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PERSPECTIVES OF THE AFRICAN REGION IN THE 1980s
AND POLICY IMPLICATIONS

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I. Summary and conclusions

1. On 15 December 1975 the General Assembly adopted resolution 3508 (XXX) calling for the examination of long-term trends in the economic development of world regions. The resolution requested, *inter alia*, the regional commissions to prepare studies on long-term trends in and forecasts of the economic development of their respective regions taking into account the national development programmes of individual countries and the particular characteristics and priorities of the regions. In 1977, the Economic and Social Council adopted resolution 2090(LXIII) which, *inter alia*, recommended that the regional commissions should continue and further expand their studies of long-term trends in their regions in order to reach paractical conclusions regarding the expansion of economic co-operation both on a regional and on an international scale. The Council affirmed that the regional commissions should bear in mind long-term prospects for the economic development of the regions of the world during the elaboration of the new international development strategy.
2. The Committee for Development Planning at its twelfth session 1/ reiterated the view that the study of long-term trends in and forecasts of the economic development would provide a useful framework for both a retrospective analysis and a forward look to help in designing and implementing appropriate development policies. At the thirteenth session, 2/ the Committee elaborated on the mutual relationships among the various regions and examined methodological guidelines for further examination of the development trends in the regions. At the fourteenth session, 3/ the Committee took note of the long-term development studies that had been undertaken and those envisaged and observed, *inter alia*, that there was a great variation in the nature and scope of the studies as well as in the methodologies used. In 1979, at its fifteenth session 4/ the Committee further elaborated that the provisional results of the quantitative perspectives suggested that an average annual rate of growth of gross domestic product for the developing countries as a whole above the 6 per cent target in the International Development Strategy for the Second Development Decade was possible, perhaps even rising to 7 per cent in the 1980s. The Committee considered the coubling of the per capita income of the low-income group of countries (including the least developed) by the year 2000 to be the most important objective. At its sixteenth session in 1980, 5/ the Committee recommended various specific objectives which included a growth rate in GDP for developing countries of 7 per cent with a per capita growth of 4.5 per cent in the 1980s; agricultural expansion of 4 per cent, manufacturing output growth of 9 per cent, (9.5 per cent for low-income countries) export growth of 7.5 per cent and import of not more than 8 per cent.
3. In the ECA secretariat, the focal point for the elaboration of an International Development Strategy for the Third United Nations Development Decade was the preparation of an African Strategy. In March 1979, the fifth meeting of the Conference of Ministers and forteenth session of the Economic Commission for Africa

1/ Report on the Twelfth Session, E/5793.

2/ Report on the Thirteenth Session, E/5939.

3/ Report on the Fourteenth Session, E/1978/46.

4/ Report on the Fifteenth Session, E/1979/37.

5/ See Committee for Development Planning Report on the sixteenth session 7-16 January 1980, E/1980/3.

on output in the primary and secondary sectors; and (d) import levels being determined by availability of external resources but tending to increase with income. In agriculture, two approaches were tried. The first alternative obtains total agricultural value added through a log-linear production function with acreage and labour as the independent variables. The second alternative uses the quantities of the most significant commodities from which gross agricultural output and value added are obtained. The industrial sector output is obtained from the incremental capital output ratio with capital stock and value added in the service sector obtained as a function of the output in agriculture and industry. The traditional consumption function is used to estimate and project total and private consumption while Government consumption is given as the difference between the two. Investments are usually taken as a policy variable although in some cases a distinction is drawn between autonomous and induced investments. In these cases the later is estimated as a function of income. Exports are obtained from the export quantities of commodities in a particular country, while imports are obtained from the level of income and the value of the previous year's exports. The trade and savings gap are obtained from the appropriate identities and the more dominant of the two is identified.

7. The model for the non-least developed African countries is disaggregated in as many important sectors as the economy and data allow. The output of the agricultural sector is based on a production function with acreage and labour. In some cases, however, either a time trend or a commodity approach is used instead of acreage and labour. Value added in the mining sector is estimated either through the capital stock in mining or through the output of specific mineral products. In a few cases where only one or two mineral commodities dominate the mining output, an equation including a variable of international demand is attempted. Manufacturing is obtained from the capital stock in the manufacturing sector while construction is regressed on the volume of total investment. Value added in the service sectors, namely energy, transport and communications and other services, are regressed mainly on the total value added of the major productive sectors. Energy is related to the sum of value added in mining, manufacturing and construction. Transport is explained by the sum of mining, manufacturing, construction and energy and the ratio of urban population to the total population. Other services are obtained as functions of output in all the other sectors. Consumption and imports are obtained from total domestic product via the marginal propensities to consume and to import.

8. The model for the major oil-exporting countries is identical with that of the non-oil-exporting countries except for the separate and unique treatment of oil production and exports.

9. In Africa, econometric model building especially with respect to an entire national economy is still in its infancy. The objectives of the various models were (a) to bring out the interconnexions of the basic macro-variables and to estimate their relationships quantitatively so as to be able to monitor the structure and performance of the economy and to chart its likely future courses; and (b) to develop alternative normative scenarios of the economy and derive the policy measures that seem important in directing the course of the variables as desired.

10. Naturally, the various models have limitations and are subject to a great deal of errors owing to the unreliability of data and drastic changes and instabilities in some structures. Thus a pragmatic and critical approach is needed in appraising a model and its performance. Indeed quantitative models have to be supplemented by critical quantitative judgement to avoid mechanistic types of growth concepts.

15. As regards consumption and investment during 1970-1977 there was a consistent rise in the growth of these variables as per capita GDP increased. It is apparent that the better off a country is, the faster it increases both its consumption and its investment. Nevertheless, consumption as percentage of GDP was higher the poorer the country, averaging as much as 89.4 per cent for the least developed countries and 84.2 per cent for the non-least developed countries. Conversely, investments were higher for the richer countries ranging from an average of 34 per cent for the major-oil-exporting countries to an average of 12.9 per cent of GDP. For the least developed African countries although the disparities in the over-all incremental capital output ratios are not very big. The foreign sector showed a low growth in the volume of exports and a relatively high growth of imports. For the major oil-exporting countries, the volume of exports grew by only 1 per cent while real imports grew at 17.8 per cent per year between 1970 and 1977. For developing Africa as a whole exports in real terms grew by an average annual rate of about 3.3 per cent as compared to an average annual rate of 9.5 per cent in real imports.

16. The estimated model's parameters shows that in the agricultural sector the elasticity of output to labour is, in each group, higher than that of acreage and the higher the per capita level, the higher the elasticity of labour as compared to the elasticity of acreage. For the least developed countries the elasticity of output with respect to labour was 0.88 while that of acreage was 0.36. For most of the other groups of non-least developed countries the elasticity of output to labour was higher than 2 and was as high as 4 for the major oil-exporting countries. These figures emphasize the relative importance of labour in the expansion of agricultural output in all developing Africa and especially for these groups of countries with relatively higher per capita GDP like the major oil-exporting countries. The importance of agricultural labour should also be taken as an indicator of the importance of controlling rural-urban migration.

17. The major findings in the other sectors were that (a) in manufacturing there were relatively high incremental capital output ratios; (b) by and large the coefficient of construction to investment was low and did not vary considerably between groups, the implication being that between 0.2 and 0.3 of all additional investment goes into construction in non-agricultural fields; (c) energy had a relatively higher coefficient (as a function of manufacturing mining and construction) in the poorer countries which have more need for power; (d) there was a structural similarity among groups in transport in terms of the slow pace of growth and the amount of incremental value added taken by the transport sector; and (e) the ratio of services is high in both the poorer and the richest groups perhaps because of the importance of the recorded informal sector in poorer countries and the proliferation of service employments in the richer ones.

18. The consumption function for all the groups was relatively stable with only small differences in the marginal propensities to consume possibly because the poor countries still have high consumption needs while the richer countries have stimulated consumption as a result of fast growth. The import functions show that import dependence has been increasing with GDP particularly in the non-least developed countries including the major-oil-exporting countries which have a very high import rate. The import propensity in developing Africa seems to increase steadily with income.

23. The policies that emerge are all in line with the Strategy for Africa for the Third Development Decade as adopted in resolution 332(XIV) of Conference of Ministers. In agriculture the major implications of the results can be summarized as follows:

- (a) agricultural output should expand by about 4 per cent;
- (b) in view of the high elasticity of agricultural output to labour, agricultural labour intensity should be increased with (i) greater investment in the rural sector; (ii) improved rural infrastructural development in feeder roads, electricity and pure drinking water; (iii) land reform policies; and (iv) adequate pricing policies aimed at increasing rural income and improving the rural-urban terms of trade;
- (c) cultivable land area should be increased through, inter alia, multinational co-operation irrigation projects like river basin schemes and small and labour-intensive irrigation projects;
- (d) over-all agricultural productivity should be improved by inter alia strengthening the link between agricultural research and the rural production process.

24. In the manufacturing and infrastructural sectors the major implications of the results are:

- (a) developing Africa as a whole should aim at much higher rates of expansion in manufacturing and infrastructure than achieved during 1970-1977 with a target rate of 9.5 per cent yearly growth in manufacturing, and this would call for policies to: (i) increase substantially the efficiency of capital through the elimination of undercapacity utilization, improvement in management; improved project formulation, appraisal and implementation and increased use of appropriate labour-intensive technologies; (ii) develop patterns of industrial development with strong interindustry and intersectoral linkages which utilize local resources to the greatest extent possible; (iii) increase intra-African trade substantially including in particular trade in manufactures; (iv) evolve multinational industrial projects to derive maximum advantage from economies of scale; (v) enable developing countries have adequate access to international markets thus necessitating the removal of trade barriers by developed countries; (vi) enable developing countries have easier access to technologies and to enhance the capacity for these developing countries to co-operate in this field; (vii) increase the flow of external resources to permit the importation of capital goods;

- (b) particular attention will need to be given to the energy sector, especially in the poorer countries of the region, to explore and utilize alternative energy sources and to establish multinational co-operation projects in energy like hydroelectric schemes;

- (c) transport must expand by over 6 per cent yearly in the 1980s including road, rail and maritime transport, with special attention being paid to the land-locked countries and to the co-ordinated transport network for Africa as a whole.

