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REVISED FRAMEWORK OF PRINCIPLES FOR THE IMPLEMENTATION
OF THE NEW INTERNATIONAL ECONOMIC ORDER IN AFRICA, 1976-1981-1986

I. Introduction

Resolution 256(XII) adopted in Nairobi on 28 February 1975 introduced into the work programme several propositions derived from General Assembly Resolutions 3201 (S-VI) of 9 May 1974 and 3202(S-VI) of 16 May 1974 on the New International Economic Order. However, the concept of the New International Economic Order and the evaluation of the problems of the international economy continued to develop. Such developments, including in particular those reflected in the Declaration and Plan of Action adopted by the Group of Seventy-Seven at the Second General Conference of UNIDO held in Lima, Peru, from 12 to 26 March 1975 and affirmed by Economic and Social Council Resolution 1953(LIX) of 1 August 1975 and General Assembly Resolution 3362(S-VII) of 19 September 1975 necessitate a review of the structure of the work programme and its conceptual basis. Unless such a review is undertaken, repeated additions to and modifications of the work programme will very soon undermine its basic unity. It should also be noted that the Lima Declaration calls for action-oriented programmes for industrial development.

Before the basic assumptions for revising the work programme can be reviewed, it will be necessary to see what lessons can be learned from the past by examining the implications of the provisions of the New International Economic Order in the light of the economic and social realities of the region, taking recent policy decisions by African Heads of State and Governments into account.

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II. Review of policy and programme trends in Africa (1960-1974)

1. When the Governments of the newly independent states in Africa were established, they were faced with the need to fulfill the promises they had made during the pre-independence period to improve the standard of living of their people and to diversify their economy. However, the constitution and administrative machinery they had inherited were of limited scope. They had been designed primarily to establish a framework of law and order within which it would be possible for agents of production and distribution from their respective metropolitan countries to organize and direct economic activities to their own interests.
2. The African countries also inherited theories of development and economic growth, some of which linked the rate and direction of internal socio-economic change with dependence on export markets and hence with dependence on imports of skill, technology, capital goods and services and modern consumer products. Most Governments sought to put these theories into practice and to accelerate economic growth and diversify their economy reinforcing the existing pattern of production, exportation and the import of factor inputs from abroad. This led to the first major crisis in socio-economic policy-making and implementation in Africa: the persistent decline in the price of their limited range of agricultural exports on which each economy depended for financing the imports required for raising living standards and diversifying output. The causes of this crisis may be summarized as follows: the relatively low inelasticity of demand for such products, the fact that for such products as beverages the volume of consumption was habit-determined, a shift in consumption patterns in developed countries in favour of consumer durables, the emergence of synthetic substitutes and slow growth of population and various cyclical factors in the advanced countries. The expanding demand in the developing world for manufactured goods from the advanced countries at a time when internal factors in those countries tended to produce an upward shift in costs of production was causing the prices of manufactures to rise and weakening the terms of trade of the developing vis-a-vis the developed countries. This trend was reinforced by the weakness in the bargaining power of the developing countries, the monopolistic role of the transnational corporations in marketing and distribution and the limited demand for certain primary products in the developing countries.

3. To halt the shrinkage in the foreign exchange earnings of individual developing countries, a policy of diversifying the production of agricultural export commodities, was accepted without taking account of the geographical and commodity constraints on exports from the whole of the developing world to advanced countries. This policy was adopted on the basis of the argument that developing countries were monocultural: i.e., that they were totally dependent on the production of only one or two export crops, such as coffee, cocoa, tea, groundnuts, rubber, sisal, cotton, palm kernels and oil and bananas. Within a few years this policy resulted in a greater number of agricultural export commodities in surplus supply on the "world" market, (i.e., the market in the advanced countries).

4. The declining terms of trade were reflected in persistently adverse balances of payments, and this trend was reinforced by inflation and recession in developed countries, rising payments of factor incomes abroad, and a grossly unbalanced distribution of effective demand within the developing countries, which had an impact on their imports.

5. Economic advisers argued that the solution to these problems lay in multinational arrangements for commodity management and price stabilization. Experience quickly revealed the limitations of such policy arrangements, first, because of the high cost involved; second, because many of the products concerned were susceptible to quality deterioration and third, because non-members driven by necessity undermined the pricing formula by increasing production and selling below the price floor agreed upon by participants. In addition, the developed countries seemed to be lukewarm about the effectiveness of these arrangements. In the meantime, the foreign exchange reserves of the developing countries were eroding rapidly, and Governments sought to cope with this crisis by obtaining financial aid in the form mainly of grants and technical assistance and loans.

6. As technological and social changes occurred within the advanced countries, their demand for financial and real resources expanded, and this led to a gradual substitution of loans for grants to developing countries and moreover to a hardening of loan terms. The internal demand for real factor inputs, some of which resulted from policies to promote full employment, affected their cost to developing countries. Developing countries were therefore urged to rely more on fiscal and other concessions in attracting foreign private investment, but the size and structure

of markets in the developing countries made it inevitable that such investments should be directed towards small-scale industries producing high-cost consumer goods. The lack of sophisticated local capability to implement major projects frequently involved substantial cost over-runs, and here again recourse was had to on imported factor inputs. The Governments of the developing countries soon found themselves over-burdened with mounting external debts and were frequently forced to embark on costly refinancing operations and protracted negotiations over the rescheduling of payments. The cumulative effect of these arrangements was to divert an increasing share of export earnings to meeting debt-service charges.

7. Up to this point the crises which tended to absorb the talents and energies of political leaders, policy makers and planners were largely externally induced. In the meantime an internal crisis was taking shape. It arose out of the disparity between the rate of population growth and of net additions to the labour force on the one hand and the rate of expansion of employment opportunities on the other. This, by itself, would have remained unrecognized but for the increasing flow of rural-urban migrants, for whom employment opportunities could not be generated within the existing structure of the urban economy. This structure was characterized by the limited size and fragmented nature of the demand; the use of capital-intensive methods encouraged by generous financial incentives to foreign private enterprise, which had the effect of altering the relative cost of labour and capital; the paucity and limited competence of entrepreneurs; and the repeated failure of public sector projects to take shape with the result that potential private sector projects were aborted. Moreover, the nature of import-substitution industrial production was such that it could not generate the intra-sectoral and inter-sectoral linkages which would have given rise to additional employment.

8. No strategy or set of policy formulations can be expected to be widely adopted or even considered unless Governments, advisers on economic and social policy and planners perceive a need for change and are sufficiently familiar with their national socio-economic structure. Because government policies in newly independent States were largely influenced by external factors, insufficient attention was paid to the inherited structure of the national economy. This structure was made up partly of a vast rural population engaged in subsistence production with a relatively small surplus for sale; partly of foreign-owned and-operated plantations, mines and banking, financial and trading institutions; partly of a few towns and cities functioning as administrative and trade centres, which were basically extensions of the marketing system of the metropolitan powers. This enclave-like structure affected transportation networks, communications links, research institutions and even the educational system.

9. The statistical and other information on which planning and even plan methodologies were based tended to be markedly affected by the outward orientation of national strategy and policy-making. For example, the natural resource base (and its ecological aspects); the range and quality of research capabilities; population characteristics and distribution; the nature and functioning of markets, the sectoral distribution of productive resources; the volume and pattern of and motivations for investment choices; the characteristics and provenance of agents of production and distribution; the structure, purposes and functioning of financial institutions, and the impact of imported technology received less attention than is now seen to have been needed.

10. Social factors, as either determinants or results of planned economic growth, received too little recognition in planning procedures; and the manipulation of uncertain aggregate statistics was substituted for an understanding of the dynamics of social and economic change in rural societies and its impact on plan targets and on project design and implementation.

11. Well before the recent proposals aimed at the formulation of strategy and policies were adopted under the heading of the New International Economic Order, African governments had come to realize that a substantial measure of economic independence was a necessary concomitant of political independence; but neither an adequate conceptual framework nor a set of tested policies or institutions to achieve this objective existed. A great many resolutions and recommendations adopted at international and regional conferences dealt either with the general desirability for accelerated, self-reliant growth and diversification or with particular topics of relevance to that issue, such as agriculture, industry, manpower and technology, raw materials, transport and telecommunications, unemployment, rural development and the mobilization of domestic resources.

