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ECA and Africa's Development: 1983-2008
A Preliminary Perspective Study
Introductory Note and Issues for Consideration

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A. Background

1. In the framework of the ongoing work of the secretariat in perspective studies for the region and on the occasion of the Silver Jubilee anniversary of the Economic Commission for Africa, this preliminary perspective study was prepared and presented to the ninth meeting of the ECA Conference of Ministers. The same meeting in its resolution No. 470(XVIII) attached, recommended the inclusion of the study in the agenda of the third session of the Joint Conference of African Planners, Statisticians and Demographers to initiate further discussion as the study is intended to be updated every five years to serve as a tool for assessing the degree of implementation of the Lagos Plan of Action and the Final Act of Lagos.
2. The study is basically intended to give a picturesque outlook of what Africa is likely to be 25 years from now. ECA in its Silver Jubilee Anniversary felt it necessary to link the present with the future by contemplating on its Golden Jubilee by the year 2008. In spite of the efforts that were previously arduously taken by African governments, the worsening international economic environment coupled with increased domestic crises call for the designing of realistic future efforts compatible with the region's potentials and aspirations. Therefore, the study basically aims at translating and mapping those hopes in a futuristic developmental path. The document falls in 4 parts. Part I, which serves as a platform for analysing the future of Africa, gives an overall review of the present conditions that have long persisted in the key sectors of the African economy. Part II and Part III consequentially deal with the perspective of the African region by the year 2008 under the historical and the normative scenarios respectively. Part IV depicts the ways to and the actions towards this "willed future" and synthesises the implications and choices for such a future.
3. As of now, the African economy remains basically underdeveloped. The structure of production is grossly dominated by peasant agriculture and services which, together, account for 73 per cent of the total GDP of the region as a whole. The industrial base is small, fractured and only minimally linked to the region's natural resources base. Mining output mainly intended for exports is a mere 6.6 per cent of GDP. External trade, which constitutes the single major stimulus to the growth of the region in spite of the narrowness of export commodities, had exhibited a declining share in world exports from 3.9 per cent in 1970 to 3.4 per cent in 1979.
4. Against this sombre and gloomy socio-economic conditions, and the environment through which such malaise evolved which included, inter alia, the colonial heritage, the present inequitable world economic order, the geographical and ecological disadvantages, the prospects of the African region in the next 25 years were analysed under two alternative development paths. The first one relates to

the historical scenario which assumes the continuation of past and recent trends without significant and conscious changes in the pattern of production and distribution. The normative development scenario assumes another but a possible alternative - an alternative that will ensure a future of prosperity and modernity based on the will of the African people to change as demonstrated in the Monrovia Strategy, the Lagos Plan of Action and the Final Act of Lagos.

5. However, in view of the vastness and the heterogeneity of the socio-economic variables that encompassed the entire economic system with the associated statistical data and time constraints, and the realism to be observed in such type of modelling exercises, the study has been basically confined to selected variables or indicators in the most critical areas that are having paramount importance on Africa's developmental future path such as human resources, food, energy, basic industrial products, transport, and trade. Food has been analysed on the basis of three basic food commodity groups, namely, cereals, roots tubers and pulses, and meat. Four categories of energy resources have been considered, namely, crude oil, electricity, natural gas and coal. The projection of industrial products covered three areas namely capital goods - selected agriculture and transport equipments - critical intermediate inputs fertilizers, cement and iron and steel, and some basic manufactured consumer goods such as textile and pharmaceutical products. The analysis of the transport sector covers projections of indicators in maritime and air transport together with a qualitative assessment of rail and road transport. Trade and finance projections cover selected items in exports of cash crops, minerals and energy products as well as imports of critical commodities. Finally a qualitative assessment of the prospects of external flows to African countries is made with emphasis on aid and indebtedness.

6. The selected critical variables have been systematically projected on the basis of simple but well established economic and technical relationships. In addition, to ensure the overall consistency of the entire economic system the critical variables have been integrated within an overall macro-economic framework. Obviously, while the physical limits to expansion such as climatical conditions have not been envisaged in the scenarios, the physical limits to certain variables such as land and the nature and level of natural reserves have been encountered. Another feature of the model relates to the treatment of population model and are treated as exogenous to all the variables of the scenarios. While the historical scenario is based on the high variant, the normative scenario is based on a medium-variant of population growth in Africa.

