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African Development Problems and Perspectives

(Discussion of some key issues, sectors or problems within the context of the African Development Strategy and the Plan of Action)

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4 or manpower Training and Utilization

INTRODUCTION

For its seventeenth session, to be held in 1981, the Committee for Development Planning will focus its attention on the elaboration of regional and subregional aspects of the international development strategy for the third United Nations development decade. For this purpose the secretariats of the four regional commissions of the United Nations were each requested to "prepare a paper on specific ways in which the international community might help to implement regional and subregional development priorities. It is proposed to concentrate on a limited number of key issues, sectors or problems that are of particular relevance to the region concerned". ^{1/}

Because of the special nature of the topic to be discussed at the session, two working groups and two teams were set up. Each one is to meet **at the headquarters** of each of the regional commissions so as to enable them to benefit from on-the-spot discussions with officials of the respective commissions concerned and regional specialists on the staff of other interested organizations of the United Nations system.

It is in response to the request of the Committee for Development Planning that this paper was prepared for discussion by the working group which will be meeting at the Headquarters of the Economic Commission for Africa in Addis Ababa from 29 September to 3 October 1980.

At its fifth meeting held in March 1979, the ECA Conference of Ministers adopted resolution 33(XIV) on a Development Strategy for Africa for the third United Nations development decade which was submitted to the sixteenth ordinary session of the Assembly of Heads of State and Government of the OAU held in July 1979 for consideration. The strategy was accompanied by a draft Declaration of Commitment on guidelines and measures for national and collective self-reliance in social and economic development.

At its sixteenth session held in July 1979, the Assembly of Heads of State and Government of the OAU adopted the strategy and the associated Declaration of Commitment, and decided to **hold** in 1980 an extraordinary session on economic problems of Africa. Both OAU and ECA secretariats were requested to prepare the ground-work for the proposed extraordinary session so as to facilitate a fruitful discussion of the economic problems of Africa by the Heads of State and Government.

In the meantime, 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.

^{1/} United Nations, Committee for Development Planning; Report on the Sixteenth Session (7-16 January 1980) E/1980/3 p. 40.

The translation of the Strategy into operational terms at national, subregional and regional levels was the main agenda item for the Economic Commission for Africa at its fifteenth session/sixth meeting of the Conference of Ministers which took place in Addis Ababa from 9 to 12 April 1980. This meeting was preceded by the meeting of the Technical Preparatory Committee of the whole comprising senior Government officials responsible for various facets of development planning and implementation which met in Addis Ababa from 3 to 8 April 1980 to prepare the ground work for the sixth meeting of the ECA Conference of Ministers.

As a basis for its work, the Conference of Ministers and its Technical Preparatory Committee of the whole had at their 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 the Conference on the Problems and Prospects of African Least Developed Countries) and a series of documents prepared by the secretariat.

The fundamental objective of the Strategy, Declaration of Commitment and the Plan of Action for the Implementation of the Strategy recommended by the ECA Conference of Ministers responsible for economic development at its sixth meeting (9-12 April 1980) 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 while reducing mass unemployment.

According to the ECA Conference of Ministers, 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. The African continent 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. An international economic system was imposed upon it which inhibits the range of natural resources it utilizes, 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.

The Conference has taken into serious account, the steady weakening of the world market and severe limitations for the Region's export products. The changes in the life styles in the developed countries are causing uncertainties in the demand for the region's export products. New technologies in the advanced countries are sometimes providing new substitutes for African exports, besides technologies associated with the electronics industry and with automation are eroding 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.

The Plan of Action which the Conference recommends and endorsed by the OAU Economic Summit held 28 to 29 April 1980 is based on an integrated approach covering different economic and social activities taking account of the interdependence of these activities.

This preliminary paper is divided into two parts. Part I covers the experiences and perspectives of the African region while Part II discusses some of the key issues, sectors or problems, i.e. agriculture, desertification and drought, water resources, industry, transport and communications, energy, manpower and training, health and regional co-operation.

A standard method of presentation was followed for each key issue, sector or problem, namely: (a) the present state and development; (b) constraints and problems and finally (c) the plan of action.

The identification of the key issues, sectors or problems was done by the ECA secretariat in collaboration with Dr. R. K. A. Gardner and Prof. M.M.A. Onitiri - two members of the Committee for Development Planning, who were working as Senior Consultants to the ECA Conference on the Problems and Prospects of African Least Developed Countries and the Joint Conference of African Planners, Statisticians and Demographers.

The nine key issues, sectors or problems could not be covered in a paper of 32 (single-spaced) pages in spite of all efforts made by the ECA secretariat to adhere to this limit. In the process of summarizing the key issues, sectors or problems, some elements may have been ignored or touched upon in a superficial fashion. This could not be avoided in the first draft. However, a large number of supporting documents were circulated to the members of the Committee for Development Planning which covers the Plan of Action for the Implementation of the Strategy for the economic development of Africa, the Monrovia Strategy for the economic development of Africa, the Survey of Economic and Social Conditions in Africa 1978/79 (Parts I; II A and II B) plus three types of technical documents which cover (a) the reports and recommendations of sectoral ministerial conferences; (b) reports and recommendations of some of the ECA technical subsidiary bodies, and finally (c) a series of documents prepared by the ECA secretariat.

PART I: Experiences and Perspectives

(i) Review of the African Experience in the 1970s and Perspectives of the African Region in the 1980s

(a) Growth, domestic savings and investment in the 1970s

During the period 1970-1978 real GDP of all developing Africa grew by about 5.1 per cent per annum as compared to a growth rate of 4.7 per cent in the 1960s. This over-all growth resulted from an acceleration in growth between 1975 and 1978 during which time the average annual rate of growth of real GDP was 5.6 per cent compared to an average of 4.7 per cent attained during the years 1970 to 1975. This acceleration between 1975 and 1978 was attributable, inter alia, to accelerated savings ratios, increased capital formation, lower capital/output ratios, reduced import elasticities with respect to GDP and increased export efforts supplemented by expanded foreign capital flows. The marginal propensity to save for developing Africa as a whole rose from 0.03 during the period 1970-1975 to 0.38 during the 1975-1978 period. Similarly, investment as a proportion of GDP rose from 17 per cent in 1970 to 24.7 per cent in 1978. The import elasticity with respect to GDP declined from an average of 2.2 during 1970-1975 to an average of 0.8 during 1975-1978.

The above trends, however satisfactory they seem, conceal serious disparities in the performance of African developing countries classified into oil- and non-oil exporting countries and according to 1970 per capita income groups. While the major oil-exporting countries and those with higher per capita income ranging between \$US 300 and \$US 400 had annual growth rates of 7.6 per cent and 5.5 per cent respectively during the period 1970-1978, the non-oil-exporting countries had only a modest growth of 3.8 per cent or 1.1 per cent on a per capita basis. The poorer countries with per capita GDP of less than \$US 100 had a much poorer performance in the same period with an average annual growth of a mere 3.1 per cent or only 0.5 per cent growth in their per capita GDP.

The share of domestic savings declined from 28.4 per cent in 1970 to 15.5 per cent in 1975 in the major oil exporting countries mainly as a result of increased consumption expenditures. This decline reflects a negative marginal propensity to save during this period. However, by 1978 after a series of stabilization measures, the major oil-exporting countries had raised the share of domestic savings to around 23 per cent implying an improvement in the marginal propensity to save to 0.51 per cent. For the non-oil-exporting countries, the share of domestic savings in GDP rose from 14.9 per cent in 1970 to 15.6 per cent in 1975 and 16.9 per cent in 1978 implying an increase in the marginal propensity to save from 0.19 in the 1970-1975 period to 0.27 during 1975-1978. However, the countries with low per capita income, particularly those with per capita GDP of less than \$US 100, experiences serious declines in their share of domestic savings and their marginal propensity to save fell from 0.15 during 1970-1975 to -0.18 during 1975-1978.

For developing Africa as a whole the share of fixed capital formation in GDP rose from 17.9 per cent in 1970 to 26.4 per cent in 1978. But while the share of fixed capital formation in GDP rose enormously for the major oil-exporting countries from 21.6 per cent in 1970 to 41.2 per cent in 1978, for the non-oil-exporting countries the increase was only from 15.1 per cent in 1970 to 18 per cent in 1978.

(b) Sectoral performance in the 1970s

At the sectoral level, the growth trends of the 1970s show that firstly, agriculture lagged seriously with an average annual growth rate of only 1.6 per cent during the period 1970-1978 for developing Africa as a whole. At this growth rate, there was a serious decline in per capita agricultural output during the 1970s. The rates of growth in food production were far below the 2.7 per cent population growth and as a result self-sufficiency ratios in food production declined substantially, which in turn increased the imports of food stuffs considerably thus increasing the burden on the balance of payments of African countries. For developing Africa as a whole food imports are estimated to have grown by 9.6 per cent a year in real terms during 1970-1978. According to ECA studies, the elasticity of agricultural output to labour was during the 1970s much higher than that of acreage and it is apparent that, to boost over-all agricultural output, due emphasis must be put, on the labour intensity in the agricultural sector.

The manufacturing sector grew by an average annual rate of 6.7 per cent during the 1970-1978 period for developing Africa as a whole. The growth was, however, very uneven among the different groups of countries. The major oil exporting countries and countries with higher per capita income ranging between \$US 300 and \$US 400 achieved average annual growth rates of 11.7 per cent and 7.2 per cent respectively during 1970-1978 while the non-oil exporting African countries had a manufacturing growth rate of only 5.1 per cent in the same period. For the lowest income group of countries the manufacturing growth rate was a mere 3.7 per cent during 1970-1978.

In other sectors there was a very sluggish growth in mining even in the major oil exporting countries which tended to maintain high over-all growth rates mainly because of the steady and high improvement in their terms of trade. The service sectors, however, grew much faster than over-all GDP in most groups of African countries and for developing Africa as a whole.

(c) External trade balance of payments and resource flows

The growth trends of the African countries during the 1970s were characterized by relatively high import rates with high import elasticities for most groups of the African countries. In the first half of the 1970s, the volume of imports for developing Africa as a whole grew by as much as 10.2 per cent yearly and the import elasticity was as high as 2.2. For the period 1970-1978 the import growth rate is estimated to have been around 8 per cent for Africa as a whole. The major oil exporting countries had the highest growth of imports at 20.7 per cent in real terms during 1970-1975 and 13.6 per cent for the 1970-1978 period.

Exports, on the other hand, remained almost stagnant during the 1970s. In the major oil exporting countries there was actually a decline of about 0.7 per cent yearly in the export volume during 1970-1977. The volume of exports for the non-oil-exporting countries rose only marginally by about 0.6 per cent yearly. As a result of these export and import trends, there was in the 1970 a substantial increase in the balance-of-payments deficit for developing African countries. By 1978, the trade deficit of developing Africa was \$US 10.9 billion and even the major oil-exporting countries had a net trade deficit of \$US 0.3 billion in 1978 as compared to the trade surpluses of the early part of the 1970s for these countries.

While it is becoming increasingly important for African countries to expand trade among themselves, intra-African trade showed slow growth. Between 1975 and 1978 intra-African trade grew by only 7.3 per cent as compared to an increase of 41 per cent in the total exports from the region in the same period. The disappointing record of intra-African trade is partly attributable to poor intra-African communications, trading practices and institutions which favour overseas trade and the inconvertibility of African currencies.

The flow of resources to developing Africa has been slow in real terms. In 1975 the total net flow of resources to developing Africa amounted to \$US 13 billion and by 1978 this figure had risen to \$US 19 billion implying an average annual rate of increase of 13.5 per cent at current prices. However, at 1970 constant prices the increase in the flow of resources was only 2.5 per cent between 1975 and 1978. Actually Africa's share in total resource disbursements to all developing countries declined from 28.6 per cent in 1975 to 26 per cent in 1978. In addition, for developing Africa as a whole, there has been some hardening in the terms for loan commitments and grant elements. The average number of years of the maturity of loans to Africa declined from 25.2 years in 1970 to 19 years in 1977, the rates of interest increased from 3.7 per cent in 1970 to 5.6 per cent in 1977 and the grant elements in loans decreased from 46 per cent in 1970 to 30 per cent in 1977.

(d) Employment, income distribution and mass poverty

The total numbers of unemployed and underemployed in the African developing countries are estimated at some 63 million persons with 53 million in the rural areas and 10 million in the urban areas. These numbers represented 45 per cent of the total labour force in 1975. Further, while the demand for labour rose marginally during the 1960s and 1970s the number of entrants into the labour force has been increasing at accelerated rates. With the spread of education in the past two decades, there has been a shift in the composition of the unemployed with growing proportions of them being the educated youth. Present indications are that some of the major factors behind such a low absorption of labour in African countries are: (a) the slow growth in real output and fixed capital formation; (b) the decline in labour intensity per unit of land in agriculture; and (c) the increasing capital intensity in manufacturing.

The study carried out by the ECA secretariat on income distribution reveals that (a) on a per capita basis urban incomes are about three to four times those in rural areas compared to a ratio of 1 to 0.8 in the developed countries; (b) disparities in expenditure are not as pronounced as those of income suggesting that most family savings are generated in urban areas; (c) income inequalities are generally much higher in urban areas as compared with the rural areas; (d) the distribution of income seems to have deteriorated in a large number of African countries; (e) there is some relationship between income inequalities and land distribution at least in the rural areas and (f) income tax systems have had little impact on income distribution in most African countries.

Estimates of mass poverty show that the poorest 40 per cent of the African population, which amounted to about 147 million people in 1975, had an income share of a mere 14 to 15 per cent of total income and had a yearly average per capita income of about \$US 130 at 1975 current prices. These can be classified as destitute or seriously below the poverty line. The second income group forming 30 per cent of the total population or 110 million persons who had a yearly average per capita income of about \$US 255 at 1975 current prices may be considered as seriously poor or on the verge of poverty.

The study further reveals that the great majority of the seriously poor are the unemployed, the underemployed and those working on low productivity jobs together with their dependent families. This finding emphasises the important point that mass poverty, income inequalities, unemployment, underemployment and low productivity employment are associated with the poor utilization of human resources. Therefore policy measures to alleviate mass poverty in African countries have to go hand in hand with measures to increase productive employment opportunities and to assist those employed in low productivity jobs.

(e) Perspectives of the African region in the 1980s

Recent studies in the ECA secretariat have analysed the perspectives of the African region - on a macro-economic basis - under two scenarios namely (a) the historical trends scenario with the assumption of a continuation of past trends and policies and (b) the planned scenario with some growth targets.

The historical trends forecasts show that in general the economic growth rates for the different groups of African countries classified by per capita income are increasing functions of their current economic status. Thus the least developed countries have the lowest forecast over-all growth and the major oil-exporting countries have the highest. For developing Africa as a whole the forecast rate of growth in the 1980s is around 5 per cent per annum implying a per capita growth of around 2 per cent. Agriculture is forecast to improve compared with the 1970s and achieve a growth rate of about 2.5 per cent during 1980-1990. This agricultural expansion would however be less than population growth which would imply an increasing dependence on imports to feed the increasing population. The mining sector is forecast to have a relatively low level of expansion in real terms in the 1980s although for the major oil-exporting countries the likely favourable balance of trade would lessen the impact of this trend. Increasing growth rates of manufacturing, energy and construction are forecast for developing Africa as a whole and for most of the groups of African countries although the forecast transport growth is relatively low. It has therefore to be emphasized that if Africa is to avoid facing an imbalance between transport and the other sectors, action has to be taken to improve the growth of transport. Consumption, owing to a very high marginal propensity to consume in most African countries, is forecast to grow faster than GDP in the 1980s thus implying a decline in savings as a percentage of GDP. Investments in general are forecast to increase at a higher rate than GDP which, given the declining savings, would mean that growth would have to be buttressed up by greater dependence on imports financed from foreign sources. Export growth is forecast to average around 4 per cent on the basis of historical trends for developing Africa as a whole while the corresponding growth of imports would be above 8 per cent. Thus on the basis of past trends and policies both the domestic and the external resource gaps would be increasing in the 1980s.