12. Considerable effort was put into internalizing the ownership of sources of finance, such as banks and insurance companies, and services in such fields as civil aviation and shipping. In several countries far-reaching measures were taken to substitute indigenous agents of production and distribution for foreign ones. Some governments have implemented successful programmes aimed at nationalizing or securing majority control of foreign enterprises and foreign-held mining and mineral processing rights. This provided considerable elbow room for redesigning the socio-economic structure with a view to embarking on the process of self-sustaining economic growth and diversification. Only in a few countries was it recognized that massive internal social and economic changes usually precede and accompany this process and that such changes must constitute a major objective of economic and social policy and planning. In particular they require a carefully evaluated expansion of the role of government (including local government), a reorganization of machinery and procedures and a re-ordering of relations with the private sector.

13. Thus an inevitable pre-occupation with externally induced problems and the inherited socio-economic structures made it difficult until recent times to design national policies and strategies and sufficiently effective plans for utilizing domestic resources more fully for self-sustaining growth and diversification. In spite of an heroic investment of resources in infrastructure, education and rural development in many African countries, many of the constraints noted earlier

(e.g. inadequate supply of skilled manpower, extensive dependence on foreign production and distribution agents, faulty orientation of transport and communications, fragmented domestic markets, reliance on external supply of capital goods and services, the slow development of technology) continued to impede planned development and economic growth.

14. As with all global prescriptions, the action proposed under the New International Economic Order must be interpreted and applied in the light of social and economic realities and objectives at the national and regional levels.

III. Action proposed under the New International Economic Order and its implications for accelerated development in Africa

15. The set of resolutions adopted in different forums and aimed at the establishment of a New International Economic Order have as their major objective a re-arrangement of the international economy in such a way as to remove constraints on international trade which now affect both advanced and developing countries and to facilitate the acceleration and diversification of economic growth in the Third World. Special emphasis is laid on the adoption at the international, regional and national levels of policies and measures which will lead to dynamic self-sustaining growth in the developing countries.

Restructuring international trade

16. One of the major objectives at the international level is the restructuring of international trade to enable developing countries to export increasing quantities of traditional (agricultural) products to advanced countries at remunerative prices in what are implicitly conditions of over supply. The removal of these barriers would be extended to agricultural products processed locally and to manufactures. On the part of developed countries, this would require the removal of tariff and non-tariff barriers against imports, including imports of manufactures, from the developing countries; the expansion of the

Generalized System of Preferences (GSP) and the restructuring of the internal economies of the developed countries to accommodate an increased volume of imports from the developing countries. These measures would be supplemented by the establishment of commodity management and stabilization schemes and by linking the prices of primary products exported by developing countries to developed countries to the prices of manufactured products imported by the developing countries from the developed countries. Developing countries, for their part, would be expected to participate in commodity management schemes, to increase their production of processed items for export, to diversify their production of manufactures, to orient their industrial production towards markets in advanced countries and to encourage such exports by subsidies and other measures, to establish and support producers associations and to participate fully and effectively in international trade and monetary negotiations.

Processing and manufacturing for export

17. These proposals would seem first to imply a structure of international trade in which the large number of countries constituting the Third World would continue to export increasing quantities of the same products (as determined by the import demand of the advanced countries), whether processed or unprocessed to the relatively small number of industrialized countries. This remains true even when account is taken of the relatively high per capita demand in the industrialized countries. They conceal the same fallacy that characterized the policy to diversify agricultural production for export purposes and in that the same commodity and geographical constraints which resulted in agricultural surpluses may now affect processed agricultural products and manufactures.

18. Secondly, the accrual of substantial gains to the developing economies as a result of increased local processing of agricultural products for export would depend largely on the extent to which local processing industries depended on external factor inputs.

19. The prescription of expanded manufactures for export - the second of the major recommendations at the level of international economic relations -

deserves special attention in view of the frequency with which it is stressed. It is implicit in the proposition that such manufactures should be directed, in the first instance, to advanced industrial countries since the object is to earn foreign exchange to finance imports of skill, technology, capital goods and services which advanced countries can supply. When it is taken into account that the economies of advanced countries already find it difficult to accommodate imports of manufactures from such sources as Japan, Hong Kong and India, which are now described as areas of 'abnormal' or 'disruptive' competition and account for only a small share of the imports of manufactures into the developed countries, the difficulties of applying this prescription become obvious. It should be noted that in the case of Japan for example, exports of manufactures account for only 10 per cent of total production. Developed countries already encounter difficulties in producing increasing quantities of the same manufactured products for export to each other and it would be even more difficult for them to make the economic, social, and political adjustments that would be required to accommodate the prescribed increases since the major impact of such adjustments might fall on labour-intensive industries in developed countries, which could be exposed to competition from labour-intensive industries in developing countries. Moreover, manufactures, which are exported from developing countries and are based on other forms of comparative advantage than cheap labour, would have to stand up to competition in terms of quality and price from products manufactured in advanced countries.

20. The conditions in which the processing of agricultural products and the production of manufactures for export can be hinged to the development of industry and agriculture and to rural transformation in order to evolve a dynamic, interlocked industrial structure capable of self-sustainment and of exerting an important growth-promoting impact on other sectors of a national economy will be shown later.

Transfer of real resources

21. The third major policy proposition - the large-scale transfer of real resources to developing countries - is reflected in four recommendations. The first calls for the use of indexation to ensure greater equity in the relationship

between the price of raw-material exports from developing countries and the price of manufactured imports into them. This involves not only deep conflicts of interest but also difficult technical problems unlikely to be resolved in the near future even though indexation is an attempt to reduce the damaging impact of the transmission of inflation from developed to developing countries which is recognized by the developed as well as the developing countries. Similarly proposals regarding the increased allocation of SDRs and even the recycling of petro-dollars have been the subject of acrimonious debates, manoeuvres and counter-manoevres.

Technical assistance

22. The problem of making technical assistance more relevant to the objectives of increased self-reliance and internal dynamic growth is as yet unresolved. For example, until educational institutions are oriented to produce African counterparts specialized in appropriate disciplines, the transmission of skills to developing countries in Africa through technical assistance will not accelerate. Some idea of the effect this drawback has had so far may be had by considering the extent to which the region relies on the services of foreign consultancy firms supplied under multilateral and bilateral assistance in carrying out pre-feasibility and feasibility studies and in the installation and management of projects both in the public and in the private sector.

Technology

23. Recommendations regarding the regulation of imports of technology and the terms under which imported technology is made available should not present any difficulties since models and precedents exist, but those relating to the growth of national technological capability may, in the context in which they are advanced, obscure the fundamental issues of the conditions under which technology can be most effectively domesticated and applied and of the inputs which are essential to the local development of technology.

Economic co-operation

24. Among the proposals which genuinely reflect a will to change the pattern of international economic relations is, first the one which urges closer economic ties among developing regions and stresses possibilities for increased trade and technical and economic co-operation. Another such proposal is the one calling for co-operation with the socialist economies.

25. Among the measures proposed to achieve co-operation at the regional level are: the co-ordination of economic policies in a system of consultative machinery; the conduct of research into new forms of co-operation, e.g., producer associations; the establishment of long-term agreements concerning product specialization and of product-sharing systems through complementarities; the adoption of special treatment of the least developing countries; the promotion of intraregional trade and the utilization of local human resources and raw materials.

26. Recommendations concerning these measures may be divided into two groups in terms of the readiness with which Governments may be expected to accept them. For example, there seem to be grounds for believing that African Governments may be more likely to co-operate in the establishment of producers associations, the exploration and evaluation of natural resources, the fuller utilization of human resources, the promotion of intra-African trade and the provision of assistance to the least developed countries than in the co-ordination of economic policies and in product specialization associated with long-term purchase agreements and industrial complementarities. However for the purposes of the implementation of the Plan of Action adopted in Lima, it is the latter areas of action that are of major importance, and this would seem to indicate that some priority shall be given to research into new forms of co-operation.