B. The historical trends scenario

7. The main findings and results that emerge from the historical scenario are the bitter fact that by the year 2008 the region would be more dependent on foreign sources of supply in practically all the critical areas after nearly half a century of independence. The region as a whole would be more net-importer of food and would have consequently to depend on more food aid. Worse still is the fact that the region's self-sufficiency ratio in cereals - a major food item - would drop from 75 per cent in 1978-1980 to 71 per cent in the year 2008. The energy situation would worsen further when the region would continue to face major difficulties in meeting the potential demand especially for crude oil and electricity.

The import volume of oil would grow by an average annual rate of growth of 6.1 per cent between now and 2008, which, coupled with relatively high energy prices, would eventually imply chronic long-term balance of payment difficulties for oil importing African countries.

8. In industry, the projections show that the African region would, if present trends continue without drastic industrial structural changes, remain unindustrialized even by the year 2008. According to the projections, the African region would still have to import over 97 per cent of its tractor requirements, over 96 per cent of the regions demand of passengers and commercial vehicles. It is particularly distressing to note, that in spite of its resource endowments for manufacturing basic industrial products, Africa will have by 2008 to import 37 per cent of fertilizers, 12.3 per cent of cement and 59 per cent of iron and steel requirements. Likewise, the increased dependency of the region for the satisfaction of consumer goods, on other region's products especially man made fabrics and pharmaceuticals, becomes a cause for concern. Such dependency clearly demonstrates the special paradox of Africa's continued consumption of what it does not produce while neglecting some of its products (e.g. textile products) and producing what is not domestically consumed (e.g. raw agricultural and mineral materials).

9. While seaborne trade accounts for more than 95 per cent of Africa's total trade and is projected to more than double by the year 2008, it is distressing to note that the share transported by Africa's fleet will not increase significantly given the limited resources allocated to shipping activities as well as inefficient fleet and port operations. Such a prospect would undoubtedly make Africa's external trade more dependent on foreign carriers in addition to the increasing dependency on foreign markets. Likewise the expected increase in both air freight and passenger traffic will not be accompanied by a similar increase in intra-African air traffic. The road network and railway infrastructure will constitute the major infrastructural constraint to the development of Africa's socio-economic integration. Nevertheless, the successful implementation of UNTACDA is expected to bring about a marked improvement in the road network and increased efficiency of operations in the railway system.

10. The projections of trade outside the region points to a dismal and disturbing balance with the rest of the world. The region external revenue is projected to suffer from the continuous fall in world demand on its main export products owing to increased protectionism and quota restrictions, conservation measures, development of alternative sources of energy and substitutes, trade polarization and limited market diversification. The poor supply response is reflected into slower growth in volumes due to limited production and diversification possibilities, and poor processing capacities. The over-all structure of exports would not change substantially since the 10 leading commodities would still represent over 70 per cent of the total exports in 2008 as against 75 per cent in 1980. Only minor changes would occur in the composition of exports. While the share of agriculture raw materials would increase, the share of crude oil and

minerals would decrease and stagnate respectively. As indicated earlier, the projections show that the African region would still be dependent on other regions' products for most of the critical and strategic food and industrial commodities as well as basic services. Consequently, total imports would grow at an average annual rate of 5.4 per cent which will imply a projected trade gap of about 25 per cent of GDP by the year 2008. With such developments, the external finance position will worsen further with less prospects for increased inflows of foreign resources.

11. The above picture is accompanied by an over-all macro-economic growth of GDP of 5.3 per cent per annum with wide disparities in growth performance among sectors and the weakening of the two main productive sectors namely agriculture and manufacturing. The projected growth of agriculture of only 2.3 per cent per annum is far less than the population growth rate of over 3 per cent. The services sector will continue to be the main component of GDP, with a tiny share of the manufacturing sectors. Even the above projected overall growth rate will be possible only if the African region will continue to receive external financial assistance at the historical level. Imports would increase by 5.9 per cent per annum while the corresponding increases in exports would amount to only 2.1 per cent with the trade gap reaching about 30 per cent of total GDP.

C. The normative development scenario

12. Since the gloomy picture which emerges from the historical trends scenario is quite undesirable as it has disastrous implications on crucial living standards such as minimum requirements for food, energy, education, health and housing, a normative development scenario has been designed to advocate explicit and implicit socio-economic changes in African countries as recommended in the Monrovia Strategy and the Lagos Plan of Action. In addition, the scenario sums up the picture of success of noble ventures such as the United Nations Transport and Communications Decade in Africa (UNCTADA), the industrial Development Decade for Africa as well as the Preferential Trade Area and subregional economic communities.

