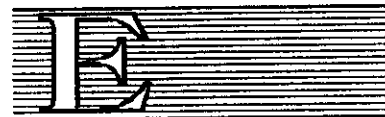




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AFRICAN STRATEGIES FOR IMPLEMENTING UNCED AGENDA 21: A PROPOSAL

Executive Summary

I. INTRODUCTION

1. The United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro, Brazil from 4 to 14 June, 1992, adopted programmes of action for the sustainable development of its member States as embodied in Agenda 21. A large number of sectoral issues are presented in Agenda 21 and the African Common Position. This document also serves as a general introduction to the detailed strategies which are proposed in document E/ECA/CM.19/8 which contains programmes of action with their resource implications.

2. In order to streamline these issues into cross-sectoral programmes and to facilitate cross-programme mutations, the 24 sectoral programmes of the African Common Position have been categorized into seven priority concerns, which, by and large, cover the programmes of Agenda 21. They include¹: (a) managing demographic change and population pressures; (b) achieving food self-sufficiency and food security; (c) ensuring efficient and equitable use of water resources; (d) securing greater energy self-sufficiency; (e) optimizing environmentally clean industrial production; (f) management of species and ecosystems; and (g) preventing and reversing desertification. The implementation of the programmes in these seven cross-sectoral areas will contribute considerably towards poverty eradication and the alleviation of environmental degradation a lot would have been done in the problem regions.

3. The objective of this Report is to evolve the strategies to enable African countries to address the problems of eradicating poverty through sustainable development. Analytically, the problem areas of each of the seven sectors in relation to environmental issues are first outlined. On these bases, the corresponding development objectives and programme of action are suggested in the second section. The policies, programmes and the resource implications for addressing these objectives are examined in section three. In the fourth section, the prerequisites for implementing the derived policies and programmes are suggested. The last section suggests future recommendations.

II. AFRICAN PRIORITY CONCERNS WITHIN THE FRAMEWORK OF UNCED AGENDA 21

A. Demographic change and pressures

4. Available evidence indicates that African regional population maintained an annual growth rate of 2.5 to 3.0 per cent during the period of 1955-1990. If this rate continues, by the year 2000, the regional population will total 866 million and exceed 1 billion by the year 2005. The African Common Position on Agenda 21 is that the regional population problem is not so much the rapid growth rate but its distribution. It is posited that a number of African countries are underpopulated and their resources underexploited; this raises issue with the development of existing resources. The critical issue is whether the objective of

¹/ Group 1 on 'managing demographic change and population pressures' will subsume chaps. 5, 6 and 24 of ACP; Group 2 on 'achieving food self sufficiency and food security' will subsume chap. 1 of ACP; Group 3 on 'ensuring efficient and equitable use of water resources' will subsume chaps. 2 and 3 of ACP; Group 4 on 'securing greater energy self sufficiency' will subsume chap. 4 of ACP; Group 5 on 'optimizing industrial production' will subsume chaps. 7, 13 and 19 of ACP; Group 6 on 'maintaining species and ecosystems' will subsume chaps. 8, 9, 10, 15, 17, 22 and 23 of ZACP; and, Group 7 on 'preventing and reversing desertification' will subsume chaps. 11 and 12 of ACP. The remaining chapters in the ACP (i.e. 14, 16, 18, 20 and 21) are cross-sectoral to these seven major groupings.

reducing the rapid population growth rates implicit in existing population policies of African countries can be justified in the circumstances.

5. Although the rapid population growth rates may frustrate governments' efforts at meeting future demands for services and jobs, available evidence indicates that its reduction may not minimize and/or eliminate existing levels of poverty, unemployment and inequality of income distribution². While there is no evidence to demonstrate that reducing population growth rate would lift the veil of poverty and regenerate environments, failure to do so will certainly worsen the situation. The challenge to African governments is to identify enclaves of unsustainable populations and then determine how they can benefit from population interventions.

B. Achieving food self-sufficiency and food security

6. The absence of coherent and comprehensive food self-sufficiency and food security policies and programs at the national and regional levels is a major constraint to sustainable agricultural and rural development in the continent. The major thrust of these policies and programmes is to significantly increase food and agricultural production.

7. Inappropriate pricing and tax policies have over the years encouraged excessive use of external inputs, over-exploitation of land as well as environmental degrading cropping and livestock production practices. The debt burden has forced many African governments to boost export earnings by expanding cash crop production and timber sales; in the process, the environment has been badly degraded through use of capital-intensive technologies usually accompanied by forced movement of the poor farmers (who hitherto cultivated the land) to marginal lands which are already under extreme stress.

C. Ensuring efficient and equitable use of water resources

8. The distribution of water in Africa exhibits an abundance of rainfall over the equatorial zone contrasted by extensive and extreme aridity of the Sahara desert in the north and the Kalahari desert in the south. Between both extremes are the semi-arid zones where rainfall shows wide fluctuations from year to year and even within seasons in the year. These areas cover about 57 per cent of the land surface area, and the soils can hold moisture to support growth up to 180 days.