27. The region is not without experience of attempts at economic co-operation, many of which have been unsuccessful. In the case of those which were directed towards limited concrete objectives this was because the machinery for co-operation was sometimes inadequate and the gains to be made from co-operation were to be too long-term or too indeterminate when they were compared to other pressing economic activities and objectives. In the case of generalized co-operation arrangements, the existence of concepts and models in other parts of the world seems to have inhibited sufficient consideration of the concrete objectives to be attained and the manner of their attainment. In consequence, greater stress is laid on treaty making than on the reality assumed to lie behind the treaties. Moreover, the machinery designed for achieving the objectives of co-operation has frequently been restricted to the function of interpreting treaty provisions and to duties which are largely secretarial in nature. Thus, many economic activities which are normally carried out or should be carried out at the national level in pursuing the objectives of co-operation are

overlooked in the arrangements actually envisaged and effected. Such activities include the laying of the legislative foundation for the formation and operation of companies; the adoption of legislation, machinery, and policy relating to the registration of patents and trade marks; the harmonization of policies towards foreign private enterprises and monopolistic business groupings (including financial institutions such as banks and insurance companies); the working out of technical quality and design standards; the adoption of research policy, institutions, and priorities and the regulation of transport, to name only a few. Moreover, it is not often recognized that the level of competence and efficiency of the machinery at the centre depends on the administrative arrangement at the national level, and vice versa.

28. For economic co-operation arrangements to be effective, there must be agents of production and distribution which are able and willing to exploit the opportunities which the arrangements provide. In terms of increasing self-reliance, this matter must now be given close attention since it is the agents of production and distribution who determine whether co-operation is a success or a failure.

29. Finally there have been open disputes over, and latent resistance to, the location of basic industries in places where the precise volume and character of net benefits accruing to individual partner States has not been convincingly demonstrated. As a result, the establishment of such industries on a multinational level has been repeatedly postponed. It is possible that a re-examination of the bases of these disputes and the devising of special arrangements may remove the difficulties which hamper progress.

Least developed countries

30. During the past few years there has emerged a gradual recognition that a number of developing countries have remained at a lower level of development achievement than others. On the basis of selected indicators, it has been established that 18 out of the 29 least developed countries in the world are located in the Africa region.

31. Of these 18 countries, 10 are land-locked. Any attempt to apply the concepts of self-reliance and dynamic growth to least developed countries must begin by a consideration of the characteristics which distinguishes them from other developing countries and of the broad factors which make them lag behind the other in socio-economic

change and economic performance. The first of these factors appears to be that their former colonizers perceived relatively few advantages in their producing for export. The second broad factor which is not wholly independent of the first, seems to be the degree to which they were suitable for European settlement. In the case of those that were land-locked, the effects of these factors were reinforced by the high cost of transporting products from them to the coast, which seriously diminished their net earnings of foreign exchange. High transport costs also affected their imports of capital and consumer goods. Even today, when concessions permitting local processing of agricultural products before export are being negotiated with advanced countries, transport costs continue to put the land-locked least developed countries at a serious disadvantage to their coastal neighbours.

32. In general, the effect of the benign neglect to which least developed countries were subject is reflected, to varying degrees, in a somewhat rudimentary administrative machinery, in markedly less well developed infrastructure than other developing countries and in a minimum amount of investment in manpower development and research.

33. At the national level the recommendations primarily concern transforming internal socio-economic structures, ensuring a higher local content of value-added in production; adopting an integrated and multi-sectoral approach to planned growth and, in particular, fostering the complementarity between agriculture and industry developing basic industries and providing training opportunities all of which have been considered earlier. Priority is also given to sovereignty over natural resources, agrarian reform, increased food production and institution building.

Sovereignty over natural resources

34. The proposals for the establishment of the New International Economic Order lay renewed emphasis on effective control by developing countries over their natural resources and on the harmonization of policies for the exploitation, conservation, transformation and marketing of those resources as being indispensable for the economic and social progress of the countries concerned. That sovereignty over natural resources is included in many recent resolutions and declarations suggests that substantial difficulties may lie in the way of its exercise. Unless Governments develop their capabilities in the location, evaluation and exploitation of their resources, African countries will continue to depend increasingly on foreign companies

in those respects. Similarly, unless they perfect their ability to negotiate the terms on which such resources are extracted, processed and exported, African economies may fail to secure the maximum benefits from these activities.

Agriculture and food

35. At the World Food Conference it was decided that all Governments should accept the goal that within a decade no child would go to bed hungry, no family would fear for its next day's bread and no human being's future and capacities would be stunted by malnutrition. It was further decided that the main cause of under-nutrition and malnutrition was poverty and that the main remedy for poverty was economic and social development. Thus the Conference brought out the need to link the expansion of food production to rural transformation and to the development of other economic sectors. Some of the major constraints to increasing food production and productivity were identified as being inadequate socio-economic structures, insufficient investment funds, paucity of trained manpower, weak administrative capacity on the part of the Governments, inadequate rural infrastructures, including agricultural extension and communications, absence of family welfare services and unfavourable trade relations between the urban and rural sectors.

36. The contribution of the agricultural sector to GDP in African countries is only around 30 per cent, whereas it provides a livelihood for almost 90 per cent of the population of the continent. Thus it is characterized as having a low level of productivity and as being a poor producer of revenue. Moreover, only in rare cases is it capable of stimulating the rest of the economy. Furthermore, the secondary sectors are still too weak to subsidize the agricultural sector as they do in many developed countries.

37. Agricultural production has just kept pace with the population growth rate, and in the majority of African countries food production has increased very slowly. Natural disasters, and particularly the recent drought in the Sudano-Sahelian countries, have seriously affected crop and livestock production. Urbanization has also affected agricultural production either directly or indirectly. The rural exodus has lowered the number of producers, turning them into consumers with a monetary income. This combination of factors has resulted in increasingly complex food problems in many African towns.

38. In this context, urban pressure groups, such as trade unions and civil servants' associations are in a better position to influence economic policy than are the rural masses. Hence, the policies adopted are clearly biased towards the towns as can be seen from the fact that urban salaries and wages are raised to cope with increases in the cost of living. This trend is also reflected in high taxes on agricultural exports and reduced operating budgets for agricultural services, the granting of credit only to urban investors, the confining of road infrastructure to major highways, etc. External aid, for its part, has been more concerned with rapid and tangible achievements than with long, costly and unspectacular agricultural projects. Such policies have produced results which are contrary to official objectives.

39. The price of foodstuffs is rising; countries are more and more dependent on food imports and agro-industries have nothing to process. Agricultural production is unbalanced because not enough attention is paid to the production of food crops or to their storage and marketing. Overexploitation of the soil leads to erosion and desertification and makes countries more susceptible to drought. The lives of small-scale farmers and nomad cattle raisers who receive limited assistance are, becoming more and more difficult. The lack of investment in rural areas together with a badly conceived educational policy leads to a substantial exodus from rural areas, and this aggravates unemployment in the urban areas.

40. This situation cannot be remedied until policy-makers become aware of its dangers and deliberately alter plan priorities and resource allocations because greater attention is still paid to the forces behind the policies of the past than to the needs of the rural masses.

41. As was pointed out earlier, the structure of and procedures followed by Governments were not designed to cope with problems of internal social and economic change implicit in the proposals for the establishment of the New International Economic Order, particularly when account is taken of the extensive socio-economic and technological discontinuities present in many African countries. If, therefore, the New International Economic Order is to be actively and effectively pursued, the building of a considerable number of new institutions and the reorientation of many existing ones are likely to be required in such areas as local government, research, finance, marketing and distribution and public enterprise.

42. It is obvious, therefore, that the proposals to restructure international trade, promote co-operation at the regional level and transform national domestic socio-economic structures constitute important elements in a more realistic strategy for growth and diversification in the decade beginning in the second half of the 1970s.

43. It has been considered necessary to review not only trends in socio-economic policies and programmes during the 1960s and the early 1970s but also the reformulations made under the heading of the New International Economic Order to stress the fact that where self-reliance is concerned, general social and economic policy proposals need to be closely examined to ensure that when they are applied to regional or national realities, they do not produce effects opposite to those intended.