25. The results also show that in the 1980s, developing Africa will have to maintain high rates of domestic savings to finance the high rates of investment. Similarly, the trade sector shows trends of increasing import dependence which will have to be reduced in the 1980s. The relevant policy implications are that:

28. The domestic policy implications of the projections for the least developed African countries are outlined in document ECA/CONF/LDCs/3. However, for these countries, the following policies will be vitally important in the 1980s and beyond:

- (a) attainment of self-sufficiency in food; and
- (b) a fundamental restructuring of production through (i) fuller exploitation of natural resources; (ii) establishment of optimal production units; (iii) fuller utilization of human resources; (iv) establishment of the necessary infrastructure especially in the land-locked and island countries; and (v) strengthening of subregional and regional co-operation.

29. In the non-least developed and non-oil-exporting countries the important policies relate to:

- (a) expansion of agricultural output and especially food production with (i) agricultural projects that give quick returns and (ii) increased productivity especially per unit of labour;
- (b) stronger growth in the mining and manufacturing sectors with more detailed studies of the mineral resources;
- (c) increased import substitution of consumer goods with, whenever possible, some specialization among countries to enable the industries to be viable and profitable;
- (d) increased control of imports of conspicuous consumption goods;
- (e) preparation of more studies that analyse the intersectoral linkages.

30. For the major oil-exporting countries, the major implications of the projection results are that;

- (a) efforts have to be made to increase the volume of exports;
- (b) these countries should carry out detailed studies of their prospects and possibilities in fields other than oil and especially in agriculture and manufacturing;
- (c) countries should direct their economies and control the level and pattern of affluent consumption, and carefully select investments with special reference to their cost.

II. INTRODUCTION

1. Background to long-term studies in the United Nations

1. On 15 December 1975, the General Assembly adopted resolution 3508 (XXX) calling for the examination of long-term trends in the economic development of world regions. The resolution requested, *inter alia*, the regional commissions to prepare studies on long-term trends in and forecasts of the economic development of their respective regions taking into account the national development programmes of individual countries and the particular characteristics and priorities of the region.
2. In response to this resolution, the Secretary-General of the United Nations submitted to the sixty-third session of the Economic and Social Council a report dated 29 March 1977 on the long-term trends in the economic development of the regions of the world (E/5937). Addendum III to this report contained a preliminary assessment of long-term development trends and prospects in developing Africa prepared by the secretariat of the Economic Commission for Africa.
3. On 25 July 1977 the Economic and Social Council adopted resolution 2090 (LXIII) which noted with satisfaction the report of the Secretary-General and recommended that the regional commissions should continue and further expand their studies of long-term economic trends in their respective regions in order to reach practical conclusions regarding the expansion of economic co-operation both on a regional and on an international scale. The Council affirmed that the regional commissions should bear in mind long-term prospects for the economic development of the regions of the world during the elaboration of the new international development strategy.
4. Furthermore the Council resolution requested the Secretary-General in consultation with the Committee for Development Planning, the Secretary-General of the United Nations Conference on Trade and Development and the heads of other interested bodies of the United Nations system to start, on the basis of the regional studies under way, preparations for the elaboration of an over-all socio-economic perspective of the development of the world economy up to the year 2000, with special emphasis on the years up to 1990, taking due account of social and economic factors within development projections, interregional economic relationships and sectoral forecasts including methodological guidelines appropriate for the further examination of long-term economic trends.
5. In response to General Assembly resolution 3508 (XXX), the Committee for Development Planning at its twelfth session reiterated the view that the study of long-term trends in and forecast of the economic development will provide a useful framework for both a retrospective analysis and a forward look intended to help in designing and implementing appropriate development policies.
6. At its thirteenth session held in April 1977, the Committee for Development Planning examined the long-term trends and forecasts in the economic development of the various regions of the world, including document E/5937/Add/3 prepared by the ECA secretariat. The Committee elaborated on the mutual relationships among the various regions and examined methodological guidelines for further examination of the development trends in the regions.
7. At its fourteenth session in 1978 the Committee for Development Planning noted that important studies on long-term development had recently been undertaken and that several new studies were envisaged for the future. The Committee noted that

- (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 equitable distribution of the gains of socio-economic development;
- (e) Acceleration of the industrialization process on the continent in the context of the social and economic environment of each country and not as simply imported foreign industrialization patterns.

12. The strategy further recommends that the priorities for the next United Nations Development Decade should include the attainment of regional self-sufficiency in food; the establishment of a sound industrial base, the physical integration of the region through transport and communications, the development of capabilities required to establish sovereignty over the regions natural resources, the attainment of a substantial increase in the present meagre 4 per cent share of intra-African trade in the total trade of Africa and the establishment of mutually beneficial and equitable relations between African countries and the rest of the world.

13. The Economic Commission for Africa also undertook studies of the long-term trends, problems and perspectives of the African region and prepared a preliminary assessment of long-term trends and prospects in Africa which, as noted earlier, was submitted by the Secretary-General to the sixty-third session of the Economic and Social Council.

14. In 1978, at the seventh session of the Conference of African Planners, the ECA secretariat submitted document E/CN.14/CAP.7/11 entitled "The search for a strategy for the Third United Nations Development Decade and the work being undertaken in the ECA secretariat in that context". In this document some of the basic shortcomings of the strategy for the Second United Nations Development Decade were discussed. In addition, the preliminary specifications of a projection model together with the trial results of projections and forecasts for a sample of eight African countries were presented and the Conference of African Planners was requested to make comments and suggestions so as to assist the secretariat in refining and improving the projections work.

15. The projection model covered macro projections of the main aspects of the African economy on the individual country and the regional basis especially with regard to such macro-variables as sectoral output, investment, employment, public and private consumption and imports and exports by major commodity group. The projection model was to be adopted to analyse the structure of individual country economies so as to facilitate the identification of the major national and international problems and eventually to make available country-specific implications of a variety of structural and policy parameters.

16. The seventh session of the Conference of African Planners noted that the model as presented then was basically sound and useful and participants congratulated the secretariat on the document and the work undertaken in the secretariat in the field of forecasting and projections. It was however felt that attempts should be made to incorporate social objectives into the model subject to the availability of quantitative information. In addition it was hoped that the model would be further adapted to the specific characteristics and problems of individual African countries. More specifically, it was suggested that (a) the Harrod-Domar production function in agriculture should be re-examined in the light of the importance of agriculture in the economic structure of most African countries and also of skilled

21. Notwithstanding these problems, the ECA secretariat endeavoured to implement its programmes. In order to be able to make the projections the secretariat undertook to **write**, adopt and install various necessary computer programmes that could be efficiently used on the small computer capacity in the secretariat. In this regard mention should be made of the very useful collaboration that the secretariat received from UNCTAD. In addition the secretariat also received invaluable financial assistance from the Netherlands Government which enabled the secretariat to keep in close touch with the country planning officials through visits to individual countries to discuss the various parameters, results and other pertinent policy implications.

22. Subsequent to the seventh session of the Conference of African Planners and in response to General Assembly resolution 3508 (XXX), Economic and Social Council resolution 2090 (LXIII) and, in particular, resolution 4 (II) of the Inter-governmental Group on the Least Developed Countries as further elaborated in the Arusha Programme for Collective Self-reliance and Framework for Negotiations, the ECA secretariat undertook a special study relating to a quantitative analysis of the problems and perspectives of the African least developed countries in the framework of the Third United Nations Development Decade. The study provides a series of projections of the major macro-economic variables covering the 1980s for African least developed countries and formed a basis for discussion at the Conference on the Problems and Prospects of the Least Developed African Countries held at Addis Ababa in March 1980. The results and the main policy implications derived from the study are presented in this text in the section on the least developed countries.

23. Bearing in mind the various suggestions made by the seventh session of the Conference of African Planners and comments and suggestions received from various other sources, the ECA secretariat revised the standard projection model for African countries. Consequently, three types of models specified separately to correspond to three economic structures namely the least developed African countries, the major oil-exporting African countries and the non-oil exporting and non least developed African countries. In the analysis and projections, the last subgroup of countries were further subdivided into three groups according to their level of per capita income in 1970. The full details of the respective models and the results of each subgroup are given in the appropriate sections of this document.^{1/} These results are still provisional as they have to be discussed and adjusted in light of any pertinent observations of member governments.

^{1/} The full and detailed results on the least developed African countries are given in a separate document ECA/CONF/LDCs/3 entitled "Quantitative Analysis of the Problems and Perspectives of the African Least Developed Countries in the Framework of the Third United Nations Development Decade".

29. In this connexion, the United Nations Secretariat adopted a system of national accounts (SNA) which provides a comprehensive and detailed framework for the systematic and integrated recording of flows and stocks of an economy. It brings together data ranging from a high degree of aggregation to detailed input-output and flow-of-fund tables into an articulated, coherent system. ^{3/} Such a system is designed to provide international guidance to national statistical authorities in their efforts to improve, elaborate and extend their national accounts and their system of basic statistics so as to integrate them into a coherent data structure of common definition and classification for all flows and stocks required for purposes of economic and social analysis. It also permits developing countries in general to adopt the full system to their own requirements and circumstances, including a suggested order of priorities for developing the standard accounts and tables of the system. ^{4/}

30. The practical problems faced particularly by developing African countries in the compilation of national accounts data are essentially twofold in nature, namely, the lack of a reliable and developed basic data source on which to base estimates and the lack of trained and experienced statistical personnel to do the estimates on a regular and consistent basis. This naturally poses a problem to those who wish to undertake in-depth capacitation or diagnostic analyses of economic and social conditions in Africa so as to understand or identify bottlenecks facing the lagging sectors and segments of the economies.

