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**AFRICAN UNION**



**NEPAD**

# **NEW PARTNERSHIP FOR AFRICA'S DEVELOPMENT (NEPAD)**

## **ACTION PLAN FOR THE ENVIRONMENT INITIATIVE**



NEW PARTNERSHIP FOR AFRICA'S  
DEVELOPMENT (NEPAD)

ACTION PLAN OF THE ENVIRONMENT INITIATIVE

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## ACRONYMS

AMCEN	African Ministerial Conference on the Environment
AMCOW	African Ministerial Council on Water
APAI	African Protected Areas Initiative
CILSS	Permanent Inter-State Committee on Drought Control in the Sahel
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
ECCAS	Economic Community of Central African States
ECOWAS	Economic Community of West African States
GDP	Gross domestic product
GEF	Global Environment Facility
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
GIS	Geographical Information Systems
ICCP	Inter-governmental Committee for the Cartagena Biosafety Protocol
IGAD	Intergovernmental Authority on Development
IUCN	IUCN/The World Conservation Union
LMOs	Living modified organisms
NEPAD	New Partnership for Africa's Development
OAU	Organization of African Unity
RIAA	Regional Implementation Annex for Africa
SADC	Southern African Development Community
TPN	Thematic programme networks
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change



## FOREWORD



The New Partnership for Africa's Development (NEPAD), is a pledge by African leaders based on a common vision and firm conviction that African countries have a challenging task of eradicating poverty by promoting, both individually and collectively, sustainable growth and development on the continent. NEPAD is anchored on the determination of Africans to extricate themselves and the continent from the malaise of underdevelopment and marginalisation in an increasingly globalising world. NEPAD recognises that the continent's resources, particularly its natural and human capital are critical to launching a war on poverty and underdevelopment. These resources exist in abundance and are within our reach. What is required to mobilize these resources is bold, imaginative and innovative leadership on the African side combined with a new global partnership based on shared responsibility and mutual interest.

NEPAD recognizes that addressing environmental issues is a pre-condition for achieving goals of sustainable growth and development. Hence, environment has been identified as one of the core priority initiatives of NEPAD. NEPAD further recognizes that a key objective of the Environment Initiative must be to combat poverty and contribute to socio-economic development in the region. It also recognises that the range of issues necessary to nurture this environment base is vast and complex, and that a systematic combination of initiatives is necessary to develop a coherent environmental programme. To this effect, the Environment Initiative of NEPAD identified eight sub-themes, which are of critical relevance to most African countries.

NEPAD calls for the development and adoption of a coherent action plan and strategies to address the environmental priorities of the region. The Johannesburg Plan of Implementation, adopted at the World Summit on Sustainable Development held from 26 August to 4 September 2002, reiterates the common understanding, vision and shared conviction of the architects of NEPAD.

This Action Plan, which has been prepared through a consultative and participatory process, is a response to this call. The action plan has been prepared in two phases. The first phase was the preparation of the framework for the action plan, which was endorsed by the First Summit of the African Union held in Durban in July 2002. During the second phase, eight thematic workshops and a consultative meeting with the civil society groups were organised in early 2003. This document is an outcome of the above activities and was guided by a Project Steering Committee, composed of the five members of the Bureau of AMCEN and the five founding

members of NEPAD, and supported by UNEP and GEF through the Secretariat of the African Ministerial Conference on the Environment.

The Action Plan relates to Africa's common and shared sustainable development problems and concerns and it is integrated in the sense that it takes full consideration of economic growth, income distribution, poverty eradication, social equity and better governance as part and parcel of Africa's environmental sustainability agenda. The Action Plan is consistent with NEPAD's emphasis on measures that will ensure that the continent is able to confront both its short-term economic growth challenges and the long-term environmental, poverty reduction and social development imperatives. Furthermore, it takes cognisance of the related problems of pollution, forests and plant genetic resources, freshwater, capacity building and technology transfer.

Despite the enormous effort put into the process and the comprehensive nature of the document, the Action Plan cannot, and should not, be expected to be a complete blueprint that addresses the whole-range of the region's environmental challenges. It provides a good framework that can be used as a foundation for the implementation of interventions aimed at sustainable development in Africa. It also provides the most appropriate framework for the establishment of a strong and fruitful partnership between Africa and its development partners based on the commitments contained in the United Nations Millennium Declaration and the priorities identified in the Plan of Implementation of WSSD.

Finally, African countries are being called upon to take an active leadership in further developing implementation modalities at sub-regional and national levels taking this Action Plan as a basis. International development partners are also being called upon to support the effective implementation of the Action Plan.

H.E. Maïtre Abdoulaye Wade  
President of the Republic of Senegal  
Coordinator of Environment Initiative  
In the Heads of State Implementation  
Committee of NEPAD

## NEPAD: AN OVERVIEW



### 1. WHAT IS NEPAD?

The New Partnership for Africa's Development (NEPAD) is a vision and strategic framework for Africa's renewal. The NEPAD strategic framework document arises from a mandate given to the five initiating Heads of State (Algeria, Egypt, Nigeria, Senegal, and South Africa) and by the Organisation of African Unity (OAU) to develop an integrated socio-economic development framework for Africa. The Thirty Seventh Summit of the OAU in July 2001 formally adopted the strategic framework document.

NEPAD is designed to address the current development challenges facing the African continent. Issues such as the escalating poverty levels, underdevelopment and the continued marginalisation of Africa needed a new radical intervention, spearheaded by African leaders, to develop a New Vision that would guarantee Africa's Renewal.

### 2. THE PRIMARY OBJECTIVES OF NEPAD

The Primary objectives of NEPAD are:

- a) To eradicate poverty;
- b) To place African countries, both individually and collectively, on a path of sustainable growth and development;
- c) To halt the marginalisation of Africa in the globalisation process and enhance its full and beneficial integration into the global economy;
- d) To accelerate the empowerment of women

### 3. THE KEY PRINCIPLES OF NEPAD

NEPAD is based on a number of key principles, namely:

- Good governance as a basic requirement for peace, security and sustainable political and socio-economic development;
- African ownership and leadership, as well as broad and deep participation by all sectors of society;
- Anchoring the development of Africa on its resources and resourcefulness of its people;
- Partnership between and amongst African peoples;
- Acceleration of regional and continental integration;
- Building the competitiveness of African countries and the continent;
- Forging a new international partnership that changes the unequal relationship between Africa and the developed world; and
- Ensuring that all Partnerships with NEPAD are linked to the Millennium Development Goals and other agreed development goals and targets.

### 4. THE NEPAD PROGRAMME OF ACTION

The NEPAD Programme of Action is a holistic, comprehensive and integrated sustainable development initiative for the revival of Africa, guided by the aforementioned objectives, principles and strategic focus. NEPAD has eight sectoral priorities, whose implementation is aimed at attaining its goals. The sectoral priorities are:

- Infrastructure (ICTs, Energy, Transport, Water, and Sanitation)
- Human Resource Development
- Agriculture
- Culture
- Science and Technology
- Mobilising Resources
- Market Access
- The Environment

### 5. THE STRUCTURES FOR IMPLEMENTING NEPAD

NEPAD is a programme of the African Union. The highest authority of the NEPAD implementation process is the Heads of State and Government Summit of the African Union, formerly known as the OAU.

The Heads of State and Government Implementation Committee (HSGIC) comprises 4 states per AU region as mandated by the OAU Summit of July 2001 and ratified by the AU Summit of July 2002. The HSIC reports to the AU Summit on an annual basis.

The Steering Committee of NEPAD comprises the Personal Representatives of the NEPAD Heads of State and Government. This Committee oversees projects and programme development.

The NEPAD Secretariat coordinates and facilitates the implementation of projects and programmes approved by the HSGIC.

Professor Wiseman Nkuhlu  
Chairman of the NEPAD Steering Committee)





Dominique Halleux/Still Pictures

## EXECUTIVE SUMMARY

## INTRODUCTION

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1. *T*he African region offers significant potential for human, social and economic development. It is, however, facing enormous challenges. Rapid population growth, rising levels of poverty and inappropriate development practices are the main factors that influence the state of the environment in Africa. Other factors that have led to continued environmental degradation include the impact of drought and other natural disasters, disease, ineffective development policies, unfavourable terms of trade and the debt burden.

2. In adopting the United Nations Millennium Declaration in New York in September 2000, Heads of State specifically agreed to take special measures to address the challenges of poverty eradication and sustainable development in Africa, including debt cancellation, improved market access, enhanced official development assistance, increased flows of foreign direct investment and transfers of technology.

### THE NEW PARTNERSHIP FOR AFRICA'S DEVELOPMENT

3. In adopting the New Partnership for Africa's Development (NEPAD), African Heads of State and Government agreed, "on the basis of a common vision and a firm and shared conviction, that they have a pressing duty to eradicate poverty and to place their countries, both individually and collectively, on a path of sustainable growth and development, and at the same time to participate actively in the world economy and body politic". NEPAD recognizes that the range of issues necessary to nurture the region's environmental base and sustainable use of natural resources is vast and complex and that a systematic combination of initiatives is necessary in order to develop a coherent environment programme.

4. NEPAD calls for the development and adoption of an environment initiative - a coherent action plan and strategies - to address the region's environmental challenges while at the same time combating poverty and promoting socio-economic development. The Action Plan of the Environment Initiative of NEPAD (the Action Plan), covering the first decade of the twenty-first century, is a response to such challenges. It has been prepared through a consultative and participatory process under the leadership of the African Ministerial Conference on the Environment (AMCEN). The Action Plan relates to Africa's common and shared sustainable development problems and concerns. It is a body of collective and individual responsibilities and actions that African countries will adopt and implement to maintain the integrity of the environment and ensure the sustainable use of their natural resources through partnerships with the international community. It provides an appropriate framework for the establishment of a strong partnership for the protection of the environment between Africa and its partners based on the commitments contained in the United Nations Millennium Declaration.

5. Chapter VIII of the Plan of Implementation of the World Summit on Sustainable Development, held in Johannesburg from 26 August to 4 September 2002 (the Johannesburg Summit), provides that "(t)he New Partnership for Africa's Development is a commitment by African leaders to the people of Africa. It recognizes that partnerships among African countries themselves and between them and with the international community are key elements of a shared and common vision to eradicate poverty, and furthermore it aims to place their countries, both individually and collectively, on a path of sustained economic growth and sustainable development while participating actively in the world economy and body politic. It provides a framework for sustainable development on the continent to be shared by all Africa's people." The Johannesburg Summit Plan of Implementation contains 47 recommendations aimed at ensuring the promotion of sustainable development in Africa within the framework of NEPAD.

6. Under the leadership of AMCEN and in close cooperation with the NEPAD secretariat and the African Union as well as with the support of the United Nations Environment Programme (UNEP) and the Global Environment Facility (GEF), the Action Plan of the Environment Initiative of NEPAD has been prepared, under the auspices of a UNEP/GEF medium-sized project, in the following two phases:

(a) *A framework for the Environment Initiative of NEPAD was elaborated ;*

Thematic workshops and a consultative meeting/workshop with civil society organizations were conducted to further contribute to the development of the Action Plan.