44. The strategies, policies and programmes adopted in the 1960s and early 1970s did to some extent succeed in coping with short-term problems. They also made possible considerable investments in infrastructure, industry, agriculture and government services, however, they often paved the way for later crises. This led to the recognition by Governments that for most countries in the region, a sufficient degree of self-dependence or capacity for self-sustaining growth and diversification has not emerged. As the result of a series of crises, African economies are now more than ever dependent on external markets for their products and/or on external sources of managerial and technical skills, raw materials, financing technology and, in recent times, food.

IV. Recommended priorities for 1976-1981-1986

45. The kind of economic and social development strategy now established by African States is based on (i) the deliberate promotion of an increasing measure of self-reliance; (ii) planned dynamic growth and diversification of national economies.

46. The principal elements in a strategy designed to achieve these objectives would include increased substitution of domestic for imported factor inputs in terms of both current and potential economic activities; measures to improve the quality and increase the supply of such factors to permit growth and diversification to meet the needs of a larger population with a higher standard of living; the installation of basic, key or strategic industries and the deliberate establishment of economic and structural links between the industrial sector and other sectors; the restructuring of domestic markets through the transformation of agriculture and the development

of rural areas and through the diminution or removal of social, economic, technological and political discontinuities in national structure; the regulation of imported technology and the encouragement of local development of technology; the enlargement of markets through close economic co-operation or integration among States and, finally the restructuring of trade between Africa and the outside world. Above all the adoption of such a strategy would mean that the formulation of national strategies and policies would derive mainly from African perceptions of African needs and potentialities and that the direction and pace of socio-economic transformation would depend on local capacity to conceive, design, install and manage productive enterprises successfully.

47. These far-reaching measures are the focal point of the Plan of Action adopted at Lima in which emphasis is placed on the promotion of integrated industrialization based on the potential of each country with the object of achieving the highest degree of interaction between industry and the other sectors of its economy, in particular, agriculture. In this connexion, the Plan of Action recommends "that, developing countries should pay particular attention to the development of basic industries such as steel, chemicals, petrochemicals and engineering, thereby consolidating their economic independence..." These elements of dynamic growth and increasing self-reliance have been highlighted in recent policy statements delivered by Ministers and Heads of State and Government in various meetings. The main concerns of the proposals which follow are therefore the transformation of agricultural production, rural transformation and the promotion of industry, including basic industry.

Agriculture

48. The conventional approach to farm production has been to devise ways of inducing farming units to produce particular products for export or even for local consumption. Because food output has barely kept pace with population growth and because food imports constitute an increasing drain on foreign exchange earnings, policy makers may be inclined to give high priority to the production of specific foodstuffs. However, if self-reliance and self-sustaining farming are to be achieved, farm policy should be aimed at improving farm organization, management and incentives to enable the farming unit (the farm family) to adjust to dynamic changes in demand.

49. This means that agricultural policy and practice should centre around the development of effective agricultural communications which are well adapted to the

circumstances of farmers so that they may be kept informed of new inputs and techniques and of the feasibility and profitability of utilizing them.

50. A substantial part of such a communications system would of course be devoted to training in the use of new inputs. If these inputs are to be applied by farmers there must be arrangements guaranteeing that what is produced will have a market outlet. It is now well established that for the design, production and distribution of agricultural chemicals, machinery, implements and tools, highly specialized organizations and functions must be located immediately adjacent to the farmer's production centre.

51. The intention to transform agriculture would therefore be reflected in widespread, vigorous long-term programmes for the establishment of such industries. Since the viability of many of these industries depends on multinational markets, consultations among Governments must begin on (a) the design and implementation of projects; (b) the need for common technical design standards and (c) agencies for the implementation of projects, bearing in mind that the widespread adoption of new technical inputs in farming is often promoted by producers and distributors who undertake demonstrations, training, post-sale servicing and sometimes the provision of credit. The existence of such producers, their willingness to undertake the necessary expansion and the terms on which they would be prepared to do so should not be taken for granted.

52. Power is an important input which requires special consideration. Much individual, isolated experimentation is being conducted to find ways of supplementing human and animal power in crop cultivation. It is not clear that satisfactory means have yet been found for making information about successful intermediate technologies in this field available and promoting their use. A search for solutions to this problem deserves early attention.

53. Similarly, the existing deficiencies in hydrometeorological data-collection and-analysis and in the exploration, evaluation and management of water resources (including underground water resources) would seem to call for early action, particularly in determining the extent to which improved seeds, which need substantial inputs of water as well as fertilizers have been adopted. This is particularly important where the drier areas are concerned. It may also be necessary to redouble work on soil types and structures and on soil mapping in many African countries.

54. The importance of the storage of agricultural products has long been recognized and has increased as problems related to food supply and drought have arisen. Work on farm storage techniques and facilities needs to be greatly intensified. Food preservation, processing and packaging must be combined in connexion with storage. Improved techniques and facilities should therefore feature in agricultural development and communications programmes.

55. Experience in the organization of the marketing of export crops suggests that national strategy should also call for arrangements which would relieve farming units of the tax burden they incur when they market their products. The outward orientation of marketing structures and skills has engendered institutions which are ill-suited to the promotion of an efficient internal marketing system for local products. A strategy for the future would therefore provide for the design of effective institutions and policies, including price policies, to serve this purpose. As mentioned below such machinery may well take the form of a special ministry for the development of internal trade.

Livestock

56. The establishment of the International Livestock Centre for Africa reflects the potential of the region for the development and production of livestock not only for internal consumption but also for export. There is therefore a need to expand the activities of the Centre rapidly to integrate them with those of production centres. In this connexion, high priority should be given to the implementation of the resolutions on the eradication of tsetse fly and trypanosomiasis adopted at the World Food Conference.

Industry

57. The critical role of industry (including basic industry) has already been recognized by African Governments on resolutions and declarations taken over the past 4 years, which anticipated the Lima Plan of Action in many respects. The essence of the Lima Plan of Action would seem to be its emphasis on industries which provide other industries with basic inputs, such as metals, basic chemicals and petro-chemicals, fuel and power, and on industries which, by virtue of their potential for forward, backward and lateral linkages, can exert powerful growth-promoting effects on other industries, such as those producing agricultural machinery, implements and tools; plastics; water pipes and pumps; equipment used as transport and telecommunications; building and construction; the distribution of electric power; food processing, preservation, packaging and storage (including refrigeration) and mass consumption goods, especially consumer durables, the market for which is expected to grow as incomes increase in a broad front.

58. The minimum requirements for the establishment and operation of such industries include: raw materials, such as mineral ores, petroleum, natural gas, coal, limestone and clays; power sources; skilled manpower at both the high and middle levels; technology; managers capable of organizing the production package, the marketing of products and in some cases, essential R and D and capabilities in the mobilization and deployment of financial resources. The mere establishment of industries does not, however, guarantee either net advantages to the economy or dynamic growth. For the links with the agricultural and rural sectors to operate, they must be conceived and directed as part of an integrated programme of industrial, agricultural and social development.

59. It will be necessary at the national and multinational levels to organize and develop indigenous ability to identifying and selecting the most appropriate technology for these industries from a range of available technologies as well as the ability to negotiate the conditions and terms on which the technology selected is to be made available and used.

60. The problem of manpower for industrial development must be dealt with on two levels. First an assessment must be made of the way in which the output and quality of post-secondary institutions relates to the manpower requirements for natural resources exploration, evaluation, extraction and general management and planning

and for converting raw materials into semi-finished and finished products. It is difficult to see how any large-scale development of industry can be promoted if post-secondary educational and training institutions do not produce specialists at both the high and the middle level in such fields as the science and technology of materials, engineering design, machine building, foundry technology, plastics technology, food technology, business management with emphasis on business finance, marketing and market research, to name only a few. It may therefore be necessary to evaluate existing facilities for the education and training of African manpower in the light of the industrial expansion as at both the national and the multi-national levels foreseen in the Lima Plan of Action.