In the planned scenario, a target growth of GDP for the various subgroups shows that with some drastic changes in policies most groups can achieve at least 6 per cent growth in the 1980s. The over-all growth for developing Africa is projected at around 7 per cent per year. This growth is projected along and consistent with the target growth of 4 per cent in agriculture and 9.5 per cent in manufacturing for developing Africa as a whole. The other sectors, namely mining, construction, energy, transport and other services are projected to require an expansion of 5.9 per cent, 9 per cent, 7.9 per cent, 6.5 per cent and 7.7 per cent per year respectively for the period 1980-1990. On the expenditure patterns of GDP, the

planned scenario points to a target of maintaining consumption at not more than 80 per cent of GDP, implying a minimum savings rate of 19 per cent for developing Africa as a whole. Investments are projected to reach 30.8 per cent of GDP by 1990 if the incremental capital output ratio for developing Africa as a whole is improved and maintained at an average of 4.4. The least developed countries, whose investments as a percentage of GDP are projected to remain at a relatively low level of 14.4 per cent, would require extra efforts to maintain a low incremental capital output ratio of about 2.4. Exports are projected to grow by an average of 7.5 per cent during 1980-1990, calling for major efforts by all groups including the least developed countries (7 per cent growth in real exports) and the major oil-exporting countries (10.5 per cent real export growth). Imports on the other hand are projected to grow by not more than an average of 8.2 per cent for developing Africa as a whole in 1980-1990 and this would require a reduction in import elasticity to not more than 1.2. Over all during the 1980s the trade gap is forecast to be dominant which would call for the necessary adjusters like export promotion and import substitution.

The implications of the planned scenario target growth rates are detailed in the document entitled Perspectives of the African region in the 1980s and policy implications. In brief, the broad implications are as follows:

- (i) Agricultural output should expand by about 4 per cent in the 1980s and attainment of self-sufficiency has to be a major objective. In view of the high elasticity of agricultural output to labour, agricultural labour intensity should be increased together with greater investments in the rural sector, improved rural infrastructure, increased cultivable land and increased over-all agricultural productivity;
- (ii) Manufacturing output should achieve a growth rate of at least 9.5 per cent yearly in the 1980-1990 decade with domestic policies to increase capital efficiency, to develop patterns of industrialization with appropriate interindustry and inter-sectoral linkages and to evolve optimal multinational industrial projects;
- (iii) Regional co-operation will be fundamental and intra-African trade should be substantially expanded. Developed countries should afford adequate access to markets for the products of developing countries;
- (iv) African countries should endeavour to maintain high rates of domestic savings, reduce their import dependence and substantially increase their exports. The international community would also have to increase the flow of external assistance to these countries;
- (v) For some countries, especially the least developed countries, there is an urgent need for a fundamental restructuring of production through, inter alia, fuller exploitation of natural and human resources and the establishment of adequate infrastructure especially in the land-locked and island countries;
- (vi) In terms of social goals, there is a need to establish a broad-based growth process with mass participation directed at the alleviation of mass poverty, unemployment and income inequalities to satisfy the basic needs of the population.

These policies from the planned scenario are in line with the Development Strategy for Africa for the Third Development Decade as adopted in resolution 332 (XIV) of the fifth meeting of the Conference of Ministers and fourteenth session of the Economic Commission for Africa. According to this strategy, the new international development strategy should serve the following objectives: (a) the establishment of self-sustaining, internally located processes of development and economic growth at the national and/or multinational level; (b) subregional and regional collective self-reliance; (c) development of human resources to ensure their greater participation in the development process; (d) broad-based participation in the development process concurrent and consistent with the equitable distribution of the gains of socio-economic development; and (e) acceleration of the industrialization process on the continent in the context of the social and economic environment of each country and not as a simple importation of foreign industrialization patterns.

The priorities which have been recommended in pursuit of these objectives for the next United Nations Development Decade are the attainment of regional self-sufficiency in food; the establishment of sound industrial and technological policies, capabilities and institutional infrastructure, as well as intra-African co-operation in order to permit an industrial take-off in Africa; the physical integration of the region through the development of transport and communications at the national, multinational and regional levels; the development of capabilities - national, multinational and regional required to enable African Governments and their peoples to establish sovereignty over their natural resources; the establishment of mutually beneficial and equitable relations between African countries and the rest of the world; and finally the attainment of a substantial increase in the present meagre 4 per cent share of intra-African trade in the total trade of Africa.

PART II: Some Key Issues, Sectors or Problems

(i) Agriculture

(a) Present state and development

Agriculture fared poorly in Africa during the 1970s with an average annual growth rate of only 1.6 per cent during the years 1970-1978. This is quite disheartening considering that the overall population growth is around 2.7 per cent per annum and especially so considering that agriculture constitutes the largest sector of the economies of the majority of African developing countries in terms of both the numbers employed and dependents in this sector and its absolute share in total GDP. What is even more disturbing is that there were wide disparities in performance. Between 1970 and 1978, the average annual growth in agricultural output was 3.8 per cent at constant prices for North Africa, 1.5 per cent for East Africa, 0.9 per cent for West Africa, and a negative growth rate of 0.6 per cent for Central Africa. Mainly because of the low growth of agricultural production, the share of agriculture in GDP fell sharply in developing Africa as a whole from 42.3 per cent in 1960 to 33.9 per cent in 1970 and 24 per cent in 1978.

Self-sufficiency ratios in food production declined seriously and imports of foodstuffs increased substantially thus imposing a heavy burden on the balance of payments of developing African countries. For developing Africa as a whole, food imports have been growing by 9.6 per cent a year during 1970-1978 compared to a mere 2.7 per cent for exports.

In recent years a number of African developing countries have been promoting the establishment of agricultural institutions and pursuing policies to achieve self-sufficiency in staple foodstuffs and reduce the vulnerability of their economies to droughts. A key element of the agricultural policies introduced include the provision of subsidized agricultural services and supplies such as fertilizers, farm implements, improved seeds, extension services, easy credit, farmers training and seed multiplication centres, transport, storage and marketing facilities. An additional element has been the selective setting of producer prices at remunerative levels so as to stimulate farmers' initiatives and encourage specific crop production and increases in rural incomes.

In Benin and Mali for example, significant investments were injected into agriculture with the intention of harnessing the countries' water resources and offsetting irregular rainfalls, improving yields and promoting crop diversification. In Somalia, the Government's agricultural policy has been primarily geared to the production of staple foodstuffs required for the population by 1980 and, thereafter, to produce surpluses for export. At the same time, it is intended to reduce reliance on dry-land farming by expanding irrigated cropland in order to mitigate the impacts of future droughts. In Swaziland, the Government has introduced some limited tax measures designed to encourage landowners to cultivate idle land or sell it. In Mali and the United Republic of Tanzania, a reserve stock of grains is being built up with a view to protecting the population against further droughts.

While the efforts made so far by a number of African developing countries to boost agriculture production should be commended, it is however, in the use of agricultural inputs (fertilizers, tractors and irrigation measures) including the development of livestock and fisheries that developing Africa has failed to show marked improvements. While average fertilizer consumption in Africa was 9 kilogrammes per hectare of arable land in 1977 it varied significantly among the different subregions. For instance North Africa, consumed ten times more per hectare of arable land than West and Central Africa. In some countries

(Ghana, the Ivory Coast, Senegal, the United Republic of Cameroon, Angola, Kenya, Mauritius and Swaziland) large quantities of fertilizers are used on export crops rather than on staple foodstuffs.

The number of tractors in use in developing Africa increased from 175,700 in 1970 to 249,600 in 1978 or at an average rate of 4.5 per cent per annum. In 1978, 62 per cent of these tractors were concentrated in North Africa compared with 28, 7 and 6 per cents in East and Southern, West and Central Africa. respectively.

Developing Africa, other than North Africa had an average of 46 square meters of irrigated land per capita in 1978 as against 680 square metres in North Africa.

As regards livestock, developing Africa had 168.8 million heads of cattle, 168.5 million sheep and 143.3 million goats in 1978. However, the tropical humid and sub-humid zones where increased livestock development could reduce the pressure on the semi-arid zones, animal diseases such as trypanosomiasis still prevent any large scale grazing progress and human settlement.

The total fish catch in Africa reached a peak of 4.8 million tons in 1977. The rich resources of West Africa have attracted large fleets of long-range vessels to exploit both the pelagic resources (sardine, mackerel, etc.), and the demersal resources (hake, sea-bream and cephalopods). As a result, catches by non-African countries in recent years have accounted for two thirds of the catch in both the CEECA region (Straits of Gibraltar to the Congo River) or 2.5 million tons out of 3.7 million tons in 1977 and the ICSEAF region (south of the Congo) or 1.7 million tons out of 2.8 million tons in 1977. Off East Africa, the total catch in the coastal area is still very small, only a little over 150,000 tons, and except for tuna there is little fishing by non-African countries. Whilst the continent's fish resources have great potential for development, African States will need substantial technical and other assistance to grasp these opportunities and to accept the concomitant responsibilities.

In summary, whatever the yardstick used for this purpose, intensification of agriculture (use of fertilizers, tractors and irrigation) is much more advanced in North Africa than in the other subregions. Notwithstanding this fact, however, North Africa is still the largest importer of cereals and has the lowest self-sufficiency ratio in food. All indicators in fact seem to show that the potential for increasing food production in the rest of Africa is much higher since the other subregions outside North Africa have barely started to apply more intensive methods to the production of basic foodstuffs.

(b) Constraints and policies

Many reasons are given for the lag in agricultural production, among which drought and socio-political factors are most often advanced. It is of course difficult to generalize since the appropriate factors and measures depend on the type of land available for cultivation and action needed to increase productivity per unit of land and labour in existing and potential areas under cultivation.

In addition to the exogenous factors such as drought or social unrest, other factors more closely associated with agricultural policies such as investment programmes in agriculture, incentives to farmers and the land holding system hindering intensity of labour in farming should also certainly be held responsible for the situation.

According to a study made by FAO in 1977^{1/}, 44 per cent of the land in Africa is subject to drought, which is almost twice the world average. In addition, 55 per cent of the area is affected, or likely to be affected, by desertification against only 4 per cent in Asia and 1 per cent in South America. Desertification and drought are therefore two of the major problems confronting this continent.

Another factor is the inadequate use of fertilizer. Out of 84 million metric tons of plant nutrients consumed in 1973/74 in the world, only 1.5 million were used in Africa. Other developing continents such as Latin America and Asia consume respectively three and eight times more than Africa.

Worse still has been the prevalence of trypanosomiasis and river blindness which have most profoundly affected not only population settlement but also livestock development in several areas of the continent. It is now estimated that 21 African countries covering an area of approximately ten million square kilometres are still menaced by the tse tse fly. ^{2/}

Another disturbing fact is that even in areas where the climatic conditions are more favourable, it seems that the increased food demand generated by urbanization, industrialization and the general increase in the level of living has failed to trigger a sufficiently dynamic response from the agricultural sector at prevailing price levels.

Among the other problems which have been a strong deterrent to intensified cultivation has been the conditions for lending by financial institutions, the absence of firmly established research institutions with international and inter-country connexions, the thin spread of extension workers who are for the most part too ill-paid, ill-trained and ill-equipped to diffuse technological innovations to farmers, and an inadequate spread of marketing, storage, transport and other infrastructure facilities. The limited and fragmented size of most African markets do not permit effective economic integration among different countries in the region thus losing the advantages of country specialization in the field of agriculture. Indeed because of the substantial population increases, too, the availability of land has become a major constraint to rural development. The notion that it is in plentiful supply is currently being questioned, ^{3/} and hence there is urgent need for measures to increase productivity per unit of land. Population carrying capacity of the land is much more limited in certain areas where overstocking of animals exists. This type of high pressure on the land, which causes deterioration of the environment, is aggravated in cases like the Sahel.

Indeed government policies have been in some aspects biased against agriculture; this sector has received limited public investment and little assistance in the form of bank credit and other facilities. There has been a general tendency to keep prices of agricultural products low for the benefit of urban population and to impose high export duties on agricultural products, which depresses the supply response to prices in this sector. While the effective taxation of agriculture is extremely high (accounting perhaps for one third of value added on the average), both current and capital government expenditure for the benefit of that sector is not substantial.

^{1/} State of Natural Resources and the Human Environment for Food and Agriculture - SOFA, 1977, FAO, Rome.

^{2/} Edward Saouma, opening a dress to the Regional Conference of the African Ministers of Agriculture, Arusha, United Republic of Tanzania, 18-29 September, 1978.

^{3/} FAO, Agrarian Reform and Rural Development, paper prepared for the 10th FAO Regional Conference for Africa, Arusha, United Republic of Tanzania, 18-29 September 1978.

Comparing the rate of growth of the labour force in agriculture with that of the area under cultivation, labour intensity per unit of land fell by about 4 per cent during the 1970s. The cumulative fall since 1960 was about 8 per cent. The reduced labour intensity seems partly to be a factor behind the lag in agricultural and food production. Considering that the total labour force in African developing countries expanded by 2.4 per cent yearly during the 1970s and that unemployment and underemployment were rising, it seems that there are many obstacles facing increased labour intensity per unit of land in African agriculture. A major factor appears to be the land tenure system in many parts of the continent.

An attempt was made to separate the effect of acreage and labour on output by fitting multiple regression equations with output as the dependent variable. Owing to paucity of observations regional results were rather erratic but on the whole the results for the region makes it evident that labour had a much more significant role in the expansion of output than land. Combining these results for developing Africa as a whole, the elasticity of output with respect to labour is 0.76 while that with respect to acreage is 0.33. This therefore certainly reinforces the observations made in this chapter. A more detailed note on this may be found in the Technical annex to this chapter.

It seems that one of the main obstacles to improved utilization of agricultural resources in many African countries stems from the structure of agriculture where land in many areas is concentrated in the hands of relatively few owners or its allocation decided by tribal chiefs while labour is concentrated mainly in small family farms, with the result that excess labour capacity is found in smaller farms and excess land capacity in larger and tribal holdings.

(6) Plan of Action for food and agriculture

The Plan of Action adopted by ECA Conference of Ministers at its fifteenth session and by the OAU Economic Summit stated that 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.

The Plan of Action covers wide fields; namely food losses, food security, food production, income and price policies, forest production, research, extension services and the resources needed for investment in agriculture.

In the field of food losses the Plan of Action aims at achieving 50 per cent reduction in post-harvest losses through 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.

In the field of food security the Plan of Action recommended that 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. A number of concrete actions are commended such as early construction of storage facilities, creation of grain reserves, improvement of grain stock management and better forecasting and early warning systems including the feasibility of setting up an African Food Relief Support with a view to assist member countries in times of food emergency.

The Plan of Action emphasised that 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 including the nutritional values of food stuffs. Policies for increased agricultural production should be based on adequate and realistic agrarian reform programmes consistent with the political and social conditions prevailing in respective countries.

To increase food crops the Plan of Action identified the areas in which urgent action is needed to 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.

For livestock development the Plan of Action suggested increased supports in 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 diseases surveillance systems; animal breeding; control and eradication of foot and mouth disease; controlled grazing and range management; development of animal feeds; and, infrastructural development.

The measures recommended in the Plan of Action for expanding fisheries 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.

In the field of incomes and price policy the Plan of Action 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.

According to the Plan of Action 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.

In the field of research the Plan of Action stressed 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. Agricultural research programmes should provide more productive plant and animal species and other husbandry techniques. The Plan of Action noticed that 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. The Plan of Action added that 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.

In the field of extension services the Plan of Action recommended that research findings must be made available to the farming community with minimum delay and that a closer link be established between research and extension services. The extension service should lay more emphasis on the spread of existing technologies and 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.

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. 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.

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.

Finally the Plan of Action estimated the total investments required over the 1980-85 period for the implementation of the proposed programmes at 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.

(ii) Desertification and Drought

(a) Present State and Development

The problem of drought management and desertification control is global. World attention on the increasing severity of the problem was drawn by the five year Sahelian drought from 1968 to 1973 in which over 150,000 people and millions of cattle and other livestock perished in the region. The drought reappeared briefly in 1977 to 1978 and now it is back again in 1980 in the same region and in other arid parts of the world.