7. The framework for the Action Plan was endorsed by AMCEN at its ninth session, held in Kampala from 1 to 5 July 2002, and subsequently by the African Union at its Summit held in Durban from 8 to 11 July 2002.

8. The development of the Action Plan of the Environment Initiative of NEPAD has been a consultative process led by African experts and based on a sound methodology for the prioritization of the root causes of environmental degradation and the identification of the most effective projects from an environmental, institutional and financial perspective. In this regard, eight thematic workshops were held early in 2003, which were attended by about 800 African experts whose goal was to finalize the Action Plan. The workshops were held in the following countries: Algeria, on desertification; South Africa, on invasive species; Mali, on poverty and environment; Cameroon, on forests; Kenya, on wetlands; Senegal, on health and environment; Nigeria, on marine and coastal environment and freshwater resources; and Morocco, on climate change. In addition, a consultative meeting was held with civil society groups in Nairobi. The result of the workshops and the consultative meeting was a plan of action to implement the Environment Initiative of NEPAD, together with over 200 proposed projects to tackle some of the most pressing environmental issues in Africa.

9. It is worth recalling that the process has been overseen by a UNEP/GEF medium-sized project steering committee comprising representatives of the five members of the Bureau of AMCEN and the five founding members of NEPAD, who met on four occasions between January 2002 and May



2003 in Pretoria, Algiers, Dakar and Maputo (the Steering Committee). The reports of the eight thematic workshops and the revised Action Plan were reviewed by the Steering Committee in Maputo on 23 and 24 April 2003. The outcome of the consultative meeting with civil society groups was also taken into account by the Steering Committee. At the meeting of the Steering Committee held in Maputo, the draft Action Plan of the Environment Initiative of NEPAD was reviewed.

10. The draft Action Plan of the Environment Initiative of NEPAD was considered at a special session of AMCEN held on 9 and 10 June 2003, at which time the ministers endorsed it subject to a number of proposed amendments. The revised draft Action Plan for the Environment Initiative of NEPAD was then submitted to the Summit of the African Union at a meeting held in Maputo from 10 to 12 July 2003, at which the African Union adopted the Action Plan in its decision Assembly/AU/Dec.5 (II). A fifth meeting of the project Steering Committee, to discuss capacity-building for the implementation of the Action Plan for the Environment Initiative, was held in Cairo on 21 and 22 October 2003. At the invitation of the Government of Algeria, a partnership conference will be held in Algiers on 15 and 16 December 2003 to consider the funding of projects identified in the Action Plan.

### THE ENVIRONMENT ACTION PLAN

11. A coherent, strategic and long-term programme of action has been prepared to promote Africa's sustainable development. This is consistent with NEPAD's emphasis on measures that will ensure that the continent is able to confront its short-term economic growth challenges without losing sight of the long-term environmental, poverty eradication and social development imperatives. Sustainable development is about the long term and can only be achieved through investments in the future. Thus, the proposed NEPAD environment programme of action takes a long-term approach. It is about processes, projects and related activities that are aimed at enlarging Africa's economic prospects through sustainable environmental management.

12. The proposed Action Plan is integrated in the sense that it takes full consideration of economic growth, income distribution, poverty eradication, social equity and better governance as an integral part of Africa's environmental sustainability agenda. The NEPAD Environment Initiative cannot be implemented in isolation from the overall objectives of NEPAD and will therefore be implemented in harmony with the other components of NEPAD.

13. The Action Plan of the Environment Initiative of NEPAD is organized in clusters of programmatic and project activities to be implemented over an initial period of ten years. The programme areas cover the following priority sectors and cross-cutting issues as identified in the Environment Initiative: combating land degradation; drought and desertification; wetlands; invasive species; marine and coastal resources; cross-border conservation of natural resources; climate change; and cross-cutting issues. The plan of action builds upon the related problems of pollution, forests and plant genetic resources, fresh water, capacity-building and technology transfer.

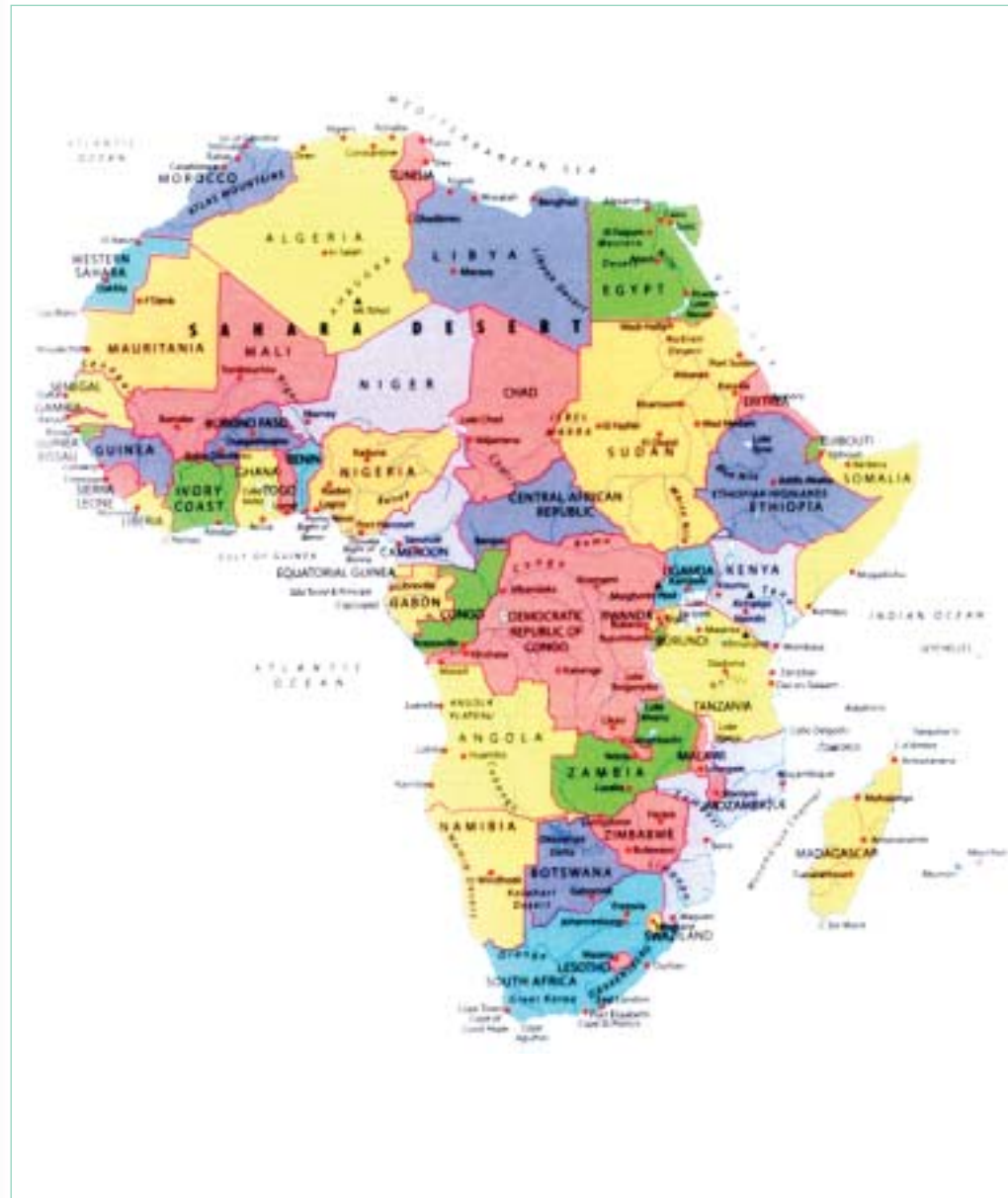
14. The implementation of the Action Plan of the Environment Initiative of NEPAD will be a challenge that will require the support and active participation by all African countries and their development partners. As an immediate step for the implementation of the Action Plan, the Steering Committee decided to convene its fifth meeting in Egypt in October 2003 at the ministerial level to finalize a project proposal on building the capacity of African countries for the implementation of the Action Plan on the Environment Initiative of NEPAD. The multi-million dollar project will be submitted to the donors' meeting to be held in Algiers during the first week of December 2003 with a view to starting the implementation of this strategic project under the aegis of AMCEN in early 2004.

15. At the beginning of the new millennium, Africa is characterized by two interrelated features - rising poverty levels and deepening environmental degradation. Africa is the poorest region of the world. It has the largest share of people living on less than \$1 per day. Almost 40 per cent of the people in Africa live below the poverty line. At least one third of Africa's population is undernourished and this number is rising. Africa is the only region of the world where poverty is projected to rise during the twenty-first century if adequate measures are not taken urgently. Of the 45 countries on the United Nations Development Programme's (UNDP) list of low human development indicators, thirty-five are in Africa and two thirds of the 48 countries included in the list of least developed countries (LDCs) are in Africa.





## INTRODUCTION



The political regions and boundaries of Africa

16. *T*he Heads of State who adopted the United Nations Millennium Declaration in New York in September 2000 committed themselves to "support the consolidation of democracy in Africa and assist Africans in their struggle for lasting peace, poverty eradication and sustainable development, thereby bringing Africa into the mainstream of the world economy." More specifically, they agreed to take special measures to address the challenges of poverty eradication and sustainable development in Africa, including debt cancellation, improved market access, enhanced official development assistance and increased flows of foreign direct investment, as well as transfers of technology.

17. Related to rising poverty is the degradation of the environment and increasing loss of the region's natural resources. The issue of environmental degradation and poverty eradication should, therefore, be considered as a cross-cutting theme. UNEP's Africa Environment Outlook report, launched by Mr. Yoweri Museveni, President of Uganda, on 2 July 2002 at the margins of the ninth session of AMCEN, observes that conditions in natural habitats and fragile ecosystems have been deteriorating, resulting in diminishing biodiversity. The livelihood of the population is worsening, in part due to the lack of maintenance of expensive infrastructures, which has negative impacts on the environment. There are high rates of exploitation of resources such as fresh water and forests, and coastal and marine stocks continue to be used at rates beyond their viable rates of replacement. Land degradation, natural and man-made environmental disasters and invasive alien species continue to be major problems in Africa. Natural disasters such as floods, droughts, earthquakes and landslides cause considerable human suffering and economic damage in the continent. This situation is compounded by the absence of environmental impact assessments. On the whole, environmental degradation undermines prospects of fighting poverty, economic growth and sustainable development in Africa. Strategies aimed at revitalizing the economies of the countries of the region and reducing poverty must promote sustainable management of environmental resources by emphasizing an integrated approach to the implementation and harmonization of national legislation and the utilization of local expertise. Such measures are based on the recognition that the environment in general and the ecosystem in particular are sources of goods and services valuable for poverty reduction and economic growth. Greater environmental degradation and widespread poverty tend to mutually reinforce each other. Thus, the vicious circle between poverty and the degradation of the environment needs to be addressed in a comprehensive manner.