61. The second level at which industrial development should be dealt with is that of a special programme designed to meet at least, some of the manpower needs associated with those industries which it is agreed are basic industries. Within the existing business and production structures, there may be skills which are not specific to particular enterprises or industries and which may be broadened and redeployed. This would apply, for example, to general business management, business finance, marketing, production planning and even to such technological fields as foundry technology, plant assembly and electrical engineering. The competence of personnel now equipped with such skills may be improved in specially designed re-training programmes. It has, for example, been pointed out that the repair and maintenance facilities of the East African Railways and of the Zambian Railways already provide considerable opportunities for the production of capital goods. There is little doubt that other possibilities for initiating the development of capital goods industries can be identified in several African countries. The main points here are that the development of particular kinds of specialized manpower cannot be undertaken in a vacuum and that where nuclei of training opportunities exist, they should be exploited on a national or multinational basis. Indeed, as a matter of long term general policy, co-operative arrangements ought to be forged between post-secondary educational institutions and producing units within the economy.

62. In cases where there is no local pool of skilled Africans available for re-training, arrangements can be made for them to be trained abroad in developing as well as developed countries where facilities exist. These arrangements may be negotiated with foreign participants in joint ventures, with bilateral aid agencies

or even as part of large equipment purchase agreements. All such agreements should make provision for the training of trainers and specialists on job evaluation and analysis and, where necessary and feasible, for the establishment of new training institutions or the improvement of existing ones.

63. If self-reliance is to be included among the objectives of decisions regarding the development of these industries, attention must from the beginning be given to the concept of State-owned African multinational corporations set up to undertake the establishment of basic industries and therefore capable of designing and installing them or of supervising their design and installation as well as of managing them. These corporations will need authority and competence to negotiate joint-venture agreements, bargain for technology, secure supplies of raw materials and carry out R and D. Their activities shall also include co-operative efforts in respect of sub-contracting and complementation agreements.

64. With a view to long-range planning, consultations should be initiated on the possibilities of long-term purchase and sales contracts, particularly where such contracts contain broad provisions for centralized government purchasing and common technical-design and quality standards.

65. In the implementation of such a policy, it may be found that the pattern of industries established in the era of import-substitution presents obstacles which might have to be overcome. It may therefore be necessary for Governments first to conduct detailed surveys on the existing structure of industries, on their impact on public revenue, foreign exchange resources, the use to which trained manpower is put and the extent to which they depend on imported factor inputs. It has already been established that such industries are in general characterized by high establishment costs; high unit costs of production and disadvantageous financing patterns, in that financing is largely provided by foreign or quasi-foreign sources and the debt-to-equity ratio is high. This is true not only of mining but also of industrial enterprise. The patterns of profitability of such industries is also disadvantageous in that many of them rely on monopolistic market conditions and there is a high incidence of unsuccessful enterprises. Moreover, these industries are often characterized by higher working capital requirements, paucity of repair and maintenance facilities, absence of spare parts and components, excess capacities, limited utilization of by-products and waste materials and longer gestation periods.

Several Governments already conduct industrial surveys, but their scope and frequency may have to be increased, and more substantial bilateral and multilateral aid for developing adequate machinery may have to be sought.

66. At any given moment, the total amount of financial resources available to an economy may be distributed between domestic and foreign purchases of goods and services. The broad categories of external payments include payments for imports of capital goods and services (including spare parts and components); payments for imported raw materials; payments for imported consumer goods and services, including food; payments for imports of skilled manpower and on an increasing scale for consultancy services; payments for shipping and aviation services and payments for banking, insurance and re-insurance services. External payments also includes transfers abroad concealed as intercompany transactions and often in the form of payments for the use of technology.

67. It is clear that there are sometimes opportunities for containing the outflow of financial resources under some of these headings. In the short run, therefore, the mobilization of financial resources must begin by a reappraisal of present and future commitments under such headings as those listed above to determine the extent to which the outflow could be contained and measures for containing it. Whereas Governments have already taken steps to effect some reduction in the outflow of financial resources for purposes of banking, insurance and civil aviation, measures relating to reinsurance are still at the conceptual stage and little effective action has as yet been taken in regard to shipping.

68. Three significant areas of major outflow to which little attention has as yet been paid are technology, skilled manpower and consultancy services and inter-company transactions associated with transnationals.

69. A policy aimed at containing external flows will not of itself be sufficient. It will also be necessary to adopt new and imaginative policies and instruments (such as unit trusts, social security funds and the like), for mobilizing domestic savings and effective arrangements for redeploying the increased savings realized to the high priority sectors of agriculture, infrastructure and strategic industries. At the national level greater attention than in the past should also be paid to the effects of fiscal and monetary policies on the broad pattern of financial resource allocations. In this connexion, it would be advisable not to overlook company policies towards undistributed profits and depreciation funds and their re-investment.

70. In respect of strategic industries requiring large financial resources, it may be necessary to establish multinational mining and industrial investment banks to undertake the organization of financial packages beyond the capacity of national financing organs. Structural relations may need to be forged between multinational financial institutions and indigenous transnational corporations engaged in the production and distribution of strategic goods and services.

71. If a policy of fostering self-reliance is realistically interpreted, it is not inconsistent with foreign financing, playing a substantial role, in the development process, either directly or indirectly. What is essential is for foreign funds to flow inwards and for them to be identified with imports of goods and services not available within the domestic economy.

72. The extent to which intra-industry and intersectoral linkages are realized will depend on the scope and efficiency of the marketing system, at both the national and multinational levels. Common design and quality standards should be adopted, and marketing arrangements should allow for the holding of fairs and exhibitions, the provision of adequate after-sale services, the expansion of wholesale and retail outlets and the provision of credit. In the context of this strategy, marketing systems cannot be left to take care of themselves.

Rural infrastructure and rural transformation

73. The immediate interaction between industry, agriculture and rural transformation is likely to be expressed principally through the expansion of rural infrastructure. In this context, the development of rural infrastructure is conceived as performing four critical roles. The first is that of expanding employment opportunities in the construction of rural road networks, telecommunications, housing, power, townships, waterworks and irrigation canals; in rural industries and the implementation of conservation measures, re-afforestation schemes and the like. The second has to do with the impact on agriculture and especially on food supply of the demand engendered by this increased employment. The third role played by the development of rural infrastructure is that of opening up the market for industrial expansion and orientation; and the fourth involves its contribution to the physical integration of the national socio-economic system. Thus, agriculture is subject to demand pressures from industry and public works in the rural sector; industry is subject to demand pressures from agriculture and public works in the rural sector and public works in the rural sector is subject to demand pressures from both agriculture and industry.

74. The transformation of the rural sector as part of national strategy also requires a reduction in the flow of migrants to a few large cities, which, in order to provide social and economic services, are now obliged to absorb resources which could have been used for rural development. What is envisaged is a deliberate programme aimed at promoting a network of rural development focal points, partly to divert the flow to the large cities, partly to act as relay centres for transmitting development and economic growth impulses and partly to generate the type of urban and semi-urban employment associated with rural industrialization. This will require the organization of information on population growth rates, spatial distribution and movement and on natural resources and the selection of potential development nodes based on regional physical planning. It will affect the organization of distribution as well as of marketing and the structure and orientation of the building and construction industry. It will also raise problems of the feasibility and economics of the dispersal of industry in terms of transport costs, structural linkages and general overhead.

75. A rural industrialization programme will require much more attention than is customarily given to small-scale industries. Critical points will include types of rural industries, their raw material base (metals and chemicals), linkage with major industries, equipment supply and maintenance, design and quality standards, marketing and rural industrial extension. It will clearly be necessary to strengthen considerably the capacity of Governments to deal not only with large-scale industries but also with programmes concerning rural industrialization and small-scale urban industries.

76. A comprehensive programme aimed at research into micro-economics, project design and the micro-sociology of rural societies and at the effective utilization of the findings of this research in planning and project design is essential to correct the deficiencies of macro-planning and to avoid the crises to which these deficiencies lead. At the national level, it will be necessary to intensify studies on ways of making innovations readily adaptable to conditions in rural communities and harnessing traditional values and institutions with a view to promoting socio-economic change and on cultural factors determining the allocation and use of labour time and the impact of income changes on consumption and investment. There is not much evidence at present that the role of women and children in agriculture, food processing, or seed production and marketing is seriously taken into account by policy-makers and planners, who continue, mistakenly, to treat this subject as peripheral.