9. Due to frequent severe and prolonged droughts, the water resources of Africa have greatly diminished in the last 20 years. This has happened even in the Congo-Zaire basin which receives about 50 per cent of the total water supplies of the continent. Consequently, there are chronic as well as seasonal acute water shortages in most African countries. Yet in all of the countries there is a rapidly increasing demand for water generated by the growing population, urbanization, industrialization and irrigation requirements.

² / Rodgers, G., Poverty and population: approaches and evidence (ILO: Geneva, 1984); McNicoll, G., "Consequences of rapid population growth", Population and Development Review 10(2), 1984, pp. 177-240; Blanchet, D., "Estimating the relationship between population growth and aggregate economic growth in LDCs: methodological problems", Expert group on consequences of rapid population growth (New York, 24-26 Aug. 1988); Ehrlich, P.R., "World population crisis", Bulletin of Atomic Scientists, 42(2), 1986, pp. 13-19; Myers, N., "Population environment and conflict", Environmental Conservation 14(1), 1987, pp.15-22; Shaw, P.R. and Wong, Y., Genetic seeds of warfare: evolution, nationalism and patriotism (Unwin Hyman: Boston- London, 1989); Repetto, R., "Population, resource pressures and poverty", in The global possible: resources, development and the new century (Repetto Ed., 1985);, "Population, resources, environment: an uncertain future", Population Bulletin 42 (2), 1987.

D. Securing greater energy efficiency and self-sufficiency

10. Traditional energy in the majority of African countries contributes over 70 per cent of the total energy use. Little of Africa's wide range of fossil and renewable energy resource endowments has as yet to be developed in order to benefit the large majority of its rural and urban populations experiencing ever worsening energy scarcities. Some of the large known African reserves of coal, petroleum and natural gas are being exploited with over 60 per cent of production being exported to other regions. Less than 4 per cent of Africa's hydropower has been harnessed so far while considerable geothermal energy, high levels of all-year-round solar radiation, and its substantial wind energy potential have yet to be harnessed.

11. Most African countries import all, except simple biomass, energy supply and end-use technologies. Also imported are all conversion technologies for deriving commercial energy supplies from fossil and renewable energy resources and commodities; technologies for transporting and distributing energy supplies as well as all end-use technologies for deriving from supplies the energy services such as heat, light, mechanical power needed for production and consumption purposes. Escalating costs of technology on the one hand, and declining foreign exchange earnings from commodity exports on the other, have severely constrained the capacity of most African countries to import energy technologies and spare parts. This has contributed to a widening gap between energy availability and requirements, even where ample energy resource endowments exist. Overwhelming technological dependence on imports is thus a major factor in the growing scarcity of energy supplies available for survival and development uses in Africa.

E. Optimizing environmentally clean industrial production

12. In many African countries the development of the industrial sector has been problematic at all levels. Investment by governments in industry has been to satisfy the export economy. New incentives are needed to support sustainable industrial development. This has partially contributed to the weak technological base and the dysfunctional state that currently characterises African industry. Environmental management has consequently been relegated with emphasis on the survival of the enterprise rather than clean methods of production. Most African enterprises are too busy with production schedules which cannot be met because of non-technical constraints like power interruptions, shortage of water supply or even breakdown of government machinery. Furthermore, it is difficult to explain to a timber logger that he is destroying the environment when he sees that tree as his only source of revenue, or to expect the rural dweller not to burn wood that can produce charcoal that will sustain his family.

13. For several decades, the indigenous institutions of higher learning and, indeed, the entire scientific and technological community in Africa have limited their interpretation of science and technology to high-powered research and manpower training. They have been satisfied with publishing their research findings in reputable international journals while neglecting the exploitation of these findings to the developed world where the infrastructures for such activities are abundant. These institutions have only to a limited extent, associated themselves with issues dealing with commercialization and utilization of their research results.

F. Management of ecosystems

14. Tropical forests in Africa are being lost at the rate of 3.7 million hectares per annum, with over half of that deforestation in west Africa alone. Over 30 per cent of the original forest cover in the Cote d'Ivoire has already disappeared and the situation is becoming critical in Madagascar, south-eastern Guinea, the Fouta-Djallon massif, south-western Cameroon, Bas Zaire, Kenya and the United Republic of Tanzania. The main reasons for clearing are to provide land for agriculture, shifting cultivation and timber exploitation. The loss of plant cover leads to other problems such as decreasing soil fertility, erosion and the loss of genetic resources and diversity. In Madagascar it is estimated that the loss of over 90 per cent of the original primary forest led to the extinction of half of the original endemic species.

15. The following key factors which are major constraints to economic development in Africa were identified in the African Common Position as linked with, among other things, the degradation and the consequent loss of the carrying capacity of the ecosystems. They have mitigated against practices and programmes aimed at conserving the carrying capacity of African ecosystems. These factors include:

- (a) Declining agricultural production as a result of various factors;
- (b) Inappropriate production techniques in agriculture, livestock, mining and industry;
- (c) High dependence on primary commodities and the collapse of commodity prices as well as the prevailing unfair trade practices in international markets;
- (d) Inappropriate policies and measures to address the African economic crisis;
- (e) The external debt burden and debt servicing;
- (f) Activities of transnational corporations with high financial as well as ecological costs;
- (g) The net resource outflow from Africa to the rest of the world;
- (h) The impact on natural resources of demographic changes and population pressures;
- (i) Negative impacts of natural and man-made disasters; and
- (j) Environmental and developmental problems encountered by land-locked countries.