31. In effect the lack of an efficient data base in many African countries limits the efforts of researchers and planners in formulating more realistic development models as guidelines for decision making. In many cases, the determination of possible development targets requires a thorough and detailed examination of how the country has evolved in the past (historical data) and of the dynamic factors which have played an important part in its growth. Once the economy's past structural and policy parameters have been determined, it becomes possible to assess the economy's growth potential and to define the degree of effort required to achieve various alternative patterns of growth. Such a task is made difficult in Africa because of constraints relating to disaggregated data and sophisticated electronic equipment.

3. Data used in the quantitative analyses carried out at ECA

32. The main difficulty faced in building econometric models in ECA is data availability which limits the capacity to incorporate enough detail in models so as to make them useful for policy analysis and recommendations. In most cases the statistical series available are short, incomplete, contain substantial errors and are subject to drastic revisions. Add to this the numerous changes in policies and parameters and it is difficult to escape the conclusion that any econometric models evolved will contain serious specification errors. For the estimation and simulation of the three types of models built at ECA - namely the standard model for least developed countries, the standard model for non-least developed countries and the input-output model - it was necessary to compile data produced by the ECA Statistics Division, data from the UNCTAD data bank, data in various ECA publications and data in external publications of specific agencies (such as IMF, ILO, FAO, World Bank, etc.).

^{3/} See, United Nations, A system of National Accounts,

^{4/} Ibid., pp. 207-215.

37. For the specification of country models, in addition to the ECA national accounts estimates other specific and disaggregated data were computed or collected from other sources. For instance, the disaggregation of total investment in real terms into sectoral investments was computed by taking an average share of total investments for a given sector. The average share was estimated either from available estimates of sectoral investments in ECA or in statistical bulletins or was derived from the respective country's development plans. Generally, however, only data on investments in agriculture, mining, manufacture, and construction and the corresponding labour force were used in accordance with the specification of the models. Other sectors were estimated as functions of the above sectors.

38. Data on factors that contribute to agricultural production, namely acreage, rainfall, fertilizers, rural labour force, agricultural machinery, etc. were difficult to obtain. Thus, for those countries for which data on those factors were not available, an attempt was made to estimate agricultural production through the main agricultural crops, using FAO growth rates, although such a method posed many problems with regard to the relevant sectoral deflator in the derivation of the agricultural value added at constant prices.

4. Estimation method

39. The projections work was initially constrained by the absence of estimation packages and simulation programmes. For the estimation of the various models, one of the Biomedical Computer Programmes of the University of California (BMD) was adopted. In all cases the various model equations were estimated by the Ordinary Least Squares method. Ideally it would have been preferable to use more robust and consistent methods which take account of the simultaneous nature of the economic relations in the various models. However, as noted by Prof. Tinbergen, given the biases of mis-specification, extremely small samples and errors in variables, almost complete reliance on direct least squares to estimate models of developing economies may be the most sensible research procedure. ^{1/}

40. In all cases, the retention, revision or elimination of an equation in a particular model was based on the coefficient of determination (R^2); the t-statistic describing the level of significance of the regression coefficients, the sign of the parameter, the standard error of the estimate and the order of magnitude and serial correlation of the residuals. In order to get stable and reliable projection results, it was considered necessary that the coefficient of determination of every equation selected for model simulation should be as high as possible. The equations with particularly low coefficients of determination were respecified or were removed from the model. For all the model parameters a high level of significance for each coefficient in an equation was sought. Thus all parameters that were insignificant at a 10 per cent level of significance were rejected in favour of alternative variables or formulations. Sometimes the insignificance of the parameters was believed to be due to the problem of multicollinearity and, in such cases, only one of the multicollinear variables was retained. Equations were also excluded from the model if the sign of the coefficient (s) differed from the expected sign implying an economically meaningless relationship. To choose among a given set of alternative and valid estimated equations, the standard error of the estimates was used and the equation giving the least standard error of estimate being preferred.

^{1/} See Feasible growth and trade gap projections in the ECAFE Region Development Programming Techniques Series, No. 7.

IV. MODEL BUILDING IN THE AFRICAN CONTEXT

1. Introduction

43. Econometric model building, especially with respect to an entire national economy, is still in its infancy. But even within a short period it has demonstrated its use as a guide to national policy formulation. It is known that these models have severe limitations as there are many elements in the model which are often difficult to quantify, but in spite of these limitations macro-models have proved their usefulness as a method for considering, in a consistent manner, a number of variables of importance to the economy which bear a complex relation to each other.

44. Models, to be useful, have to be designed for specific purposes. There is no general all-purpose model. It is the object of a model to isolate those features which are of particular interest from those which are not of relevance. It is necessary therefore that both the background of the economy of the country for which the model is being formulated as also the objective are constantly kept in view.

45. The models which are being developed in the Economic Commission for Africa are broad macro-models based on national accounts. The object is to bring out the interconnexions of the basic macro-variables and to estimate their relationship quantitatively, however approximately. This approach makes it possible to monitor the current performance of the economy and to chart its likely future course on the basis of past and current performance. They are thus models for an analytical understanding of past trends and their projection into the future on the basis of past experience.

46. A second objective is to develop possible alternative scenarios of the economy and the policy measures that have to be adopted to control some of the variables to change the course of the others in desired directions.

47. It must be noted, however, that these models are subject to a great deal of error owing to the paucity of data and various unprecedented changes in some of the variables and their interrelationships which it may not be possible to foresee at the time of formulating the model. A pragmatic and critical approach is thus needed in appraising a model and its performance. The main limitations lie on both the economic content of the mathematical relationships and the paucity, unreliability and inadequacy of the statistical data base used in estimating the structure and behavioural parameters. ^{8/}

^{8/} See "Intérêt et limites des méthodes quantitatives de la Plannification en Afrique" by G. Winter - Cahiers de l'OPSTOM, vol. XII, No. 3, 1975.

51. Finally, there is also a political limitation to the stability of the economic and behavioural relationships contained in a model, especially in developing countries. Because of the present economic order based on the domination of developing countries by developed countries through inter alia transnational corporations, the monetary system, technology, etc., some structural changes may come about after a partial or total change in the economic order thus leading to a new socio-economic structure which could not be assumed as one of the rational options of the projection exercise. This kind of event would, of course, overturn most of the parameters and relationships in a model. In this respect the large increase in petroleum prices of 1973 and its impact on the structure of the economies of oil-exporting countries^{9/} is one of the most illustrative examples. In other words, in making projections it is difficult to make exhaustive provision for such types of strategic structural changes which, in fact, are the most challenging for most developing African countries.

52. A second category of limitations relates to the statistical data used in estimating a model.^{9/} Firstly, the adequacy of the present statistical framework is questionable as far as developing countries are concerned. There exists a gap between observable problems relating to the dynamics of socio-economic change and the conventional methods of quantification. Thus, the choice of statistics is predetermined in the measurement of socio-economic phenomena in developing countries since it is based on preconceived notions about basic social and economic causal relationships concerning development. Not only is it unrealistic to explain a developing economy with notions limited to only some parts of that economy, but it is also not infrequent to find approximate and proxy measures that can often cause distortions in understanding the quantifiable part of the economy. It is therefore not an easy task to adapt existing quantification methods to the economies of developing countries so as to take account of their heterogeneous structures. It has to be borne in mind that such efforts should not be hampered by the need for international standardization of data definitions. Further, it has to be emphasized that it is vitally important to collect the most relevant quantifiable information on developing economies.

53. Secondly, even in the existing conceptual framework, statistics are very difficult to obtain in many developing African countries owing to the lack of financial and human resources and also to a general lack of interest in the use of statistics for socio-economic analysis and planning. The failure of many development plans in African countries stems, in part, from the weakness or non-existence of their statistical foundations.

54. In undertaking the present quantitative analyses and projections, the ECA secretariat is aware of all these difficulties and limitations. In spite of such limitations, however, it is believed that quantitative analyses using models are useful for the following reasons:

^{9/} See "Development problems and data collection requirements" by Michael Ward, Seminar on Data for Development, UNESCO, June 1979, Charmrousse, France.

effects on the economies of the developed countries and most of the developing countries also increased protectionism in the developed world and thus impeded the achievement of most of the recommendations relating to aid, trade and technology. However, one of the basic weaknesses of the International Development Strategy for the 1970s was its misappreciation of the socio-economic conditions, structures and trends prevailing in the various developing regions of the world. It is hoped that the next strategy would give full recognition to the differences in structure and development levels of various groups of countries and suggest fundamental structural changes relevant to each group. The studies presented in this paper are expected to help in highlighting the differences in structure and development levels of the African developing countries.

59. It should be noted that these studies take into account the need to reflect as closely as possible the development needs and the structure of each economy. For the African least developed countries the study emphasized their financial needs in estimating and projecting their respective domestic and external resource gaps. For the non-least developed countries, the study focused on sectoral analysis, especially on the behaviour of the main economic sectors (i.e. agriculture, mining, manufacturing, construction, electricity, gas and water, transport and communications and services).

60. Also country reports and studies made by the ECA secretariat for the annual Survey of Economic and Social Conditions in Africa have been used in formulating country models and in making projections.