77. Socio-economic research will also be required in regard to income disparities. It is noted that the introduction of new production techniques and inputs into agriculture and the promotion of rural industrialization tend to lead to disparities in rural incomes and to social stratification. Income disparities, some of them generated by rural-urban migration, also exist within urban areas. These are, of course, supplementary to the well-known disparity between urban and rural income levels. It may also be necessary to take into account the effect of the high cost of local industry on the internal terms of trade in agriculture and industry. It must be borne in mind, however, that income distribution is less pertinent in Africa than are the distribution of the capability

to generate income and the prevention of income concentration. Moreover, the effect of the attitude of workers on agricultural and industrial productivity should be considered to be a major object of socio-economic research.

Other priority areas

78. In essence, the fundamental requirements of policies, strategies and programmes for rural transformation are that they identify particular target groups; evaluate their needs, problems and potential for development and ensure that the resources allocated to them actually reach them. The main objective is to place these groups in a position where they can identify and export development opportunities.

79. Attention has hitherto been concentrated on the development of the industrial, agricultural and rural sectors and on forging links among them; but it is now recognized that this kind of action should be extended to cover such sub-sectors as population, finance, natural resources, foreign trade, transport and communications, livestock, technology, entrepreneurship and the role of government.

Population and socio-economic development

80. The absolute size and the structure, growth rate and geographical distribution of population greatly affect the pattern in which natural resources are utilized and financial resources allocated in such sectors as education, health and housing, transport and communications. Thus, population policies and planning are essential components of strategies for self-sustaining growth and diversification of the economy and a more deliberate effort must be made to provide for population factors in planning concepts and procedures.

Natural resources

81. The most pressing requirement in securing effective control over natural resources and in obtaining the maximum benefit from their extraction, processing and use is to promote their exploration and evaluation. New and improved

technologies which facilitate every stage of these activities, are now available. These include facilities for remote sensing by satellite, total systems for low-altitude surveys, new geochemical and geophysical methods and methods applied in sampling and marine geology and improvements in the techniques of topographic surveying and map production. Some of these techniques require co-operation among a large number of African countries if the cost of their acquisition and use is to be justified. The availability of high- and middle-level manpower is central to their effective use. Here much can be gained by the early development of undergraduate courses after existing facilities and current output have been evaluated. In this connexion, Governments should increase their support of existing and proposed centres and institutions in cartography and mineral resources development. Special attention must be paid to the latent needs of the least developed countries (including those in the Sahel).

82. In developing countries, the general policy with regard to benefits which might be obtained from the extraction, processing and export of minerals is to seek to integrate mining enclaves with the rest of the economy. Thus, in addition to seeking increased net contributions to their public revenue and foreign exchange reserves, Governments in negotiating also take account of increased employment; increased local purchases; forward, backward and lateral linkages; technology and the development of skills. The practical implications of each of these contributions can be spelled out and the package negotiated with each subsector in the field of natural resources depending on the possibilities it offers (e.g. tea and precious stones, unlike petroleum, have no significant industrial linkages). Sometimes the advantages to be gained may extend to transportation and marketing, and special studies may be required to determine when advantage should be sought from downstream operations.

83. It is important to remember that for the purpose of increasing self-dependence and dynamic growth, real advantages, such as those indicated above, may be as valuable as financial benefits or even more so. The potential for the development of mineral, petroleum and natural gas resources in the African region suggests that a specialized advisory service and seminars and institutionalized

courses are necessary to place member States in a better position to derive the maximum benefits from the extraction, processing and marketing of their natural resources.

84. The systematic extraction of natural resources, especially minerals, for local use cannot be left to the initiative of foreign mining companies, which may have little or no interest in the subject, but may require the creation of multinational mining corporations. Indeed, irrespective of whether the resources extracted are for local use or export, such corporations may be necessary if resources of vital interest to particular countries are to be exploited without undue dependence on foreign transnationals.

85. As suggested in paragraph 69, multinational mining investment banks might be needed to support the operations of African multinational mining corporations. An important function of such banks would be to assist state and local governments in securing majority control of on-going mining enterprises not only by providing those governments with funds for that purpose but also by negotiating the financial aspects of their participation.

86. Other policy areas requiring action are the modernization of legislation governing the exploration and extraction of natural resources, company law and the definition of local participation.

Human resources

87. Much has been said about high- and middle-level manpower and the re-alignment and improvement of post-secondary education. Stress has also been laid on the need for effective communications in carrying out agricultural transformation. It is now necessary to draw attention to three other aspects of human resources development which must be dealt with if the total society and economy are to move forward. In the first place, countries are becoming increasingly dependent on consultancy services and are spending more and more of their foreign exchange resources on them. Any serious effort to accelerate the transformation of the socio-economic system without a parallel and deliberate effort to develop local capabilities in business consultancy is likely to increase

this dependence and intensify the drain on foreign exchange resources. Without a wide range of support services, including business consultancy services indigenous business is unlikely to be able to play a substantial role in the implementation of national plans and the strategies and policies on which they are based. Measures for developing consultancy services at the national and multinational levels need to be examined, adapted and applied as soon as possible.

88. The second aspect of human resources development which deserves attention is the role of non-formal education in preparing the masses to participate in the broad forward movement of the economy and society. In this connexion, much more attention should be given to new mass communications technologies (including low-cost radio and television sets) and to the design and content of mass communications programmes.

89. The growth of large urban peripheral populations, which is expected to continue for some time, raises questions as to the means by which the people in them can be fitted for industrial employment. At present, studies on the problems encountered by workers in transition from rural to urban living and employment seem to be carried out less for socio-economic policy purposes than because of the interest and initiative of research specialists, many of whom are foreign. A more structured approach to this subject is now necessary. Ministries of industry and of labour may need to know more about job analysis and breakdown and the use of audio-visual techniques in industrial training.

Entrepreneurship

90. The advance of any economic system depends on the quality and number of persons working individually or as business entities who are capable of successfully conceiving, designing, installing and managing productive enterprises in the modern sector. In the African region these functions have been carried out by the State, by foreign private enterprise and, to a much lesser extent, by African businessmen. The role of government in this regard will be discussed later. Here attention is turned to the substitution of the African for foreign entrepreneurs, as called for in a policy of indigenisation. In achieving self-reliance and accelerated growth and diversification, an increasing burden will be placed on African entrepreneurs as well as on State enterprises. This raises the question of the adequacy of existing mechanisms for ensuring communication between the State and the African entrepreneur. Foreign entrepreneurs are capable of scanning a national development plan and seeing the business opportunities explicit or implicit in it, in a way which few African entrepreneurs can emulate, and not much effort appears to have been made to help them in this regard. This is a deficiency which should be corrected as soon as possible.

91. Over and above this challenge is the much larger one of placing African entrepreneurs in a position where they can actually assume increasing responsibilities for promoting dynamic growth and diversification. To meet this challenge it will be necessary first closely to examine the fact that African entrepreneurs frequently start out as traders and face certain problems inherent in their transition into industrialists. Secondly, consideration must be given to the environment in which they operate and which determines their access to business information, financing, technology, markets and so on. It is on the basis of such considerations that support institutions and services can be designed. They should include a course of supply of business information and market intelligence, one or more national centres for material and product testing and for the repair and maintenance of industrial equipment (including foundries), quality control advisory services and general support services relating to production, marketing, plant layout and the like. Where access to financing is concerned, it is felt that some orientation of existing development banks and other State lending institutions in the region might be needed and that for this purpose a study of the philosophy, structure and operational procedures of the Japan Development Bank, the Industrial and Mining Development Bank of Iran and the Nacional Financiera, S.A., of Mexico would be most helpful.

Technology

92. It is not unusual to think of technology as constituting equipment, or a process formula or an act of blue prints or even as being made up of highly specialized knowledge in the heads of engineers and technicians; but these fail to account for the very large number of other inputs included among the activities associated with the popular concept of technology, and without them, neither equipment for formulas would work. Thus technology must be thought of as being a system which extends from such activities as the identification and selection of equipment to its installation, operation, maintenance, improvement and reproduction; and there can be dependence at any point along this chain of activities and physical inputs. The significance of dependence could be judged on the basis of the extent to which it is present in particular sectors or sub-sectors. Thus, the search for relative independence should start with an evaluation of the significance of dependence. The degree of dependence along the chain from identification to reproduction in respect of the manufacture of soft drinks is higher than that in respect of metallurgy, engineering or the petrochemicals industry.