G. Preventing and reversing desertification

16. In African countries affected by desertification, the natural ecosystem is the main resource base upon which the development process must rely. The social systems interacting with land resources make the problem more complex, requiring an integrated approach towards the planning and management of land resources. Action plans to combat desertification and drought should include management aspects of the environment and development, thus conforming with the approach of integrating national development plans and national environmental action plans.

17. In areas prone to desertification and drought, current livelihood and resource-use systems are unable to maintain average living standards. In most of the arid and semi-arid areas, the traditional livelihood systems based on agro-pastoral systems are often inadequate and unsustainable because of the effects of drought and increasing demographic pressure. Poverty is a major factor in accelerating the rate of degradation and desertification. Measures are therefore needed to rehabilitate and improve the agro-pastoral systems for sustainable management of rangelands, as well as alternative livelihood systems.

III. DEVELOPMENT GOALS OF THE AFRICAN PRIORITY CONCERNS

A. Demographic change and pressures

18. The challenge to African governments is to identify population interventions which they can afford. The interventions used in the 1960s and 1970s are no longer recommended; they should focus on the ultimate causes of environmental degradation. Population policies will not provide lasting solutions to poverty and environmental degradation. They are unlikely to deliver long-term improvements in the environment or prospects for self-reliance and sustainable development unless they are implemented simultaneously with measures to tackle the root causes. But a population policy can help 'buy crucial time until African governments determine how to dismantle the more ultimate causes' of environmental degradation.

19. They must have the attributes of will, intellect, authority and personal weight to lead their people to self-reliant development through the creation of indigenous conditions needed to curtail the penetration of foreign economic influence in their societies. They have to build self-sustaining productive capacity through creating the will to survive, research, science and technology and organization. This building of the society's productive capacity must be people-oriented: it has to involve the people as well as meet their needs; they must be trained and the tools they use in their work must be improved.

B. Achieving food self-sufficiency and food security

20. Major adjustments are needed in agricultural, environmental and macroeconomic policies at both the national and international levels to create the necessary conditions for enhanced food self-sufficiency and food security. Well planned, long-term national and regional land conservation and rehabilitation programs, with strong political support and adequate funding, are now needed. While land-use planning and land zoning, combined with better land management, should provide long-term solutions, it is urgent to arrest land degradation and launch conservation and rehabilitation programs in the most critically affected and vulnerable areas.

21. Although macroeconomic policies (exchange rate, trade liberalization, monetary and fiscal policies, etc.,) do not specifically address the issue of sustainability they have had important indirect repercussions on it. The opportunities for ensuring a sound policy environment for sustainable food production would be further enhanced if African governments, at the appropriate levels and with the support of the relevant international organizations, carried out national policy reviews on food self-sufficiency and food security issues with particular reference to policies on foreign trade, pricing, exchange rates, agricultural subsidies, and taxes. More sincere efforts are also needed from the developed countries to avoid protectionist practices which close their markets to African products and to encourage more efficient and environmentally sound use of resources in Africa.

C. Ensuring efficient and equitable use of water resources

22. The development goal of the programme should focus on the immediate need to launch a systematic programme of strengthening existing networks and establishing new ones for the assessment of surface and ground water quantity and quality. The data already procured as well as those generated particularly from the numerous boreholes drilled through assistance programmes from bilateral and multilateral sources that were provided to African countries since 1981 in the framework of promoting the International Drinking Water Supply and Sanitation Decade objectives should be analyzed to update the information on this resource. Immediate action is needed to understand the effect of climatic changes on fresh water resources. There is also a strong need for all countries to have in place water pollution control programmes.

23. To improve the management and conservation of ecosystems and address water related environmental degradation, two main development objectives are recommended namely, the efficient, equitable and sustainable management, use and distribution of national as well as international-shared water resources and river basins; and, the development and strengthening of water resources accounting and database.

D. Securing greater energy efficiency and self-sufficiency

24. The existing energy patterns and trends in Africa are unsustainable economically, socially and environmentally. A transition to sustainable energy systems is inevitable but could be chaotic with severe social and economic disruptions and irreversible environmental damage. Such an occurrence maybe pre-empted through a planned transition pursued with strong national and international commitment. Implementation of Agenda 21 towards socially equitable, economically and technologically sound and environmentally sustainable development in African countries would crucially depend on greater energy security and self sufficiency. An orderly phased transition from the present grossly inadequate and inefficient energy patterns towards sustainable levels of energy security and self sufficiency would need to be an integral major component of the process of implementing Agenda 21 in African countries.

25. A priority objective in African energy sector development under Agenda 21, is the attainment, as a matter of urgency, of greater sustainable energy security and self-sufficiency as prerequisites for rural and urban food security. This would encompass efficient energy supplies and uses for high levels of self-reliance in production of food for adequate per capita nutrition levels. It would similarly encompass energy for stocking, transportation, distribution, processing, preservation and preparation of food for consumption to maintain adequate nutrition levels for the population of each country.