61. In the first trial projections exercise carried out for eight countries in 1978 a standard projection model was built and tested using time-series from 1960 to 1975. This model was relatively detailed since it included sectoral variables as well as employment and balance-of-payments variables. The model and the results of the trial exercise were presented to the seventh session of the Conference of African Planners and circulated to various United Nations agencies. Many observations and suggestions were made. For example, it was observed that the model was strongly oriented towards the foreign trade sector since it included equations relating to imports and exports of commodities, to commodity import and export prices, to the main balance-of-payments variables (net transfers from abroad, net factor income to abroad, foreign reserves, etc.). In testing the model, the ECA secretariat found it difficult to collect the necessary historical data on such variables and to build reasonable mathematical relationships since these elements are almost totally controlled by the developed world. Another criticism related to the formulation of production functions in the African context. Given the main characteristics of African economies (e.g. compartmental type of production, existence of two or three disconnected sectors: a subsistence sector, an export-oriented sector, an import-substitution sector often not oriented towards domestic demand, etc.), it was observed that some traditional production functions might not be relevant.

in which the values of policy instruments required to achieve given objectives and targets are estimated. As the main objective of the present studies is to understand the structure and the behaviour of the economies of African countries, the first common scenario which is analysed in all country or group models is a trend scenario or forecast where future development is estimated through the values calculated for some macro-variables. In some cases, this analytical scenario is supplemented by a planned or normative scenario where targets are set for some variables in order to achieve a given objective (for example a certain growth rate of GDP coupled with a reasonable domestic and external resources gap).

66. The word "projection" has been used in connexion with two different ways of estimating the future value of any variable, namely forecasts and plans. A pure forecast is sometimes defined as an estimate made on the assumption that no changes in policies take place; the purest form of planned development is explicit optimal development. Both uses are given various interpretations, however, which raises the possibility of a range of different types of projection. Forecasts and planned development are sometimes contrasted to highlight the need for a change in policies and such a comparison is often fruitful. When considering pure forecasts and planned developments, it should not be overlooked that for longer periods the assumption of constant policy is rarely realistic; that development policies will usually be characterized by a multiplicity of aims rather than a single one; and that a synthesis of aims must be found if any one separately is incompatible with others. The assumptions about technology and aims made in a projection must be clearly stated if confusion about the nature of the projection is to be avoided.^{11/}

67. The historical trend scenario aims mainly at identifying the major imbalances and bottlenecks that might appear or that might be dominant in the long run in order to enable policy makers to define and effect the necessary structural changes. However, since the historical trend scenario is based on constant policies over long periods the results obtained are probably unrealistic.

68. The planned scenario shows, given a basic structural and institutional framework, what are the consistent growth prospects of some key variables such as value added in agriculture and manufacturing, gross domestic product, external trade, consumption and investments. Here again it should be emphasized that a normative scenario aims at identifying the boundaries of policy instruments in given domestic and international economic orders. In any case, a planned or normative scenario should not be considered as a strategic structural change since, as noted earlier, the latter is a complete change of the economy where new policy instruments have to be redefined in new models. However, both the historical scenario and the planned scenario are useful tools in analyzing how efficiently structural change can be achieved.

^{11/} See "Sectoral Output and Employment Projections for the Second Development Decade", Development Programming Techniques Series, No. 8.

V. GENERAL DESCRIPTION OF THE MODELS USED

1. Economic classification of the African countries

71. For the purpose of the present study, African developing countries have been divided into five groups, namely the African least developed countries, the major oil-exporting African countries and non-oil exporting and non-least developed countries awarded into three income groups.

72. The reasons behind the above classification are twofold. First it is intended to formulate models that reflect the main characteristics of the countries. Because of the heterogenous nature of the continent, it would not have been realistic to have one standard model for all countries. Secondly some classification of African developing countries has already been made in the United Nations system and it was felt that such classification should be taken into account. More specifically, the Committee for Development Planning has classified 20 African countries as least developed countries and since a Comprehensive New Programme of Action for the least developed countries was recommended in UNCTAD resolution 122(V), it was felt that specific analyses and projections would facilitate the detailed formulation of the Comprehensive New Programme of Action.

73. Similarly, since the oil price increase of 1973 the major African oil-exporting countries have had considerable possibilities of increasing their exports earnings and consequently most of them have embarked on large-scale development plans with very high ratios of investment and imports in GDP accompanied, in some cases, by large balance-of-payments deficits and heavy indebtedness. This group includes Algeria, Gabon, the Libyan Arab Jamahiriya and Nigeria.

74. The remaining countries were classified into three income groups according to their per capita GDP in 1970, as was done in the Annex III of the report of the Secretary-General on long-term trends in the economic development of the regions of the world.^{12/} The three groups are namely, countries with a per capita GDP of less than \$US 200, countries with a per capita GDP of between \$US 200 and \$US 300 and countries with a per capita of more than \$US 300.

75. Under these classifications in 1970 the subdivisions of the African developing countries were as follows:

1. Least developed countries

Subgroup 1: (per capita GDP of above \$US 110) Botswana, the Sudan, the Gambia, Lesotho.

Subgroup 2: (per capita GDP of between \$US 100 and \$US 109) the Niger, the Central African Republic, the United Republic of Tanzania, Somalia, Malawi, Uganda.

^{12/} Long-term trends in the economic development of the regions of the world - Report of Secretary-General, E/5937/Add.3.

(iii) The oil-exporting countries

79. The third group of countries are the major oil-exporting countries of Africa. These countries have both special advantages and special problems of their own. Some of them have a small industrial base and often a poor agricultural sector with barren stretches of land. While oil is providing them with a very large revenue in foreign currency, it does not automatically accelerate local development, and bottlenecks quickly develop because of the lack of local skills and infrastructure. Further, oil is a depleting asset and account has to be taken of the effects rapid depletion of the oil reserves will have on the growth of the economy in future. As the effort to achieve rapid growth is based mainly on imported technology and imported skills, this group of States is finding that its investments are proving to be very expensive and the returns modest. These countries have been analyzed with regard to both oil and other basic sectors in the projection.

80. For both the least developed and the non-least developed group, models have also been built by aggregating States with similar levels of per capita income to get more stable and homogenous sets so that conclusions can be more specific. For this purpose the least developed group was divided into four subclasses and the non-least developed group into three subclasses on the basis of their per capita GDP. For the non-least developed group the subgroups are group I, with \$US 200 per capita or less, group II, with between \$US 200 and \$US 300 and group III with \$US 300 or above.

2. Models for the three groups of countries

(i) Model for the least developed African countries.

81. The simplest and most highly aggregated model is used for this group. It consists of the following major equations:

$$1. \log Y_{AG} = a_{AG} + b_{AG} \log A_c + C_{AG} \log L_A$$

$$2. Y_{IND} = a_{IND} + b_{IND} \sum_{t=0}^{t-1} I_{IND}$$

$$3. Y_{SO} = a_{SO} + b_{SO} (Y_{AG} + Y_{IND})$$

$$4. Y_F = Y_{AG} + Y_{IND} + Y_{SO}$$

$$5. C = a_C + b_C Y_D$$

$$6. M = a_M + b_M Y_D$$

$$7. Y_D = C + I + E - M$$

power, transport, construction and mining) via the incremental capital/output ratio. In countries where some specific activities (e.g. mining) are very important as a single sector, these are estimated separately. The value added in the service sector is obtained as a function of the sum of value added in agriculture and industry. From the sectoral value added total output -- GDP at factor cost -- is obtained by summation.

83. On the demand side of the economy, the traditional consumption function is used. Total and private consumption are separately regressed on total income (as a proxy for the often used national disposable income). Government consumption is then obtained as a residual from total and private consumption. In most cases, investments are taken as a policy variable. However, in some cases a distinction is made between autonomous and induced investments. In these cases the induced investments are obtained from the system as a function of the level of income while the autonomous investments -- usually government development expenditure -- are left as an exogenous policy variable. The model distinguishes two types of exports, namely historical exports and implied exports. Historical exports are obtained from export quantities of relevant export commodities of a particular country using appropriate export prices. The export quantities are obtained from a function which relates the quantities of a commodity exported and the quantities produced. The implied exports are taken as a balancing item in the national accounts. Finally, imports are obtained from a function which relates the volume of real imports to the level of real income and the previous year's value of real exports. In the absence of reliable data on external resources, the previous year's value of real exports are taken as a proxy. From the model functions above, the trade gap and the domestic savings gap are calculated from the appropriate identities and the more dominant of the two obtained.

(ii) Model for the non-least developed

84. The model for the countries in the non-least developed group consists of the following equations:

1. $\log Y_{AG} = a_{AG} + b_{AG} \log A_c + c_{AG} \log L_A$
2. $Y_{MI} = a_{MI} + b_{MI} \sum_{t=0}^{t-1} IF_{MI}$
3. $Y_{MF} = a_{MF} + b_{MF} \sum_{t=0}^{t-1} IF_{MF}$
4. $Y_{ENG} = a_{ENG} + b_{ENG} (Y_{MF} + Y_{CON} + Y_{MI})$
5. $Y_{TR} = a_{TR} + b_{TR} (Y_{MF} + Y_{CON} + Y_{MI} + Y_{ENG}) + c_{TR} \left(\frac{PV}{N} \right)$
6. $Y_{CON} = a_{CON} + b_{CON} IF$
7. $Y_{SE} = a_{SE} + b_{SE} (Y_{MF} + Y_{CONS} + Y_{MI} + Y_{ENG} + Y_{TR})$
8. $Y_D = C + I + E - M$
9. $C = a_C + b_C Y_D$
10. $M = a_M + b_M Y_D$

89. It should again be pointed out that the present country classification on the basis of per capita GDP is only one among several possible and perhaps equally useful classifications. The present classification has been used here as a practical one for a large group of States which are otherwise highly heterogeneous with regard to other characteristics. Specific classification criteria have their use for specific purposes but per capita GDP is a relatively universal criterion as it generally encompasses within it a fairly large number of factors each making its contribution to the over-all performance level denoted by GDP. It will be seen later that a large number of other relevant characteristics of the economy do indeed fall in line when per capita GDP is adopted as the basis for classifying the countries of the African region.