93. Hitherto discussions of the availability and use of technology by developing countries have centred on cost, but there has not been sufficient recognition of the need to determine (i) the uses to which technology should be put and (ii) to whom it should be transferred. However, Governments are now being used to institute legislation on machinery for regulating the import of technology, and these two questions will to a considerable extent be answered in that legislation. What has an even more critical effect on the transfer of technology are provisions in agreements pertaining to both patented or unpatented devices which prevent the licensee from making free use of the technology and which may even exclude export to other markets. In other words entrepreneurs in one African country who hold a license to technology making it possible for them to manufacture certain products may be forbidden to export those manufactures to a neighbouring country although both countries are members of the same "economic community". Since the technology for practically all modern manufactures has to be imported, since patented or licensed technology will be involved in the production of most such manufactures and since the bulk of technology used by any one firm anywhere is acquired from a large number of other firms, the effects of such restrictions are likely to be paralyzing.

94. A licence may, by an even more crippling restrictive clause, be required to reveal to the licensor, any improvements he makes in the technology before it is used or disclosed to anyone else. If such a clause is rigorously applied, it destroys the incentive to experiment and improve, which is the straight point of the local development of technology anywhere.

95. It will be obvious that concentration on cost in the conventional sense and proposals by developed countries to subsidize the cost of imports by developing countries will be quite inadequate for meeting the major objective of promoting the development of technology on a national or multinational basis. For the technological multiplier to work at the national level there must first be effective machinery for formulating policies and measures which relate technology to development plans and to major sectors and subsectors: secondly, there is a need to reorientate existing research capabilities, which in most of developing Africa today are dominated by research on agricultural export crops, towards research in industrial technology, including those involved in the processing of agricultural products. As was implied above, steps will be required to develop appropriate manpower for such research, with special attention given to the science and technology of materials and to engineering design and power engineering. Finally, it is now widely recognized that a substantial part of technological innovation is the outcome of R and D in small and medium-sized companies, particularly those which are directed by persons with a background in technology and an interest in business. Attention should therefore be given to ways of developing local technical entrepreneurship.

96. The role of Governments in technological development is not restricted to promoting research but also includes the active encouragement of technological innovation. It is possible that in negotiating bulk purchase arrangements, especially on a multinational basis, Governments may be able to secure not only lower costs for their technological components but also favourable conditions and terms for promoting technological research.

Extra-African and intra-African trade

97. It was noted earlier that the provisions on the Generalized System of Preferences in the Lomé Convention call for measures by advanced countries to liberalize the importation of semi-processed and processed products, including those

from African and other developing countries. African countries signatory to the Lomé Convention should, for their part, assist the process of restructuring Africa's export trade by taking a number of steps, including the establishment of multinational import and export enterprises, the multinational pooling of key imports and the aggregation of marine cargoes, the setting up of appropriate co-operation links among existing State trading agencies and the adoption of multinational purchase and supply commitments based on the response of the region's trading partners to its demands for effective access to their markets.

98. It should be kept in mind that the main and ultimate aim of international commodity management and price stabilization schemes established either under the Integrated Programme for Commodities now being prepared by UNCTAD, mutual agreement among exporters and importers, or through producers' associations should be to restructure their socio-economic systems in general and their overall trade in particular.

99. Within the framework of policies and measures to restructure Africa's foreign trade, deliberate and sustained efforts should be made to establish trade, financial, technological and industrial co-operation agreements with socialist countries. It will be necessary to devise and establish efficient mechanisms and procedures for formulating and implementing such agreements. It will also be necessary to give early attention to the impact which extended economic relations with socialist countries on sea and civil air transport and especially to the need for and role of multinational shipping lines and airfreight services. These considerations should also be taken into account in regard to economic relations among developing regions, but here attention should also be given to the rate and direction of change needed in the production structure to diversify both commodity exports and markets. In this respect it is not clear that the African region is keeping pace with the other developing regions in inter- and intra-regional trade. Obviously the accelerated transformation of African economies on a national and multinational basis as considered earlier in this paper, is necessary if export products and markets are to be diversified. Indeed, success in securing and retaining a substantial share in the markets of advanced countries for imports of manufactures will in part depend on whether experience in industrial management, production and marketing can be built in the Region.

100. Nowadays, participation in international trade negotiations requires a level of skill which is hard to find in most African countries. Only in recent years have Africans been emerging as consultants in major trade and financial talks. Trade is no longer a simple matter of barter or even of exchanging commodities for foreign currency; increasingly, it is being viewed as an integral part of a whole range of strategies and instruments aimed at the achievement of economic independence through regional and intra-regional co-operation. Even traditional diplomatic relations are being used to promote national economic strength. Yet the fact remains that African Governments and commercial agencies lack indigenous personnel that have been specially prepared by formal education and experience in the world of business to specialize in trade, financial affairs taxation, marketing and related disciplines. If they are to play the role which is due to them in trade politics, trade negotiations, world financial arrangements and related affairs, African countries must have their own corps of specialists in these fields, who can speak the same language and have the same understanding of the relevant problems and issues as their counterparts from the industrialized countries. It is therefore clear that facilities for institutionalized training are urgently required in such subjects as international business, particularly as it relates to international trade and to international finance and financial management and internal and external marketing.

Least-developed countries

101. The immediate issues in regard to the least-developed countries are first, those which pertain to the existence and improvement of transport links with the sea and of port harbour facilities available in coastal states for the specific purpose of accommodating the imports and exports of these land-locked least-developed countries; second, the effectiveness of the legal and organizational bases of arrangements for facilitating the rapid transit of export and import products to and from extra-African markets and third, the development of alternative access routes to the sea. In several cases the finding of solutions to the first and the third of these issues is determined by the existence of navigable international inland waterways and on whether or not the States bordering on these waterways are willing to shoulder the cost of their development. Where such waterways do not exist reliance must be placed on the readiness of coastal states to extend their national transport infrastructures to their borders with land-locked States. For this reason trans-African highways and their feeder links have been given, a high priority rating where strategy is concerned. However, if possibilities new for the production of minerals and food and for export trade are to be exploited, a much broader base of physical infrastructure and local capability is needed. The exploration for and evaluation of natural resources will have to be considerably stepped up. Bearing in mind the need to overcome shortages of water and power for mining operations, a very high density of exploitable deposits of minerals must be established in order to justify the large investment and operating costs of their extraction and exports. The development of food products for export encounters less acute constraints but demands the same degree of sophistication in organization and marketing as in other developing countries of the region. For example, consideration must be given to food storage, processing, preservation and quality control and to the negotiation of trade and foreign exchange arrangements with countries, both within and outside Africa, in which the markets are located. In this connexion, proposals for the development of multinational intra-African airfreight services ought to form an important element in the strategy of land-locked developing countries.

102. A great proportion of the total surface area of the least developed African countries is in the semi-arid zone where the main economic activity is nomadic livestock raising. While this zone supports much of the African livestock, the grossly inadequate supply of surface water and the climatic conditions in general present a major development problem to which not enough attention has been paid until recent times, resulting in continued poverty of the countries concerned. The recent drought has demonstrated the extremely adverse effects which the continued neglect of this zone could have on the socio-economic development of the countries concerned. The future importance of the zone in economic development may well lie in the exploitation of mineral resources. This will, however, depend on how far the water supply situation and the climatic conditions improve to permit human settlement in the mining areas, how far the local population can be induced to settle in the areas and how far the underground water resources can be exploited for the processing of minerals. Studies to determine exploitable underground water resources and the investment needed in their exploitation as well as socio-economic studies on settling the nomadic population and inducing them to change their economic activities and way of life should receive the highest priority.

103. The exploitation of underground water resources is also of vital importance in tackling the immediate problem of providing adequate water supply for the nomads both for human consumption and for livestock. The provision of watering points needs to be undertaken on a sufficiently wide scale to avoid over-concentration around the watering points and consequent damage to pastures and livestock. As a long-term policy, the provision of water supply should be seen as part of a policy for the settlements of nomads for livestock breeding and related activities. Such a programme is facilitated when there are constraining factors like the recent drought which deprived many of the nomads of their livelihood and forced them to seek other means of sustenance.