18. NEPAD, adopted by African Heads of State and Government, is an initiative in which those leaders pledged, "based on a common vision and a firm and shared conviction, that they have a pressing duty to eradicate poverty and to place their countries, both individually and collectively, on a path of sustainable growth and development, and at the same time to participate actively in the world economy and body politic". NEPAD recognizes that the range of issues that must be addressed to nurture the region's environmental base and promote the sustainable use of natural resources is vast and complex and that a systematic combination of initiatives is necessary in order to develop a coherent environmental programme.

19. NEPAD recommends the development and adoption of an environment initiative - a coherent action plan and strategies - to address the region's environmental challenges and at the same

time combat poverty and promote socio-economic development. This environmental action plan for the first decade of the twenty-first century is a response to address such challenges. It has been prepared through a consultative and participatory process under the leadership of AMCEN. The plan is about Africa's common and shared sustainable development problems and concerns. It is a body of collective and individual responsibilities and actions that African countries will adopt and implement to maintain the integrity of the environment and ensure the sustainable use of their natural resources through partnerships with the international community. It provides an appropriate framework for the establishment of a strong partnership for the protection of the environment between Africa and its partners based on the commitments contained in the United Nations Millennium Declaration.

20. Chapter VIII (on sustainable development for Africa) of the Johannesburg Summit Plan of Implementation provides that "(t)he New Partnership for Africa's Development is a commitment by African leaders to the people of Africa. It recognizes that partnerships among African countries themselves and between them and the international community are key elements of a shared and common vision to eradicate poverty, and furthermore it aims to place their countries, both individually and collectively, on a path of sustained economic growth and sustainable development, while participating actively in the world economy and body politic. It provides a framework for sustainable development on the continent to be shared by all Africa's people." The Plan of Implementation contains forty-seven recommendations aimed at ensuring the promotion of sustainable development in Africa within the framework of NEPAD. The recommendations are contained in annex III of the present document.

21. Heads of State and Government of the Group of Eight (G8) at a meeting with African leaders in Kananaskis, Canada from 25 to 27 June 2002, reaffirmed their commitment to building a new partnership between African countries based on mutual responsibility and respect. To demonstrate their support, they agreed to support the implementation of NEPAD, including its environment component. The participants at the high-level plenary meeting of the United Nations General Assembly, in adopting on 16 September 2002 the United Nations Declaration on the New Partnership for Africa's Development, urged the United Nations system and the international community, in particular donor countries, to assist with the implementation of the new partnership. The participants at the Global Ministerial Environment Forum held in Nairobi on 5 February 2003 discussed the Environment Initiative of NEPAD. The President of Senegal, Mr. Abdoulaye Wade, and the Vice-President of Kenya, Mr. Michael Kijana Wamalwa, attended the meeting. The participants called for the urgent finalization of the Action Plan on the Environment Initiative of NEPAD and urged the international community to support its implementation. These developments have been fully taken into account in the preparation and finalization of the Action Plan of the Environment Initiative of NEPAD.

22. Under the leadership of AMCEN and in close cooperation with the NEPAD secretariat and the African Union and with the support of UNEP and GEF, the Action Plan of the Environment Initiative of NEPAD has been prepared in two phases. During the first phase (September 2001-July 2002), a framework of an action plan was prepared by the UNEP/GEF medium-sized project Steering

Committee. Three meetings of the Steering Committee were convened in Pretoria, Algiers and Dakar. The last meeting was held at the ministerial level. The Steering Committee was co-chaired by the representatives of the President of the African Union and the President of AMCEN. The framework of the action plan was adopted by the ninth session of AMCEN, held in Kampala from 1 to 5 July 2002. During the second phase (September 2002-May 2003), the following nine thematic workshops were convened for the finalization of the Action Plan: desertification (on 19 and 20 January 2003, Algiers); invasive species (on 23 and 24 January 2003, Pretoria); poverty and environment (on 23 and 24 January 2003, Bamako); a consultative meeting with non-governmental organizations (1 February 2003, Nairobi); wetlands (on 10 and 11 February 2003, Nairobi); forests (on 13 and 14 February 2003, Yaounde); health and environment (on 17 and 18 February 2003, Dakar); marine and coastal environment (on 24 and 25 February 2003, Abuja) and climate change (on 26 and 27 February 2003, Rabat).

23. The workshops were convened to further elaborate the activities contained within the framework of the Action Plan and to identify project proposals. These workshops were attended by more than 786 African experts and resulted in the identification of 200 project proposals falling within the programme areas of the Action Plan. The reports of the nine thematic workshops and the revised Action Plan were reviewed and endorsed by the Steering Committee at a ministerial level meeting in Maputo on 23 and 24 April 2003. The Action Plan was submitted to the special session of AMCEN held in Maputo on 9 and 10 June 2003. The list of project proposals under the Action Plan identified by the NEPAD thematic workshops is contained in annex II of the present document. The fifth meeting of the Steering Committee, at the ministerial level, will be held in Cairo in October 2003 to finalize an African capacity-building plan (the Strategic Plan to Build Africa's Capacity to Implement Global and Regional Environmental Conventions). The Action Plan was unanimously adopted by the special session of AMCEN held in Maputo on 9 and 10 June 2003. President Joaquim Chissano of Mozambique attended the meeting. The decision of the meeting is contained in annex IV of the present document.

24. Environment is a cross-cutting issue. Although the Action Plan has been developed to address chapter VIII of NEPAD, it is important that environmental considerations be duly taken into account during the implementation phase of all programmes of NEPAD. To this end, an environmental and social impact assessment should be carried out for all projects falling within the other programmes of NEPAD.

## I. THE ENVIRONMENT IN AFRICA: STATUS AND TRENDS



25. Africa has a wealth of natural resources, including minerals, land, biological diversity, wildlife, forests, fisheries and water. It has the largest tropical rain forests and the second largest freshwater lake in the world. The region offers significant potential for human, social and economic development. It is, however, facing enormous challenges. Rapid population growth, rising levels of poverty and inappropriate development practices are the main factors that affect the state of the environment in Africa. Other factors that have led to continued environmental degradation include the impact of drought and other natural disasters, disease, ineffective development policies, unfavourable terms of trade and the debt burden. The issues of concern include, but are not limited to, widespread land degradation and desertification, loss of biodiversity, deforestation and loss of arable and grazing land, declining soil productivity, pollution and depletion of freshwater resources and deteriorating air quality. These have wider implications on food security, sustainable natural resources management, human health and poverty eradication efforts.

26. Land is an important resource on which Africa's economies are based. Agriculture contributes about 40 per cent of the regional gross domestic product (GDP) and provides livelihoods to about 60 per cent of the population. In addition to providing subsistence crops for a large proportion of Africa's population, there are increasing demands on land to produce cash crops for export, thereby facilitating economic growth. Africa contains the world's largest expanse of drylands, covering roughly two billion hectares of the continent or 65 per cent of Africa's total surface area. One third of this comprises hyper-arid deserts while the remaining two thirds consists of arid, semi-arid and dry sub-humid areas - home to about two thirds of the continent's population. Approximately 22 per cent of the total land area is under forest, 43 per cent is covered by desert and 57 per cent is vulnerable to desertification. Only 21 per cent is suitable for cultivation. Although there is a paucity of reliable data, it is estimated that some 500 million hectares of land in Africa have been affected by soil degradation since 1950, including as much as 65 per cent of agricultural land. Approximately 50 per cent of land degradation in Africa is caused by overgrazing and 24 per cent by activities related to crop production, 14 per cent by vegetation removal and another 13 per cent by overexploitation of the land. Wind and water erosion is extensive in many parts of Africa, with about 25 per cent of the land prone to water erosion and about 22 per cent to wind erosion. Information regarding rates of soil loss in Africa is varied and country-specific, with estimates ranging from 900 t/km<sup>2</sup>/yr to 7,000 t/km<sup>2</sup>/yr. Likewise, studies of the economic impacts of soil loss are localized and varied but are estimated to reach up to 9 per cent of GDP.

27. Africa has a large heritage of biodiversity, forming the region's natural wealth on which its social and economic systems are based. The continent currently holds six of the world's 25 biodiversity hot spots, including the Guinean hot spot, which ranks first in mammalian diversity and is home to half of Africa's known mammalian species. These resources are also of global importance for the world's climate and for the development of agriculture or industrial activities. The region has more than 50,000 known plant species, 1,500 species of birds and 1,000 mammals. The biological diversity found in any one area or country varies depending on physical size, local climatic conditions, topography and vegetation and soil types. For example, South Africa has an estimated 20,000 plant species, Kenya has at least 8,000 and Cameroon has more than 15,000.

Other African countries such as Madagascar and the Democratic Republic of Congo are known for their rare internationally recognized plant and animal species.

28. A significant proportion of these biodiversity resources is either endangered or under threat of extinction. The major threats to Africa's biodiversity reserves are due to natural habitat loss, loss of species and subspecies, invasion by alien species, overharvesting of natural resources and lack of recognition of indigenous knowledge and property rights. Logging accounts for 79 per cent of forest loss in Africa while agriculture and energy and infrastructure development account for 17 and 12 per cent of biodiversity loss respectively. Recent estimates show that a total of 126 species have become extinct (or extinct from the wild) in Africa and that there are 2,018 threatened animal species across the region. Some 125 plants are recorded as extinct and 1,771 are threatened. Loss of species means loss of economic opportunities, both now and in the future. Wetlands cover about 1 per cent of Africa's total surface area and are found in almost every country. African wetlands also have rich biological diversity with many endemic and rare plant species. They are among the most biologically productive ecosystems in Africa and provide important seasonal habitat for migratory bird species. Lake Malawi, Africa's third largest after Lake Victoria and Lake Tanganyika, contains the largest number of fish species for any single lake in the world, with almost 500 species from 10 families.

29. The African coastal region is equally diverse; it has more than 4,000 species of fish. The diversity of the flora and fauna of wetlands in Africa is immense and in many places unknown, with many endemic and rare plant species. Despite their high value and contribution to livelihood support systems, wetlands in Africa are faced with the danger of desiccation emanating from drought as a result of climate change due to natural and human causes. The African coastline is vast and comprises a variety of habitats. Diversity of fish species is high, with more than 4,000 species reported. Marine and coastal ecosystems contribute significantly to the economies of African countries. It is estimated that over 40 per cent of Africa's population derives its livelihood from coastal and marine ecosystems and resources, a percentage that will continue to increase with current migration and demographic patterns. Ecosystems are coming under increasing stress from a wide array of anthropogenic impacts and the fight against poverty often leaves no ready alternatives to continued overexploitation of resources. The main problems and threats to coastal, marine and freshwater resources in Africa include pollution, coastal change and modification, stress on ecosystems, threats to the availability of water, invasive aquatic species, fisheries and biodiversity degradation, water quality degradation, urbanization and population growth and global issues of climate change and sea-level rise. The situation in some of Africa's small island States, which largely depend on development and use of coastal zones, is of particular concern.