Table VI.2: Annual average rate of growth of value added in percentage
by sector, during 1970-1977

Regional group	Agriculture	Industry	Services
<u>Least developed</u>	1.97	3.90	5.12
Group I	2.69	6.31	9.15
Group II	2.47	3.66	3.53
Group III	1.55	5.48	4.47
Group IV	1.19	2.05	3.87
<u>Non-least developed</u>	1.79	4.29	5.95
Group I	1.45	3.93	5.27
Group II	2.18	5.27	5.59
Group III	1.76	3.54	2.64
Major oil-exporting countries	2.63	13.01	8.40
<u>Developing Africa</u>	1.79	5.61	6.50

92. It will be seen here that industry, which includes manufacturing, construction, transport, etc., is doing better in the countries which are better off. Thus the growth rates are 3.9 per cent in the least developed countries with 4.29 per cent in the non-oil-producing non-least developed and 13.01 per cent in the oil-producing group. The diversification of the economy is moving very fast in the major oil-exporting countries. It is proceeding at a fairly rapid rate in the intermediate group as well but not in the least developed countries.

93. In agriculture however there is a difference. Growth rate in the poorest (least developed) group is significantly higher than in the next group (non-least developed) although the countries in the major oil-exporting group are doing somewhat better. The effort of the middle group in diversifying its economy by expanding the non-agricultural base is possibly having an adverse effect on its agriculture, leading to increased import dependence in primary agricultural commodities. The expansion of the tertiary sector follows the same trend. As the tertiary sector shows some growth in infrastructural facilities like administration, banks, education and other institutions, this growth is also a necessary component of the economy in the countries which have generally very poor facilities in this respect. Here also, the richer countries are doing better.

4. Sectoral growth rates for non-least developed and oil-exporting groups

94. For the countries in the non-least developed group a more detailed sectoral analysis was carried out of the non-agricultural sectors by considering separately the mining, manufacture, construction, energy and transport sectors. Table VI.3

95. It should be noted that group III includes Seychelles and Djibouti, Liberia and Zambia. This is not a homogenous group and has not generally given satisfactory results. From the table it may be seen that the major oil-exporting countries have a faster growth rate in all the sectors and in fact their growth rate is on a completely different level in all sectors except mining owing to the superior resource availability of these States. But in spite of their prosperity it may be noted that mining, which included oil, has been falling in these States in real terms. Only

Table VI.4: Growth rates in per cent per year of major components of GDP, 1970-1977

Region	Consumption	Investment	Export	Import
<u>Least developed</u>	3.48	5.52	3.85	4.84
Group I	3.88	10.29	4.91	3.16
Group II	3.10	5.32	2.57	2.99
Group III	2.41	2.54	5.99	4.78
Group IV	2.72	0.88	3.99	3.01
<u>Non-least developed</u>	3.52	6.25	3.39	5.26
Group I	1.71	5.28	4.02	2.93
Group II	4.28	10.14	3.63	7.49
Group III	0.40	-2.04	1.20	-3.61
Major oil-exporting countries	10.52	19.60	1.03	17.84
<u>Developing Africa</u>	5.56	12.26	2.62	9.75

98. A distinctly unhealthy feature of the prosperity of the better off States is seen in their foreign trade. Export growth rates are higher in the poorer States and import growth rates are lower. Poorer States are living more closely within their means and have a more self-reliant economy but the richer States relying on imports sometimes exceeding their export earnings. They cannot expand exports possibly because of greater pressure in their domestic market, although they are fast expanding their imports. This particularly applies to the major oil-exporting African countries. The richer African States are heavily dependent on foreign resources.

Table VI.5 gives the GDP by expenditure type showing the share of consumption, investment, export and import in GDP over 1970-1977.

Table VI.5: Major components of GDP as percentage of GDP, 1970-1977

Region	Consumption	Investment	Imports	Exports
<u>Least developed</u>	89.4	12.88	21.27	17.45
Group I	86.7	15.09	20.57	18.02
Group II	86.9	14.43	23.89	20.67
Group III	96.1	10.41	29.48	22.21
Group IV	91.7	10.35	14.65	11.91
<u>Non-least developed</u>	84.21	15.38	26.06	23.81
Group I	78.74	19.62	32.15	31.68
Group II	86.65	15.92	24.99	21.25
Group III	54.98	23.82	34.03	51.69
Major oil-exporting States	77.98	34.02	34.85	22.74
<u>Developing Africa</u>	82.37	21.39	29.00	23.37

VII. DISCUSSION OF THE RESULTS

1. Introduction

101. As mentioned earlier, projections have been carried out for the five groups of countries as a whole. Separate models were estimated and projected for each group on the basis of the continuation of past trends and policies.

102. Projections were also made for 35 individual countries^{14/} using individual country models: the 20 least developed countries in Africa, the four major oil-exporting countries and 11 non-oil-exporting and non-least developed countries. For each country, a historical trend scenario as well as a planned scenario were analysed. The planned scenario is generally close to the scenario corresponding to the likely targets for the new International Development Strategy.

103. As for the 15 remaining countries, it was not possible, because of time and resource constraints, to make individual projections although these countries were included in group projections. However, every effort will be made to make these country projections available as soon as possible.

2. Parameters of econometric models

104. In the following section the parameters fitted in the econometric model are examined. The behaviour of the macro-parameters is consistent and hence these macro-models can be used to predict and plan the future of the countries concerned.

105. Table VII.1 gives the results of the parameters fitted to the production function in agriculture. The function fitted was of the Cobb-Douglas type without, however, any constraint involving constant returns to scale implied by the sum of the elasticities being equal to one.

106. Generally speaking the countries in the relatively poorer groups have an elasticity of output to acreage higher than that of the richer States but the elasticity of output to labour is lower there when compared to the countries with higher per capita GDP. For each group as a whole, however, elasticity of output to labour is higher than that of acreage. In fact, the richer the country the higher is the ratio $\frac{e_{LA}}{e_{Ac}}$ where e_{LA}

is elasticity of output to labour and e_{Ac} is that of output to acreage.

107. A possible explanation of this structural difference may be that the poorer countries are also less developed as a whole and have more virgin land which may be brought into profitable cultivation. The richer countries have less acreage available and what is available is of poorer quality. It also shows that increasingly higher labour productivity must be the real policy instrument for expansion of agricultural output rather than additional acreage. This is particularly relevant for the major oil-exporting countries where the elasticity of acreage is almost zero while that of labour is over 4. It seems likely that, as oil production has expanded, agricultural labour has declined owing to rural-urban migration. Given the estimated high elasticity of labour, this trend has to be controlled if agricultural output is to expand. In general in all the countries of this group the elasticity of labour is much higher than that of acreage.

^{14/} For the results of the individual least developed African countries see document ECA/CONF/LDCs/3 entitled "Quantitative analysis of the Problems and Perspectives of the African Least Developed Countries in the Framework of the Third United Nations Development Decade". The results of the other 15 individual non-least developed countries are given in document E/CN.14/PSD.1/7 Add 1 as an annex to this paper.

Table VII.3 gives the construction sector, which was regressed independently with total annual investment.

Table VII.3: Parameter of the function for construction

$$CON = a_{CON} + b_{CON} IF$$

	b_{CON}	R^2
<u>Non-least developed countries</u>		
Group I	.198	.73
Group II	.174	.97
Group III a/
Major oil-exporting countries	.280	.98
Developing Africa	.270	.97

a/ No good equation was found.

109. The estimates that have emerged from the regressions seem reasonable. What is also remarkable is that the coefficient of construction to investment, which gives the marginal increment of construction due to incremental investment, varies only from .198 to 0.28 which is quite low considering the heterogeneity of the groups. One may almost conclude that by and large between one fifth and one quarter of all additional investment goes into construction as a technical ratio to investment in non-agricultural fields.

110. Table VII.4. gives energy regressed with $Y_{MF} + Y_{CON}$ as also with $Y_{MF} + Y_{MI} + Y_{CON}$. The two approaches give very close results and it is immaterial which is used because of the closely linked behaviour of the components themselves. There is however a high variation among members of different groups although here it seems that energy has a higher coefficient in the poorer countries which have more need for power than countries which are somewhat better off. This should be borne in mind in any future planning for the group.

Table VII.4: Parameter of the function for energy

	Energy as function of ($Y_{MF} + Y_{CON}$)	Energy as function of ($Y_{MF} + Y_{MI} + Y_{CON}$)
<u>Non-least developed countries</u>		
Group I	.101	.105
Group II	.088	.0781
Group III a/	-	-
Major oil-exporting countries	.040	.0351
Developing Africa	.088	.088

a/ No good fit was found for this group.

112. It seems that within the non-least developed group there is a tendency of higher marginal ratios in the poorer countries whereas in major oil-exporting countries the trend is slightly changed. It seems that services cover informal occupations and a poorer country has a higher ratio in the informal sectors than the countries which are better off. But the situation changes when income goes up beyond a certain point when the ratio of services starts again to increase. The major oil-exporting countries show that at a certain level of prosperity leads to a proliferation of service employments along with a higher ratio in the tertiary sector which the economy can afford.