13. On the social and demographic setting, the analysis under the normative scenario reveals slower rate of population growth, improvement in social and housing conditions, increasing rate of urbanization, increasing enrolment ratio for all education levels and improved employment conditions. In the critical area of food, the projections aimed at improved self-sufficiency in cereals, and continued self-sufficiency in roots, tubers and pulses and meat which would be effected through "area expansion, intensified land use, cropping pattern, and the alternative technologies for increasing yields and the associated choices of input mixes," and reduction of post-harvest losses. In the energy side, the development scenario aims at an over-all "better future energy balance among Africa's main commercial energy resources." The scenario assumes an increasing shift from crude oil towards other forms of energy through increased exploitation of hydro-electric potential for domestic uses in a regional co-operation context and increased production and use of coal especially in southern Africa and other coal producing countries.

14. The projections of industrial products has been based on an assumed industrial take-off by the year 2008 resulting from some basic structural changes in the policy framework. The findings reveal that if the region as a whole steps up its efforts in pursuing proper industrialization strategies such as those contained in the Industrial Development Decade for Africa, it could attain by the year 2008 self-sufficiency ratios of 70 per cent in tractors and agricultural machinery and about 6 per cent in commercial vehicles. The prospects in the intermediate good sector are even brighter since the region as a whole would be self-sufficient in fertilizers and cement and produce about 30 per cent of its iron and steel requirements. Moreover, indications point to the ability of the region to attaining self-sufficiency in many of the manufactured consumer goods if a major part of the intermediate inputs can be made within the region.
15. The prospects of transport activities under the normative scenario are based on an efficient and integrated transport and communications network. Africa's share in maritime transport in terms of sea borne would increase substantially to meet the requirements of the UNCTAD code of conduct of 80 per cent seaborne trade to be transported in equal proportion by any two trading partners. Similarly, air traffic is expected to reach high heights with the improvement of the region's civil aviation infrastructure and promotion of multinational airlines. The normative scenario assumes an efficient road infrastructure in view of the projected increase in the overall economic activities and the need to open up new markets with the envisaged African common market. Finally, the normative scenario advocates a drastic departure from the present railway structure to use of more efficient engines, normalization of stock and equipment and electrification.
16. In the field of external trade, the normative scenario assumes an improving trade structure in view of increased intra-African trade, emergence of a new International Economic Order and financial environment, improved processing quality and competitiveness of Africa's manufacturing sector, expanded diversification and emergence of subregional import substitution policies, reform of monetary and financial institutions and mechanisms in the African region, increased trade with other developing regions and reduced trade barriers. Export of minerals is projected to moderate with increased local absorption and the establishment of joint multinational production ventures. For mineral fuels, a regional balance has to be stricken to decrease the dependence of the African region on oil from outside the region.
17. Actually, for total exports of goods and services to expand substantially, drastic changes are projected in the structure and direction of exports. Under this scenario, intra-African trade would amount to 30 per cent of the region's total volume of trade. The selected 10 commodities would amount to only 40 per cent of total exports as against over 70 per cent under the historical scenario. On the side of imports, a substantial improvement in the self-sufficiency ratios in many key commodities through increased import-substitution programmes is projected under the normative scenario. Import of oil, fertilizers, cement, natural gas and coal will no longer be effected by 2008 while substantial reductions would be secured in the volume of imports of cereals, capital

goods and iron and steel. On the side of external finance, the normative scenario assumes a small trade gap as a proportion of GDP which could easily be covered through strengthening of regional clearing and payment arrangement and creation of an African Monetary Fund, increased co-operation with other developing regions' financial institutions, extension of export credit facilities and reform of the IMF and World Bank in the direction of greater power sharing.

18. Finally at the macro-economic level, GDP is projected to grow by 7.3 per cent per annum with an envisaged rate of growth of 4.3 per cent, 8.8 per cent, 6 per cent and 7.5 per cent for agriculture, manufacturing, energy, transport and communications respectively. Hence, future growth would emerge essentially from productive sectors which will put the African economies in self-reliant and self-sustained development path.