E. Optimizing environmentally clean industrial production

26. African industries should be developed with a view to expanding and producing more with less on a self-reliant and self-sustaining basis to meet the growing needs of the increasing populations. To become self-reliant will require special support to industries and technologies that better serve local needs by making optimum use of local resources, local manpower and schemes. To become self-sustaining will require choosing processes and technologies that have less adverse impacts on our environment.

27. Industrialization should include a strong cottage industry as the basis for a self-reliant and self-sustaining development. To become self-reliant the industrial sector will require special support from the private and public sector and the promotion of consumption patterns that encourage investment.

F. Management of ecosystems

28. The concept of carrying capacity which relates the space available for expansion in terms of population and economic growth, has been used to link population with the natural resource base of a country³. It was pointed out that this constitutes a frame representing the physical potential for a nation's development. This is particularly important in economies whose mainstay is agriculture and agro-related activities. The conservation of ecosystems in pursuit of sustainable development options to allow for the enhancement of necessary physical and ecological resource must be one of the key objectives of environmental conservation.

³ / Gilbert, A. J. and Braat, L. C. ,Modelling for population and sustainable development (Routledge: London, New York, 1989).

29. Consequently, programmes in ecosystems management and conservation should ensure the use of ecosystems as renewable resources. Activities cutting across all sectors of development that impose ecological pressures and lead to environmental degradation should not be promoted. Activities for the management of ecosystems should aim at the conservation, protection where necessary and management on a sustainable basis of endangered species and ecosystems. They should also be geared at maintaining biological diversity as a major part of the natural heritage and future economic development.

G. Preventing and reversing desertification

30. To address the problems of desertification control in Africa, the development objectives of this aspect of the African strategies for achieving the goals of Agenda 21 will aim at (a) promoting the establishment and/or strengthening of national environmental information coordination centres that will act as focal points within Governments for sectoral ministries and provide the necessary standardization and support services; and (b) ensuring that national environmental information systems on desertification and drought are linked through a network at subregional, regional and interregional levels; (c) strengthening regional and global systematic observation networks linked to the development of national systems for the observation of land degradation and desertification caused both by climatic changes and by human impact; and (d) identifying priority areas for action.

31. African member States will have to actively participate in negotiations on desertification convention in view of the fact that the resolution specifically mentions the region as one of those adversely affected by drought and desertification. Moreover, the request for a convention on desertification emanated from the African Common Position. As they are most likely to be the main actors at the various sessions of negotiations, it is essential that serious thought be given to the raison d'être of the Convention. One of the goals for this programme is, therefore, to enhance their participation in the negotiations.

IV. PROGRAMMES OF ACTION FOR ACHIEVING THE DEVELOPMENT GOALS

32. To achieve the development goals of food self-sufficiency and food security the following actions, among others, should be undertaken.

A. Demographic change and pressures

33. The foregoing development strategy calls for the formulation and implementation of an integrated national population programme (NPP), a concept that is relatively new in the region. There is still, some confusion as to how it should be designed and what should be its contents. The NPP should be divided into component sectors, each consisting of a blue-print of projects and activities grouped around a related sub-set of the population policy objectives, targets and strategies.

34. Two approaches can be adopted in designing the NPP. In the first approach, each of the component sectors of the NPP can be designed independently. Specialists drawn from the relevant governmental and non-governmental agencies in the sector as well as relevant officials at lower levels of the government structure (eg. regions, states, provinces, or districts) constitute a Task Force to design the sectoral programme. The programme for several sectors may be prepared simultaneously by different Task Forces, each working on a sector, or they may be prepared sequentially at different periods of time. The second approach involves bringing together all the relevant specialists in the population related sectors of the governmental and non-governmental organizations to design the entire NPP. In this case, the outlines and contents of all the sector programmes are prepared in one long session with the participation of everyone in the group. Usually, all participants meet together initially and agree upon the general perspectives of expectations per sector before breaking into various specialist sub-groups to work out details per sector programme.

35. Regardless of which approach is adopted, it is necessary to prepare separate programmes for each of the administrative regions of a country particularly if the country is very diverse socio-economically and culturally. The NPP generally serves as a guide for the preparation of the regional programmes. In terms of scope and coverage, the main key areas that should constitute the component sectors of the NPP include an outline of needs or justification; past, present and overview of proposed future activities in the sector; specification and elaboration of sector programme strategies; assignment of roles and responsibilities; implementation schedule; and, budget.

36. As with all the other programmes areas, the financial resources for implementing this activity should be generated locally. However, UNCED estimated that the average total annual cost of implementing the activities of this programme (1993-2005) will include about \$US 1.6 billion from the international community on grant or concessional terms. African countries may then negotiate on this basis for a minimum of \$US 400 million from the international community.

37. The capacity of national, regional and local structures to deal with issues relating to demographic trends and factors and sustainable development should be enhanced. This would involve strengthening the relevant bodies responsible for population issues to enable them to elaborate policies consistent with the national prospects for sustainable development. Cooperation among government, national research institutions, non-governmental organizations and local communities in assessing problems and evaluating policies should also be enhanced.