3. Historical parameters of functions of the components of GDP by expenditure

113. The consumption function for the least developed countries, non-least developed countries group II seem to be very stable with a small difference in marginal propensity between the higher and lower income group. Thus the least developed group has a marginal propensity of 0.89, the non-oil group has possibly somewhat less but the major oil-exporting countries have again 0.89. It seems that an almost identical marginal propensity exists for countries with very different income levels. This emphasises the fact that for the major oil-exporting countries in particular, where marginal propensity should have declined, the decline is not very marked. Previously, average propensity was found to be falling slightly but the fall is not revealed in the regression equation, which shows that over the period as a whole no consistent decline has taken place.

Table VII.7. Estimates of the marginal propensity to consume

$$C = a_c + b_c Y_d$$

	b_c
<u>Least developed countries</u>	
Group I	0.75
Group II	0.89
Group III	0.97
Group IV	0.92
Over all	0.89
<u>Non-least developed</u>	
Group I	0.45 a/
Group II	0.88
Group III	0.53 a/
Over all	0.79
Major oil-exporting countries	0.89
Developing Africa	0.96 a/

a/ For least developed, non-least developed group II and oil-exporting Africa figures seem to be very similar. The figures for group I and III of non-least developed and over-all Africa are suspicious. More investigation may be necessary by country and by year into the data before a definite conclusion can be given.

118. An important feature to note is that the economic growth rates forecast for the different regions of Africa are on the whole increasing functions of their current economic status. Thus the least developed countries have the lowest projected growth rates, the groups with higher income have higher growth rates and the major oil-exporting countries having the highest ones. This is as expected, but the forecast also shows that growth rates of the major oil-exporting countries will not be sustained later. The major oil-exporting group, as was noted earlier, has been moving at a high speed but has increasingly depended on foreign resources. At the same time, the volume of oil exports has

Table VII.9. Annual average growth rate of GDP under historical trends scenario

	Percent- age GDP weights 1975	1970- 1977	1975- 1980	Percent- age GDP weights 1985	1980- 1985	Percent- age GDP weights 1990	1985- 1990	1980- 1990
<u>Least developed countries</u>	16.5	3.2	3.56	15.2	2.93	14.6	3.03	3.0
<u>Non-least developed</u>								
Group I	12.0	2.6	3.52	9.9	4.49	9.4	4.47	4.5
Group II	35.3	4.3	4.10	32.5	4.54	31.5	4.83	4.6
Group III	3.5	1.4	1.39	2.4	1.44	2.0	1.68	1.6
Major oil exporting countries	32.7	8.3	8.0	40.0	6.74	42.5	6.63	6.7
Developing Africa	100.0	4.9	5.10	100.0	5.10	100.0	5.20	5.10

been stagnating so that their oil earnings are enough to pay for the increased consumption and investment in spite of the rising price of oil.

119. The growth rate for developing Africa as a whole on the basis of a continuation of historical trends is around 5 per cent per annum implying a per capital growth rate of around 2 per cent per annum. The forecast shows, as in the past wide disparities in performance among the different groups of countries.

5. Projections of agricultural growth rates

120. Agriculture in developing Africa is so far proving to be a serious bottleneck. In all regions the rate of growth is lower than that of population which indicates that developing Africa as a whole and in fact all the sub regions are becoming increasingly dependent on imports of food and basic commodities. It may also be seen that regions which have a satisfactory growth rate of GDP are lagging behind in agriculture. If this historical trend continues in the 1980s Africa as a whole and many countries of the region will have to meet heavy import bills to feed the

Table VII.11. Mining, manufacturing and construction average annual growth rate 1975-1990 under historical trends scenario

	1975-1980			1980-1985			1985-1990		
	Min- ing	Manuf.	Constr.	Min- ing	Manuf.	Constr.	Min- ing	Manuf.	Constr.
<u>Least developed countries</u>		5.40a/	-	-	4.45a/	-	-	4.51a/	-
<u>Non-least developed</u>									
Group I	2.48	5.07	4.55	4.03	5.59	5.25	4.02	5.57	5.17
Group II	3.30	5.24	5.30	4.84	5.91	5.94	5.47	6.37	5.90
Group III	0.69	3.20	2.81	-1.98	3.80	1.75	-1.98	3.73	1.75
Major oil-exporting countries	9.25	13.50	12.60	4.99	11.50	8.40	4.99	10.10	7.70
Developing Africa	6.70	7.60	9.40	4.40	7.90	7.40	4.60	9.00	7.00

a/ For the least developed countries all industrial sectors were taken as one sector.

manufactures. As a policy this is not exceptional but the African countries have to consider seriously that this higher growth rate in manufactures must be based on increasing self-reliance and self-sustainment if the rate has to be maintained without leaning heavily on foreign aid.

123. Construction, as a necessary adjunct to manufacturing, tells the same story. It may be seen that manufacturing and construction are generally growing at the same rate in the model. There is thus a structural relation between the growth of these two sectors. This is further brought out by the simultaneous decline of these two sectors in the major oil-exporting countries. The forecast for 1985-1990 shows that the growth rate in these sectors in the major oil-exporting countries is likely to be significantly less than in developing Africa as a whole and non-oil-exporting countries are forecast to have a better growth rate. Since agriculture in the major oil-exporting countries is stagnating, this basic weakness of the major oil-exporting countries, which depend on expanding oil revenue as the only way to mobilize investment, is revealed. The forecast thus seems to indicate a reasonably sound policy for most African countries excepting the major oil exporting ones, bearing in mind that a sustainable growth rate rather than a growth rate in jerks is important for both the political and the economic stability of the countries concerned.

Table VII.13. Average annual growth rates of major components of GDP under historical trends scenario

	1975-1980			1980-1985			1985-1990		
	Consumption	Investment	Savings	Consumption	Investment	Savings	Consumption	Investment	Savings
<u>Least developed countries</u>	4								
	4.79	3.84	2.4	4.24	4.66	4.3	4.55	4.90	4.6
<u>Non-least developed</u>									
Group I	1.85	4.95	5.34	2.53	5.57	7.45	2.81	5.41	6.70
Group II	4.10	7.70	3.04	4.24	8.07	4.13	4.53	7.35	4.4
Group III	0.95	-3.05	2.09	1.96	0.50	0.73	2.23	0.50	0.88
Major oil-exporting countries	7.70	11.40	10.20	7.16	8.31	4.51	6.92	7.68	4.89
Developing Africa	5.30	8.90	5.70	5.30	7.65	4.70	5.50	7.20	4.90

up by greater dependence on imports financed from foreign sources. In table VII.14 the nature of this gap has been analysed for the period under review.

Table VII.14. Rate of growth of domestic savings gap under historical trends scenario

Region	1975-1980	1980-1985	1985-1990
Least developed countries	9.2	5.8	5.8
<u>Non-least developed</u>			
Group I	-7.05	-14.08	-10.02
Group II	18.38	13.15	9.99
Group III	-7.93	-0.92	1.19
Major oil-exporting countries	-12.03	10.03	8.69
Developing Africa	13.90	10.60	9.1

126. The table shows that over all Africa will be facing an increasing domestic savings gap on the basis of a continuation of present policies. It also shows that, for those countries which are better off, this growth rate is generally higher than for the countries in the less developed group. The only explanation of this is that relatively prosperous countries are launching extensive investment schemes as part of their development without, however, any break on consumption, private or government. The countries which are credit worthy are borrowing more than countries with low credit worthiness. Since such a growth rate in the domestic savings gap indicates increasing dependence on foreign sources, some thought has to be given to a continuous contraction of the savings gap in order to sustain the growth rate on the basis of their own resources.

Table VII.16. Rate of growth of imports (M) exports (E)
under historical trends scenario

	1975-1980		1980-1985		1985-1990	
	M	E	M	E	M	E
<u>Least developed countries</u>	5.1	4.0	4.6	4.0	4.9	4.0
<u>Non-least developed</u>						
Group I	5.09	5.00	4.41	4.75	3.64	4.67
Group II	6.14	3.24	6.83	3.67	6.54	4.06
Group III	3.27	3.02	0.77	2.25	0.76	2.88
Major oil-exporting countries	10.90	7.93	8.05	4.26	7.52	4.40
Developing Africa	7.86	4.30	6.90	4.00	6.70	4.20

Table VII.17. Growth rate of the trade gap under historical trends scenario

	1975-1980	1980-1985	1985-1990
<u>Least developed countries</u>	8.4	6.5	7.2
<u>Non-least developed</u>			
Group I	-	-	-
Group II	14.51	12.50	9.67
Group III	-	-	-
Major oil-exporting countries	12.59	9.76	8.63
Developing Africa	13.00	10.30	8.90

growth rate which makes higher imports necessary but it is obvious that on present showing African consumption and investment, even in relatively better off countries, are being sustained by foreign loans or aid and will require still larger foreign support, unless steps are taken to correct the imbalance. Needless to say precisely the same tendencies may be seen to be operating in table VII.18.

8. Planned scenario results

130. As noted earlier, a scenario of the target growth rate in GDP of at least 6 per cent yearly during the 1980s close to the target set in the Strategy for the Second United Nations Development Decade was simulated for the various subgroups of African countries and the over-all picture for developing Africa was derived. The basic considerations on which the various assumptions of the scenario were based include the salient features of the African strategy particularly the objective of self-reliance and self-sustained growth, the necessity to increase both agricultural and industrial output and the desirability of attaining substantial increases in per capita income.