D. Lessons emerging from the normative development scenario

19. As indicated earlier, Part IV of the study surveys the appropriate actions and necessary efforts to turn the dream into reality. At the national level efforts need to concentrate on the necessity of increased economic sovereignty, more efficient design and implementation of development plans, improvement in the political and social environment, and initiation of appropriate domestic policies. Action at the subregional and regional levels should include lessening subregional and regional tensions, increasing African solidarity and more effective subregional and regional technical co-operation institutions and economic co-operation organizations. The institutions of the African region will also have to play important roles. ECA will undoubtedly intensify its activities in promoting economic and technical co-operation, in providing advisory services in training and institutional building for fostering the advancement and integration of the region.

20. The international community has also an important role to play in achieving the objectives of the development scenario. Of necessity is the call for a major change in the present international economic order that relates to both the international structures of production, trade and finance and the international institutions. Such a new order, coupled with stronger economic structures in African countries will undoubtedly enable the region to play an increasing role in international fora and hence contribute more to the promotion of world peace and co-operation.

E. Conclusion

21. Although the study was meant to be very preliminary given the scope and complexity of a subject such as Africa's future, it may be useful to reflect on some of the problems related to a perspective study especially in the African context. Among them are (i) the nature of the variables to be analysed; (ii) the types of analytical tools to be used; (iii) the degree of realism in the formulation of a development scenario; (iv) the actions required to implement a development scenario and the role of the socio-economic agents, planners and managers.

22. As it is now commonly accepted, economic growth, especially in African countries, is defined as increases in the physical output of goods and services to meet the needs of the mass of the people. Hence, it is not enough to determine by how much GDP has increased over a period of time but rather where such a GDP originates from. Viewed in that perspective, any meaningful long-term quantitative economic modelling should include, not only macro-economic variables in the national accounting framework, but also commodity variables in physical terms. However, as explained in the study, the commodity variables have to be limited to some crucial areas and obviously, food, energy, and selected manufactured goods play an important role in Africa's future development. Also, it is important to restrict the number of commodity variables to a few in order to enable an easier integration in the macro-economic framework.
23. In other respect, it is well known that genuine development is, in addition to economic growth, mainly the development of man with a view to promote his creative potential through the improvement of his material living conditions and his psychic needs. It is therefore essential that demographic and social variables be included in the modelling exercise. While an attempt was made to include in the study such variables as fertility and mortality rates, migration rate, school enrolment ratios, levels of under-employment and unemployment, there are still important social variables that are not taken into account because of data constraints or methodological difficulties in incorporating such variables in formalized models. For example, some detailed data on different social groups, such as their educational levels, their income taxes and savings are crucial in assessing employment opportunities and income distribution patterns. It is believed that such disaggregation is more suitable when dealing with individual country modelling.
24. Another important aspect in the choice of variables is the inclusion of monetary and financial variables especially prices, exchange rates and financial flows. Actually price fluctuations in the world commodity markets, inflation and currency fluctuations have, undoubtedly, an impact on the growth of African economies, as they affect exports earnings, government financing and public investment as well as the balance of payments position. It is therefore essential to take into account such variables in medium-term perspective as exogenous variables derived from external models such as the world econometric model known as Project LINK. However, in a longer term perspective such as the one contemplated in the study (i.e. 25 years), it was not found realistic to include formally variables related to prices, exchange rate, money and finance. Moreover, it is believed that domestic factors in the framework of national and collective self-reliance and self-sustainment are more important than external forces which are assumed to have only marginal impacts on Africa's future development path.
25. The model could also have included behavioural variables to be used in the formulation of various scenarios. For example indexes of political will and national or regional interest, as well as changes in consumption patterns are, among others, pertinent elements which should be designed and

related to physical variables. The same applies to factors like domestic political, economic and social democracy, subregional and regional tensions and the capacity to resist to external economic and financial forces. However, although the above factors are not formally included as such in the study, the behaviour of most of these factors have been implicitly assumed in both the historical and the normative scenario.

26. Another problem related to a long-term perspective study is the choice of analytical tools to be used, especially in the African context characterized by the scarcity and unreliability of data. A number of well known models are available for quantitative perspective studies namely, econometric models, input-output models or resource allocation models based on linear or dynamic programming. These models are based on well established mathematical theories and can provide useful explanations of and results on the structure and trends of the economies under study. However, their analytical power is limited not only by the data constraint but also because these models are restricted to economic variables only. Other aspects such as social dimensions of development, (e.g. income distribution, education, health and housing conditions, etc.), technological mastery, environment, structures of domestic and external powers, etc., cannot easily be taken into account in formalized models.