It is also noted that over the past decade, the process of desertification has been encroaching upon useful agricultural land globally at the rate of 60,000 to 70,000 square kilometres per year. The creeping desert is affecting the livelihood of about 60 million people directly and a further 600-700 million people living in semi-arid regions in the world, are threatened by drought and desertification. In the African region, drought and desertification affects countries located in two regions: (i) the Sudano-Sahelian region including the Ogaden Peninsula, and (ii) the Kalahari Desert region covering parts of Namibia, Angola and Botswana. In the Sudano-Sahelian region on both sides of the Sahara Desert, an average of 46 per cent of the region has arid climate with an additional 35 per cent with semi-arid climate.

The countries forming the Sudano-Sahelian region are Cape Verde, Mauritania, Senegal, the Gambia, Mali, Upper Volta, Niger, Chad, Cameroon, Nigeria, Sudan, Uganda, Kenya, Somalia, Ethiopia, Guinea, Guinea-Bissau and Djibouti. Some of the countries are quite poor and they rely heavily on an agro-pastoral economy. Five of them are land-locked and nine are among the least developed countries of the world. Hence the situation in Africa is very serious and complex, as the economic development of these countries are vulnerable not only to global economic threats as inflation but also to the threatening desert creeping on useful land and to the vagaries of climatic changes causing drought and flash floods which ruin crops and disrupts the agricultural system.

(b) Constraints and Policies

Desertification is a gradual loss of productive land as the soil loses its capacity to support plant life. The soil becomes more and more like desert sands, it loses its structure, colour and texture, its water-holding capacity and is easily blown about by the wind. In arid and semi-arid regions as well as in the sub-humid zones, the desertification process is evident as a mosaic of degraded, denuded patches without much or any plant cover within the normal vegetation in the area. Gradually, the patches of degraded land enlarge, spread and coalesce as the process worsens. Eventually, this results in a reversal of the pattern, with only a few scattered patches of useful land remaining. Finally, no productive land is left in the area and the desertification process is completed. At this stage, if no rehabilitation was started earlier, the process is often irreversible at that point as the desert creeps further along.

Several factors contribute to the desertification process. These are climatic variability and population pressure on the carrying capacity of the land with its associated ills - deforestation, over-grazing and over-farming, irrigation and salinization.

One of the characteristics of arid and semi-arid zones in the world, is the occurrence of repetitive drought patterns. This has been shown for the Sahel following the five year drought of 1968-1973, that there had been an earlier drought between 1910 and 1920 and another about the end of the last century. The repetitive drought pattern does not create the deserts, it accelerates the desertification process as shown by all the major deserts in the world creeping simultaneously at an alarming rate of 7 to 8 kilometres per year. What is it then that creates the drought that cause the deserts to move forward irreversibly? It seems to be the rainfall pattern in a region.

Before a drought, the rainfall pattern in arid and semi-arid regions becomes erratic. In the Sudano-Sahelian region for instance, there are two rainy seasons, the "little rains" expected around February to March, followed by a short dry season and then the "main rains" fall from June to about September. The erratic rainfall pattern is shown by (i) flash floods when the little rains are expected or during the short dry season, and (ii) by below-average amount of rainfall during the main rain period. The ultimate effect is crop damage; seedlings germinating during the little rains fail to grow up because of insufficient rain and those that do grow are swept away by flash floods. Also crops fail to produce the expected amount of harvest because of inadequate main rains as well as low river levels for irrigation in the drier regions. As the average annual rainfall decreases, the drought worsens, until very little agriculture can be done. Crop yield decreases, livestock become thin and sickly, the population experiences famine and the people abandon the rural areas in search of food, water and better conditions of life, but only to create more problems in the urban areas.

The problem of population pressure on the carrying capacity of arid and semi-arid lands seems to be the other face of the same coin. Between drought periods in these regions, population gradually increases along with its related economic development activities. Increased agriculture including irrigation from large rivers lead to greater crop yields and, depending on the drainage characteristics of the soil, irrigation can lead to a gradual increase in salt content of the soil, ending up with salinization and waterlogging conditions. Over population in an agro-pastoral community is reflected in a great number of heads of cattle and beasts of burden which leads to over-grazing of pasture land and subsequent exposure of the soil. Soil erosion and degradation then occur from run-off water during the beginning of the rains before the top soil is adequately wetted.

Population pressure in urban-rural settlements in arid and semi-arid regions results in an increase in the use of firewood and charcoal as fuel for cooking and for heating at night due to the wide range of temperature (over 30°C during the day and about 10-15°C at night). In urban areas in the Sudano-Sahelian region, that is Bamako, Niamey, Khartoum, it was estimated that savanna woodland vegetation has been depleted of its trees for up to a radius of 70 kilometres during the past decade.

Developing countries in the sub-humid zones have also been experiencing serious deforestation problems due to over-exploitation of timber resources to earn much needed foreign exchange and also through the traditional farming practice of shifting cultivation. The situation is worsened when forests on hillslopes are removed for upland farming. Over-farming hillslopes due to population pressure and traditional custom leads to so much soil erosion and loss of top soil that the forest fails to regenerate during the ever-shorter fallow periods. Eventually, savanna grassland and later on, bare rocks patches cover the hillside.

The environmental result of deforestation of mountains and hillslopes which are generally the watershed for rivers and streams, is that during the rainy season flooding with heavy silt load occurs and in the dry season, the streams reduce to a trickle with isolated pools (potential breeding ground for insect vectors) and rivers fall far below their level for economic exploitation (irrigation, navigation, domestic supply). Much emphasis is being placed on deforestation because it eventually leads to desertification when all the trees are gone and when drought gets in.

(c) Plan of Action

Since deforestation is an important component of the desertification process, especially in the Savanna woodlands (in moister areas) and scrublands of arid and semi-arid regions, it will be worthwhile suggesting measures to control deforestation for a start. The wood-based fuel-charcoal and firewood should be replaced by renewable sources of energy such as biogas production from cow dung and farm refuse, and by solar energy on which much research work is being done now to produce low-cost solar cells that developing countries can afford. Most countries are now solving the firewood problem by creating wood lots of fast-growing tree species around urban centres. Another measure which offers great promise is the improvement of the traditional farming practice of shifting cultivation by an agrisilvicultural system in which crops are grown for a few seasons on the cleared farmland and then during the fallow period, fast-growing leguminous trees are planted. When the land is cleared for farming after the fallow, the trees produce firewood after enriching the soil with nitrates so the farmer receives a continuous economic return from the same piece of land especially if managed by crop rotation as well.

To combat the spread of the deserts in the arid and semi-arid regions, an integrated approach incorporating environmental planning into development activities is necessary. It must be noted that desertification-prone regions have a fragile ecological system (ecosystem) in which human activities in the development process can easily tip the scale and upset the balance of nature. The equilibrium in the natural environment is maintained through biological and physical processes such as decomposition for cycling of wastes, carbon dioxide fixation for energy storage in plants (as food) and energy utilization by animals, and so on. Human activities as deforestation, over-exploitation of biological resources, over-grazing, intensive cultivation disrupt the natural cycles and leads to environmental problems such as soil erosion and degradation, desertification, depletion of non-renewable resources and others. Hence, the creeping deserts must be arrested by concentrating: on migration and over-population problems, on the agricultural and livestock carrying capacity of arid and semi-arid lands, on reafforestation and sand-dune fixation using suitable xerophytic species, on the control of irrigation to prevent salinization and waterlogging, on developing proper land use policy and management of water resources, on introducing socially acceptable and adaptable technologies to improve traditional and indigenous technology prevalent in the local environment, and on conservation education to create public awareness about desertification control.

The United Nations system responded to the severe Sahelian drought of 1968-1973 by the formation of the United Nations Sahelian Office (UNSO) at Ouagadougou. UNSO's role has been to co-ordinate development activities relating to rehabilitation of the drought-stricken countries in the Sahel region with a view to mitigating the effects of future droughts, achieving self-sufficiency in their staple food and promoting socio-economic development. Meanwhile, a Plan of Action to combat desertification has been drawn up

at the United Nations Conference on Desertification held in Nairobi in September 1977. The plan was endorsed by UNEP and approved at the General Assembly by its resolution 32/172 of 19 December 1977. The plan established the following organs within the United Nations system to help combat desertification:

- a) A Desertification Unit at UNEP
- b) An Inter-Agency Working Group on Desertification
- c) A Consultative Group on Desertification Control (to mobilize funding).

Later on, by UNEP Governing Council's Decision 25/10 of 27 June 1978 and with the financial support of the United Nations Development Programme, the franchise of UNSO was enlarged to co-ordinate activities on the implementation of the Plan of Action to combat desertification in 15 (now in 1980 increased to 18) Sudano-Sahelian countries mentioned earlier. This Regional Commission for Africa has been co-operating with UNSO and the other United Nations organs. ECA's Work Programme and Priorities for 1980-1982 has plans for various projects dealing with the problems as indicated by the following examples: Application of science and technology to the development problems caused by drought and desertification; on the development of forestry and agricultural policies to improve land use and productivity, and to conserve water and soils in arid and semi-arid regions; studies in groundwater resources, preparation of hydrometeorological and hydrogeological maps of the Sudano-Sahelian region. There is also the need to organize a regional conference in Africa to assess the management of drought and the desertification process in the ECA region.

(iii) Water Resources Development in Africa

(a) Present state and development

The development of water resources reviewed in this paper encompasses the assessment of the quantity and quality of available surface and ground water resources; drinking water supplies; agricultural uses of water; industrial water utilization, hydro-electric power development; inland water transport; problems of planning, policy and management; environment, health and pollution control; education, training and research and arrangements for financing water development projects. An action programme which was eventually approved by the ECA Conference of Ministers held at Kinshasa in 1977 was developed at the African Regional Meeting on Water Resources held in 1976.

Of the total land area of Africa which is estimated at 303 million hectares, only about 110 million hectares or 36.3 per cent are at present cultivated and only 7.9 million of the cultivated land, or 2.6 per cent of the total land area is irrigated. What is even more startling is that only about 2 per cent of the total water resources of Africa is being used for productive purposes inspite of the fact that a number of major undertakings in the field of irrigation, hydropower and multipurpose projects have been made. Thus it is clear that there has hardly been any progress made in directing the available water resources to the economic and social development of Africa.

Two thirds of the African population do not have reasonable access to safe water supplies. The percentage of those who do not have facilities for hygienic waste disposal is even higher with the situation being more acute in the rural rather than in the urban areas.

Only a small part of the potential capacity for hydro-power generation is developed inspite of the fact that one third of the world's potential for hydropower is in Africa. The installed capacity of the continent is at present only about 5 per cent of the potential capacity which implies that the power situation in Africa is one of gross under utilization of its water resources.

The aggregate demand for food in developing Africa is projected to grow at an average annual rate of 3.5 per cent, while the supply on the basis of moderate assumptions is projected to grow at an average rate of a mere 2.5 per cent yearly, which indicates an increasing food deficit to be covered by rising food imports. Obviously, irrigation could play a key role in boosting agricultural production since rain-fed agriculture is subject to serious climatic hazards.

Surveys made of irrigation projects in Africa reveal that the equipped irrigated areas increased from 5.6 million hectares in 1965 to 7.9 million hectares in 1975, an average annual growth rate of 3.5 per cent. The cultivable area south of the Sahara (excluding the Sudan and South Africa) increased from 458,050 hectares in 1965 to 786,630 hectares in 1975, an average annual rate of expansion of 5.5 per cent. If the Sudan and South Africa are included, the cultivable area expanded from about 2.9 million hectares in 1965 to 3.6 million hectares in 1975, or 2.2 per cent yearly on the average over the same period.

Water supply for various uses emanates from two main sources, namely surface water in rivers, lakes and streams and ground water. According to the estimates made by a number of countries on the measured stream flows in Africa, the total quantity of surface water in African rivers is about 2,500 billion m³ while the total water use is about 90 billion m³ or some 3.6 per cent of the surface water resources of the African continent. However, the ECA cartographic inventory of relevant surveys reveals serious gaps in current knowledge concerning in particular, ground water sources which are untapped in many places and overexploited in others.

There are very important underground aquifers in Africa including the continental intercalary, the Nubian sandstones, the continental terminal and the sedimentary coastal basins. These resources are particularly important and are the main water sources in the arid and semi-arid zones of Africa.

The African Regional Water Conference which was held in September 1976 estimated that only about 2 per cent of the surface and ground water resources of the continent is being utilized which implies that about 98 per cent of the water resources of the continent is running to the sea. This underscores the enormity of wastage and the extent of the underutilization of Africa's water resources.

The assessment and inventory of water resources thus assumes fundamental importance for the development of projects which should be based upon planned use of existing surface and underground supplies. Furthermore, large scale water development projects have important environmental repercussions which should be taken into consideration at the stage of project formulation.

Inland navigation is an important element in the transport network of Africa. There is immense scope for the development of facilities of water transport in the interest of encouraging intercountry transport. The use of Africa's rivers and lakes in the area of inland navigation development has made considerable strides during the last two decades as a result of increased production and trade which necessitated the development of all modes of transport. The development, maintenance and improvement of inland water ways assumes special significance in land-locked countries, of which 14 of the world total of 28 land-locked countries are located in Africa.

It is estimated that there are about 13,000 kilometers of navigable rivers in Zaire alone and the length of tributaries of the river systems in Nigeria including the Niger and its principal tributaries is of the order of 6,000 km. In the plans for the development of the transport infrastructure of the continent, rail, road and air transport systems have received relatively greater attention in recent years. Obviously parallel development of the water transport system as an adjunct to the others will be a greater asset to the utilization of the potential for the promotion of intra-African trade.

Safe water supply and sanitary waste disposal are essential components in primary health care in particular and the over-all socio-economic development in general. Among the benefits accruing from safe water supply and sanitary waste disposal are: the reduced demand on scarce health services, the improved output of a healthier labour force, the release of women from the drudgery of carrying water over long distances which could enable them to engage in more productive tasks, and the reduction in the rate of mortality and sickness of children which has been attributable to the lack of adequate sanitation facilities.

Surveys carried out in 1970 in community water supply and sanitation, showed that out of a population of 280 million in the sample of African countries included in the survey (the total population of Africa was 357 million at that time), 70 million were urban and 210 million were rural. Out of the total urban population, 73 per cent had reasonable access to safe water supplies while in the rural areas, only 19 per cent of their population was in this category. According to a more recent survey (1976), the percentage of urban population served by house connections increased from 33 per cent to only 36 per cent in the period 1970-1975, whereas the ratio served by public standpipes actually declined from 34 per cent to 29 per cent. In the rural sector, the percentage of the population having reasonable access to safe water supplies increased from 13 per cent in 1970 to only 21 per cent in 1975. These figures show that, although the basic facilities of water supplies have been on the increase in both urban and rural areas, it is inevitable that considering the high population growth rates, the number of people in both the urban and the rural areas who are without reasonable access to safe water supplies will increase unless a radical reorientation is made in policies, plans and projects.

The decade 1981-1990 has been designated as the International Drinking Water Supply and Sanitation Decade with specific targets of ensuring reasonably adequate and safe water supplies to all the population. The call for the Decade stemmed from the African region. It is thus hoped that the decade of the eighties will mark an increased tempo in these fields.

Drought, desertification and floods are unfortunately serious problems in Africa. Many events have illustrated the unfortunate results of water scarcity in the Sahel, Ethiopia and other parts of Africa which have led to severe distress, devastation and the loss of human life. At the same time an abundance of water in uncontrolled conditions result in floods that also cause great calamities. Water control, regulation and conservation would yield positive results of paramount significance to the socio-economic development of the region.

(b) Major Problems and constraints

In the African region over 54 of the major rivers/lakes, 90 per cent of the drainage areas and almost half of the total land area of the continent, comprise international river basins.