30. Africa's water resources are characterized by extreme spatial and temporal variability. While Africa uses only about 4 per cent of its renewable freshwater resources, water is becoming one of the most critical natural resource issues. The continent is one of the two regions in the world facing serious water shortages. Average water availability per person in Africa is 5,720m<sup>3</sup>/capita/year compared to a global average of 7,600m<sup>3</sup>/capita/year. The wet equatorial zone produces 95 per cent of Africa's total flow, while the arid and semi-arid zones produce only 5 per cent. Recent

studies indicate that more than 300 million people in Africa lack access to safe water. In sub-Saharan Africa about 51 per cent of the population has access to safe water and 47 per cent to sanitation. In terms of surface water bodies, Africa has seventeen rivers with catchment areas greater than 100000 km<sup>2</sup>. It has more than 160 lakes larger than 27 km<sup>2</sup>, most of which are located around the equatorial region and sub-humid East Africa highlands within the Rift Valley. In addition to freshwater resources in rivers and lakes, the continent is endowed with transboundary aquifers. Agriculture is the largest user of water in the region. Water used for irrigation purposes represents 69 per cent of the total water use in the region.

31. Africa contains about 650 million hectares of forests, defined as 10 per cent tree cover or greater, corresponding to 17 percent of the world total. African forests amount to 0.85 ha per capita on average, which is close to the world average, but the variation around this average is large. Africa has 14 different types of forest. Most African forests are located in the tropical zone and Africa has about one quarter of all tropical rain forests. Only 1 percent of the forest area is classified as forest plantations, mostly in South Africa. Forests and woodland ecosystems have high productivity rates and support rich and diverse services at the global, regional and local levels. The humid tropical forests of Africa support an estimated 1.5 million species, which in turn support the local communities in terms of food, shelter, utensils, clothing, and medicinal needs. By far, the most dominant use of woodland resources is domestic energy needs, mainly from fuelwood and charcoal. In sub-Saharan Africa alone, traditional fuels accounted for 63.5 per cent of total energy use in 1997. In addition to tangible benefits, forests and woodlands have been important for cultural, spiritual and religious uses. At the national level, the commercial exploitation of African forests and woodlands is an important source of income, foreign exchange and employment. The general status of Africa's forest resources is one of overall decline. The net change of forest area in Africa is the highest among the regions of the world, with an annual net loss, based on country reports, estimated at 5.3 million hectares annually, corresponding to around 0.78 percent annually. It is estimated that Africa lost 66 million hectares between 1980 and 1995, with 65 per cent of this deforestation occurring during the 1990s. The decline has resulted mainly from the rising demand for agricultural land, timber and other non-timber forest products.

32. Africa is faced with three major issues with regard to the atmosphere, namely, climate variability, climate change and air quality. Africa's contribution to the global pool of greenhouse gas emissions is still relatively low. It is estimated that the region contributed to only 3.57 percent of the world's total carbon dioxide emissions in 1988. Despite this, Africa is considered to be more vulnerable to the impacts of climate change because of factors such as widespread poverty, recurrent droughts, inequitable land distribution, and overdependence on rain-fed agriculture. Although there is much experience to date of coping with climate variability and disasters from which useful lessons for adaptation can be drawn, the projected pace of climate change could shorten the time frame available for adaptation to less than the existing social and economic systems can cope with.

33. The impacts of climate change on Africa's countries will be varied, irreversible and long-term. They will include severe climate variability, severe drought, increased erosion and sedimentation of dams leading, inter alia, to changes in patterns of hydro-electric production,

sea-level rise endangering coastal zones and small island economies, shifts in agro-climatic zones, which would affect biomass production patterns, and general changes in habitats affecting both human and animal population patterns. These impacts could generate irreversible economic and socio-political problems with severe impact on the food security of the continent, which is already affected by a serious food deficit.

34. Air quality has emerged as an increasingly important issue over the past few decades, particularly in large urban areas polluted by emissions from industry, households and vehicles. Major pollutants from these sources include sulphur dioxide, carbon dioxide, particulate, lead and organic compounds. In most countries, economic pressures to increase industrial output have contributed to rising levels of pollution, and this trend is likely to continue if current development patterns persist. In both urban and rural areas, the toxins produced from domestic combustion of wood, coal, paraffin, crop residues and refuse pose a major health issue. Use of these traditional energy sources is driven by lack of investment in rural electrification and the high costs of electricity and electrical appliances.

35. There is rapid urbanization in Africa although the majority of Africans live in rural areas. African cities are experiencing rapid population growth accompanied by rapid development pressures with high demands for housing and infrastructures. The population of some of these cities is doubling and concentration in the urban areas has led to the deterioration of the human environment caused by the increasing gap between economic growth on the one hand and population growth and concentration on the other. This urbanization has led to deteriorating human settlements, depletion of natural resources and increased discharge of unprocessed wastes into the environment, which results in severe health problems. Consequently, there are problems of overcrowding, inadequate water supply and sanitation, poor drainage, road transport and high unemployment levels, which are now common to most African cities.



Volchev/UNEP/SHI Pictures

Sustainable land management





## II. AFRICA'S ENVIRONMENTAL CHALLENGES AND RESPONSES



## A. OVERVIEW OF ENVIRONMENTAL CHALLENGES

36. Africa is experiencing an array of serious environmental challenges and problems. Unsustainable exploitation and degradation of forests, soils, wildlife, fresh water and other natural resources threaten to undermine the region's economic development prospects. For example, the continent is most severely affected by desertification, which threatens more than 33 percent of Africa's land area, particularly in the Sudano-Sahelian region, Southern Africa and Mediterranean Africa. Recurrent droughts are largely a manifestation of land degradation in the region.

37. Africa's small island developing States have their own particular vulnerabilities and characteristics and face severe and complex difficulties in the pursuit of environmentally sustainable development. Chapter VII of the Johannesburg Summit Plan of Implementation, in the light of their peculiar and fragile ecosystems, calls for actions to promote the sustainable development of small island developing States. Small island developing States are characterized by a high degree of endemism and high levels of biodiversity. Small numbers of the various species, however, are at high risk of extinction and require protection measures. On the other hand, the biological resources on which small island developing States depend are threatened by the large-scale exploitation of marine and terrestrial living resources. Due to the small size, isolation and fragility of island ecosystems, their biological diversity is among the most threatened in the world. This requires that in the pursuit of development, special attention be paid to protect the environment and people's livelihoods. Climate change, climate variability and sea-level rise are issues of great concern for small island developing States and will be addressed within this Action Plan. The Action Plan will also assist the initiatives of small island States to manage their environment in a sustainable manner.

38. One of the biggest environmental challenges facing Africa is the reconciliation of its development needs with the sustainable management of its natural resources. There is an urgent need to break the so-called cyclical and downward spiral of the poverty-environment nexus. Throughout Africa, poverty remains the main cause and consequence of environmental degradation and resource depletion without significant improvement in the living conditions and livelihoods of the poor, environmental policies and programmes will achieve little success. Environmental problems must be addressed within a broader perspective that addresses the root causes of environmental degradation. To this end, a thematic workshop on the relation between poverty and environment in the context of the Environment Initiative of NEPAD was held in Bamako on 23 and 24 January 2003. The meeting, organized with the cooperation of the World Bank, identified eight project proposals. The list of the projects is contained in annex II of the present document.

39. For African countries, poverty alleviation is the overriding goal and priority of their development policies. It should be noted that Africa is the only continent in which poverty is expected to rise during the twenty-first century and that poverty reduction depends on health and good stewardship of the environment. The main objective of this Action Plan is, therefore, to assist African countries to integrate environmental considerations into poverty reduction policies and strategies. An enabling environment and sound guidelines have to be established in order to ensure the smooth

implementation of the Action Plan of the Environment Initiative of NEPAD and to achieve its ultimate goals of reducing poverty and environmental degradation. There is, therefore, an urgent need to assist African Governments to integrate environmental issues into their poverty reduction strategies. African countries need to prepare their own mix of policies to reduce poverty, reflecting national priorities and local realities. Choices will depend on the economic, socio-political, structural and cultural context of individual countries and communities. The poor are the main actors in the fight against poverty. They must, therefore, be brought centre stage in designing, implementing and monitoring anti-poverty strategies and programmes.

40. The development and implementation of strategies and programmes in the programme areas identified in the Action Plan are aimed at reducing poverty and environmental degradation, thereby ensuring sustainable development on the continent. Recognizing that poverty reduction depends on good stewardship of the environment, AMCEN will play a key role in achieving NEPAD's goal to implement national strategies for sustainable development by 2005 so as to reverse the loss of environmental resources by 2015. The natural resource base on which much of poverty eradication depends also satisfies many of the needs of substantial numbers of African communities, including medicine, food and building materials, few of which are recorded in government statistics on income and poverty levels. The effective implementation of chapter VIII of NEPAD is inextricably linked to effective and long-term poverty eradication.

## B. RESPONSES TO ENVIRONMENTAL CHALLENGES

### 1. Regional conventions

41. Despite the growing recognition of the importance of conservation of natural resources and numerous governmental commitments to environmental protection dating back to 1960, Africa's environment continues to deteriorate. Existing national, subregional and regional environmental laws, plans, policies and institutions have proven inadequate to arrest current trends, including the lack of adequate financial resources.

42. An overwhelming majority of African countries have signed and ratified all the main regional environmental conventions. One of the earliest conservation treaties in Africa was the 1900 London Convention for the Protection of Wild Animals, Birds and Fish in Africa. The aim of the treaty was to prevent the uncontrollable massacre of wild animals and to ensure the conservation of diverse wild species in Africa that are useful to man.

43. The African Convention on the Conservation of Nature and Natural Resources (Algiers Convention) negotiated under the auspices of the Organization of African Unity (OAU), now the African Union (AU), was adopted in Algiers in 1968. The Algiers Convention aims at ensuring the conservation, utilization and development of soil, water, flora and faunal resources in accordance with scientific principles and with due regard to the best interests of the people. This treaty anticipated by over two decades many of the sustainable development principles that are embodied in Agenda 21, which was adopted at the United Nations Conference on Environment and Development in 1992 in Rio de Janeiro. It sought to link natural resource use to conservation

and contains many of the elements reflected in global treaties such as the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the Convention on the Conservation of Migratory Species of Wild Animals and its instruments, the Convention on Wetlands of International Importance, Especially as Waterfowl Habitat (Ramsar Convention) and the Convention on Biological Diversity.