Table VII. 19. Planned scenario: Growth of GDP by major sectors, 1980-1990

	1980 - 1985				1985 - 1990			
	GDP ^{a/}	Agri- culture	Manufac- turing	Mining	GDP ^{a/}	Agri- culture	Manufac- turing	Mining
Least developed countries	5.9	4.0	8.0 ^{b/}	-	5.9	4.0	8.0 ^{b/}	-
Non-least developed								
Group I	6.8	4.0	7.0	4.0	6.6	4.0	8.0	4.0
Group II	6.5	4.0	8.0	4.8	6.5	4.0	8.0	6.4
Group III	5.8	4.0	9.0	7.0	6.1	4.0	9.0	7.0
Major oil-exporting countries	7.7	4.0	12.0	6.0	8.1	4.0	12.0	6.0
Developing Africa	6.8	4.0	9.5	5.8	7.0	4.0	9.6	6.0

^{a/} At factor cost.

^{b/} For the least developed countries manufacturing includes all industrial sectors.

131. The table shows that for developing Africa as a whole and under a number of stated assumptions both with regards to domestic and international policy measures, it is possible to achieve an average annual rate of about 7 per cent in GDP in the 1980s. In addition, the results show that to attain this target major efforts would be required to expand the major productive sectors of agriculture, manufacturing and mining. For developing Africa as a whole, agriculture would have to increase by an average annual rate of 4 per cent during the decade 1980-1990, manufacturing would have to expand at an average annual rate of about 9.5 per cent yearly and mining would have to expand by about 5.8 per cent per annum.

Table VII.21. Selected indicators under the planned scenario

Region	Period ^{a/}	GDP growth ^{b/}	Investment as percentage of GDP	Investment growth	Savings as percentage of GDP	ICOR
Least developed countries	1975 1980 1985 1990	3.3 - 6.3 6.4	14.2 13.7 14.1 14.4	4.7 - 6.9 6.0	11.6 10.5 10.6 10.6	4.3 - 2.4 2.4
Non-least developed	1975 1980 1985 1990	2.6 - 6.1 6.2	19.5 21.7 24.2 26.1	5.3 - 8.5 7.9	23.7 26.9 24.0 24.0	5.4 - 3.5 3.9
Group I	1975 1980 1985 1990	4.3 - 6.2 6.3	18.3 21.6 26.8 30.7	10.1 - 10.9 9.2	13.8 13.0 20.0 20.0	4.3 - 4.1 4.7
Group II	1975 1980 1985 1990	1.4 - 5.8 6.1	24.2 21.0 25.0 29.2	-2.0 - 9.5 9.5	41.3 42.7 20.0 20.0	13.4 - 4.3 4.6
Major oil-exporting countries	1975 1980 1985 1990	8.3 - 7.7 8.1	42.8 43.7 41.3 38.3	19.6 - 6.5 6.5	15.0 20.0 20.0 20.0	5.7 - 5.3 4.7
Developing Africa	1975 1980 1985 1990	5.1 - 6.8 7.0	24.8 28.4 30.0 30.8	5.7 - 7.9 7.5	15.7 16.3 18.9 19.0	4.9 - 4.4 4.4

^{a/} Growth rates refer to 1975-1977, 1980-1985 and 1985-1990.
^{b/} At market prices.

135. In the planned scenario for Africa as a whole, the trade gap is projected to be dominant. Over-all in 1990 the gap is projected to reach about \$US 27 billion at 1970 constant prices or at about 14.0 per cent of the GDP of developing Africa in 1990. This is an increase of about 3.3 times from the level of \$US 8.1 billion for developing Africa as a whole in 1975, implying an annual increase of 3.4 per cent in real terms. It should be borne in mind that the projected trade gaps do not include investment income payments, other lendings and debt servicing which may considerably augment the balance of payments gap. The dominance of the trade gap for Africa as a whole points to the relevant adjusters such as export promotion of both agricultural and manufactured products and enhanced import substitution at the national and regional levels particularly of agricultural and food products. In this respect, it has to be emphasized that African regional co-operation assumes great importance for increasing the trade potential and performance for Africa as a whole in the 1980s.

136. With regard to the performance of the different groups of countries, firstly, relatively high exports growth rates are projected for the least developed countries on the grounds that, since most of them are agricultural, the expected recovery in that sector would be accompanied by an expansion in exports. Industries would also pick up especially the processing of agricultural products and in some cases local processing of minerals. The projected import growth rate of about 7 per cent might however seem too optimistic given the fact that these countries have to build the basic infrastructure which is now lacking and which is one of the major impediments to growth particularly in land-locked and island countries. However if these countries can substantially reduce imports of food products and consumer goods it is believed that a 7 per cent yearly increase in imports in real terms would enable these countries to import the necessary capital goods. Failing this, of course, additional inflows of external resources would be necessary.

137. Another very important remark on the projections for the least developed countries concerns the projected saving and investment rates which are far below the regional average level. In the projections for these least developed countries it was believed that it would be unrealistic, given the large consumption needs of these countries, to assume a drastic increase in the level of domestic savings which was projected to continue at the same share of GDP as in 1975, implying that domestic savings will rise at an average annual rate of around 6 per cent. Investments also were projected to grow in real terms by an average annual rate of about 6.9 per cent and the share of investments in GDP, after the recent period of large expansion in these countries, would increase only slightly so as to keep the domestic resource gap within reasonable limits. Thus to achieve the projected expansion in GDP in these countries it is assumed that the incremental capital output ratio would have to be substantially improved, implying that a fair proportion of the investments would have to be directed into high yielding, labour-intensive and agro-based projects. It was also assumed, that because of the high partial elasticity of labour, efforts would be made to increase the intensity of farming to promote employment and increase productivity in agriculture through appropriate land reform policies as well as adequate pricing policies to give increased incentives for increased output. It should be emphasized that if the improvement in the incremental capital output^{ratio} does not materialize, then the implications would be that the resource gap would widen substantially and much higher inflows of assistance would be necessary.

142. Table VII.22 shows that developing Africa as a whole should be able to attain an average annual per capita growth of 3.7 per cent in the period 1980-1985 and 4 per cent between 1985 and 1990. The richer countries will, according to the planned scenarios and population projections, register higher per capita growth than the poorer countries. Thus while the least developed African countries are projected to have an average annual increase in per capita income of about 3.5 per cent in the decade, the major oil-exporting countries, despite a projected high population growth, are projected to have an average annual increase in per capita income of 4.2 per cent over the decade. This points to the likely continuation of disparities in income over the 1980s although at much lower rates than in the past and emphasizes the need for the lower-income countries and the international community to make major efforts for these countries to attain higher rates of growth in total GDP and to evolve wherever appropriate policies that will enable them to increase the standard of living of their people.

Table VII.22. Planned scenario: Population and per capita growth, 1980-1990

	1 9 8 0 - 1 9 8 5			1 9 8 5 - 1 9 9 0		
	GDP growth	Popula- tion growth	Per capita growth	GDP growth	Popula- tion growth	Per capita growth
Least developed countries	6.3	2.9	3.4	6.4	2.9	3.5
Non-least developed countries						
Group I	6.8	3.0	3.8	6.6	2.9	3.7
Group II	6.4	3.3	3.1	6.5	3.2	3.3
Group III	5.8	2.8	3.0	6.1	2.6	3.5
Major oil-exporting countries	7.7	3.6	4.1	8.1	3.3	4.8
Developing Africa	6.8	3.1	3.7	7.0	3.0	4.0

143. Finally it is useful to note that, at its sixteenth session held in January 1980, the Committee for Development Planning set preliminary targets and objectives which are also relatively ambitious compared to the results achieved in the 1970s.

144. The planned scenario of ECA for developing Africa points to targets which are close to those envisaged by the Committee for Development Planning for developing countries as a whole. More or less the same targets have been set for gross domestic product and agricultural output but the ECA target for manufacturing output is slightly higher than the Committee's (9.5 per cent and 9 per cent respectively) since, to achieve the Lima target, Africa has to put in more efforts than other developing regions. Also, the

VIII. POLICY IMPLICATIONS OF THE PLANNED SCENARIO FOR THE AFRICAN REGION FOR THE 1980s

1. Introduction

146. The present chapter represents an attempt to draw some conclusions and policy implications from the results presented in preceding chapters. In doing so, Conference of Ministers resolution 332(XIV) on the Development Strategy for Africa for the Third United Nations Development Decade should be borne in mind for in addition to the political will expressed concerning the need for the region to break away from past structures and to build up a new type of development, it lists a number of priorities actions to be taken in various sectors. In the light of the projection results an attempt has been made to evolve some sectoral measures that should be taken if the African region is to meet at least the economic and social objectives implied in the African Strategy and the growth targets simulated in the planned scenario.

147. In general, the results and discussions have shown that on the basis of the continuation of past trends and policies, developing Africa as a whole would grow by slightly over 5 per cent yearly during the 1980s with significant disparities in performance among the various regions as in the past. Agriculture will continue to be the lagging sector and the growth of manufacturing will be insufficient to meet the Lima target. Developing Africa as a whole would also continue to be faced with the problem of mobilizing adequate domestic and external resources. It is thus clear that for African developing countries to break away from the past trends, there is need for major structural and policy changes, some of which are outlined in the following sections.

2. Agriculture

148. In the plan of action for agriculture outlined in the African Strategy, emphasis is put on self-sufficiency in food supply. To achieve this objective it is stated that the Regional Food Plan for Africa should be implemented with due regard to the relation between food products and other products; increased investments and systems of incentives, improved infrastructure such as feeder roads, marketing, storage and processing capabilities; improved technical inputs such as seeds, agricultural chemicals, machinery and repair servicing capabilities; and irrigation including irrigation technologies. The Strategy also points to the need for increasing over-all productivity in agriculture through infrastructural expansion, education of the rural masses, establishment of rural centres for the production of inputs and integration of rural development. Finally the African Strategy calls for increased agricultural research in inputs, skills, technologies and the development of new crop and livestock strains able to cope with the changing ecological conditions and the special problem of drought-prone areas.

institutional infrastructure with effective planning, execution, monitoring and evaluation of industrial development activities; (e) improvement of the international structure in industrial trade so as to promote the marketing of African manufactured goods especially through greater intra-African trade in manufactured goods; and (f) the harmonization of intra-African industrial and technological strategies and policies with the capacity of the African countries to influence action at the international level and increased technical assistance from international organizations.