Since the advent of the sixties and in particular in the years 1963 and 1964, considerable strides have been made in the establishment of organizations for joint and co-operative action among riparian countries. However, of the large number of international river/lake basins in Africa only the following have established organizations concerned with their development. These are: the Lake Chad Basin Commission, the Organization for the Development of the Senegal River (OMVS), the River Niger Basin Commission, the Liptako-Gourma Region Integrated Development Authority, the Mano River Union and the Organization for the Management and Development of the Kagera River Basin. There also have been developments for the Lake Tanganyika and Lake Kivu basins. Before independence there has been regular meetings among the States bordering the Nile.

River basin developments are in most cases multipurpose and require unified development in the fields of irrigation, hydro-power, flood control, navigation, recreation, municipal and industrial supplies, etc. With water development being multi-sectoral, planning for water development entails the preparation of plans for the development of various sectors and the co-ordination of the water component of these plans in an integrated manner to formulate a comprehensive plan for water development at the national level. In a majority of the countries of the region, it has not been so far possible to adopt this approach and prepare comprehensive water development plans for a number of reasons. In a majority of the countries, there are no component plans for individual sectors such as water supply or agricultural water, etc. and consequently there are no national water plans nor national water policies. Both the African Regional Meeting on Water Resources in 1976 and the Mar del Plata Action Plan emphasized the importance of the formulation of national water plans and policies.

Another problem is that, while there have been many generalized studies on the availability of land and water resources, there have been few projects identified and worked in sufficient technical and economic details, - projects commonly referred to as bankable projects - to form the basis for the negotiation and raising of the finances required for construction. This paucity of bankable projects is a major hinderance in the construction of water resources development projects.

The above problems arise out of basic institutional weaknesses. Many countries in the region do not have adequately staffed institutions to undertake the preparation of either comprehensive national plans or specific projects in these fields. The situation is further aggravated by the division of responsibilities amongst many departments and the absence of a coordinating mechanism at the national level. In addition, the lack of compatibility in procedures, methods, instrumentation and other aspects of technology in the collection of data and project formulation in the different countries situated in the same river basin, is another problem. In some countries, the historical data collected in the past, by the former metropolitan countries, is more readily available in these metropolitan countries than in the concerned countries themselves. Harmonization of developmental efforts among concerned co-basin countries thus extremely important in a continent where almost all the major rivers and lakes are international.

(e) Plan of Action

The following recommendations are based on the Mar del Plata Action Plan propounded by the United Nations Water Conference held in March 1977 and the Action Plan for Integrated Development and Management of Water Resources made by the African Regional Meeting held in October 1978.

The plan of action covers the fields of institutional strengthening; formulation of national water plans; project identification, preparation and implementation, and strengthening of sub-regional and regional co-operation.

The strengthening of institutions is recommended at the national, sub-regional and regional levels. At the national level, national water committees should be established in those countries which have not yet done so and where these committees, do exist, they should be strengthened with proper financial and administrative support. At the sub-regional level, existing sub-regional organizations such as river and lake basin commissions should be strengthened not later than 1980 with sufficient resources in the form of staffing and funding. At the regional level, an Inter-Governmental Committee on water resources development as approved by the ECA Conference of Ministers at its fifth Meeting in Rabat in 1979 should be established without delay.

It was also recommended that countries should take action to formulate by 1983 master plans in the sectors of water supply and agriculture and integrate them into a comprehensive development plan at the national level. While the plan in water supply should reflect the targets set in the International Drinking Water Supply and Sanitation Decade, the plan for agricultural water use should be integrated with the regional food self-sufficiency plan which was adopted as a part of the regional development strategy.

In the field of project identification, preparation and implementation, it is recommended that countries should identify and prepare bankable water supply and irrigation projects. This should be initiated without being delayed by the formulation of national water plans.

Joint river/lake basin commissions 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 for the effective establishment of such joint organizations by 1983.

The implementation of the programmes of action imposes heavy responsibilities on national government for which the ECA secretariat, the specialized agencies of the United Nations concerned with the development of water resources, the international community, funding institutions and bilateral donors should join efforts in providing the technical and other types of assistance needed.

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(iv) Industrial Development

(a) Present state and development

Manufacturing in African developing countries is dominated by light industries defined to include food processing, beverages, tobacco, footwear, textile, wood products, furniture and paper products which formed in 1970 some 68 per cent of total manufacturing value added. The share of heavy industries which include chemicals, petroleum products, non-metallic mineral products, basic metal and metal products was 32 per cent. By 1979 the share of light industries seems to have declined to 55.5 per cent while that of heavy industries rose to 44.5 per cent. Heavy industries rose at the rate of 9.3 per cent yearly during the period 1970-1979 while light industries grew at a modest rate of a mere 4.1 per cent yearly.

Owing to the limited size of markets of individual African developing countries^{1/} the manufacturing sector is characterized not only by small size production units with little economies of scale, but also with excessive cost of production. The degree of fabrication is generally crude and weak.

The development of manufacturing in Africa has been slow indeed; the average annual growth rate at constant prices during the years 1970-79 was 6.7 per cent. Even this average conceals wide disparities if African developing countries are classified into major-exporting and non-oil exporting countries or by subregion. While the average annual growth of manufacturing the major oil-exporting countries recorded 11.7 per cent during the same period, it was 5.1 per cent for non-oil exporting countries and a mere 3.7 per cent in countries with per capita GDP of less than \$US 100 in 1970. Similarly, while the average annual rate of growth of manufacturing recorded 9.3 per cent for West Africa, the average was 6.7 per cent for North Africa, and 4.6 per cent in East Africa and a mere 1.6 per cent yearly in Central Africa.

As a result of the slow growth of manufacturing, the relative position of Africa in relation to other developing regions has deteriorated. While the share of manufacturing output of all developing countries in the world rose to about 9 per cent of total world manufacturing production in 1978, Africa's share remained at less than 0.8 per cent of world manufacturing production.

The distribution of manufacturing output between subregions and countries shows substantial disparities. When comparing the African subregions and considering their respective population, it can be noted that for the period 1970-1979 North Africa's six countries, with 25 per cent of Africa's population, represented nearly twice as big share of the manufacturing value added (MVA); West Africa's 16 countries with more than 30 per

^{1/} 28 countries out of the 50 ECA member countries have a population of 5 million or less, 17 countries having a population ranging between five and 10 million persons. In 1977 the total GDP of African developing countries as a whole including the major oil-exporting countries amounted to \$US 192 billion compared with \$US 196 billion for Italy alone.

cent of the population had less than 25 per cent of the MVA, East Africa's 16 countries with about 25 per cent of the population had less than 20 per cent of the MVA, while Central Africa's 11 countries with about 15 per cent of the population had about 7.5 per cent share in MVA. Other developing African countries ^{2/} representing 2 per cent of population had three times as big share in MVA. Only one-third of the number of African countries are responsible for 85 per cent of the manufacturing value added. Three countries, namely Egypt, Nigeria and Ivory Coast account for more than one-third of the total manufacturing value added of the continent. Manufacturing per capita output is the lowest among all developing countries, being a mere \$US 15.5 in 1975.

African trade in manufacturing is heavily dominated by imports rather than exports. The annual average growth rate of manufacturing exports at current prices during the period (1970-1975) was only 11.5 per cent as against a rate of 28.5 per cent for imports. Similarly the share of manufacturing exports in total exports declined sharply from 20.8 per cent in 1970 to 9.6 per cent in 1975 as against a marginal drop in the share of manufacturing imports in total imports from 75 per cent in 1970 to 73.8 per cent in 1975. Consequently, this has led the export-trade ratio (equivalent to self-sufficiency ratio) to decline from 22.3 per cent in 1970 to only 9.7 per cent in 1975. The reasons for this drop were the poor performance of the export-oriented industries and those processing domestic raw materials on the one hand and to the rising demand for industrial goods and to the high import content in industrial production on the other.

Intra-African trade in manufacturing represents less than 25 per cent of the regions total manufactured exports which amount to about 7 per cent of the world trade in manufactures. That unsavoury situation can be attributed to, among other factors, inadequate economic complementarity and interdependence, lack of proper market studies and means of exchange of relevant information.

(b) Constraints and policies

To some extent, import substitution and export promotion are two stages in the general industrialization process. In the long-run after experience has been gained and economies of scale realized, production will turn gradually towards foreign markets and the short-run policy of import substitution will be changed. Obviously an export policy is difficult to pursue. Over and above the restrictions imposed in foreign markets it requires expertise in production and marketing techniques and scientific research not generally available in developing African countries and this necessitates reliance on foreign licences and documentation, joint ventures, specialization, sub-contracting and other forms of industrial co-operation between developed and developing countries and between a number of developing countries. Obviously the partners in the developing countries are the weaker ones in such forms of industrial co-operation. In addition there is the danger that the dependence on foreign collaboration and investment may hinder the growth of indigenous technology and enterprises and may even create "white elephants" which are burdens to national economies.

^{2/} Namibia, Reunion and Zimbabwe.

So far in many developing African countries, promotional privileges have been granted for import substitution industries with a high import content. It is high time for a shift to concentrate promotional privileges on export industries and to make such privileges conditional on the success of the establishments in this field.

The incentives given in many developing African countries after independence to foster rapid industrialization inevitably strained the balance of payments. In the first place, rapid development requires substantial increases in fixed capital formation, the import content of which is higher than of GDP as a whole, and thus imports of capital goods grew at a faster rate than the growth of GDP in real terms. The system of incentives, and particularly the exemption of imports of machinery and capital goods from import duties, encouraged capital-intensive techniques with their low contribution to employment and also led to inefficiencies in the allocation of the scarce capital resources. It also discouraged the development of a domestic machine-building industry. In many countries, imports of intermediate products and raw materials increased rapidly, thus swelling total foreign exchange expenditure by more than the savings realized through import substitution. The high effective protection gave no incentives to export as opposed to sales in the domestic market, and encouraged a diversified pattern of industrial growth, reflecting domestic demand rather than factor endowments and comparative advantages, including the utilization of domestic raw materials. It also adversely affected manufacturing costs. The cost position was compounded by the uneconomical scale of production resulting from the small home market and inward-looking policy. Incentives for exports are limited and those that do exist are administered inefficiently. Export procedures are also cumbersome.

It has become evident that developed countries make use of a differential tariff structure in such a way that the rate of effective protection on final products exported by developing countries is considerably higher than the nominal rate. This is because raw material imports from developing countries enter at low or zero rates of duty.

"In the vast majority of cases, however, manufactured exports from developing countries would not be competitive even if tariffs were abolished. Production costs are so high in many instances that they make the products non-competitive in any case and the existence or non-existence of tariffs is barely relevant. Quota restrictions have a far more damaging effect on the potential exports of developing countries because they restrict the export of competitive manufactured goods and thereby reduce the capacity to earn foreign exchange of the few products that are exportable". 3/

While we cannot go as far as the UNIDO Expert Group in saying that the existence or non-existence of tariffs is barely relevant, it should be stressed that such tariffs have compounded the problems of export outlets, particularly for labour-intensive products which are heavily protected in developed market economies. We agree with the UNIDO Expert Group on the necessity to lower production costs and the damaging effect of quota restrictions imposed by developed countries.

3/ United Nations Industrial Development Organization, Vienna, Industrial Co-operation Between Developed and Developing Countries for Export: Report of Expert Group Meeting, Bucharest, 8-13 June 1970, (United Nations Publication, Sales No. E.71.11.B.4).

Indeed, most developing African countries face the dilemma of either relying on their own potentialities and market efforts and continuing in their 'closed' pattern of development, with its serious implications for the balance of payments or beginning a new policy of reliance upon foreign economic and technical aid by establishing export industries under branch and subsidiary agreements designed to create complementarities based on a partial division of labour, in other words an outward-looking pattern of development. This policy of reliance on foreign economic co-operation is far different from the present policy of reliance on foreign co-operation for import substitution, which is extremely costly, if not damaging, for the balance of payments.

Since 1975 the growth in manufacturing output accelerated in almost all African subregions, there are a number of factors for this favourable trend prominent among which are the active rehabilitation and promotion policies pursued by most Governments as reflected in a higher rate of investment in manufacturing. Current development plans allocate a high share of investment to industry; in Benin under the 1977-1980 plan, industry receives 44 per cent of planned investment; in Gabon under the 1976-1980 plan, the share of industry reaches 59 per cent of planned investment; in Mali, the secondary sector received 31 per cent of investment in the 1974-1978 plan despite the agricultural character of the economy.

As stated earlier, industrial policies which follow the traditional pattern of processing local raw materials and import substitution are being reconsidered and change of emphasis and direction in some countries are emerging because of changing conditions. In Algeria industrial policy up to now favoured heavy industries based on the transformation of oil and other local minerals, but reassessment is under way and it would seem that consumer needs will receive more attention as well as the profitability of industrial ventures. In the United Republic of Cameroon more attention is given under the current plan to agro-based industries, with less funds going into import substitution. In the case of the Ivory Coast, where manufacturing has grown very rapidly, there is a shift away from import substitution towards export industries as the limits of the internal market are reached. Gabon also is moving towards the production of industrial inputs like paper pulp. Malawi is also shifting towards export-oriented industries.

A large number of countries have set up industrial promotion agencies and have elaborate investment codes. With the new emphasis on export industries, there has been a revision of the provision of the investment codes. In the Ivory Coast for example the code now gives incentives to activities and not enterprises as a whole and provides for export premiums on all exports for the first year and then on the export increments each year. The creation of export processing zones has been successful in Mauritius, but less so in Senegal chiefly because of the high labour costs.

The movement towards indigenization of small business enterprises seems to have been enhanced. In Togo, the investment code was changed in February 1978 to grant tax exemptions up to 20 years to small- and medium-scale enterprises with 50 per cent Togolese ownership. In Botswana promotion agencies have been set up to encourage small-scale enterprises like BEDU (Botswana Enterprises Development), while National Development Bank provides medium-term finance to small business. In fact in most countries development banks are giving high priority to indigenous enterprises which are overwhelmingly small-scale. In Nigeria a policy of gradual indigenization is being followed under the Nigerian Enterprise Promotion Decree of 1972, whose scope was broadened in 1977 and amended in April 1978. But its effect were not favourable as the rate of growth of manufacturing output declined strongly.

With the pressure of unemployment, Governments have been keen to favour employment-creating industries and thus a tendency has appeared to give precedence to so-called labour-intensive industries over **capital-intensive** ones. In fact, however, in a number of cases high labour costs are favouring capital-intensive industries, as it is the case for example in the Ivory Coast, Tunisia and Morocco, where the high labour costs are hurting African exports relative to South East Asian ones.

To cope with the small market size which is one of the main impediments to industrial growth in many developing African countries industrial co-operation among African developing countries is being enhanced. In Togo a policy has been adopted to engage in joint ventures with neighbouring countries. Thus, a joint cement clinker plant has been established with Ghana and the Ivory Coast. A thermal power plant to supply Benin has also been constructed, and oil imported from Nigeria is refined for export to neighbouring countries and Europe. Another example of industrial co-operation is the Mano River Union between Sierra Leone and Liberia. It is hoped that the creation of ECOWAS to which a large number of West African States have joined, will be instrumental in speeding up joint projects and industrial co-operation.

In a number of African States, such as the Congo, Guinea, Mali, Ghana and others, the number of State enterprises has expanded greatly, and attempts made to cope with the problems of mismanagement, overstaffing, underpricing of products and disregard of costs, etc. Many African States have therefore been engaging in various rehabilitation policies to make the public sector profitable. In the Congo some factories have been closed and for others management contracts have been concluded with foreign companies. At the same time, no new public enterprises were created in 1978 to give priority to the rehabilitation of existing ones. In Ghana, a programme was developed to remedy various shortages which were impeding production in state-owned enterprises. In Guinea, the public sector suffers from considerable idle capacity and various ailments like the shortages of spare parts and raw materials, inefficient management, etc. In 1976 so-called production brigades were created to supply raw materials as well as sufficient amounts of foreign exchange. Capacity utilization rose substantially and an industrial repair centre has been established while arrangements were made with a Japanese firm for the rehabilitation of 11 industrial enterprises. All state enterprises have been placed under the supervision of a single central holding company, the OCOFI (Office de coordination financiere pour l'industrie et le commerce).

