in the community of nations, ultimately contributing towards the prevalence of peace and justice at the subregional, regional and global levels.

12. For the fulfillment of the above objectives, priority areas for action should include the following:-

(a) the development of the agricultural base in order to achieve not only self-sufficiency in food production but also production of an adequate surplus. Emphasis should in particular be given to the increased production of grain and cereals which now account for a major source of foreign exchange drain. Since currently about 30 to 40 per cent of the food in African countries is wasted due to the lack of adequate handling, marketing and storage arrangements and transport facilities, there is need for an integrated programme embodying the production, processing and marketing of agricultural products along with massive investment in irrigation systems, training farmers in the use of improved techniques, price policies to ensure sufficient incentives to farmers to increase production and finally adequate transportation network. Since many African least developed countries suffer from chronic food insecurity emphasis needs to be given to national, subregional and regional food security programmes.



(b) making industry a leading sector of the national economy so that the state of gross underdevelopment is brought to an end. Emphasis should be given to the establishment of a sound industrial base with strong linkages to agriculture, and priority accorded to the processing of locally produced raw materials and the production of basic inputs to agriculture.

(c) the development of transport and communications with emphasis on building local capacities for the construction and maintenance of feeder roads in order to ensure efficient production and distribution of goods and services. Stress should also be laid on the improvement of transit services for land-locked countries and on the development of multimodal transport systems. The accelerated development of transport and communications is essential not only as a first step towards regional co-operation and integration but also as a means of opening up land-locked countries.

(d) the development of a national education and training programme with a view to ensuring an appropriate linkage to the production processes as well as to internal and external marketing activities and to product development.

(e) the development of energy potentials and in particular renewable sources of energy so as to reduce dependence on external sources.

(f) the improvement of data collection, processing and dissemination, in order to strengthen their capacity in the formulation and implementation of plans and programmes as well as to facilitate the monitoring of progress at the regional and international levels.

(g) the strengthening of efforts to redress drought and combat desertification.

13. The international environment in which the African least developed countries are required to sustain their economies has been extremely oppressive and indeed exploitative. The least developed countries neither get fair values for their products nor receive any protection for the accelerating cost of technology and essential imports including the cost of importing oil.

14. The Conference therefore recommends:-

(a) that the volume of official development assistance to African least developed countries should immediately increase substantially in real terms so that these countries can realize economic and social changes and make real progress in the 1980s. In that context, donors should:

(i) make commitments to give financial and technical assistance to individual least developed African countries on a continuous and automatic basis and on highly concessional terms.

- (ii) streamline procedures of aid in order to reduce delays in approving projects and disbursing funds,
- (iii) adopt criteria for project evaluation and selection based on the conditions and needs of African least developed countries,
- (iv) refrain from using non-economic criteria in the allocation of aid,
- (v) create a mechanism to control the implementation by donor countries of their aid commitments.
- (vi) cancel all debt so far contracted by African countries without any discrimination.

(b) that appropriate mechanisms be created urgently at the international level in order to finance the oil requirements of African least developed countries and to reduce the existing heavy burden on their balance of payments and the uncertainty in oil supply.

#### Preparation for the United Nations Conference on Least Developed Countries

15. The forthcoming United Nations Conference on the Least Developed Countries offers an unprecedented opportunity to the international community to examine exhaustively and comprehensively the historical, geographical and prevailing economic factors relating to the least developed countries and to embark on an irreversible international process committed to real economic growth and justice.

The Conference therefore recommends that:-

(a) the country programmes envisaged in the Substantial New Programme of Action for the Least Developed Countries should be built on the existing development plans and programmes which the African least developed countries have and should not disrupt them.

(b) for the purpose of the United Nations Conference in 1981, least developed countries should not be asked to prepare detailed programmes for the whole decade of the 1980s but rather to focus on the first five years of the decade.

(c) the United Nations Conference on the Least Developed Countries should not degenerate into an occasion which would require the poor countries to beg for aid. This would be contrary to the concept of world economic interdependence. The United Nations Conference should emphasize the need to take co-operative measures without delay to assist the least developed countries in their efforts to attain self-reliance and self-sustaining growth. The preparation and actual conference arrangement should take fully into account the sovereignty of participating States.

The role of ECA during the Third United Nations Development Decade within the framework of the African Strategy in the 1980s

16. As far as the role of ECA during the Third United Nations Development Decade within the framework of the African Strategy in the 1980s is concerned, it is agreed that ECA, as the main organ of the United Nations in Africa, is responsible for initiating and participating in measures for facilitating concerted action for socio-economic development in Africa. Furthermore, considering the Development Strategy for Africa for the Third United Nations Development Decade and the mandate given to regional commissions by the General Assembly in its resolutions 32/197 and 34/206 it is imperative that ECA be totally involved in the development process of African least developed countries particularly where about two thirds of the world's least developed countries are in Africa and comprise almost half the membership of ECA.

17. Accordingly it is strongly believed that:

(a) ECA has a special role to play in the monitoring, review and evaluation of the implementation of the Comprehensive New Programme of Action on behalf of least developed African countries in accordance with resolution 5 (iii) of UNCTAD Intergovernmental Group on the Least Developed Countries.

(b) With regard to the preparations for the forthcoming United Nations Conference on Least Developed Countries scheduled for 1981, UNCTAD has the paramount role as the global United Nations organ designated by the General Assembly to prepare for the Conference. Since, however, ECA is the regional Commission covering two thirds of the world's least developed countries, UNCTAD should work closely with ECA in the preparation of the Conference.

(c) While it is recognized that UNDP, specialized agencies and UNCTAD have a responsibility for resource mobilization at the global level, ECA should be involved in the various donor-recipient consultations including the country round-tables envisaged for the preparation of the country programmes.

In view of the large number of least developed countries in Africa and in order to ensure the effective monitoring, review and evaluation of regional and international activities on behalf of the least developed countries it is recommended that a Conference of Ministers of African Least Developed Countries be instituted by the ECA Conference of Ministers as a subsidiary organ of the Commission. The sessions of this Conference should take place a few days before the ECA Conference of Ministers. Furthermore, in order to develop the capacity of ECA to undertake the substantial and continuous technical work that needs to be undertaken on behalf of the African least developed countries, it is necessary to strengthen the capacity of ECA secretariat in coping with the additional responsibility. Accordingly, a special unit within the secretariat of ECA responsible for the special problems of the least developed countries and monitoring the implementation of the special measures in favour of least developed African countries should be set up.

It is also recommended that ECA should expand its work on projection models for the least developed countries since these models are a useful tool for programming and policy formulation. It is further recommended that the annual Survey of Economic and Social Conditions in Africa should contain a special section on individual African least developed countries which should contain a review of the implementation of special measures in favour of the least developed countries.