B. Achieving food self-sufficiency and food security

38. To achieve the development goals of food self-sufficiency and food security, a programme should be established to integrate environmental and sustainable development with policy analysis for the food and agriculture sector and relevant macroeconomic policy analysis, formulation and implementation. Operational multi-sectoral plans, programmes and policy measures, including programmes and measures to enhance sustainable food production and food security within the framework of sustainable development, should be developed and maintained.

39. Policy instruments to reconcile long- and short-term requirements must be set by national Governments. These should focus on fostering self-reliance and cooperation, providing information and supporting user-based organizations. Emphasis should focus on management practices, building agreements for changes in resource utilization, the rights and duties associated with use of land, water and forests, the functioning of markets, prices, and the access to information, capital and inputs. This would require training and capacity-building to assume greater responsibilities in sustainable development efforts. Programmes should be developed for improving farm production and farming systems through diversification of farm and other forms of employment and infrastructure development.

40. The financial resources for implementing this activity should be generated locally. However, UNCED estimated that average total annual cost (1993-2005) of implementing the activities of this programme will include about \$US 5.075 billion from the international community on grant or concessional terms. African countries may then negotiate on this basis for a minimum of \$US 1.259 billion from the international community.

41. Governments at the appropriate level, with the support of the relevant international and regional organizations, should, among others, involve and train local manpower, including economists, planners and analysts, both within and outside government, to initiate national and international policy reviews and develop frameworks for sustainable agriculture; establish legal measures to promote access of women to land and remove biases in their involvement in rural development; and strengthen ministries for agriculture, natural resources and planning; establish land-resource mapping and planning units at national, district and

village levels to act as focal points and links between institutions and disciplines, and between Governments and people; and establish or strengthen Government and private institutions with responsibility for agricultural resource survey, management and development; rationalize and strengthen legal frameworks; and provide equipment and technical assistance.

C. Ensuring efficient and equitable use of water resources

42. To improve water quantity and quality through efficient, equitable and sustainable use and distribution of national as well as internationally shared water resources and river basins, several measures should be undertaken by governments, as proposed in Agenda 21. These include integrated water resources development and management; water resources assessment; data dissemination; research and development; protection of water resources, water quality and aquatic ecosystems; drinking-water supply and sanitation; water and sustainable urban development; and, provision of enhanced access to sanitary services.

43. UNCED estimated the average total annual cost (1993-2005) of implementing the activities of this programme to be about \$US 17.04 billion from the international community on grant or concessional terms. African countries may then negotiate on this basis for a minimum of \$US 3.33 billion from the international community.

44. To implement the activities in freshwater resource management, governments and communities need to have adequate capacities. Those who establish the framework for water development and management at any level, whether international, national or local, need to ensure that the means exist to build those capacities.

D. Securing greater energy efficiency and self-sufficiency

45. In the short term, programmes should be developed to attain sustainable energy security required for meeting food security and for other essential needs of the population in rural and urban areas; reduce excessive energy wastage by application of no-cost and low-cost means and methods that will improve energy efficiency substantially in existing energy supplies and utilization in rural and urban areas in all sectors of production and services. Review all levels of energy and energy-related formal and informal education and training programmes to improve relevance to national objectives for achieving and maintaining energy security, efficiency and self-reliance; raise standards of operation, maintenance and management of energy supply systems and of energy utilization in all sectors to cost-effective high levels.

46. In the medium term and long terms, programmes should also be developed to build and strengthen endogenous technological capacity in all areas of development of energy supplies, services and utilization based on local renewable and fossil energy resource endowments; promoter cooperation for mutual benefit with neighbouring and other countries in building and strengthening energy sector technological capacity, in the cost-effective rationalization of the supply and distribution of indigenous and imported energy commodities and forms; make investments in retro-fitting, refurbishing and otherwise up-grading existing energy supply and utilisation facilities and equipment to improve energy efficiency cost-effectively; and, within this context, the international community could provide support in the short, medium and long term to speed transition in African countries to sustainable efficient energy supplies, services and utilization.

47. UNCED estimated the average total annual cost (1993-2000) for implementing the activities of the energy programme to be about \$US 20 billion from the international community on grant or concessional terms. African countries may then negotiate on this basis for a minimum of \$US 5 billion from the international community.

48. Education and awareness-raising programmes need to be introduced and strengthened at the local, national and international levels concerning the promotion of sustainable development and the protection of the atmosphere, in all relevant sectors. Countries, in cooperation with the relevant United Nations bodies, international donors and non-governmental organizations, should mobilize technical and financial resources and facilitate technical cooperation with African countries to reinforce their technical, managerial, planning and administrative capacities to promote sustainable development and the protection of the environment, in all relevant sectors.