In the field of energy in African countries without oil, the rising cost of imported oil has been acting like a brake on industrial expansion. To remedy the situation a policy of developing local resources and in particular hydroelectrical production has been pursued in a number of countries. In Benin, 2.4 per cent of the total planned investment in 1977-1980 has been earmarked for electricity generation. In the United Republic of Cameroon, two major hydroelectric projects are under construction which will double installed capacity in 1980. Manufacturing industry was hamstrung by the lack of electricity in 1977/1978. In Ghana a new dam with a capacity one sixth of that of the Akosombo Dam will be completed in 1981 while a third power station is being built in northern Ghana and will come on stream in 1984. In Kenya where the rising costs of imported oil have had a sharp impact, efforts are being made to develop hydroelectrical production and a project is being completed at Gitaru to meet industrial requirements. Mali is building a big dam at Selingué which will provide

electricity to the capital area where most electricity is consumed. In Sierra Leone, where imports of oil amounted to 11 per cent of total imports in 1976, several projects for electricity generation are being implemented.

Some African countries like the Ivory Coast, Benin, Tunisia and Morocco have been able to export to European markets but in the recent years have had to face increasingly tough protectionist measures. Quotas have been imposed by EEC for textiles for example.

In conclusion it seems that Africa's very low level of performance in the production and export of manufactures can be viewed as resulting from:

1. The traditional pattern of interchange (i.e. exchange of primary products and raw materials for manufactures) which persists at the country level and culminated in most African countries being net importers of manufactures;
2. The fragmented nature of African markets which underscores the importance of widening national markets through subregional groupings as a preliminary step towards the establishment of an African Common Market;
3. Intra-African trade in manufactures represents less than 25 per cent of the region's total manufactured exports which amount to about 7 per cent of the world trade in manufactures. This unsavoury situation can be attributed to, among other factors, inadequate economic complementarity and interdependence, lack of proper market studies, means of exchange of relevant information.

At the level of individual African countries, the institutional framework for industrialization is generally unsatisfactory. Central industrial development organizations capable of leading the industrialization drive are either absent or inadequate. Ancillary specialized institutions are also either lacking or ineffective in rendering basic industrial services, e.g. industrial information, research, technology, management and consultancy services, project initiation and implementation, industrial financing and industrial training.

Efficient planning and co-ordination of industrial policies is not sufficient unless associated with efficient implementation. At the African national levels there are several examples pointing to the failure of industrial administration in implementing industrial policies. Therefore, the improvement of industrial administration is a sine qua non for the successful implementation of industrial policies and plans of action for Africa.

(c) Plan of action

In the face of the bottlenecks and the problems described above, which are constraining the industrial development of Africa and leading to excessive overdependence of the region on the outside world, the following Plan of Action was adopted by the Conference of Ministers of ECA at its fifteenth session and later by the OAU Economic Summit setting concrete objectives and new strategy for the achievement of an accelerated and internally sustained development, based on collective self-reliance among African developing countries. As far as industrialization is concerned, the Plan of Action urges the African countries to establish at the national level, and through strengthened co-operation, at the subregional and regional levels, such resource-based industries as would ensure the satisfaction of the

basic needs of the population, the processing of local raw materials, the creation of jobs, the development of the other economic sectors, the development and the acquisition of suitable technology, the modernization of the society, etc. In addition, the Plan of Action sets specific industrial targets to be achieved by African countries collectively, as follows:

- Global objectives

In implementing the development strategy, Africa's target shall be to achieve the following shares of world industrial production;

- | | |
|-----------------------------|----------------|
| - up to the year 2000 | - 2 per cent |
| during the 1980-1990 decade | - 1.4 per cent |
| up to the 1985 | - 1 per cent |

- Sectoral objectives

During the 1980-1990 decade, Africa's efforts shall be geared towards attaining self-sufficiency in the following four sectors: food, building materials, clothing and energy.

Special emphasis is put on the need to create a solid basis for local resource-based industrialization which will produce in sufficient quantities the various inputs required into the above sectors in order to enable them to achieve the self-sufficiency objectives.

(v) Transport and Communications

(a) Present state of development and major constraints

The evidence available shows that in the African region as a whole, transport systems are grossly inadequate for the region's development objectives. In most of the countries in the continent, transport systems consist largely of roads linking the coast with the country's interior. These were the first lines of communication built to enable raw materials to be exported and consumer and capital goods imported. However, for most of the countries these traditional road links are hardly sufficient to encourage trade within a country or with neighbouring countries. Indeed, the road network in most African countries are very much underdeveloped both in terms of coverage and construction standards; and since most countries develop their transport network independently of their neighbours, the connections between transport systems in the region are often lacking.

In most of the countries which have a railway system the average passenger - kilometres and net - ton kilometres carried are also relatively small partially due to the limited number of passenger carriages and waggons, and limited waggon capacity. In addition, most of the African countries have very weak domestic as well as international air links. Both passenger-kilometres and freight-kilometres carried are generally relatively very low.

The thirteen land-locked countries of the continent are particularly handicapped due to their lack of access to sea-ports compounded by their remoteness and isolation from world markets. These countries depend almost entirely on the ports and shipping facilities of neighbouring States. From a comparative analysis with other developing regions of the world, every African country has serious transport and communications problems of some sort, but what marks the difference between other countries and the African land-locked countries is "transit", which is defined as the movement of goods and people between one country and another across the territory of one or more intervening States by any means of transport. While the bulk of international trade is transported by sea (and, by definition, land-locked nations have no coastal frontier), access to the sea is synonymous with access to world markets. Transport across the ocean differs from other forms of transport in that it does not physically traverse the territories of intervening States: land transport crosses national frontiers and physically traverse the territories of intervening States and air transport requires rights to use the air-space of other nations.

Besides the common transport and communications inadequacies similar to the other African countries, these land-locked countries are also saddled with difficulties associated with transit transport operations. These difficulties pertain in brief to high transport costs resulting from inefficient transport management, use of inadequately skilled labour, directional and seasonal traffic imbalances, unsuitability of vehicles and handling equipment use and the lack of adequate basic facilities. Many avoidable transport costs also arise from inadequate and unreliable communications facilities such as telephone, telegraph, teletype and postal services at principal points along transit routes.

Less than 5 per cent of international trade takes place between the countries of the continent. This indeed reflects the weakness of the trade links among African countries which is partly due to the small and limited African markets and which, in turn suppresses the development of national industries.

The development of increased trade among African countries entails the development of processing industries for these countries' natural resources. If such trade is to be created and developed, transport and communications will have to be improved so that persons, goods, information and ideas can circulate safely and at competitive prices. A reliable transport and communications network is a fundamental prerequisite for intra-African development and co-operation.

(b) Plan of action - The United Nations transport and communications decade in Africa

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.

In recognition of the special importance of the transport and communications sector of 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".

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:

(i) promotion of the integration of transport and communications infrastructures with a view to increasing intra-African trade;

(ii) ensuring the co-ordination of the various transport systems in order to increase their efficiency;

(iii) opening up of the land-locked countries and isolated regions;

(iv) 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;

(v) stimulating the use of local human and material resources, the standardization of networks and of equipment, research and dissemination of techniques adopted to the African context in the building of transport and communication infrastructures;

(vi) promotion of an African industry in the field of transport and communication equipment; and

(vii) mobilization of technical and financial resources during the Decade with a view to promoting the development and modernization of transport and communication infrastructure in Africa.

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:

- (i) - regional projects;
 - subregional projects;
 - national projects with a regional or subregional impact.

(ii) projects for the least-developed, land-locked, newly independent, island and front-line countries;

(iii) projects of concern to other countries.

It was decided by the ECA Conference of Ministers that the Decade be implemented 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.

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

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 following table:

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. Indeed, 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.

For instance, in the field of agriculture, the policy objective specified in the Monrovia Strategy for the 1980s is one of food self-sufficiency. Such a policy should do more than merely aim to increase production by increasing the area under cultivation, popularizing the use of chemical fertilizers, selecting seeds, mechanizing farming equipment, training farmers and providing them with information. It must also take the necessary steps to reduce subsequent losses. Some losses are simply the result of the lack of an adequate transport system for carrying agricultural products from the rural areas to the cities. It seems that, if Africa could be provided with an integrated transport and communications system, at least 30 per cent of current losses of foodstuff could be avoided.

<u>Transport projects</u>	<u>In millions of United States Dollars</u>	<u>Percentage</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 (MAP)	<u>43.15</u>	<u>0.5</u>
Sub-total	8 342.19	94
<u>Communications projects</u>		
VIII. Telecommunications (TEP)	223.48	2.5
IX. Communications by satellite (SAP)	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)	<u>76.13</u>	<u>1</u>
Sub-total	513.75	6
Total	<u><u>8 855.94</u></u>	<u><u>100</u></u>

Although the Decade's objectives can be attained only with the backing of the international community, it is important for African countries to devote some of their local resources to the implementation of the programme. African countries have indeed understood this quite well. This is reflected in the result of the Pledging Conference which was held on 20 November 1979 where:

- (i) firm commitments totalling \$US 155,588 were made exclusively by African countries and
- (ii) pledges for contributions totalling some \$US 6.3 billion for the development of transport and communications in Africa in the form of bilateral assistance was made by a number of industrialized countries, Nigeria (for its own programme), and various international financial institutions.

(vi) Energy

(a) Present state and development

At present, Africa's share of natural energy resources in international trade works out at about 10 per cent of world oil resources, 8 per cent of natural resources, nearly 25 per cent of uranium resources, about a third of the technically exploitable hydroelectric potential of the submerged land of the world, 1.72 per cent of coal resources and about 1 per cent of lignite resources.

In general, the pattern of distribution of energy reserves in the African continent ^{1/} is as follows:

There is a major concentration of: (1) petroleum deposits in the North; (2) water resources in the centre; (3) geothermal potential along the whole length of the Rift Valley in the East; (4) coal deposits in the South and South-East; and (5) resources in the form of ligneous fuels and potential for heat energy from the sea and tidal energy in the equatorial and tropical zones. On the other hand, a less substantial distribution of all these resources in the West. Furthermore, there is very intense solar radiation with long insolation periods above the 8th latitude north and below the 8th latitude south. Only radioactive ores seem to be better distributed, with the greatest potential lying in Southern Africa.

African apparent crude oil consumption since 1970 remained less than 2 per cent of world consumption, the maximum was 56.6 million tons or 1.92 per cent in 1978.

Africa also exports in all, 76.9 per cent of its total primary energy production, corresponding to 422 million tonnes of coal equivalent (tce) of a production of 549 million tce in 1978. It consumes only 32.6 per cent of its production. Imports are running at 74 million tce, more than half from outside Africa.

Africa also possesses an appreciable potential in alternative and renewable energy resources. Africa is the only continent straddling the equator and so has sunshine all the year round. Wind power, although not capable of exploitation in every region of Africa, could be very useful at least as a standby if not a standing energy source. Africa's plant cover can provide the equivalent of 100 million tonnes of coal annually. Economically exploitable geothermal resources can be found along the whole length of the Great Rift in East Africa and in other regions of recent volcanic activity. For coastal countries the energy of the thermal gradient of tropical seas might provide a useful standby source of energy. The energy available from sandbars along the whole of the West African coast, from sea swell, sea currents and tides could work up non-traditional sources of hydrocarbons.^{2/}

^{1/} OAU/ECA "Possibility of Co-operation in the Field of Energy in Africa" document prepared for the Joint OAU/ECA Meeting of African Experts on Energy, Addis Ababa, 24-28 March 1980, pp. 4-5.

^{2/} Ibid., p. 4.

Before the year 2000, if Africa is to put its development on a sound basis and accelerate its pace, it can do so only through the rapid development of its renewable energy resources, and through understanding and co-operation between producer countries and the African countries which consume oil, natural gas and their by-products. Also, Africa must depend, first and foremost, on its hydroelectric potential, 3/ on its goods geographical position for the use of solar radiation, on its vast forests and its plant cover. 4/

High priority should be attached to the development of energy infrastructure in the countryside. This infrastructure will necessarily comprise apparatus and installations which make use of solar, wind, geothermal, biomass and other renewable resources. Special attention should also be given to the distribution of energy over the long distances. This obvious distribution problem presented by the shipment of fuel is the one of the prohibitive cost of transporting electric power, even that of hydro-origin.

(b) Problems, constraints and priorities

A large part of African countries, in general, has a disturbing energy situation 5/ including unfavourable petroleum supplies, steadily increasing demand for energy, continuously rising petroleum prices, difficulties existing in the distribution of energy, lack of standardization in the electricity sector and the shortage of qualified manpower in the energy field. All these have serious impact on the social and economic development of African countries.

The aforementioned problems confronting African governments in the development and utilization of energy are closely related to the following issues: the lack of a national energy policy in most African countries and of short-, medium- and long-term energy development programmes; the need for an integration of energy activities in over-all national development planning efforts; the urgency to undertake an exhaustive inventory of all energy resources (land- and sea-based) using geological, geophysical, air-borne, etc., techniques and evaluate the potential; periodical assessment of energy supply and demand patterns for agricultural, industrial, transport and rural household uses so as to develop efficient techniques for energy exploration, production and distribution and to plan future management

3/ This potential represents a capacity of 200 million kilowatts or almost 35.4 per cent of the hydroelectric capacity yet to be harnessed in the world (565 million kw). This African potential has hardly been tapped, if it is remembered that total installed hydroelectric capacity in Africa is still a small fraction of the technically exploitable capacity of the continent. (See details in "Energy Resources in Africa", p. 122).

4/ Ibid., p. 29.

5/ See ECA (a) "Report of the Joint OAU/ECA Meeting of African Experts on Energy" (E/CN.14/778 dated 3 April 1980). (b) OAU/ECA "Energy Resources in Africa" paper prepared for the Joint OAU Meeting of African Experts on Energy, Addis Ababa, 24-28 March 1980.

the urgent need to undertake an inventory of the existing and needed manpower in Africa in the field of energy; and the lack of funds for the implementation of energy development projects.

Recognizing the pressing energy problems and related issues in Africa, attempts were made to find out adequate short-, medium- and long-term solutions. These solutions are defined within the framework of the following objectives; (1) the rapid increase in the availability of energy resources in Africa and increasing the quantities so as to ensure self-sustained development; (2) diversification of energy sources; (3) finding quick solutions to the problems of the supply of energy resources in general and hydrocarbons in particular so that the existence of the most disadvantaged African countries as sovereign States was not threatened; and (4) providing better living conditions for the rural areas by making better use of energy resources.

From the above-mentioned objectives, it is clear that the following priorities were established: (1) intensive development and exploration of fossil fuels (hydrocarbons, coal, lignite and peat); (2) development and increase in utilization of the African continent's hydropower resources; (3) over-all development of new and renewable sources of energy (solar, wind, geothermal, biomass and others); and (4) utilization of nuclear energy.

(c) Plan of Action

Obviously the launching and implementation of a new African strategy on a sound footing, a strong **political will** from Africa's heads of State is a fundamental requisite to promote a genuine co-operation and active solidarity. It is in this spirit that the **joint** OAU/ECA experts proposed the following priority plan of action including a set of short-, medium- and long-term policies emerged from the discussion.

(i) Short-term policy: supply of hydrocarbons

In a set of short-term policy, urgent steps should be taken by every African country to emphasize hydrocarbon supplies with regard to (a) ensuring stable and guaranteed supplies of oil to all African countries; (b) increasing assistance from African oil-producing countries to other African countries in the training of cadres and technical staff and exploiting of oil deposits; (c) demonstrating African solidarity by various ways of integrating the impact of oil prices on the balance of payments such as preferential tariffs, a compensation fund financed from African and possibly external contributions including the planned OPEC Fund to offset balance-of-payments deficits and finance development-projects; (d) improving oil storage and distribution infrastructures; and (e) allowing those oil-importing countries to pay in local currency or to use bartering for the purpose of alleviating the difficulties caused by monetary transactions. Other proposed solutions are to convert oil bills into low-interest long-term credits.