44. The implementation of the Algiers Convention has been limited because of, inter alia, lack of appropriate financial resources. In 1985, in collaboration with IUCN/the World Conservation Union, OAU made attempts to revise the Convention. In collaboration with UNEP and IUCN, OAU finalized the revision of the Algiers Convention to adapt it to new developments. The revised text was discussed at the ninth session of AMCEN, held in Kampala from 1 to 5 July 2002. In addition, more specialized regional agreements were adopted. These included the 1985 Protocol Concerning Protected Areas and Wild Fauna and Flora in the Eastern African Region adopted as a protocol to the Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region (Nairobi Convention).

45. The protocol committed parties to take all appropriate measures to maintain essential ecological processes and life support systems, to preserve genetic diversity, and to ensure the sustainable utilization of harvested natural resources under their jurisdiction. The protocol provides for meetings of the parties to review the implementation of the protocol, assess the need for further measures and adopt or amend annexes. But these institutional measures were not adequate to meet the goals of the protocol for a variety of reasons. Implementation of the goals of the protocol required additional financial resources, technological knowledge and human capacity as well as national and regional policy efforts to address the root causes of environmental degradation.

46. Other regional environmental agreements include the Convention for Cooperation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region (Abidjan Convention), the Convention Establishing a Permanent Inter-State Drought Control Committee for the Sahel, the Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes Within Africa (Bamako Convention), and the Lusaka Agreement on Cooperative Enforcement Operations Directed at Illegal Trade in Wild Fauna and Flora. One of the main achievements of these agreements has been the formulation of regional and national actions on environmental issues. However, inadequate financial and human resources and institutional capacities have hampered their effectiveness.

47. In addition to the environmental agreements or treaties, subregional and regional bodies such as the African Union, the Southern African Development Community (SADC), the Economic Commission of West African States (ECOWAS), the East African Community, the Economic Commission for Africa (ECA), the Economic Community of Central African States (ECCAS) and the Intergovernmental Authority on Development (IGAD) have established environmental programmes or added environmental concerns to their political and development agendas. AMCEN, established

in 1985, is the main policy forum that provides the region with an opportunity to address its common environmental problems. The revitalized AMCEN, arising from the Abuja Declaration adopted in April 2000, is expected to play a leading role in the future.

## *2. International environmental conventions and programmes*

48. Most African states are parties to many of the international environmental conventions. African countries have ratified the Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Basel Convention), the Stockholm Convention on Persistent Organic Pollutants (Stockholm Convention) and the Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (Rotterdam Convention). African countries have ratified the Ramsar Convention, CITES, the Convention on the Conservation of Migratory Species of Wild Animals, the Convention Concerning the Protection of the World Cultural and Natural Heritage (the World Heritage Convention), the United Nations Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa, the Convention on Biological Diversity and the United Nations Framework Convention on Climate Change (UNFCCC). They are now participating in international efforts to implement these conventions.

49. It must be noted that African countries played a leading role in the negotiation and now the implementation of the Convention to Combat Desertification. They also played a major role in the negotiation and adoption of the Cartagena Protocol on Biosafety to the Convention on Biological Diversity. The implementation of the Kyoto Protocol to UNFCCC offers an opportunity for the African continent, particularly through its Clean Development Mechanism. However, as the negotiations related to the implementation and further elaboration of these treaties are becoming more and more technical, the participation of the African countries will need to be enhanced in order to ensure that African interests are promoted. The Action Plan, which has been prepared through a participatory and integrated process, will benefit from collaboration among all the stakeholders involved in sustainable development activities in African countries.





Adrian Arbib/Still Pictures

### III. ENVIRONMENTAL ACTION PLAN FOR THE FIRST DECADE OF THE 21ST CENTURY



50. A coherent, strategic and long-term programme of action is required to promote the sustainable development of Africa. This is explicit in NEPAD's emphasis on measures that will ensure that the continent is able to confront its short-term economic growth challenges without losing sight of long-term environmental, poverty eradication and social development imperatives. Sustainable development is about the long term. It can only be achieved through investments in the future. Thus, the proposed NEPAD environment programme of action takes a long-term approach. The programme of action is about processes, projects and related activities that are aimed at enlarging the economic prospects of Africa through sustained environmental management.

51. The proposed Action Plan is integrated in the sense that it takes into consideration economic growth, income distribution, poverty eradication, social equity and better governance as integral parts of the environmental sustainability agenda of Africa. The NEPAD Environment Initiative cannot be implemented in isolation from the overall objectives of NEPAD, which in turn depend on the health and good stewardship of the environment. The Environment Initiative will be implemented in harmony with the other components of NEPAD.

52. The Action Plan fully takes into account the relevant recommendations on NEPAD contained in the Johannesburg Summit Plan of Implementation as well as the recommendations agreed upon during the discussion on the Environment Initiative of NEPAD held in Nairobi on 5 February 2003 at the Global Ministerial Environment Forum. The Action Plan is organized in clusters of programmatic and project activities to be implemented over an initial period of ten years. It is founded on the following principles:

- (a) Emphasis is placed on those activities and processes that will add new and significant value to existing national, subregional and regional environmental management activities;
- (b) The plan of action as a whole and its implementation projects will build upon previous progress and fill existing gaps;
- (c) Activities are to be implemented in such a way as to ensure that Africa learns from its previous efforts and achievements while taking into account the experience gained in other regions of the world;
- (d) Collective action with differentiated capabilities, i.e., clear recognition that while the continent has shared goals and obligations, its countries have different levels and ranges of capability, including financial, human, scientific and technological endowments. Genuine regional cooperation will thus be required to mobilize or harness the capabilities to implement the plan of action. In addition, emphasis is on those activities that will ultimately enlarge the region's capacity to engage in environmental management;
- (e) The goals and implementation of the Action Plan are not aimed at meeting the interests or needs of individual countries or groups of countries but of the African continent as a whole.

53. The Action Plan will build upon ongoing activities carried out by the revitalized AMCEN in the context of the implementation of the Abuja Declaration and other relevant African processes. It will also complement ongoing AMCEN activities, including the generation and dissemination of

environmental information in Africa, poverty and environment in Africa, environmental assessment in Africa and the strengthening of collaboration with major bodies in Africa. The Action Plan, developed through an integrated and participatory approach, will also benefit from collaboration with all stakeholders and actors involved in sustainable development activities in the countries.

54. The Action Plan is organized in clusters of programme areas covering the following priority sectors and cross-cutting issues as identified in the Environment Initiative of NEPAD: combating land degradation; drought and desertification; wetlands; invasive species; marine and coastal resources; transboundary conservation of natural resources; climate change; and cross-cutting issues. It will build upon the related problems of pollution, forests and plant genetic resources, wetlands, invasive alien species, coastal and marine resources, capacity-building and technology transfer. In addition, appropriate feasibility studies and environmental and social impact assessments will be undertaken, where applicable, during the design phase of the projects.

## A. OBJECTIVES OF THE ACTION PLAN

55. The overall objective of the Action Plan is to complement the relevant African processes, including the work programme of the revitalized AMCEN, with a view to improving environmental conditions in Africa in order to contribute to the achievement of economic growth and poverty eradication. It will also build Africa's capacity to implement regional and international environmental agreements and to effectively address African environmental challenges within the overall context of the implementation of NEPAD. In this context, environmental valuation must be made part of investment and infrastructure projects for sustainable development to ensure the integration of economic growth, social development and environmental protection. Thus, environmental impact assessments must be carried out for all infrastructure projects.

56. The specific objectives of the Action Plan are to:

- (a) Contribute to the implementation of NEPAD through the effective implementation of its Environment Initiative;
- (b) Promote the sustainable use of Africa's natural resources and strengthen public and political support to subregional and regional environmental initiatives;
- (c) Support the implementation by African countries of their commitments under the global and regional environmental conventions and other legal instruments to which they are party;
- (d) Enhance the human and institutional capacities of African countries to effectively address the environmental challenges facing the continent;
- (e) Promote the integration of environmental issues into poverty reduction strategies;
- (f) Foster regional and subregional cooperation to address environmental challenges;
- (g) Build a network of regional centres of excellence in environmental science and management;
- (h) Mobilize and direct African and international scientific and technical communities to solve Africa's pressing environmental problems;

- (i) Enhance the effective participation of major African groups and their important contribution to informing intergovernmental decision-making;
- (j) Improve the institutional framework for regional environmental governance;
- (k) Mobilize international resources for the implementation of the Environment Initiative of NEPAD;
- (l) Provide a framework for the establishment of a solid partnership between African countries themselves and with their bilateral and multilateral partners, including multilateral financial institutions such as GEF, in accordance with the spirit and the letter of the United Nations Millennium Declaration.

## B PROGRAMME AREAS AND ACTIVITIES





## 1. PROGRAMME AREA 1: COMBATING LAND DEGRADATION, DROUGHT AND DESERTIFICATION

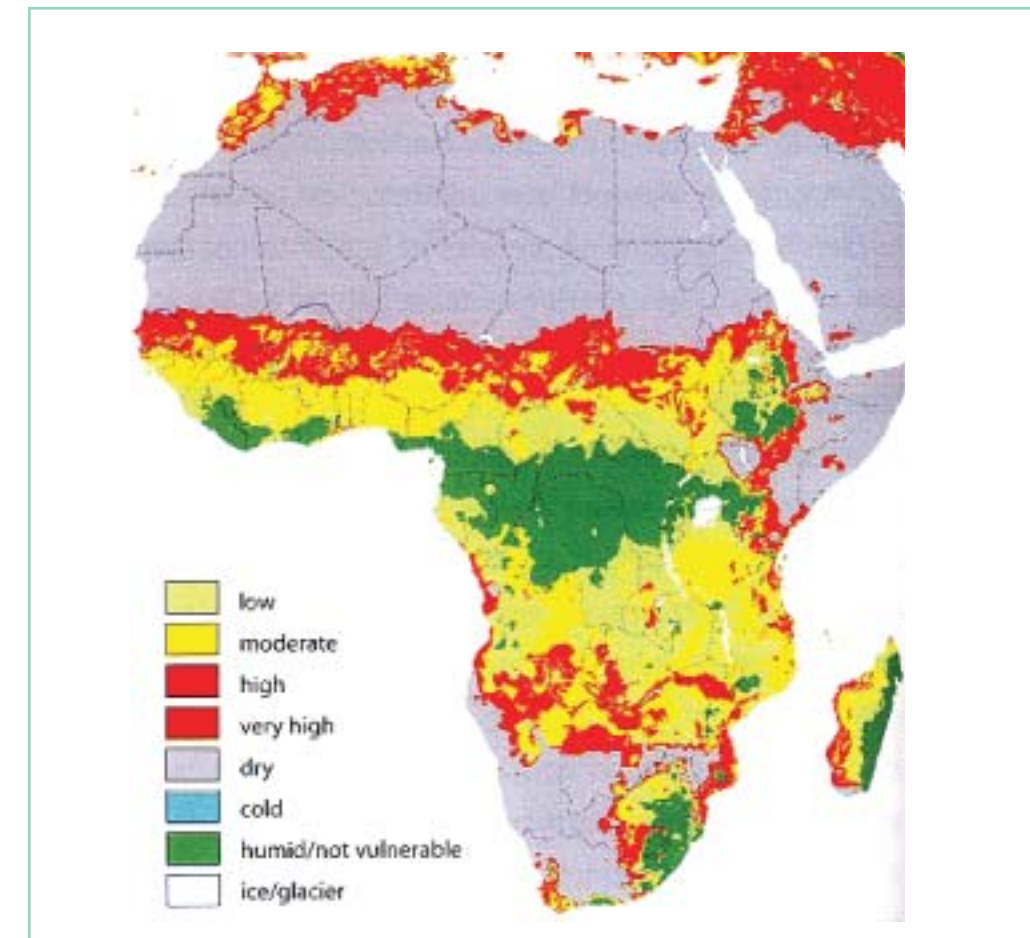


Dune Stabilization in the Sahel

Jorgen Schytte/Still Pictures

57. **L**and is the critical resource and the basis of survival for most people in Africa. Agriculture contributes about 40 per cent of the regional GDP and employs more than 60 per cent of the labour force. Land degradation is a serious problem throughout Africa that threatens economic and physical survival. Key issues include escalating soil erosion, declining fertility, salinization, soil compaction and pollution by agrochemicals and desertification.