154. According to the planned scenario outlined in this study, manufacturing output for developing Africa as a whole is targeted to grow by an average annual rate of 9.5 per cent during the period 1980-1990 as compared to an average annual rate of 6.7 per cent recorded in the 1970-1971 period. To achieve this thrust there will be need for some structural changes at the national, regional and international levels in line with the policies of the African Strategy.

155. Over-all the expansion of manufacturing by about 9.5 per cent in the 1980s will require a lot of domestic and external financial resources. There will be need to increase the efficiency of capital through (a) the elimination of the present problem of undercapacity utilization and the improvement of managerial skills in business firms; (b) improvements in the formulation and evaluation of projects particularly with regard to their scale and capital intensity; and (c) improvement in the management of projects particularly at the implementation stages. Thus, while the development of a modern industrial sector using modern technology will be critical for structural transformations in the 1980s, efficient small industries and rural enterprises using appropriate labour-intensive technologies in the informal sector should be actively promoted and encouraged in the decade.

156. Given the small nature of many the African countries and economies for many individual African countries, the expansion and diversification of manufacturing output to attain the projected rates in the 1980s might be impeded by the limited market size of these countries and the absence at the country level of some of the necessary resources. Hence economic co-operation at the subregional and regional levels assumes great importance. In addition to intra-African trade, a kind of spatial planning maximizing the location of various types of multinational industries will have to be undertaken.

157. At the international level efforts are needed to assist with respect to the external resources which will be needed for the necessary imports of capital goods. There will thus be a need for an over-all substantial increase in external financial flows. There will also be the problem of availability of markets in the developed countries for manufactured exports from developing countries and in this respect the trade barriers of developed countries vis-à-vis the products from developing countries will have to be replaced by more liberal trade policies favouring the developing countries. Finally developing Africa should make every effort to adopt and use local or non-

all, the African region as a whole should aim at an expansion in the energy sector of about 8 per cent yearly in the 1980-1990 period. Because of the likely continuous increase in real terms of oil prices, it is necessary to concentrate efforts on exploring other sources of energy. In particular, river basin projects and their schemes of hydro-electric generation should be speeded up in order to reduce the dependence of oil-importing African countries. New renewable sources of energy should be developed especially in connexion with the implementation of small-scale industries and cottage industries particularly in rural areas. Transport has to be given special consideration in view of the observations made earlier. In addition, in view of the fact that a number of African countries are land-locked and have to build the necessary transport infrastructure to enable them to overcome their physical obstacle to development, African countries as well as donor countries should make every effort to ensure the success of the United Nations Transport and Communications Decade in Africa. Over-all the transport sector in Africa as a whole, according to the scenarios, should expand by a minimum of 6.1 per cent during 1980-1985 and by about 7 per cent during 1985-1990.

5. Investments and domestic savings

162. In the analysis of the consumption function it was found that, among the various groups with different income levels, there were only small differences in the marginal propensity to consume indicating that there has not been any significant change in the marginal propensity to consume in the higher-income countries like the major oil-exporting countries where the marginal propensities to consume with the sharp expansion in oil revenues should have declined. The average savings rate in most of the countries has therefore been modest, averaging as little as about 10 per cent for the least developed countries in the base period and only 15 per cent in the major oil-exporting countries during the same period. While the trend of high consumption in the least developed countries is understandable given the level of consumption needs in these countries, it is untenable for the relatively richer countries to stimulate consumption, especially luxury consumption, while at the same time promoting heavy investments. This trend is likely to increase the domestic resource gap and consequently increase the dependence on foreign sources of funding. Therefore, to ensure the sustainment of higher growth along with an increasing measure of its internalization, concrete action has to be taken in the field of mobilizing domestic savings.

163. In the planned scenario, it was projected that developing Africa as a whole should aim at achieving an average saving rate of at least 19 per cent of GDP in the 1980. At the projected investment rate of about 30.8 per cent of GDP in the 1980s, the projected saving rate would still leave a relatively high saving gap of about 11.8 per cent of GDP for developing Africa as a whole which implies that an even higher saving rate of over 25 per cent of GDP should be aimed at. An improvement in the efficiency of capital is of great importance especially for those countries like the least developed countries which still have a lot of consumption needs and cannot in the short run reduce their consumption rates drastically.

are more likely to be easily mastered in African countries than sophisticated technologies which are often very expensive for small developing countries.

168. Emphasis on **intraregional** and interregional trade with other developing countries would also need to be coupled with an improvement in the terms of trade in favour of developing countries. The developed countries should open their markets particularly to the manufactured goods from developing countries including the African region.

169. All these measures call for drastic national, regional and international structural and institutional changes without which there would be no major progress towards the achievement of the targets set for external trade and consequently for domestic production and expenditure. At the national level export promotion policies have to be drawn up and supplemented with adequate market research, product diversification and increased semi-processing of products before export.

170. At the regional level, it is quite evident that the existence of an African common market is of great importance. Already, various meetings of OAU and the ECA Conference of Ministers have adopted resolutions which need to be implemented. In addition to the global negotiations that are necessary for the implementation of such a project, some studies on the potentials of and the mechanism for intra-African trade are urgently needed. Further, African countries should strengthen their trade negotiations aimed at eliminating or reducing tariff and non-tariff barriers among themselves at the subregional, intersubregional and eventually the regional level.

171. At the international level, in addition to the need to build and/or strengthen various mechanisms of interregional co-operation, there is, above all, need to take appropriate measures for the implementation of a more equitable international economic order. Particularly in the field of trade, there is need for creating new financial mechanisms whereby developing countries that are in a position to export capital goods and other manufactured goods could grant credits to other developing countries, and thereby also improve their competitive position vis-à-vis developed countries. These mechanisms could be first established at the international level and then decentralized to regional financial institutions.

172. Imports in the planned scenario are projected on the basis of the targeted expansion in GDP to have to increase by an average annual rate of around 8.2 per cent for the African region as a whole implying an import elasticity of 1.2 as compared to an elasticity of 1.6 for developing Africa as a whole during 1970-1977. This relatively low import growth is in line with the objective of self-reliance but, to achieve an 8.2 per cent expansion in imports while aiming at 7 per cent over-all growth, a change will be required in national import policies.

177. It must be emphasized, however that if the basic needs programmes does not build on self-reliance and self-sustainment, it may degenerate into a global charity programme at the international level. In pursuing the approach, emphasis should rather be placed on the ability of the African countries to expand exports, output and employment. Neither should long-run optimality in resource allocation be overlooked in the quest for short-run benefits. The idea then is to build up the potential strength of the nations through integrated long-term strategies aimed at solving the many factors which underlie mass poverty.

178. It has been emphasized more than once that the global and sectoral targeted growth rates in the planned scenario call for fundamental changes in agricultural, industrial, technological, saving and trade policies. To achieve these policies, mass participation in the growth process is required. Various studies carried out in the United Nations system point to an average annual growth rate of 2.6 per cent of the labour force in developing countries in the 1980s and, according to ILO, only half of this increase could find gainful employment if past trend and policies continued. It is thus important that this high growth of the labour force be fully taken into account in the choice and implementation of development projects in order to approach full employment by 1990. In this respect, priority should be given to the rural areas where about 75 per cent of the African population lives and also to the productive non-agricultural informal sector in the urban and rural areas. The assumed lower ICOR than in the past in most of the planned scenarios and the preference given to more labour-intensive activities are basic instruments for overcoming unemployment in the 1980s.

179. Secondly, to make employment as productive as possible, to avoid hidden unemployment or underemployment and to achieve the projected high growth rates in the 1980s, greater emphasis should be put on education and training. In addition to the eradication of mass illiteracy and the development of more appropriate primary, secondary and post-secondary education, planners should also give priority to on-the-job training programmes combined, where appropriate and possible, with the use of indigenous technologies. More specifically, on-the-job training programmes should aim at providing employment opportunities to both sexes in order to promote an equitable distribution of skills and income.

180. Thirdly, it is important that the income generated by such projected high economic growth should be distributed in such a way as to contribute to the eradication of mass hunger, the achievement of primary health care for all, and the provision of adequate housing conditions. To attain such social justice, unlike in the past two development decades, the distribution of income and even public social expenditures must not benefit primarily the better-off groups. Experience has demonstrated and most of the African planners and policy-makers agree that importing foreign patterns in many social fields including housing and health has led to expensive approaches to overcoming mass poverty with a

187. The projections clearly show that most of the major oil-exporting countries have embarked on a programme of spending on both consumption and investment at a level far above their export earnings. Since it seems that export earnings are almost stagnant in real term and oil production in many of these countries is levelling off, there is need to husband this scarce resource and to use it in such a manner so as to pave the way to a soundly established future. Some of these countries have acquired acute balance-of-payments problems in spite of the rapidly rising price of oil since on the one hand they are going in for the most expensive foreign investments and on the other hand they are expanding consumption fast to meet rising expectations. Therefore, cutting down the consumption of the affluent which is patterned on the consumption habits of the richer nations, a discriminating investment policy and a careful selection of priorities for the long- and short-terms are essential ingredients for the oil-exporting countries. They should also institute detailed studies into their prospects and possibilities in fields other than oil, especially in agriculture and manufacturing to lay a sound basis for their sectoral development priorities.