(ii) Medium- and long-term policies

In a set of medium- and long-term policies, priority strategies should be directed to the development of fossil oils, hydropower resources and renewable sources of energy including: (1) intensification of geological and geophysical exploration of fossil fuels (hydrocarbons, coal, lignite and peat) in non-producing countries; (2) evaluation of known hydrocarbon resources and their potential; (3) off-shore exploration for hydrocarbons;

(4) development of known coal-bearing areas and exploration of new regions with similar geological conditions; (5) assessment of coal reserves and integration of coal utilization in national energy planning; (6) inventory of hydroelectric resources in all African countries taking into account their integrated utilization such as electricity production, irrigation, fisheries, etc., so as to solve the problem of **self-sufficiency** in food; (7) development of economically attractive small-scale hydroelectric power schemes for rural areas; (8) need for neighbouring African countries to exploit hydroelectric installations jointly so as to ensure safe supplies of electrical energy; (9) promotion of standardization in power supply and scales of charges; and (10) in the search for solutions to the energy problems, priority should be given to sites with great hydropotential in order to make it possible to consider interconnecting a large number of African countries; (11) intensification of geothermal exploration with the use of modern exploration methods; (12) continuation of research and development 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 and (13) intensification of research and development on economic conversion of solar, wind and biomass energy into mechanical or electrical energy for the advancement of the rural areas.

For the future nuclear energy thoughts 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. Accordingly, nuclear-fuel-producing countries should think of conserving their resources for the future.

(d) Modalities for implementation

In order to efficiently implement the proposal plan of action for the economic development of Africa, the following main suggestions are recommended:

Urgent establishment of an African Energy Commission responsible for co-ordinating all activities being undertaken in the field of energy in Africa including the formulation, co-ordination and dissemination of energy information on the continent; promotion of the preparation of an exhaustive inventory of all energy resources on the African continent; promotion to establish 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; and promotion to establish a regional **Geothermal** Energy Centre in order to assist African countries to explore and exploit their geothermal resources.

Urgent need for establishing an African Energy Development Fund designed specifically to finance the implementation of energy projects in Africa.

In conclusion it seems that in carrying out the foregoing recommendations, African governments should seriously consider their joint efforts and action to develop the energy resources available in the continent, through co-operation and solidarity, with a view to safeguarding their economic development and survival.

(vii) Manpower Training and Utilization

(a) Present State and Development

human resource development

Although few countries in Africa have so far formally made a ~~manpower training~~ programme central to their economic development strategy, closely parallel ideas of general education can be found in a number of African development plans. It is generally agreed that education can make important contributions to economic ^{and social} development. The critical questions are how much does education help to form the skills, general understanding and attitudes needed for broad-based development of a pattern which avoids rather than reinforces rural-urban differences, dependence on capital-intensive production, and the "unbalanced" growth of the formal and informal sectors. This section of the paper first reviews briefly the educational performance since 1960 and its related problems or issues and then outlines the current styles of thinking and strategies of the African countries with respect to the manpower training and utilization.

In 1961, primary education in Africa covered barely two fifths of the relevant age group; secondary education only 3 per cent and university and other tertiary education a mere fifth of one per cent. Fifteen years later, school attendance in Africa almost doubled at the primary level and more than tripled at the secondary and tertiary levels. In total, school enrolments in Africa increased from 21.4 millions in 1960 to 44 millions in 1972, a rate of expansion higher than that of all the main developing regions of Latin America and Asia. Enrolment ratios also rose considerably, passing from 42 per cent in 1960 to 59 per cent in 1975 at the primary level; from 4 to 14 per cent at the secondary level; and from 0.6 to 1.8 per cent at the tertiary level. The rate of expansion was particularly higher in the secondary and higher education than in the primary education. ^{1/}

Despite such quantitative expansion, there has been a growing disillusionment with the quality of primary and secondary school leavers. This, together with the difficulty in many countries in absorbing them in the modern sector, due to the poor economic situation, has increased the appeal for basic education programmes. Hence, many countries started implementing basic education programmes with the view to upgrading the skills of persons in employment and to increasing specific vocational training of youth ~~and~~ drop-out students in order to fit the specific needs of the country. Included in such programmes are the youth pre-employment training services, agricultural extension services, settlement schemes, co-operative training, vocational agricultural training, adult literacy campaigns, etc. But data on these varied forms of informal and non-formal education and training are partial and inadequate in order to appreciate their importance and potential contribution to economic development.

At current cost levels, the quantitative and qualitative expansion of education in Africa is in fact severely constrained by the limits imposed, firstly by the growth of national income and, secondly, by the growth of government revenues. In the early 1970s, the proportion of GNP devoted to education in several African countries ranged from 2.8 per cent (Ethiopia) to 9 per cent (Algeria) while the percentage of the government budget spent on education range from 7 per cent (Somalia) to 32.3 per cent (Mali). And it has been observed that there is no logical correlation between the public expenditure on education and the level of per capita income, meaning that some African countries have been spending more on education than they can afford even though enrolment ratios are still low.

^{1/} See UN-ECA, Survey of Economic and Social Conditions in Africa 1976-1977, E/CN.14/690 (Part I), pp. 63-80.

(b) Major Problems and Constraints

The development and utilization of human resources in developing African countries as in many other developing countries are constrained by several factors which are related to their poor socio-economic situation, namely: (a) the high rate of population growth with the implied high level of unemployment and underemployment, (b) the deficiencies of the existing educational systems which have brought about the shortage of different types and levels of trained manpower and the high level of adult illiteracy, and (c) the lack of co-ordinated policies and programmes of manpower training and the scarcity or misallocation of financial resources which limit training facilities in several fields. 2/

(i) Population growth and unemployment and underemployment

Indeed, one of the growing problems confronting African countries is the rapid annual rate of increase in the labour force. Following the widespread use of new drugs in Africa after World War II, mortality rates, particularly infant and childhood mortality declined substantially, causing a substantial acceleration in population growth and the number of entrants into the labour force. The annual population growth rate for developing Africa as a whole increased from 2 per cent in the late 1940s to some 2.7 per cent in the 1970s. The rate of growth of the labour force has also accelerated from 1.8 per cent per annum in the late 1940s to well over 2.2 per cent in the 1970s.

While there has been a large and continuing increase in the supply of labour in the form of the number of entrants into the labour force during the last two decades, the demand for labour increased only marginally in most African economies. Over and above the poor growth in per capita income of a mere 2 per cent yearly and modest growth of agricultural production of about 1.6 per cent yearly during the 1970s, labour intensity per unit of land in agriculture declined in spite of the fact that the estimated elasticity of output with respect to labour in that sector was 0.76 compared to the elasticity of output with respect to acreage of a mere 0.33, which underscores the importance of labour intensity and the better utilization of manpower for increased output and employment. 3/ In the manufacturing sector, there is a trend towards a decline in the employment-output ratio due to a number of factors which include the slow growth of output, the shift towards heavy, capital-intensive industries at the cost of light, labour-intensive industries.

As a result of this imbalance between the supply of and the demand for labour unemployment and underemployment in African developing countries rose by 1975 to 63 million persons which constitute some 45 per cent of the total labour force - 10 million or 35.9 per cent living in the urban areas and 53 million or 47.3 per cent in the rural areas. According to rough preliminary projections, only half of the projected increase in the labour force of 112 million in developing Africa could find gainful employment by the year 2000. This would mean that in the absence of effective policy measures over 126 million or about 45 per cent of the labour force would be unemployed or underemployed by the year 2000 compared with 63 million persons in 1975. 4/

2/ For background documents see "Intra-African Co-operation in Manpower Development and Utilization" (PAMM/MP/1/79), and "Human Resources Development and Utilization in the Framework of African Development and Co-operation in the 1980s" (E/CN.14/763).

3/ See: (a) UN-ECA, Survey of Economic and Social Conditions in Africa, 1978-1979, E/CN.14/743/Part I, p. 84.

(b) UN-ECA, Survey of Economic and Social Conditions in Africa, 1977-1978, E/CN.14/697/Part I.

4/ UN-ECA, 1978-1979 op.cit., p. 91.

(ii) Inappropriate educational systems

As regards the development of manpower, the main preoccupation in 1960s was the indigenization of the African civil services through the development of primary, secondary and higher education. Little efforts were made in those years to change the curricula and inject vocational training with a view to adapting the educational system to the job opportunities available and to enhancing the productivity of the labour force in all fields.

There are a number of imbalances that arose between the growth of the labour force, urban population and education and the over-all growth of the economy. Imbalances also existed in Africa between job expectations, structures of incomes and job opportunities, and on the factor mix because of distortions in factor and product prices. In short, the development of education is not balanced, co-ordinated and fully dove-tailed at different levels. This in turn resulted not only in a large number of educated unemployed among school leavers, but also in the sharp expansion of educational expenditure in secondary and higher education rather than general and technical education which is necessary to raise the productivity of the labour force as a whole. The growth rate of secondary and university education as stated earlier was much faster than primary and technical education, pointing to the continuation of sub-optimality in resource use in the educational fields. There is even a tendency to believe that a cumbersome, inefficient and costly educational system with irrelevant curricula and methods, with teachers ~~inadequately~~ ^{inadequately} trained, and with very little provision for the teaching sciences and for technological discoveries is in fact slowing it down, since such kind of educational system cannot provide men and women with the critical skills urgently required for Africa's economic ^{re-}structuring and development.

A new phenomenon that has also involved in recent decades is the assertion of independence by African women, especially townfolk and school leavers. In fact, females constitute roughly half the total population and yet in 1978 of all the females aged 15 years and over, 76.6 per cent was illiterate as compared to 52.1 per cent of males in the same age group. This is due partly to the fact that the educational system in Africa has given and continues to give inadequate attention to female education. The women independence trend has in turn increased labour force participation rates for this group, causing greater pressure on the employment market which still remains less flexible to prevent the emergence of heavy unemployment.

The problem faced by Africa today is less of the quantity of secondary and higher education graduates than that of shortage of skilled manpower at the "doing-level". That is, inadequate supply of labour with skilled hands, matured intellect, know-how and experience to grapple with development task, turn raw materials to finished goods, organize and provide goods and services, manage production and services. In fact, unemployment among primary school leavers has gradually extended through to secondary and university graduates simply because the bulk of the skills produced by the African institutions proved to be irrelevant to the real development needs of the region.

Even in respect of technical, professional and managerial levels the situation has tended to worsen as development in Africa gathered momentum. African universities have not succeeded in producing the right mix of academics and skills and, consequently, most African states had to rely on imports of foreign trained manpower to fill technical and managerial posts. Often the indigenous talents have not been recognized because of irrelevant basic university education and this has brought ^{about} the "brain drain" phenomenon of highly trained nationals towards ^{migrating} the industrialized countries.

(iii) Inadequate manpower planning

Often the manpower problem was not all the fault of the educational systems alone. Much of the fault and the blame can be attributed to the established authorities and policy which lacked a comprehensive and integrated approach to the planning of different levels of educational institutions and different types of educational provisions, the inadequate co-ordination of training systems and their integration in over-all manpower development programmes, and the virtual neglect of non-formal system of manpower preparation for development of skills and attitudes. No much attention has been given to human resources planning in most African countries.

Even today only a handful of African countries (namely Botswana, Ghana, Kenya, Lesotho, Malawi, Mauritius, Nigeria, Sierra Leone, Swaziland and Uganda) have established any full fledged ministry of manpower for the planned development and utilization of human resources, although the machinery for manpower planning and the staffing and material resources for such a machinery are still far from being adequate. (*Manpower Development Ministries exist in Egypt, Tanzania and Zimbabwe. Others have manpower secretariat or manpower division.*)

(c) Strategy for Africa

(i) Priority given to trained manpower

The quality of available manpower and the motivation of people to participate in, and contribute to national development are among the most vital elements in any country's socio-economic development and achievements. At least, this is borne out in the resolutions 332(XIV) and 342(XIV) of the ECA Conference of Ministers meeting in Rabat in March 1979 and the Monrovia strategy for the economic development of Africa (CM/Res.722(XXXIII) and Declaration of Commitment adopted by the OAU Heads of State and Government at the Monrovia Summit of July 1979. Very high priority had been given in these resolutions to ensuring adequate human resources training.

(ii) Basic elements of the strategy

The African States have recognized and accepted the policy implications and action requirements of the following basic elements in their strategy option for human resources development and mobilization.

They stated that:^{5/}

- Education must serve the object of economic and social development and as such curricula and course offerings must be made relevant to the African scene and challenge of development and educational facilities must extend to the masses in the production sectors.

^{5/} See the document (PAMM/PM/1/79), op.cit., p. 9.

- Special effort should be made to achieve accelerated training of middle and higher level technical, technological, professional and managerial personnel to achieve self-reliance in manpower resource needed in industry, agriculture, commerce, transport and communication, education and other services.
- Eradication of mass illiteracy and a general improvement in the knowledge and skill-mix of the work force, should be energetically pursued.
- Education should foster in Africans a spirit of self-confidence, innovativeness and change and a positive attitude to work that engenders industry and productivity.
- Higher educational institutions should develop closer links with agriculture, industry and other development sectors and seek academic excellence and opportunity for applied research in the challenge of social and economic development.
- National and multinational institutions should be strengthened and the establishment of new sub-regional or regional training and research institutions especially designed to meet Africa's specialized manpower requirements should be given full material, social and political support and full use made of their facilities.
- Special measures should be taken to attract back to Africa qualified Africans currently living and working abroad as well as evolving a programme that will promote the employment, exchange and short-term release of African experts for service in other African countries where such expertise is needed.

(iii) Major areas of human resources requirements

The human resource requirements in development process is measured in relation to the magnitude and type of tasks to be performed in both services and production. The Monrovia Strategy has recognized the following areas which require the local training and mobilization of manpower for the entire spectrum of skills and expertise:

- Manpower for industry at the workshop level. The level of trained manpower required for the industrial sector is much more than the actual and potential capabilities of existing educational and training institutions can provide. The specific technical and managerial personnel as well as support, accounting, clerical and operative skills must be produced locally for such basic industries as chemicals, engineering, metals, food and agro-allied, building materials and construction industries.
- Improved agricultural manpower. Increased food production and improved productivity in agriculture calls for mass education and training for the rural population, extension services personnel, as food and agriculture constitute high priority sector in Africa's development strategy. The African Regional Food Plan would require a training of the manpower in soil mechanics and management, in the development of technologies and tools suitable for the different types of agricultural zones, in food processing, in the design and management of irrigations and in the development of new farming techniques. In respect of research and development in support of agriculture, training is needed in adaptative technology, in food conservation and protection of food losses, and for research agronomists, specialists in arid zone cropping, forestry, livestock and fisheries.

- Manpower for transport and communication. The master plan for the Transport and Communication Decade in Africa calls for the training and mobilization of a variety of skills and large numbers of engineers, managers, technicians, transport economists and other specialized personnel; but a good proportion of the needed skills are currently unavailable in most African countries. This poses a challenge to African policy makers to see to it that the required local and regional capabilities are created and sustained.
- Manpower for other sectors. The required manpower training is also strongly felt in such sectors as natural resources exploration, evaluation and extraction (including mining); business support institutions (industrial estates and extension services, agricultural extension, etc.); marketing, distribution and maintenance services, and eradication of illiteracy.

is not to be seen in isolation but in the context of goals. Thus the Lagos Plan of Action recognizes the need for training and employment growth in all production sectors; efforts and the orientation of education in Africa must be directed to the needs and challenge of socio-economic development and utilization of natural resources to enhance the African peoples.

One of the major issues in manpower development in the 1980s is that African countries tend to be overdependent on the industrialized countries for technical and managerial personnel and for technological knowledge and research institutions. African States, individually, must develop the required local and regional capability for the manpower they need. Now or never is the time to lay the emphasis for manpower training. This is why ECA has been urging African States to establish such critical institutions as the African Institute for Technology (Dakar), the Engineering Design and Research Institute (Lagos), the African Institute for Higher Technical Training (Lagos), the Natural Resources Development Centre (Dodoma) and the African Schools of Management and Finance, to name a few.

(d) Plan of Action

There are serious manpower and employment constraints in the 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. The need therefore 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.