104. Relative inattention in the past to the natural resources base is now in process of being remedied and the evidence that is emerging indicates that the resources base is not less, and may in some cases be greater, than that available to more developed countries within the region. In particular the possibilities of widespread mineralization and the existence of hydrocarbon resources suggest that the constraints on public revenue and foreign exchange could be eased but, this is less true of those

least developed countries which are either land-locked or lacking the known water and power resources required for mining operations or both. The potential for food production for both local consumption and export is known to be considerable.

105. In the longer term, the sources of dynamic and self-sustaining growth in the least developed countries, whether land-locked or coastal may shift increasingly from extra-continental economic relations to relations with neighbouring States organized within economic community-type arrangements. In such circumstances the transit facilities which serve the present and transitional needs for access to the sea should naturally become essential parts of the infrastructure for economic co-operation and the cost of construction and maintenance of such links should become easier to share with economic community participants and less costly per unit of goods carried by them.

106. The challenge for strategy, policy and programmes in least developed countries is, in effect, to maintain a continuous search for new dynamic co-operative advantages and to devise the institutions for exploiting them. This entails giving high priority to human resources development and especially the development of personnel and institutions for the design and implementation of policies and programmes relating to the processing of agricultural raw materials, food production, processing and packaging, to the exploration and exploitation of mineral and hydrocarbon resources and to transportation and marketing.

Economic co-operation

107. In the past the role of economic co-operation in the development of national economies has been obscured by a misunderstanding of the objectives and modalities of co-operation in Africa. This has led to frustration and to the near collapse of existing economic groupings and has made it difficult to create larger economic entities. Economic co-operation ventures in Africa have been oriented primarily to trade facilitation. This would suggest that complementary production structures already existed, but in fact existing production structures reflect international specialization and trade between developing primary-commodity producing countries and advanced countries. Moreover, trade-oriented co-operative ventures favour the more highly developed of the countries participating in them. This has meant that the signing of treaties of co-operation, the establishment of secretariats and the removal of tariff barriers have been viewed as the major means for generating gains and distributing them among countries.

108. This interpretation of economic co-operation is based on models borrowed from advanced countries, which differ markedly from developing countries both socially and economically. In developed countries it is assumed that there are many units of production each producing and selling a relatively small share of the national output. It is also assumed that the economy is operating at near full employment and that plants will operate at the margin so that new investment is also marginal by comparison with current productive capacity. These countries have an ample supply of highly motivated entrepreneurs with an extensive knowledge of markets for financing, inputs, and products, who are capable of exploring new economic opportunities as they arise at home or abroad. Thus, the removal of national tariff barriers under a treaty of co-operation leads to entrepreneurial activity across national boundaries, increased efficiency and an increase of aggregate gains. The benefits of co-operation are also usually distributed fairly among the countries covered by such treaties because the capacity to derive benefits from co-operation depends on the supply of entrepreneurs, skills, technologies and capital, which are in general equitably distributed among the advanced countries.

109. In contrast, conditions in developing African countries are characterized by an inadequate supply of competent entrepreneurs in both the public and the private sectors, scarcity of skilled manpower; limited familiarity with the sources of raw material supply, range of choice of technology, production processes, and production markets; limited inter-industry integration; large imports of inputs; small output mix (including poor utilization of by-products); limited domestic markets relative to plant sizes. Moreover, in developing countries the major problem and hence the relevant general objective for co-operation is self-sustaining growth and diversification. In practice this objective implies co-operation in the creation and utilization of new productive capacity especially in production of goods and services for use as further inputs for other industries or for consumption. This particularly refers to basic industries such as those named in the Lima Plan of Action. The significance of trade among participant States then depends not merely on the absolute volume or value traded but on its composition.

110. Since the supply of entrepreneurs to organize these new production capacities is inadequate at the national level reliance must be placed either on foreign multinationals pursuing global production and marketing strategies and profits, or on the principle of co-production embodied in African State-owned multinationals competent to organize large-scale industrial production, negotiate for raw materials, technology and equipment, arrange large-scale training, promote and support sub-contracting companies, set up group consultancy and research services and encourage innovation. More than this, the institutional structure needs reconsideration at both the macro and the micro levels. This is necessary for two reasons. Firstly, many institutional devices essential to the functioning of a modernizing economy are missing or insufficient at the national level, e.g. business associations, institutions for industrial research and for promoting technological innovation; legislation relating to the formation and operation of companies; legislation and machinery for dealing with patents and trade marks; institutions for prescribing quality and technical design standards, legislation and mechanisms for regulating the inflow of technology or the behaviour of monopolistic entities; institutions for dealing with regional development policies such as the Liptako-Gourma Authority. Secondly, even where such machinery exists at the national level, treaties of economic co-operation imply that absolute national sovereignty in these matters must be modified and responsibility for the multinational aspects of these areas of activity entrusted to multinational organs. This would apply, for example, to sectoral policy institutions (agriculture, industry, energy and technology). Where this is not done an institutional gap emerges at the macro level. In short, therefore, at both the national (micro) level and the multinational (macro) level, serious institutional gaps exist.

111. An institutional gap which calls for an immediate remedy relates to co-operation machinery at the multinational and national levels. It must be recognized that countries are mutually dependent in the level of competence and efficiency of such co-operation machinery. The problem may be dealt with partially through the establishment at country level of ministries of economic co-operation.

112. Three main propositions are argued here. Firstly, the economic incentive for co-operation is determined largely by the perceived role of co-operative ventures in the solution of current national development crises: inflation, balance of payments, deteriorating terms of trade, unemployment, relative poverty and squalor in rural and urban peripheral areas, rising food imports, increasing payments abroad, a widening gap in technical development, the social cost of national protective tariffs (i.e., the reduction of real incomes due to higher prices of domestic production behind high national tariffs). It is in the solution of these national problems that the major gains in economic co-operation are to be found. The size of aggregate and national benefits may also be determined by the role which a country assigns to co-operation in facilitating local processing, high local value added and a guaranteed and stable supply of raw material inputs for use in domestic production. Gains may also be made by transforming economic dependence on advanced countries into dependence on neighbouring developing countries, which are more or less of equal strength. Secondly, it has been asserted that models derived from advanced countries are not only adequate but may even be irrelevant to the task of designing economic co-operation arrangements in Africa. thirdly, major institutional gaps at the micro and macro levels need to be identified and repaired to enable these arrangements to work satisfactorily.

113. From the discussion above of the least developed countries it is clear that it will be necessary formally to incorporate in economic co-operation treaties special provisions designed to assist such countries to overcome their present difficulties and enable them to exploit fully the resources that are made available to them under economic co-operation arrangements for national social economic development. Such provisions would include generous technical assistance from stronger to weaker partners; multinational institutions for natural resources exploration and evaluation financed, in the initial stages, mostly by stronger partners (this should also apply to applied research institutes of common interest); access for the least developed countries to training institutions and other facilities located in partner States; generous support by strong partners for multinational institutions providing development finance; and agreement that the least developed countries should be granted preferential access to such resources.

The roles of Government

114. It will by now have become obvious that if substantial meaning is to be given to self-reliant dynamic growth and diversification, Governments are expected to play a larger part in the process of socio-economic transformation than they have explicitly and formally agreed to play so far. In view of the multiple objectives of socio-economic policy, Governments will inevitably find themselves performing several roles. They will act as planners, instituting State-wide planning networks, linkages, plan monitoring facilities, control mechanisms, information systems and feedback effects; as entrepreneurs running State enterprises, mainly through State-owned national and multinational enterprises, public utilities, and enterprises in which ownership is share with foreign or indigenous business; as developers and promoters of social and technological innovations (as a result of their activities in problem identification and solving and as allocators of national resources through fiscal and monetary policies, incentives and disincentives. These functions will require genuine self-appraisal preparatory to altering philosophies, structures and procedures, including those governing the quality and orientation of personnel, and gearing them to clearly defined functional objectives. In this process, the higher echelons of the public services must come to recognize themselves as a major segment in the corps of national managerial cadres responsible for promoting the massive socio-economic changes inherent in the process of dynamic economic growth and diversification. Since self-reliance implies the energetic and imaginative participation of the rural masses, the search for effective forms of participation must be conducted more comprehensively than seems to be the case at present.

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