E. Optimizing environmentally clean industrial production

49. Governments should support programmes aimed at proper management and minimization of hazardous wastes including solid wastes, waste waters and sewage in conformity with national or international health and environmental quality guidelines; the coordination of urban transportation programme and promotion of environmentally sound policies focusing on preparation and dissemination of documentation on less polluting and safer transport systems and technologies; adopting investment codes and procedures tailored to promote and develop small-scale industries, including rural institutions to support cottage industries and small-scale industries with emphasis on indigenous technology, domestic finance, rural infrastructure and participation of women and youth in order to provide an enabling economic environment for the involvement of local entrepreneurs; the promotion of intra-African cooperation particularly with regard to the development and transfer of appropriate technology, research and development, commercialization of research findings and the development of prototypes.

50. The private sector should be encouraged to set up appropriate standards for the protection of human beings and the environment for all major industrial sectors and processes, especially workers safety and health and disposal of hazardous wastes, supported by an effective monitoring and enforcement capability with indexed penalties for non-compliance.

51. One of the priority actions should also be to strengthen the national and regional institutional capacity for research development, procurement and assessment of industrial technology and processes so that decision makers in government and industry can have more choices and better information on the benefits and risks associated with different products and technologies.

52. Neither chapters 30 of Agenda 21 on the role of industry nor chapter 19 on the Environmentally sound management of toxic chemicals, including prevention of the illegal international traffic in toxic and dangerous wastes provide the financial implications involved in the proposed activities. However, Chapter 20 on Environmentally sound management of hazardous wastes, including prevention of the illegal international traffic in hazardous wastes provides for \$US 1.24 billion from international sources. Africa may negotiate for about \$US 350 million from these sources for investment in clean industrial production including the management of dangerous and hazardous wastes. Furthermore, the programme for the Second IDDA and that for the Second Transport and Communications Decade have earmarked mechanisms for mobilizing resources which could also serve this purpose.

53. International organizations, with the participation of Governments and non-governmental organizations, should launch training and education projects involving women and children in order to enable countries to make maximum national use of international assessments of clean industrial technology.

F. Management of ecosystems

54. New programmes can be developed to increase the impact of the ongoing programmes. This would then create or reinforce an enabling environment for achieving sustainable national, subregional and regional social and economic development with sustainable carrying capacity for the ecosystems and ensure the impact

of Africa's participation in global environmental management for global sustainability. The context of existing national and international activities, such as that of the Biosphere Reserves and the Convention Concerning the Protection of the World Cultural and Natural Heritage, programmes for capacity building should be promoted in managing the ecosystems mentioned below:

- (a) Forest and savannah woodlands;
- (b) Biological diversity;
- (c) Marine and coastal environment; and
- (d) Ecologically sound mineral resource development.

55. UNCED estimated that an average annual total cost of implementing the activities programmes to combat deforestation; manage fragile ecosystems; combating desertification and drought; conserve of biological diversity; promote environmentally sound management of biotechnology; and protect the oceans, all kinds of seas, including enclosed and semi-enclosed seas, and coastal areas and the protection, rational development of their living resources, will include about \$US 24.337 billion during 1993-2005. Of this amount Africa may negotiate for \$US 6 billion.

56. The following will effectively contribute to human resource development: the launching of graduate and post-graduate degree, specialization and research programmes; strengthening of pre-service, in-service and extension service training programmes at the technical and vocational levels, including training of trainers/teachers, and developing curriculum and teaching materials/methods; and special training for staff of national forest-related organizations in aspects such as project formulation, evaluation and periodical evaluations.

G. Preventing and reversing desertification

57. To achieve the development goals in desertification control, Governments, with the support of the relevant international and regional organizations, should establish and/or strengthen environmental information systems at the national level; strengthen national and local assessment and ensure networking between existing environmental information and monitoring systems, such as Earthwatch and the Sahara and Sahel Observatory; strengthen the capacity of national institutions to analyze environmental data so that ecological changes can be monitored and environmental information obtained on a continuing basis at the national level.

58. They should establish and develop local, national and intersectoral mechanisms to handle environmental and developmental consequences of land tenure expressed in terms of land use and land ownership; create or strengthen village associations focused on economic activities of common pastoral interest (market gardening, transformation of agricultural products, livestock, herding, etc.); and promote rural credit and mobilization of rural savings through the establishment of rural banking systems.

59. UNCED estimated the average total annual cost (1993-2000) of implementing the activities of this programme to be about \$US 6.285 billion from the international community on grant or concessional terms. Of this, African countries may negotiate \$US 1.575 billion.

60. Governments at the appropriate level, with the support of the relevant international and regional organizations working on the issue of desertification and drought, should develop the technical and professional skills of people engaged in monitoring and assessing the issue of desertification and drought.

IV. PREREQUISITES FOR IMPLEMENTING THE PROGRAMMES OF ACTION

A. Financial resource mobilization

61. Agenda 21 emphasizes that, "In general, the financing for the implementation of Agenda 21 will come from a country's own public and private sector". The question then arises as to how the financial mechanisms identified in Agenda 21 could be used to implement the African strategies outlined above. The African position is understandably concerned that it would be meaningless to adopt an Agenda 21 in Rio without making the necessary commitment, particularly by the North, to allocate the financial resources to Africa for its implementation. This should take the form of direct financial contribution towards environmental conservation and management on a regional basis, bilateral environment and development assistance and reduction of the debt burden.⁴

62. Areas of financial support outside those generated at the national, subregional and regional levels would include, but not exclusive to direct financial contribution towards environmental conservation and management, Overseas Development Assistance (ODA); the Global Environment Facility (GEF), as the major funding source for Agenda 21 programmes; bilateral environment and development assistance including reduction of the debt burden.