58. Desertification affects one sixth of the world's population, 70 per cent of all drylands, amounting to 3.6 billion hectares, and one quarter of the total area of the world's land. In Africa, the impact of desertification is particularly acute. It threatens the lives of millions of persons and seriously affects more than 39 per cent of the total area of the continent. Since 1950, an estimated 500 million hectares of African land have been affected by soil degradation, including at least 65 per cent of agricultural land. If the degradation of cultivated land continues at the present rate, it is predicted, crop yields could be reduced by half within forty years, having a serious negative impact on the food security of the continent and aggravating poverty and the number of malnourished persons. Although a net food exporter before 1960, Africa has become more dependent on food imports and food aid over the past three decades. In 1995, food imports accounted for 17 per cent of the total food needs in the region. The rate is expected to at least double by 2010. As a result of declining food security, the number of undernourished people in Africa nearly doubled from 100 million in the late 1960s to nearly 200 million in 1995. Projections indicate that the region will be able to feed only 40 per cent of its population by 2025, although the agricultural potential of the continent remains untapped.



Vulnerability to desertification

59. There are an estimated 632 million hectares of arable land in Africa. However, only 179 million hectares are actually cultivated, and they are unevenly distributed. Recurrent droughts and extreme weather events associated with climate change are compounding the land degradation phenomenon in Africa. Nearly two thirds of African land is arid or semi-arid. Africa is the continent most seriously affected by desertification, which is threatening more than one third of its surface area. All the subregions of the continent are affected by desertification. In North Africa alone, more than 57 per cent of the total land is threatened by desertification. It was on the basis of this reality that the international community, in adopting the Convention to Combat Desertification, decided to pay special attention to the African continent through the title of the convention as well as the adoption of a distinct annex on regional implementation for Africa.

60. The Convention to Combat Desertification addresses the challenges of desertification from a perspective of sustainable development. One of the major features of the Convention is the bottom-up approach that entails the involvement of local populations and communities in decision-making and in the implementation of the Convention. Also of importance is the role assigned to non-governmental organizations and community-based organizations in the organization of local communities for effective participation in combating desertification. The Convention to Combat Desertification also stresses partnership arrangements between the affected people, the Government and the donor community in addressing the causes of land degradation. In the implementation of the Convention, Parties are called upon to forge cooperation in order to avoid duplication. The Convention, in its Regional Implementation Annex for Africa (RIAA), calls for the preparation and implementation of national action programmes, subregional action programmes and a regional action programme.

61. African countries have played a leading role throughout the negotiation, adoption and implementation of the Convention to Combat Desertification. In accordance with the relevant provisions of the Convention and its annex for Africa, they have undertaken to:

- (a) Adopt an integrated approach to addressing the physical, biological and socio-economic challenges associated with combating desertification and drought;
- (b) Establish strategies and priorities to combat desertification and to mitigate the effects of drought;
- (c) Integrate strategies for poverty eradication into programmes and projects related to desertification control and the mitigation of the effects of drought;
- (d) Strengthen subregional, regional and international cooperation, particularly in the areas of information collection, analysis and exchange, research and development, and in the transfer, acquisition, adaptation and development of technology;
- (e) Cooperate within relevant intergovernmental organizations;
- (f) Make appropriate financial allocations from their national budgets towards the implementation of the Convention and RIAA;
- (g) Strengthen reforms towards greater decentralization and participation of local communities in halting and reversing the desertification process;

- (h) Mobilize new and additional national financial resources for the implementation of the Convention.

62. Since the adoption of this unique legal instrument, the importance of combating desertification in Africa has also been recognized throughout the proceedings of its Conference of the Parties. In this regard, it must be noted that the third session of the Conference of the Parties, held in Recife, Brazil, in November 1999, devoted its attention to reviewing national reports submitted by African countries. The commitment of African countries to combating desertification is evidenced by the ratification of the Convention by fifty-two African countries and the submission in less than two years after its entry into force of more than 42 national reports. Most African countries are actively engaged in the preparation, finalization and implementation of national action plans. All the African subregions are in the process of finalizing regional and subregional action plans for the implementation of the Convention.

63. The implementation of the objectives of the Convention to Combat Desertification remains one of the top environmental priorities of the African continent. Accordingly, the overall objectives of this programme area of the Action Plan is to enhance support for the implementation of the objective of the Convention to combat desertification in Africa while improving livelihoods and contributing to the enhancement of food security on the continent. More specifically, this programme area will aim at the following:

- (a) Supporting African countries to prepare and finalize the national action programmes called for by article 9 of the Convention;
- (b) Supporting African countries to implement their national action programmes in accordance with the identified national priorities and actions;
- (c) Supporting the finalization and implementation of the regional and subregional action plans;
- (d) Supporting the effective implementation of the Convention's annex for Africa;
- (e) Building a reliable and up-to-date information base on the status of and trends in land degradation, drought and desertification on the continent;
- (f) Strengthening the continent's capacity to anticipate and monitor land degradation, drought and desertification;
- (g) Establishing an integrated regional information system and promoting information sharing on land degradation and desertification control and the mitigation of the effects of drought;
- (h) Developing holistic and integrated tools and methodologies for sustainable land management;
- (i) Developing adaptive land management tools and approaches;
- (j) Developing and adopting regional land-use guidelines and policies;
- (k) Harnessing the indigenous knowledge system of land (natural resources) management, particularly indigenous soil and water conservation;
- (l) Disseminating information on best practices in combating land degradation, drought and desertification;
- (m) Strengthening and mobilizing scientific, technical and institutional capacities for integrated



- (n) Enhancing the human and institutional capacities of national and regional centres of excellence, including, where appropriate, the establishment of subregional and regional information systems on land degradation, drought and desertification;
- (o) Establishing a regional network of centres of excellence for the development and implementation of national, subregional and regional action programmes to combat land degradation, drought and desertification;
- (p) Enhancing public awareness and education in support of the objectives of the Convention;
- (q) Promoting the effective participation of civil society, including non-governmental organizations and local communities for the implementation of the Convention;
- (r) Promoting South-South cooperation.

64. Considering the region-wide approach of NEPAD, the action plan to address land degradation, desertification and drought under NEPAD is based on regional and subregional action programmes under the Convention to Combat Desertification for Africa. These programmes represent an integrated approach that takes into account various environmental, technological, socio-cultural, economic and institutional constraints faced by the affected countries. The programmes have been prepared and will be implemented in a participatory manner, with the involvement of various branches of central and local government, academia and research institutions, civil society and, particularly, local communities and the private sector.

65. The regional action programme focuses on selected thematic areas for action at the regional level, identified by the African country parties to the Convention in their regional meetings. In accordance with these thematic areas, activities under NEPAD could focus on sustainable land use, integrated management of water resources, development of new energy sources, development of sustainable agriculture and management of rangelands. The regional action programme is operationalized through thematic programme networks (TPNs), which coordinate the activities in the mentioned thematic areas. These TPNs are structured as flexible networks of institutions and agencies participating on a voluntary basis with each member's autonomy remaining intact. Network participants are linked together through host institutions, which are as follows:

- (a) Integrated management of water resources: SADC secretariat (Directorate of Infrastructure), Gaborone (TPN1);
- (b) Sustainable land use (agroforestry and soil conservation): the Institute of the Sahel/ the Permanent Inter-State Committee on Drought Control in the Sahel (INSAH/CILSS), Bamako (TPN2);
- (c) Rational use of rangelands and development of fodder crops: Inter-African Bureau for Animal Resources of AU, Nairobi (TPN3);
- (d) Ecological monitoring, natural resources mapping, remote sensing and early warning systems: African Organization for Mapping and Remote Sensing, Algiers (TPN4);

- (e) Promotion of new and renewable energy sources: National Agency for Renewable Energy of Tunisia and Environment Development Action in the Third World (ENDA), Dakar (TPN5);
- (f) Development of sustainable agriculture: AU/Semi-Arid Food Grain Research and Development (SAFGRAD), Ouagadougou (TPN6).

66. Subregional action programmes are coordinated by the relevant subregional organizations in Africa, namely; CILSS and ECOWAS for West Africa; the Arab Maghreb Union for the Maghreb countries in North Africa; IGAD for the Horn of Africa; ECCAS for Central Africa and SADC for Southern Africa.