(i) At National Level

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:

- undertaking realistic manpower assessment, projection; planning and programming and continuous monitoring of its development and proper utilization;
- developing a career capability for co-ordinating and planning manpower development effort and monitoring manpower placement and utilization on a continuous basis;

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:

(1) 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:

(2) sectoral/ministerial advisory committees in sectoral centres of socio-economic activity or service rendering agencies;

- 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.

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.

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.

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

- Science and technical teacher training.
- Training/staff development officer training.
- Managerial/executive and supervisory cadre development training.
- 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:
 - task analysis and subsequent employable skills training modular approach;
 - double intakes or other cost-saving alternatives in post-primary educational institutions;
 - non-formal programmes in adult learning through Distant Teaching, University of the Air, Workers Education, etc.;
 - in-plant industrial training, teaching factories and development project attachment training.

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.

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

- 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;
- 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;
- 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;
- 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.

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:

- 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;
- continuous review and monitoring of the application and effectiveness of its rules, procedures, communication patterns, and machinery and readjusting them for better results;
- 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;
- 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;
- 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

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.

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.

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.

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.

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.

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.

(ii) At Regional and Subregional Levels

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 operation and collective self-reliance in manpower resources through:

- 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 guide for the formulation and initiation of training programmes at national and regional levels designed to meet manpower requirements;
- 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;
- 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.

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

- 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;
- 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;
- strengthening and making full use of existing institutions.

Support is needed 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:

- financial grants for the operation of the programme;
- provision of fellowships, scholarships and trainee places through ECA for the benefit of other African States;

- nominating nationals for training under the programme, including student and teacher exchange arrangements;
- providing regular information on national training and scholarship facilities available for training nationals of other African countries.

(iii) International Action

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.

(viii) Health

(a) Present state and development

The existing system for the delivery of health care in most countries of the African region is fragmented and of limited effectiveness. Although services are provided by a number of organizations (governmental, local authority and voluntary agency) there is little co-ordination between the various sectors which makes it difficult to establish priorities and to plan programmes and expenditures accordingly. The system is, therefore, inefficient and uneconomic and often leads to duplication of services in some areas and their complete absence in others. Generally, health services in the African region are very inadequate and disease is an ever-present threat to the efficiency of the population. This threat is nowhere more glaring than in the rural areas where very little has been done to ascertain the real needs of the people and to plan to meet them with available resources. Expenditure on health in all countries of the region has, therefore, failed to cover the essential actions necessary to provide for the basic health needs of the greater proportion of the people.

Estimates show that approximately 80 per cent of the African population live in the rural areas and of these, probably 45 per cent are below the age of 15 years. The people in these rural areas live mostly in villages and hamlets with populations ranging from a few thousands to less than one hundred. These settlements are isolated in most places so that the population density of the rural areas is very low probably only about 15 persons per square kilometre.

Housing conditions are often very poor with most dwelling houses made of mud and grass. There is a considerable amount of overcrowding with whole families sleeping in one room. The people also live close with domestic animals, sometimes under the same roof, which is one of the reasons for the high incidence of zoonoses.

Water supplies are totally inadequate in quantity and quality. The people spend a lot of their time and energy collecting water from rivers, streams, canals and wells. These sources are almost invariably contaminated with human and animal wastes, giving rise to a high incidence of water-borne diseases.

Wastes collection and disposal remain unsolved so that indiscriminate defaecation and handling of faeces exist resulting in soil, water and food contamination. Consequent upon which there is high incidence of gastrointestinal infection and infestation with intestinal helminths.

Food hygiene is almost unheard of so that infection with salmonella and other food-borne organisms is common.

Vector control activities are almost non-existent. Such vectors (as the anopheles, glossina, and simulium) breed and thrive so that diseases like malaria, yellow fever, onchocerciasis and trypanosomiasis are rampant.

Transport and communication systems are very poorly developed resulting in the poor utilization even of the rather scanty health services available. A distinct correlation has been found between the use of health services and their proximity to the people. Attendance at clinics is halved for every one to two miles depending on the type of health institution, being longer for hospitals than for dispensaries.

Supervision, supplies, referral and administration are all adversely affected by poor roads and lack of radio or telephone links.

Indeed, nutritional problems make many diseases worse and contribute appreciably to the high infant mortality of the African region due to acute respiratory and intestinal infections, measles etc. It is in the rural areas that seasonal malnutrition is endemic, particularly in the Sahel. Protein-calorie malnutrition is one of the causes of the retarded physical and mental development of many children. Vitamin deficiency types of this are frequently found. Malnutrition and iron deficiency anaemias are also frequent among pregnant women and nursing mothers.

(b) Major problem areas

Most of the countries of the region have already identified and analysed their priority problems when they drew up national development plans or conducted health programming exercises. Those priority problems should nonetheless be re-examined in the light of meeting the basic needs of the least privileged communities, and the communities themselves should be involved in such an examination.

The priority problems which most of the countries of the region are facing are the same, with country and area variation only in the degree of severity. These problems are related to an unhealthy environment, an insufficient and ill-balanced diet, an inadequate infrastructure (economy, health and social services, communications networks, roads, etc.) and to limited resources. At country level, the major concerns are the control of communicable and nutritional diseases and the search for ways of making essential care accessible to all.

A certain number of diseases in the African region have been described as scourges, against which action must be taken before the year 2000 and which must be contained after that date by epidemiological surveillance, even if their incidence falls to a relatively low level.

Communicable diseases are the top health priority, because the high rate of infant mortality in the region is due to them. They may be divided into three groups:

(a) Diseases which are eradicable by vaccination as is the case for yellow fever (note that smallpox has already been eradicated), poliomyelitis, tuberculosis, cholera, measles, whooping cough, tetanus, etc.;

(b) Those for which the world has yet to discover an active immunization agent, as is the case for malaria, viral hepatitis, trypanosomiasis; and finally

(c) Those which require distinctly different ways and means of containment; these include, in particular, schistosomiasis, onchocerciasis, the dysenteric diseases, urethritis, gonococcal diseases, meningococcal diseases, etc.

Malignant cyto-proliferative syndromes are one of the most formidable fields, due to the absence of really effective means of control. At regional level, the prevalence of carcinomas of the liver is well known. However, myelo-proliferative syndromes, Hodgkin's diseases, Burkitt's lymphoma and other forms of cancer also exist.

Nutritional, hormonal and metabolic disorders are dominated by kwashiorkor, a consequence of under-nutrition, and sugar diabetes, the complications of which are all the more formidable in that the cultural level of the populations concerned does not always make an effective educational approach possible.

Cardiovascular diseases are ceasing to be a hypothetical problem and are now of concern to the medical world. Apart from congenital malformations, stress should be laid on valvular damage caused by acute articular rheumatism with myocardiac complications, arterial hypertension and ischemic myocardiopathies known as the "diseases of civilization", a state which will soon be universal.

Mental disorders should not constitute a priority concern for the moment. Unfortunately, alcoholism and the behavioural disorders which it engenders represent a veritable scourge, the harmful effects of which are well known, moreover, at other levels of the human organism. Similarly, suicide attempts are striking in their number and the young age of those concerned. A predisposition to act in this way is an aspect of the global context of social change due to the mixture of populations and the perpetuation of habits inherited from colonial days.

(c) National Policies and Plan of Action

Generally, the national policies that emerge concentrate on the following points:

- making the existing system operational, by improving it gradually;
- giving priority to prevention (including vaccinations), to environmental health, and to early detection of cases and effective care;
- integrating health development into socio-economic development.

Resolution WHA 32.30 on the "Formulation of Strategies for Health for all by the Year 2000" reiterates the major concerns of the African member states and proposes primary health care as the approach to be adopted, in collaboration with all sectors of activity at national and international levels. This multidisciplinary and multisectoral approach makes it possible to replace unco-ordinated activities with concerted and integrated action in priority areas identified in the Declaration of Alma Ata:

- (i) community health education and informations;
- (ii) disease control, including vaccinations, treatment, etc.;
- (iii) correct diet and nutrition;
- (iv) adequate supply of safe water and environmental sanitation;
- (v) maternal and child health, including family planning;
- (vi) supply of essential drugs.

These elements provide a conceptual basis for the formulation of strategies and plans of action, as well as for monitoring and evaluation mechanisms. They may also serve as a basis for the definition of health for all by the year 2000, as conceived of by each country. Ever since the first long-term plans and the first health charter were drawn up, the countries of the region have expressed the desire to see national and international efforts centred on socially relevant priority programmes. Although there are many priority problems, some programmes are more important than others in the pursuit of social justice. This desire should be reflected in long-term plans and medium-term programmes. The social target for the year 2000 can only be achieved by joint efforts on priority programmes and the avoidance of fragmentation. The Governing Bodies' resolutions clearly

indicate which programmes should take priority between now and the year 1990:

- the expanded programme on immunization;
- primary health care;
- water supply and environmental health;
- war on hunger;
- technical co-operation among developing countries.

These programmes correspond to the priority needs recognized by the countries of the region.

(ix) Economic Co-operation and Integration in Africa^{1/}

(a) Present state and development

In the last two decades several attempts have been made to create co-operation arrangements and institutions among developing countries in Africa. By the end of the 1970s, there were some 75 intergovernmental organizations. These range from multipurpose organizations (common markets and customs unions), limited multisectoral organizations, single sectoral organizations and specialized organizations such as financial co-operation institutions. Some of these were still born, others suffered from infant or childhood mortality while of those that have been kept are no more than toothless bulldogs.

(i) West Africa

The West African subregion comprises 16 countries; and has the largest number of intergovernmental co-operative arrangements. These include the Economic Community of West African States (ECOWAS), the West African Economic Community (CEAO), the Council of the Entente States and the Mutual Aid and Loan Guaranty Fund, the Mano River Union and the Organization of the Senegal River (OMVS). In addition, there are the financial systems of West Africa which comprises the West African Monetary Union, the Central Bank of the West African States, the West African Development Bank and the West African Clearing House.

The West African Economic Community (CEAO) was established in 1974. It is the third attempt by the States which came into being as a result of the collapse in 1959 of the French West African Federation, with the exception of Guinea, to reconstitute the economic grouping which they formed before achieving independence. When the Community was established it consisted of seven French-speaking countries: Benin, Ivory Coast, Niger, Upper Volta, Mauritania and Senegal. Benin decided to withdraw in 1973 and has since opted for an observer status. Togo participates at some of the meetings in observer capacity.

The first attempt at setting up co-operation arrangement among these countries was in 1959 when the West African Customs Union (UDAO) was established. The UDAO Treaty established a full customs union between the signatory States and provided for a system of refund to each State of the receipts arising from import and export duties and taxes. From the outset there were disputes over the system of distribution of the receipts. In 1966, the member States decided to replace (UDAO) by the Customs Union of West African States (UDEAO). This Agreement no longer provided for a free trade area but only for a common external tariff consisting only of customs duty, common customs legislation and regulations and a reduction of fiscal charges in the case of trade between members of the Union. Nevertheless, UDEAO; like UDAO before it failed. In 1969 it was decided to undertake studies on the feasibility of transforming UDEAO into a West African Economic Community. In 1973, Ivory Coast, Mali, Mauritania, Niger, Senegal and Upper Volta signed a Treaty establishing the Community.

The basic Agreement of CEAO provides:

- for the free movement of goods which have not undergone industrial processing and which originate from member States;
- for a preference scheme for industrial goods; and
- for the application of a common external tariff.

^{1/} Based partly on Economic Co-operation and Integration in Africa: Evolution, Problems and Prospects, A key-note address by Adebayo Adedeji, 15 April 1980 and partly on document TD/B/609 (vol. II) UNCTAD, 20 May 1975.

The Agreement also provides for co-operation and integration particularly in the areas of agriculture, stock farming, fisheries, industry, transport, communications and tourism.

The Treaty of the Economic Community of West African States (ECOWAS) was signed in 1975 by 15 States (increased later to 16 States ^{1/} of the subregion) and provides for the establishment of a Customs Union, the liberalization of intra-subregional trade, the progressive elimination of tariff and non-tariff barriers, the abolition of all types of barriers to free movement of persons, services and capital and joint exploitation of natural resources, particularly in the fields of agriculture, forestry, transport and communications, mining, animal husbandry and fisheries including the harmonization of industrial, monetary and fiscal policies.

The Council of the Entente was established in 1959 comprising Benin, the Ivory Coast, the Niger and the Upper Volta. The number of member countries increased in 1966 when Togo joined the Council of the Entente. The aim of the organization is to harmonize economic relations among member States with particular reference to transport, training, promotion of industrial development, trade in manufactures, and agricultural development. The countries have established a special co-operation arrangement in livestock and meat. In the original agreement, there was provision for the establishment of a solidarity fund. This Fund levied a pro-rata contribution from the tax revenue of the member countries which it paid back into the national budgets according to a distribution favouring the least developed countries. In June 1966, the Solidarity Fund was replaced by a Mutual Aid and Guaranty Fund. The purpose of the Mutual Aid and Loan Guaranty Fund is to guarantee loans issued or contracted by member States, by public or semi-public bodies of the zone and by private enterprises whose headquarters and main field of activity are in one of the Entente States.

The "Mano River Declaration" was signed between the States of Liberia and Sierra Leone in October 1973. The objectives of the Mano River Union are to expand reciprocal trade through the elimination of existing barriers, to promote co-operation for the expansion of international trade, to create conditions favourable to an expansion of the productive capacity of the area, including the progressive development of a common protective policy and co-operation in the fields of education, training and research, trade, industry and agriculture, transport and communications, finance and administration.

In 1962 the Senegal River States (Guinea, Mali, Mauritania and Senegal) decided to undertake joint development of the productive potential of the Senegal River. In 1968, the four States decided to extend their co-operation to other fields and to this end, set up the organization of the Senegal River States (OERS). The purpose of this body was to enable its members to integrate their economies by stages and, in the long-term, to create a more Comprehensive West African regional grouping. Diversity of members' commercial policies and monetary systems as well

^{1/} Benin, Cape Verde, Gambia, Ghana, Guinea, Guinea Bissau, Ivory Coast, Liberia, Mali, Mauritania, the Niger, Nigeria, Senegal, Sierra Leone, Togo, Upper Volta.

as transport and communication problems, inhibited intra-OERS co-operation. In 1971, OERS broke up. Thereafter Mali, Mauritania and Senegal signed an agreement establishing the Organization for the Development of the Senegal River (OMVS). The main objectives of the OMVS are to promote economic co-operation and trade. A development programme extending to the year 2011 has been established, it covers development of hydro-electric power, exploitation of mineral resources, promotion of food crops and livestock.

The West African Monetary Union was established in 1974 by a basic Agreement signed by Upper Volta, Benin, the Ivory Coast, the Niger, Senegal and Togo. The objective of the Monetary Union is the organization of a common currency whose issue was entrusted to the Central Bank of the West African States. The monetary unit is the Franc (CFA) of the African financial community which is legal tender throughout the territory of the Union. On December 1973, the States of the Union and France signed a treaty to ensure the free convertability of the currency issued by the Union. The Central Bank of the West African States is governed by the Treaty establishing the West African Monetary Union. The Central Bank has the exclusive privilege of issuing the currencies that are legal tender in the member States of the West African Monetary Union.

On 14 November 1973, the six States members of the West African Monetary Union and of the Central Bank of the West African States signed an agreement concerning the establishment of a West African Development Bank. The purpose of BAOD is to promote the balanced development of its member States and the economic integration of West Africa.

The West African Clearing House was established in March 1975 by the Governors of the Central Banks of the Gambia, Ghana, Liberia, Mali, Nigeria and Sierra Leone and by the Central Bank of the West African States (Benin, Ivory Coast, the Niger, Senegal, Togo and the Upper Volta).

The object of the Clearing House as laid down in the Agreement are to promote the use of the currencies of the members for sub-regional trade and other transactions, to bring about economies in the use of currency reserves of third States, to encourage the liberalization of trade among members, and, to promote monetary co-operation and consultation among them.