63. Apart from a required increase in bilateral environment and development assistance, the African Position is that the following measures should be taken to:⁵

- (a) Cancel official bilateral debts;
- (b) Cancel semi-official/export credit debts;
- (c) Substantially reduce, with the assistance of donor countries, debt owed to multilateral financial institutions which now account for 40 per cent of sub-Saharan debt servicing obligations;
- (d) Allocate new and additional resources for the implementation of Agenda 21.

⁴ / African Common Position, op. cit. para. 33.

⁵ / African Common Position, para. 33.

(b) Human resources and institution development:
The non-government sector⁶

64. The African Common Position reaffirms that for the implementation of sustainable development, initiatives at the political level as well as collaboration with Non-Governmental Organizations, women and youth organizations and the private sector are required. These initiatives will facilitate the elaboration and implementation of regional and subregional programmes. In this context of sustainable development, concrete measures to achieve common objectives should be defined for an effective management of different ecosystems, economic sectors and geographic regions.

65. Addressing environmental issues, in Africa, has been largely a monopoly of the government. Due to inadequate awareness, by the policy and decision makers, of the importance, in the fact determining role environmental factors play in sustaining social and economic development, there has been a significant neglect of these considerations in development planning. Consequently, there has not been the maximum mobilization of all the available national resources for environmental management as should have been.

66. African Common Policy and Agenda 21 on capacity building are unanimous that there is the need to improve or restructure the decision-making process so that consideration of socio-economic and environmental issues are fully integrated and a broader range of public participation assured.

67. One of the fundamental prerequisites for the achievement of sustainable development is broad public participation in decision-making. Furthermore, in the more specific context of environment and development, the need for new forms of participation has emerged. This includes the need for individuals, groups and organizations to participate in environmental impact assessment procedures and to know about and participate in decisions, particularly those which potentially affect the communities in which they live and work. Individuals, groups and organizations should have access to information relevant to environment and development held by national authorities, including information on products and activities that have or are likely to have a significant impact on the environment, and information on environmental protection measures.

68. Popular participation and the democratization of environmental action presuppose the situation wherein there is consultation and involvement of the people in all actions. This includes the identification of local or national environmental problems, the solutions for those problems, paving out the modalities for action and participating in the implementation of those modalities. It assures the involvement of the people in all development. This is crucial. Any policies, definitions or rules affecting access to and participation by non-governmental organizations in the work of United Nations institutions or agencies associated with the implementation of Agenda 21 must apply equally to all major groups.

69. Non-governmental organizations, including those non-profit organizations representing groups, possess well-established and diverse experience, expertise and capacity in fields which will be of particular importance to the implementation and review of environmentally sound and socially responsible sustainable development, as envisaged throughout Agenda 21. The community of non-governmental organizations, therefore, offers a global network that should be tapped, enabled and strengthened in support of efforts to achieve these common goals.

70. Business and industry, including transnational corporations, should recognize environmental management as among the highest corporate priorities and as a key determinant to sustainable development. Some enlightened leaders of enterprises are already implementing "responsible care" and product stewardship

⁶ / See Agenda 21 Chapters (23, 24, 25, 26, 27) on Major Groups.

policies, openness and dialogue with employees and the public and carrying out environmental audits and assessments of compliance. These leaders in business and industry, including transnational corporations, are increasingly taking voluntary initiatives, promoting and implementing self-regulations and greater responsibilities in ensuring their activities have minimal impacts on human health and the environment. The regulatory regimes introduced in many countries and the growing consciousness of consumers and the general public and enlightened leaders of business and industry, have all contributed to this. A positive contribution to sustainable development can increasingly be achieved by using economic instruments such as free market mechanisms in which the prices of goods and services should reflect the environmental costs of their input, production, use, recycling and disposal subject to country-specific conditions.

(c) Scientific and technological community.

71. Member States and others concerned should focus on how to enable the scientific and technological community, including engineers, architects, industrial designers, urban planners, policy makers and other professionals to make effective contribution to the decision-making processes concerning environment and development. It is important that the role of science and technology in human affairs be more widely known and better understood, both by decision makers who help determine public policy and by the general public. Cooperative relationship between the scientific and technological community and the general public should be enhanced to facilitate greater use of scientific and technical information and knowledge in policies and programme implementation.

72. Decision makers should create conducive conditions for improving training and independent research in sustainable development. Existing multidisciplinary approaches will have to be strengthened and interdisciplinary studies developed between the scientific and technological community, policy makers and the general public to provide leadership and practical know-how of sustainable development. The public should be communicating their sentiments to the scientific and technological community concerning how science and technology might better be managed as they affect their lives. The independence of the scientific and technological community to investigate, publish and exchange their findings without restriction should be guaranteed.