Sustainable land management

67. The priority measures to be undertaken under NEPAD, in cooperation with the Convention to Combat Desertification secretariat, the subregional organizations and the host institutions of TPNs, will revolve around the following themes:

- (a) Sustainable land use (agroforestry and soil conservation): Sustainable land use is of primary interest to rural communities, and some countries have already taken it up as a priority activity to be developed at the local level. This implies developing a methodology, in line with the Convention, which takes into account localized and integrated community approaches in order to enhance the initiatives of farmers and natural resource users. Priority activities at the regional level include the following:
  - (i) Promotion of capacity-building activities, including pilot projects on agroforestry and soil conservation in order to strengthen and support the work of community-based organizations;
  - (ii) Promotion of concessional investment flows to improve local incomes;

- (iii) Facilitation of the adaptation of technology and practices;
  - (iv) Support to decentralization in respect of strengthening rural community systems;
  - (v) Creation of an environment that enables policies to guarantee security of tenure for land users.
- (b) Integrated management of water resources: Sustainable use of water resources is crucial in the arid and semi-arid areas in order to prevent and halt land degradation. Activities to be undertaken at the regional level should include a set of measures such as the following:
- (i) Assessment of the availability of water resources and strengthening of a water resources information system;
  - (ii) Capacity-building, institutional strengthening and technical and scientific cooperation;
  - (iii) Support to institutional, legislative, regulatory and economic reforms;
  - (iv) Support to cooperation on integrated water resources management in international river, lake and hydrogeological basins, including the establishment of transboundary pilot areas;
  - (v) Promotion of the development of sustainable water supply and sanitation infrastructures in the drylands.
- (c) Development of new and renewable energy sources: There is a close linkage between energy and land degradation in dryland areas. The identification and utilization of renewable energy sources as alternatives to fuelwood has the potential to provide for better livelihoods and should be explored. Dryland regions have a considerable solar energy potential and, in some areas, enjoy conditions that are conducive to the harnessing of wind energy and the exploitation of biomass. In addition, microhydraulics and microdams could provide a significant source of renewable energy. In the light of these potentials, the development of new and renewable energy sources could be supported at the regional level through the following:
- (i) Strengthening cooperation and exchange of information between commercial energy providers and research institutions working on renewable energy;
  - (ii) Promoting capacity-building for local communities to use alternative and renewable energy sources.
- (d) Development of sustainable agriculture: Agricultural development strategies tend to be directed towards enhancing productivity with the aim of rapid economic outcomes at the expense of long-term inputs into environmentally and socially sustainable production. In countries affected by desertification, priority should be given to a programme approach, which may be supported by the following elements at the regional level:
- (i) Promoting closer interaction between researchers and farmers;
  - (ii) Promoting the participation of women in decision-making processes concerning agriculture;

- (iii) Promoting adaptable and sound technologies to support sustainable agricultural farming systems;
  - (iv) Promoting early warning systems;
  - (v) Promoting relevant incentive measures, including access to affordable funding and credit;
  - (vi) Promoting access to markets for agricultural products from affected countries.
- (e) Rational use of rangelands: This requires a strong input from central authorities and cooperating partners as well as from rural societies. The activities to be undertaken at the regional level include the following:
- (i) Promoting research and development for the sustainable use of rangelands, including fodder production, animal husbandry and sand dune fixation;
  - (ii) Promoting the application of ecological monitoring programmes to dryland areas;
  - (iii) Supporting extension services and adult education in pastoral areas;
  - (iv) Supporting the collection and distribution of traditional knowledge from pastoral communities;
  - (v) Promoting decentralization and participation of farmers and pastoralists in decision-making concerning rangelands;
  - (vi) Facilitating livestock movement to markets and reducing barriers in favour of livestock trade.
68. In addition, integrated natural resources management, reforestation and ecological monitoring, natural resources mapping, remote sensing and early warning systems are horizontal issues that would concern all the above-mentioned themes.
69. Important criteria for projects to achieve a sustainable impact on the ground and on the broader policy environment identified in consultation with African subregional organizations and African experts include the following:
- (a) Integration of environmental and livelihood objectives: The socio-economic dimension of land degradation should be better factored into project and programme design;
  - (b) Creation of an enabling environment and a conducive policy environment: Sustainable land management requires a cross-sectoral approach and better coordination of policy frameworks related to the environment, agriculture and development;
  - (c) Upscaling of good land management practices, including project replication, building of grassroots movements and influencing policy reform.

70. A thematic workshop on desertification was held in Algiers on 19 and 20 January 2003, and was attended by more than 50 African experts who identified 72 project proposals. The complete list of project proposals is contained in annex II of the present document. The workshop built upon



the results of the consultative meeting on the preparation of project proposals to combat desertification in the context of NEPAD, organized by the secretariat of the Convention to Combat Desertification in Ouagadougou from 16 to 18 September 2002. The workshop also benefited from the consultative meeting on this issue attended by more than 100 African experts on 15 November 2002 in Rome in the margins of the first meeting of the Committee for the Review of the Implementation of the Convention to Combat Desertification. The projects identified are classified into three categories: category 1 — first generation of projects, i.e., projects that have already been subjected to a complete formulation exercise; category 2 — second generation projects, i.e., those already subjected to an advanced stage of consultation between the countries concerned; and category 3 — third generation projects, i.e., those for which a country has indicated its intention to initiate consultations with one or several neighbouring countries with the aim of developing a precise activity to combat desertification at the interface of common frontiers of the countries concerned. A summary of the identified category 1 projects is given below. In addition, a key priority cutting across all projects is support to information sharing and networking at the regional level through the TPNs of the Desertification Convention's regional action programme.

**Projects in category 1 by the Arab Magreb Union**

- (a) Green belt: Conservation and sustainable use of natural resources in the Maghreb countries;
- (b) Management of the watersheds of Wadi Mellegue and M soun-Inaoune;
- (c) Rehabilitation and development of oases ecosystems;
- (d) Implementation of a long-term ecological monitoring network.

**Projects in category 1 by ECCAS**

- (a) Generation of information for awareness raising on bushfires in the ECCAS region;
- (b) Water harvesting in arid and semi-arid zones (Chad, Cameroon, Central African Republic);
- (c) Subregional programme for training of primary school teachers in combating desertification in the ECCAS region.

**Projects in category 1 by IGAD:**

- (a) Environmental education and training in the IGAD sub-region;
- (b) Capacity-building in integrated water resources management in the IGAD sub-region;
- (c) Household energy for poverty alleviation and the economic empowerment of women in the IGAD sub-region;
- (d) Building capacity for community-based natural resources management in the IGAD sub-region;
- (e) Rehabilitation and management of degraded rangelands in the IGAD sub-region;
- (f) Promotion of sustainable crop production in the drylands of the IGAD sub-region: IGAD human resources and gender equity development for semi-arid agricultural research.

**Projects in category 1 by SADC:**

- (a) The Kalahari-Namib Project on Transboundary Desertification Control in Botswana, Namibia and South Africa;
- (b) Demonstration phase activities of the Africa Land and Water Management Initiative in the Limpopo River Basin in Southern Africa;
- (c) Capacity-building for integrated rangeland management in the SADC region;
- (d) Assessment of surface water resources of Southern Africa;
- (e) Protection and strategic uses of groundwater resources in the transboundary Limpopo Basin and drought prone areas of the SADC region;
- (f) The SADC Regional Project to Control Infestation and Translocation of Aquatic Weeds.

**Projects in category 1 by CILSS and ECOWAS:**

- (a) Management of shared natural resources, diversification of livelihoods and strengthening of transboundary integration and combating of desertification: Pilot transboundary project for l'Azaouoak (Mali and Niger);
- (b) Harmonization of phytosanitary legislation and regulations;
- (c) Integrated management of the Fouta Djallon highlands;
- (d) Integrated management of the Lake Chad Basin;
- (e) Integrated management of the Senegal River Basin;
- (f) Integrated management of the Gambia River Basin.

71. With regard to its objectives, approach and working methods, the Convention to Combat Desertification constitutes a strategic development tool for addressing poverty reduction in dryland areas. It also contributes to self-sustained economic growth, capacity-building and social empowerment. The implementation of the Convention to Combat Desertification thus responds directly to the goals of NEPAD, with specific emphasis on the poorest populations. While combating desertification through environmental interventions contributes to the maintenance and management of a common resource, i.e., the fertile topsoil that sustains agricultural productivity, it also supports the implementation of other priority activity areas of the Environment Initiative of NEPAD, particularly those related to global warming, transboundary nature conservation and environmental governance.

72. The implementation of this programme area will be undertaken in collaboration with the secretariat of the Convention, in particular the secretariat of the annex for Africa, located at the headquarters of the African Development Bank. The Global Mechanism of the Convention will be requested to mobilize additional financial support for the implementation of this programme area. In addition, the designation by the Second Assembly of GEF of land degradation, particularly desertification and deforestation, as a new focal area of GEF and the adoption of GEF Operational Programme 15 on land degradation will enhance the financial support for the implementation of the objectives of the Convention by African countries.

## 2. PROGRAMME AREA 2: CONSERVING AFRICA'S WETLANDS

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Okavango Wetlands in Southern Africa



Francis Suchoy/SIII Pictures

73. Wetlands in Africa sustain rural livelihoods across large parts of the continent. Their functions include maintenance of the water table by facilitating the movement of large volumes of water into underground aquifers, resulting in the recharge of the water table. They also prevent floods and erosion by slowing surface runoff and reducing overflow into riverbanks downstream, thus stopping erosive flood conditions. They play an important role in storm protection, water purification, microclimate stabilization, provision of habitat for species and for mangroves and other wood products, which are harvested for fuelwood, timber and medicinal purposes. They are extremely important to local economies and to many communities where fish is almost the sole source of animal protein. Mats, baskets and thatching material are derived from grasses and reeds in wetlands all over Africa. The provision of other critical life support elements like pasture for livestock, particularly during the dry season, and clean and reliable sources of water for human consumption, agriculture and industry are also among the services provided by wetlands.

74. Despite their economic, social and ecological importance, Africa's wetlands are being degraded at alarming rates. To address the problem of wetlands degradation, a number of African countries have become parties to the Ramsar Convention, the overall objective of which is to stem the loss of wetlands, promote their wise use, and promote special protection of listed wetlands. The Conference of the Parties to the Ramsar Convention, at its eighth meeting, decided to support the NEPAD programme on conserving Africa's wetlands. The vision of the programme is that African countries and their people should have healthy and productive wetlands and watersheds that can support fundamental human needs, including clean water, appropriate sanitation, food security and economic development.

75. The NEPAD thematic workshop on wetlands, held in Nairobi on 10 and 11 February 2003, benefited from the results of a consultative meeting held in Valencia, Spain, on 17 November 2002



Breccell & Hodal/SIII Pictures

Wetlands in Africa sustain rural livelihoods across large parts of the continent



in the margins of the eighth meeting of the Conference of the Contracting Parties to the Ramsar Convention. The workshop participants prepared a strategy and identified nine project proposals. The list of projects is contained in annex II of the present document. The main objective of the strategy to conserve Africa's wetlands is to promote and attain a healthy and productive environment in which African countries and their people have wetlands and watersheds that can support fundamental human needs such as clean water, appropriate sanitation, food security and economic development. The strategy therefore aims at maintaining and improving the ecological integrity of wetland ecosystems that enables the best use of the value and functions of wetlands in the long term. It also presents the requirements that would improve and maintain these natural assets and enable the sustenance of the total economic value and functions of wetlands. The detailed strategy is a long-term programme that entails a wide range of interventions to support the management of Africa's wetlands. The following initial actions have been identified:

(a) Development of plans and policies to promote the wise use of wetlands

- (i) Assistance with the development of national wetland policies and plans will be the first step in the plan to implement the proposed strategies in countries in which a large part of the population is dependent on wetlands. Site-based projects will be developed to improve awareness of wetland values and functions and the importance of their consideration in sectorally managed issues such as water management, hydro-power development, land-use planning, etc;
- (ii) Application of impact assessment to developments with a potential to affect wetlands based on the joint work of the International Association for Impact Assessment and the Ramsar Convention;
- (iii) Target: At the end of three years, legislation and practices which impact on wetlands will have been carried out in at least 30 per cent of countries in each subregion; at least 30 per cent of countries in each subregion will have developed national wetland plans or policies and countries will be able to share the experiences and lessons learned.