The above historical background of West Africa shows that where the initial objectives set for regional co-operative arrangements were ambitious and wide, serious problems were confronted and the arrangements were revised to incorporate limited objectives. This is clearly the case for the West African Economic Community (CEAO), the Council of the Entente, the Senegal River States and the West African Monetary Union. Attempts were made later to limit the objectives to more humble objectives such as common external tariffs consisting only of customs duties, common customs legislations and regulations and a reduction of fiscal charges in the case of trade between member countries only. Even such objectives could not be effectively attained and were further limited to free movement of goods which have not undergone industrial processing and which were originating from member states.

(ii) Central Africa

Economic co-operation in Central Africa traces its origin to the colonial era. In 1910, the Federation of French Equatorial Africa comprising of Congo, Gabon, Central African Republic and Chad was formed. In 1959 the new States established the Equatorial Customs Union (UDE). The purpose of UDE, which was originally inspired by France, was to provide for a smooth transition to independence in the context of economic integration. The relevant agreement provided for the establishment of a customs union, co-ordination of internal taxation in the four States, the establishment of some central organs to replace the administrative services of the High Commission, continuation of the joint operation of railways, river navigation, posts and telegraphs, customs administration, etc. In 1961, a convention was signed which provided for the gradual integration of Cameroon into UDE.

This process of economic integration was strengthened on 18 December 1964 with the signing of the "Treaty of Brazzaville" establishing the Central African Customs and Economic Union (UDEAC) consisting of the five States (Central African Republic, Congo, Chad, Gabon and United Republic of Cameroon). This Treaty came into force on 1 January 1966.

UDEAC experienced a crisis in 1968, as a result of the difficulties encountered in ensuring an appropriate equilibrium between the land-locked and the coastal States; in April 1968, the Central African Republic and Chad withdrew from the Union to form, with Zaire, the Union of Central African States (UEAC). The Central African Republic reversed its decision, however, in December of the same year.

In December 1974, the member States signed the Treaty of Yaoundé which introduced additional arrangements for co-operation in the fields of agriculture, transport, posts and telecommunications, tourism and economic and social affairs. There was also agreement on elements for common legislation and regulations designed to promote co-operation among the member States through trade liberalization within the union and the imposition of a common tariff against imports from third parties. The Treaty also provided for limited elements of an "integration industry regime". However, even before the Treaty came into force some countries in the area had concluded arrangements for a limited number of joint industries. Such arrangements included those between Chad and Cameroon and between Gabon and Cameroon (cement), and between Chad and Central African Republic (sugar).

The UDEAC co-operation arrangement, unlike the East African Community, is characterized by a lack of clearly defined rules and instruments for the distribution of the benefits and costs of integration. Nonetheless it should be noted that there are instruments which, although they were not originally designed to improve the distribution of the benefits of integration, have been used for this purpose. Such instruments are the tax unique (single tax), the Solidarity Fund, and Fiscal Incentives within the framework of a Common Investment Code. ^{1/}

^{1/} The tax unique is a consumption tax which is paid by the producing country to enable the consuming countries to recoup some of the tax revenue they lose as a result of intra-area trade. Therefore it is intended to provide partial compensation for tax losses. The system of fiscal incentives is applied in each country to new industrial enterprises with a view to preventing competition among the member States of the Union in offering tax advantages to attract foreign investors. The Solidarity Fund is derived from earlier provisions of UDE. Within UDEAC, customs duties are levied and the bulk of the revenue which is contributed by the coastal States goes to the landlocked countries. (see Document TD/B/609 (vol. II) UNCTAD, 20 May 1976).

Members of UDEAC, plus Chad, are members of a common central bank; the Bank of the Central African States which replaced the Central Bank of the States of Equatorial Africa and Cameroon. The Bank has the exclusive privilege of issuing currencies which are legal tender in the member States. For the purpose of ensuring the external convertibility of the currencies the member States have a Joint Reserve Fund. The external reserves are held in French Francs and external payments and receipts are settled through an account operated by the French Treasury. This undermines the development of inward oriented policies among the member State of the Union and perpetuates their structural dependence, individually and collectively, on the former colonial power.

An Agreement establishing the Central African Clearing Union was signed early in 1979 between the Central Bank of Zaire and the "Banque Centrale des Etats de l'Afrique Centrale" covering Cameroon, Central African Republic, Chad, Congo and Gabon.

Apart from UDEAC the other co-operation arrangement in Central Africa is the Economic Community of the Great Lakes countries (CEPGL). The (CEPGL) is a recent development. It was established in 1976. It comprises Burundi, Rwanda and Zaire. The objective of the Community is to promote co-operation among the member States in the social, economic, commercial, scientific, tourist, and technical fields. At a meeting of Heads of State held in December 1979, priority projects were identified in the fields of industry, and transport and communications. It is too early to make a realistic assessment of this Community, but there is no doubt that given the mineral and agricultural resources of the region, it has great potential.

The initial objectives of regional co-operative arrangements in Central Africa were modest as compared with the arrangements concluded in West Africa. Some significant success was achieved here and there. Another characteristics of the Central African arrangements was the absence of elaborate rules and procedures for the distribution of gains and losses among member States. However, as a result of the political will and the modesty of the initial objectives, the problem of distribution of gains and losses were solved by mutual consent.

(iii). East Africa

The Treaty for East African Co-operation establishing the East African Community came into force on 1 December 1967.

The aim of the Community as set out in the Treaty was all embracing. It regulate the industrial, Commercial and other relations of the Partner States to the end that there shall be accelerated, harmonious and balanced development and sustained expansion of economic activities the benefits whereof shall be equitably shared". In order to achieve this aim, the Partner States have pledged themselves to ensure the establishment and maintenance of a common customs tariff in respect of all goods imported into the Partner States from foreign countries, abolish trade restrictions between them, retain such freedom of payments between them as is necessary to further the aims of the Community and effect the necessary harmonization in monetary policies to help the proper functioning of the Common Market, and to run jointly services common to the three countries. The Partner States also agreed to co-ordinate their economic planning efforts and transport policy and any other activities calculated to further the aims of the community. They further pledged themselves not to enter into agreements whereby tariff concessions negotiated with any foreign country are not available to all three Partner States.

The East African Development Bank is one of the institutions introduced by the Treaty of East African Co-operation and opened its doors for business in July 1968. The Bank was established not only to promote the industrial development of the Partner States but also to ensure a balanced distribution of industrial activities within the East African Common Market countries.

Unlike the economic co-operation arrangements of Central and Western Africa, the Treaty establishing East African Co-operation was broad based, having had from the outset a common external tariff, absence of internal tariff with the sole exception of transfer taxes etc. However, the failure to achieve an equitable distribution of costs and benefits and the consequential socio-economic and political strains led to the breakup of the Community in July 1977.

In Eastern and Southern subregion, the secretariat has provided continuous and extensive assistance for the establishment of the Preferential Trade Area (PTA) for Eastern and Southern Africa. The Inter-Governmental Negotiating Team (INT) concluded its work by discussing outstanding protocols, reviewing the provisions of protocols previously adopted and finalizing negotiations on the draft treaty establishing the PTA. The draft treaty including its various draft protocols and outstanding issues relating thereto will be considered by the Second Extraordinary Conference of Ministers of Trade, Finance and Planning of the Lusaka MULPOC which is planned to take place in Kampala, Uganda in October/November 1980. The Treaty and the related protocols are expected to be signed by the respective heads of State and Government before the end of 1980.

It is worth mentioning that a feasibility study on the establishment of an Agricultural Commodity Exchange for Eastern and Southern African States has been completed.

(iv) North Africa

In 1964, Algeria, the Socialist People's Libyan Arab Jamahiriya, Morocco and Tunisia, established the principle of economic co-operation among Maghreb countries. The Maghreb Permanent Consultative Committee (CPCM) was set up for this purpose. In addition specialized bodies with some measure of autonomy were established, such as the Maghreb Alfa Marketing Board and the Maghreb Centre for Industrial Studies.

In 1968-1969 CPCM drew up a five-year programme on economic co-operation. This covered promotion of intra-territorial trade through the reduction of tariff and non-tariff barriers, promotion of industries to supply the common market of the Member States, establishment of a regional development bank, co-operation in tourism and co-ordination of transport services. Although some progress was made in the fields of transport, tourism, posts and telecommunications, this programme was never really implemented. Problems arose regarding the distribution of costs and benefits. In 1970 the Socialist People's Libyan Arab Jamahiriva withdrew from the co-operation arrangement. Since then CPCM has been in the doldrums.

There have been other attempts. In 1970 the Governments of Libya, Sudan and Egypt, signed an agreement on economic integration. Under this Agreement all customs and transit duties between the three countries were to be progressively abolished. Other objectives of the Agreement included co-operation in the field of transport including unification of airlines, and free movement of labour.

This attempt also failed because of conflicts in socio-economic and political policies. Within the framework of the Arab League efforts have been made to form co-operation arrangements. There is a Council of Arab Economic Unity to which North African countries belong. The aim of the organization is to achieve economic unity of member States. Agreements have been signed providing for the elimination of tariff and non-tariff barriers, co-ordination of agricultural and industrial policies and harmonization of development plans.

A committee for regional integration covering the province of Aswan in Egypt and the province of Northern Sudan was set up in 1978. The aim of this committee is to achieve full integration of the Zone by means of launching joint economic projects, whilst at the same time encouraging trans-frontier trade. Decisions have recently been taken, which are designed to achieve:

- the progressive elimination of duties payable on entry in order to arrive at completely free movement of goods in the Zone before 31 December 1980;
- the harmonization of parities in the two currencies;
- taking into account decisions and recommendations relating to the Zone in the development plans of the two countries;
- the establishment of joint co-operative societies;
- promotion of tourism in the Zone;
- the establishment of joint companies for the production of meat and animal feeding-stuffs;
- the pursuit of studies relating to rail transport, with a view to completing the rail link connecting the Aswan Dam with Wadi Halfa (550 kilometres), and a study concerning the impact of this project on other means of transport, in particular road and river transport.

Certain conventions are not confined to the commercial aspects and cover many other fields, such as tourism, investment (Morocco-Egypt), shipping (Morocco-Sudan), etc. ... In this way, Morocco and Sudan have concluded an agreement on maritime shipping, which lays down the legal and practical framework within which the two countries undertake to facilitate transit movements and traffic, and to provide mutual assistance in cases where ships flying the flags of their respective countries might find themselves in difficulties.

In spite of the various efforts made to form co-operation arrangements among the North African States, some of these attempts failed to materialise as a result of conflicts in socio-economic and political policies.

(b) Constraints and Policies

Over and above the constraints referred to in Part I of this section it seems also that the multiplicity of relatively small multinational groupings did not contribute significantly to create large enough markets so as to make it possible to establish viable production units in industry and the primary sector and promote exploitations and complementarities. This basic problem of market size arises from the fact that twenty eight of the 49 independent States have a population of five million or less, and 16 a population of between five million and ten million. Nor is this all. The multiplicity of relatively small groupings in one subregion with broadly similar functions and identical ultimate objectives results not only in duplication, but also in fragmentation. The fact that some countries belong to more than one organization means that their limited manpower and financial resources are spread thinly over two or more multinational organizations. This defeats the objective of pooling resources for the restructuring of African economies. As a consequence, the effectiveness of all the organizations is reduced and the objectives of widening the markets undermined.

In point of fact, there is a growing recognition that the objective of co-operation arrangements in Africa should be to fundamentally change the patterns of production, consumption and trade in such a way that the countries will satisfy most of their basic needs from domestic production and reduce external dependence. For instance, in most of the multinational agreements establishing co-operation arrangements in Africa there are provisions for reduction of tariffs and trade liberalization. Although in some groupings there has been some increase in inter-country trade, the results of this approach from the point of view of restructuring the economies are marginal. This is amply borne out by the value of intra-African trade which showed a disappointingly slow growth of only 7.3 per cent at current prices between 1975 and 1978 compared with an increase of 41 per cent in total exports from the region. What is more, African countries are generally competitive in the sense that most of them produce the same range of products, and economic structures inherited from the colonial countries are hardly complementary. The removal of trade barriers between them does not have significant distribution effects on the pattern of production within the co-operation arrangement, replacing high-cost national production by lower cost supplies from other members of the union. The generally low level of industrialization rules out, in the immediate future, major adjustments of this kind.

Apart from the problems of tariffs and revenue the infrastructure for intra-African trade is deficient. Experience has shown that even when tariffs have been reduced and inter-country transport links are open, e.g. roads, the costs of transport between the countries forming a union tend to be very high and a very high external tariff would be necessary to make a customs union arrangement shift the advantage in favour of interterritorial trade.

Countries joining a co-operation arrangement expect that the benefits of the integration process will be distributed among them in an equitable manner. Experience shows that elimination of trade barriers does not necessarily lead to such an equitable distribution but rather supports or stimulates the tendency for the polarisation of development in some members of the co-operation system which is the greatest obstacle to the success of economic co-operation. The now-defunct East African Community is a case in point. In the East African Community the problem of unequal integration benefits was a source of serious friction between Kenya on the one hand, and her less developed partners, Uganda and Tanzania, on the other.

Finally, membership in more than one organization and the tendency by some countries to change their membership from one organization to a neighbouring grouping leads to conflicts of interests and instability. When UDEAC was formed in 1966 it consisted of five States: The Central African Republic, the Congo, Chad, Gabon and the United Republic of Cameroon. The Central African Republic and Chad withdrew from the Union in 1968 to form, with Zaire, the Union of Central African States. The Central African Republic redressed this decision in December of the same year. In 1968, Guinea, Mali, Mauritania and Senegal formed the Organization of Senegal River States (OERS). Mauritania and Senegal were in addition members of the West African Monetary Union and the two countries, together with Mali, also belonged to UDEAO. This resulted in inconsistencies in monetary and trade policies and OERS broke up in 1971. OMVS, which was formed in 1972, is a success for of OERS.

(c) Recommended Plan of Action

At the First Economic Summit held in Lagos, Nigeria, the Heads of State and Government of the OAU have recommended the measures to be adopted in the area of economic co-operation including those for the establishment of subregional arrangements and the strengthening of existing ones. These measures are meant to converge towards the establishment of an African Common Market. The aims of the Community shall be to promote the development, co-operation and integration among its Member States, in all economic, social and cultural fields for the purpose of fostering closer relations among its Member States towards accelerated, collective self-reliant and endogenous economic, social and cultural development of the African continent to raise the quality, standard of living and dignity of its peoples.

The Plan of Action postulates that in the decade of the 1980s the creation of subregional economic communities whose existence will facilitate continental economic integration arrangements are to be effectively pursued in Central, Eastern and South Africa. Also in the decade of the 1980s, it is recommended to actively foster sectoral trade integration at the continental level particularly in the fields of goods industry, transport, communications and energy.

By the year 1990, the establishment of an African Common Market which inter alia calls for the linkage of existing and subregional economic groupings as well as negotiations between those groupings and other African States outside the groupings are to be vigorously pursued. These include:

- the elimination between the Member States of Customs duties and other charges equivalent effect in respect of the importation and/or exportation of goods;
- the abolition of quantitative and administrative restriction on trade among the member States;
- the establishment of a common customs tariff and a common commercial policy towards other countries.

Furthermore, in the decade of the 1990s the Strategy recommends to achieve the following objectives:

- steps for further sectoral integration;
- abolition of obstacles to the free movement of persons, services and capital between member States of the OAU;

- the harmonization of development strategies, policies and plans and the promotion of joint projects particularly in the economic fields indicated in the above-mentioned fields;
- the harmonization of financial policies and the monetary integration among the Member States with the ultimate objective of adopting a single unit of currency by the Member States;
- Such other common activities considered necessary to further aims and objectives of the Community;
- Adoption of signature of the Treaty for the African Economic Community.

In addition, the ECA Plan of Action asserts that the various institutions that have been established in the 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. It was noticed 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 and 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.

Consequently, it is proposed that the following guidelines should be followed for the strengthening of existing multinational institutions and the establishment of new ones:

- 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.
- 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.
- 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.
- determine the extent of the special financial and other responsibilities of governments that host multinational institutions.
- 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, first been fully considered.