V. CONCLUSIONS AND RECOMMENDATIONS

73. Member States should provide an enabling environment through their political, planning and administrative structures as well as the basic resources to facilitate the implementation of these activities. As it is emphasized in the African Common Position, sustainable development requires of member States the following:

- (i) A national political commitment to ensure that development processes sustain the resource base on which future development will depend;
- (ii) Redefinition of national development priorities to alleviate constraints imposed by natural conditions, current international economic conditions and their debt burden; and
- (iii) The fostering of the democratization process so as to maximise the mobilization and use of national resources.

The agencies of the United Nations and other
development partners of Africa

74. In the follow-up of the Conference, in particular implementation of Agenda 21, all relevant organs, programmes and organizations of the United Nations system will have an important role within their respective areas of expertise and mandates in supporting and supplementing national efforts.

(a) The United Nations Economic Commission for Africa

75. ECA should play the lead role in coordinating subregional, regional and, where necessary national activities in the implementation of Agenda 21. The development objective will be to enhance national, subregional and regional capacity and capability of African countries, Inter Governmental Organizations and Non-Governmental Organizations to manage resources and the environment for sustainable development. In order for the African countries to formulate and implement effective environment programmes, the following areas should be addressed:

(a) Development and ensuring the use of the relevant and required manpower capacity at the policy level that would increase the access to techniques and know-how in the formulation and implementation of environment programmes. To this end training materials for the subprogramme (manuals, guidelines, aids, etc) will be provided and training workshops conducted at the institutional level in each of the five ECA MULPOCs;

(b) Promotion of environment and development activities in the private sector, including business and industry, in order to ensure their full participation with government as partners in environmental management for sustainable development;

(c) An overall assessment of programme orientation in order to determine the impact of subprogramme activities with the view to recommending any changes that will ensure the success of the subprogramme;

(d) Ensuring that the activities of the subprogrammes reach the highest policy level within the Government and conducting regional evaluation conference at the Ministerial level;

(e) Strengthening the capacity of the science and technology policy institutions of the selected countries in technology assessment, choice, acquisition, application and diffusion. Periodic reports on the progress of this aspect of Agenda 21 and the African Common Position will be prepared and submitted to member States;

(f) Promoting, supporting, encouraging and fostering those technologies which have the least negative impacts on resources and land use utilization, conservation, protection and rehabilitation;

(g) Improving the prospects of the African mining sector through the harmonization of mining development policies, establishment of appropriate small-scale mining equipment facilities and environment prospective regulations;

(h) Expanding the capacity for raising rural productivity in the subregions; and

(i) Developing and expanding the skills of technical personnel and decision makers on various aspects of solar energy development.

76. UNCED did not allocate resources for activities by institutions. However, to carry out the above activities effectively during the period 1994-2005, the ECA secretariat estimates that \$US 15 million from extrabudgetary sources, including from UNDP, UNEP and the regional development banks, will be needed.

(b) United Nations Environment Programme (UNEP)

77. UNEP and its Governing Council should, within its mandate, continue to play its role with regard to policy guidance and coordination in the field of the environment, taking into account the social and economic development perspective.

78. In order for UNEP to perform these functions, while retaining its role as the principal body within the United Nations system in the field of environment and taking into account the development aspects of environmental questions, it will require more expertise, provision of adequate financial resources, and closer cooperation and collaboration with development and other relevant organs of the United Nations system.

(c) United Nations Development Programme

79. UNDP, like UNEP, has a crucial role in the follow-up to the UNCED. With the close collaboration of ECA and through its network of field offices, it would foster the United Nations system's collective thrust in support of the implementation of Agenda 21, at the country, subregional, regional and global levels, drawing on the expertise of the specialized agencies and other United Nations organizations and bodies involved in operational activities.

80. Regional and subregional cooperation will be an important part of the Conference outcome. The United Nations regional economic commissions, regional development banks and regional economic and technical cooperation organizations, within their respective agreed mandates, can contribute to this process by:

- (i) Promoting regional and subregional capacity-building;
- (ii) Promoting the integration of environmental concerns in regional and subregional development policies; and
- (iii) Promoting regional and subregional cooperation, where appropriate, regarding transboundary issues related to sustainable development.

(d) The specialized agencies of the United Nations system

81. The specialized agencies of the United Nations system should continue to provide financial and technical support to programmes at all levels, as indicated in chapter 38 of Agenda 21.

(e) National, subregional and regional development banks and organizations

82. The implementation of Agenda 21 within the framework of the African strategies should be an integral part of the work programme of the subregional economic groupings. ADB should provide the needed financial support to countries and organizations participating in implementing the African strategies directly or through national development banks and other financial institutions.

83. Inter-agency joint programming exercises and coordination is promoted from the initial stages of programme conceptualization with member States; this will ensure that the funding mechanisms indicated in Agenda 21, particularly the Global Environment Facility increases the access to funding by member States through a more broad-based and transparent approach.

84. Finally, a supportive international and domestic economic climate conducive to sustained economic growth and development will be crucial in the implementation of the African strategies for implementing Agenda 21 within the framework of the African Common Position on Environment and Development.