27. It is therefore essential, when attempting a comprehensive long-term perspective study, to undertake what is known as a "system analysis" with a view to (i) identifying the basic factors and their relationships within and outside the socio-economic framework; (ii) formulating sub-schemas which are easier to deal with separately than the global system and (iii) bringing to light instrumental variables which are important for action. Such an approach was attempted in the present study where demography and basic needs, food, energy, industry, transports external trade and finance, and macro-economic structure have been identified and analysed as sub-systems and inter-related among them. Then econometric techniques as well as technical or empirical relationships were used to solve each of the sub-systems. Although system analysis cannot adequately inter-relate all decision making areas, it is believed that an incomplete system of formalized models is the only type which is appropriate to an analysis and projection of a decentralized and or disaggregated structure. Of course a satisfactory system of inter-relations depends on the degree of disaggregation into sub-systems.

28. A third category of problems which should also be taken into account in a long-term perspective study is the likelihood of a normative scenario in the African context. In other words, how realistic it is to assume that African countries would embark in the expansion and diversification of their economies including not only food self-sufficiency but also the production of intermediate products, the creation of capital goods industries, the diversification of manufactured output to meet the needs of African populations, the expansion of employment and the reduction of mass poverty. Obviously, the answer to such an important question depends both on domestic and external factors.

29. On the domestic front, it is believed that time has come for African countries to realize that (i) in many cases economic "progress" has been and is still characterized by economic enclaves and semi-enclaves (ii) economic growth hinges on the export of one or two dominant primary products, the quantity and prices of which are determined

outside Africa; (iii) a very large number of relatively small and weak economies in the region makes it not only desirable but necessary to embark on economic co-operation schemes especially the exploitation of common potentialities (i.e. the Zambia-Zaire copper belt, the mineral resources in Liberia, Sierra-Leone and Guinea, etc). Actually, the noticeable movement towards the establishment of intra-African coffee, sugar, oil and gas or iron ore agreements and the creation of subregional economic and financial co-operation schemes are indications of Africa's willingness to create the basis for policy changes. Therefore, it is not a mere dream in assuming that not only Africa could be self-sufficient in food, energy, cement, fertilizers and basic manufactured consumers goods, but she could also achieve higher self-sufficiency ratios in iron and steel and basic capital goods.

30. On the international front, the following events and trends clearly show that financing of development in African countries could no longer be expected from external sources: (i) the failure of various commodity stabilization schemes; (ii) the growth in African countries' external debt which led to a situation whereby debt is used only to service previous debts and not for investment financing and becomes therefore meaningless; (iii) the impact of competition from other developing regions as well as the Eastern Bloc for capital and technology in developed countries and; (iv) the increasing protectionism in developed countries for both primary and manufactured goods from developing African countries in spite of the Lome Convention, etc. Therefore, it is clear that developed countries can no longer offer expanding markets for Africa's exports nor can they provide, directly from their own resources, the necessary investment funds to the African countries.

31. The normative development scenario is therefore built on the above solid grounds and Africa's survival as sovereign governments and as free people implies its full implementation. However, it is not enough to state that the assumptions underlying the normative scenario are well grounded and realistic. The problem confronting decision-makers and planners in African countries is the types of actions required to change present patterns of thinking, of conceiving economic growth and development, of production and consumption. Although the types of actions depend on the socio-economic and political characteristics of individual or groups of countries, the basic question is how a national development plan should be designed in order to inter alia: (i) give priority to transformational investments financed from domestic sources; (ii) promote capital accumulation within individual countries or subregions including changes in consumption patterns, mobilization of all domestic factor inputs; (iii) expand domestic and subregional markets, etc. If political will is necessary to formulate and implement such development plans, it is also essential that African planners come up with concrete national measures for the approval of political decision-makers, a task in which the ECA secretariat is ready to participate.

32. Finally, since the study has to be updated every five years and given the nature and complexity of the issues briefly discussed above, it is also useful to reflect on further steps to be taken in order to have a more complete and elaborate assessment of Africa's future, than the one provided in the present preliminary perspective study. In this respect, African planners may wish to consider the proposal of building country long-term system of models which will include as many relevant

variables as possible (physical, economic, financial, demographic, social and behavioural). It is believed that such country-oriented models would provide result which are more operational for policy actions at country level. Then, the ECA secretariat would inter relate the country models by groups of countries and by subregion and for the region with a view to providing a regional picture. The planners may also wish to convene a working group of **technicians** to survey various approaches to "system analysis" for modelling and projections.