(b) Establishment of subregional wetland networks

- (i) Promotion of the establishment of North African and West African wetlands networks will be the initial activity. The second step will entail the establishment of similar networks for the other subregions of Africa. Their objective will be to provide technical assistance and guidance to wetland management interventions under the Action Plan and to assist countries to overcome hurdles that hinder the timely implementation of the Action Plan;
- (ii) Target: At the end of three years, all subregions in Africa will have established technical wetlands networks with clear terms of reference and all existing river or lake basin organizations will have factored wetlands into their decision-making process.

(c) Wetland inventory and appraisal, monitoring and assessment

- (i) Development of proposals to establish either wetland inventories or rapid national wetland appraisals based on Wetlands International. Conservation International and IUCN have developed standardized methodologies. Data resulting from this process will be fed back into the Global Review of Wetland Resources;
- (ii) Target: At the end of three years, 30 per cent of countries in the region without a wetland inventory will have embarked on a process to develop either a national wetland inventory or a rapid national wetland appraisal and all subregions will have a network of representative wetland sites created. The network will be permanently studied to create a body of long-term data and research on issues such as water flows and seasonal variation and the subsequent relations to human use, valuation, productivity and biodiversity.

(d) Demonstration of integrated approaches to wetland management

- (i) Demonstration of the value of managing wetlands for their multiple functions, ranging from their provision of clean water, flood control, fishing stocks, etc;
- (ii) Demonstration of the value of integrating wetlands into river basin management (possibly using the Ramsar Convention's Guidelines for Integrating Wetland Conservation and Wise Use into River Basin Management) and establishment of working relations with regional basin authorities;
- (iii) Demonstration of the value of integrating wetlands into coastal zone planning and management (using the Ramsar Convention Guidelines on for Incorporating Wetland Issues into Integrated Coastal Zone Management);
- (iv) Formation of a regional network of managed wetlands that are representative of all the major types of wetlands found on the continent and of the major functions they fulfil that form the basis for economic development;
- (v) Target: At the end of three years, at least five demonstration projects, one per sub-region, will have been developed and funded to increase awareness of wetland values and functions. Projects may include links to the Global Water Partnership, the International Water Management Institute and other regional initiatives, including other sectoral programmes of NEPAD. Fifteen priority wetland projects within priority river basins or coastal zones will have begun focusing on conservation and/or restoration.

(e) Demonstration of approaches to wetland restoration and rehabilitation

- (i) Wetland sites will be selected for wetland restoration and rehabilitation on the basis of the results of the wetland inventories and national priorities. Extra consideration will be given to small island developing States in view of their unique situation, pressure on coastal wetlands and scarce freshwater resources;

- (ii) Target: At the end of five years, projects will have been developed, funding will have been secured and implementation will have begun for six or more priority wetland sites focusing on restoration and rehabilitation, at least one in each sub-region.

(f) Communication, education and public awareness

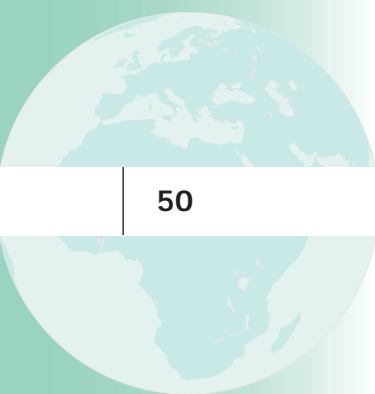
- (i) A wetland communication, education and public awareness strategy will be developed to ensure that relevant information reaches the most appropriate types of stakeholders;

Target: At the end of five years, projects will have been developed, funding will have been secured and implementation will have begun for at least one awareness-raising campaign in each sub-region or shared international river basin and at least one awareness-raising programme will have been developed to show the impact of climate change on wetlands and some of the adaptive measures that could be undertaken at the national and local level.

(g) Capacity-building

- (i) Gaps in training opportunities in wetland management will be identified throughout the region. An Africa-wide capacity-building initiative on wetland management is considered to be critical, creating economies of scale in conducting training and fostering regional cooperation and exchange of ideas and experiences;
- (ii) Strengthening of existing training centres and establishment of new ones where needed;

Target: At the end of three years, at least one training centre and training programme on wetland management and research similar to the University of Ghana's Centre for African Wetlands and the East African Wetland Management Course will be in operation in each sub-region and at least 20 per cent of the universities in the region will have integrated issues relating to wetland management and wise use of wetlands into their curricula.





### 3. PROGRAMME AREA 3: PREVENTION, CONTROL AND MANAGEMENT OF INVASIVE ALIEN SPECIES

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Delorme/UNEP

76. *T*he impacts of invasive alien species are now a major public policy and political concern in many African countries. In East Africa, the invasion of the water hyacinth (*Eichhornia crassipes*) in Lake Victoria has caused considerable environmental, economic and social impacts. The invasion includes the unsuitability of fish spawning and breeding areas, inaccessibility of fish landing areas, irregular supplies, poor quality of catch, massive amounts of organic decomposition of dead weed and clogged water intakes. In South Africa, it is estimated that 7 per cent of water runoff is lost to invading alien plants and the figure is rising.

77. Invasive alien species also affect Africa's forestry, horticulture, trade, tourism industries, as well as other sectors of the economy. The control and management of the impacts of these species are thus important aspects of ensuring Africa's economic recovery and development.

78. Invasive alien species are a contributing factor to poverty and a primary cause of species loss and ecosystem decline, and as such pose a threat to sustainable development. The prevention, control and management of invasive alien species will contribute significantly to Africa's economic recovery and development. The goal of the programme area on prevention, control and management of invasive alien species is to minimize the impact of invasive alien species on Africa's people, economies and ecological systems. The proposed project interventions to address the problem of invasive alien species in Africa will be implemented by building on existing frameworks. A number of subregional and regional instruments exist that can be used to regulate the introduction and use of alien species in Africa. The Treaty for the Establishment of the East African Community, the Treaty of the Southern Africa Development Community and the treaty establishing the Common Market for Eastern and Southern Africa provide measures to regulate and/or control the introduction of alien species, particularly invasive ones.

79. At the international level, the prevention and control of invasive alien species is addressed by the Convention on Biological Diversity in its article 8(h). The fifth meeting of the Conference of the Parties to the Convention, held in Nairobi in May 2002, adopted interim guiding principles for the prevention, introduction and mitigation of the impacts of alien species and considered proposals to develop an international instrument. The Convention on Biological Diversity and the Ramsar Convention have also developed a work plan on invasive alien species. The sixth meeting of the Conference of the Parties to the Convention on Biological Diversity, held in April 2002 in The Hague, adopted a number of decisions to address alien species that threaten ecosystems, habitats and species. Thus, the proposed projects under this programme area will support African countries in their efforts to implement the decisions adopted by the Conferences of the Parties to the Convention on Biological Diversity.

80. The NEPAD thematic workshop on invasive alien species was held in Pretoria on 23 and 24 January 2003. The participants identified fourteen project proposals for the implementation of this programme area. The list of proposals is contained in annex II of the present document. The projects proposed as a first phase of interventions have been identified as key initiatives to catalyze a comprehensive effort to minimize the impact of invasive alien species on Africa's people, economies and ecological systems. The projects respond to the key issues defined and agreed by a technical working group convened as part of the development of the invasive alien species programme and fall under a group of interrelated sub-programmes. The sub-programme areas are as follows: prevention of invasive alien species; awareness raising and provision of information; training and capacity building; aquatic invasive alien species; terrestrial invasive alien species; ballast water; and African islands.



In East Africa, the invasion of the water hyacinth (*Eichhornia crassipes*) in Lake Victoria has caused considerable environmental, economic and social impacts

81. The sub-programme area on prevention of invasive alien species contains a set of suggested activities on the mitigation of impacts of invasive alien species caused by trade and development aid. It also proposes a pilot programme to prevent alien species from entering through airports. The proposed activities related to risk assessment aim at filling the following three gaps that are fundamental to the prevention of invasive alien species: inability to detect potentially invasive species on entry into a country; lack of consolidated databases on invasive alien species in Africa; and lack of access to other regional and international databases. The sub-programme on awareness raising and information provision aims at raising awareness and providing information

to enable the effective management of invasive alien species. The sub-programme on training and capacity-building aims at assessing the existing and institutional capacity to allow the effective management of invasive alien species. The aquatic invasive species sub-programme revolves around mariculture monitoring and hullfouling and caulerpa prevention in the Mediterranean region as well as a Pan-African assessment and mitigation of the impacts of the water hyacinth and other invasive alien aquatic invaders. The terrestrial invasive alien species sub-programme area aims at assessing and mitigating the impacts of selected plant invaders in agriculture, forestry and rangelands in the IGAD region and other African regions, promoting sustainable management of key invasive woody species in Southern Africa and control of the invasive Indian house crow on the East African coast and hinterland. The ballast water sub-programme comprises activities aimed at ensuring the proper management of ballast water. The African islands sub-programme area aims at ensuring the control of the impact of invasive alien species on island African States.



#### 4. PROGRAMME AREA 4: CONSERVATION AND SUSTAINABLE USE OF MARINE, COASTAL AND FRESHWATER RESOURCES

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Twins drinking water



Kwame/UNEP/STII Pictures

82. Africa's coastal ecosystems and marine biodiversity contribute significantly to the economies of the continent's countries, mainly through fishing and tourism. They constitute a major source of livelihood for many households. Coastal and marine resources contribute considerably to the revenue of the countries of the region. In 1997, for example, total marine fish exports from Africa contributed \$445 million to the economies of those countries. The fisheries sector is also a significant employer. Seventy per cent of the world's fisheries are considered overexploited. Declines in the catch rate along Africa's coasts are also evident. Moreover, marine and coastal resources are under increasing threat from development-related activities. As much as 38 per cent of the African coastline of 40,000km, including 68 per cent of marine protected areas, is considered to be under serious threat. The uncontrolled urbanization of the coastal zone is a major cause of such degradation. In some cases, marine pollution from major coastal cities has even reached toxic levels.

83. Africa's coastal ecosystems are also threatened by industrial pollution, mining and oil exploration activities. Although the level of industrial development in the continent is still relatively low compared to other regions in the world, the rate of pollution is accelerating along the coastal zones. The Mediterranean Basin is now one of the most polluted semi-enclosed seas in the world. Mangroves have high ecological and socio-economic importance. However, mangroves and coral reefs are increasingly under threat from human activities. The Indian Ocean contains about 15 per cent of the world's coral reefs, of which more than half are estimated to be at risk from human activities, including those associated with climate change.

84. Current regional efforts to manage coastal and freshwater resources exist in the form of such conventions as the Convention on the Protection of the Mediterranean Sea Against Pollution (Barcelona Convention), the Regional Convention for the Conservation of the Red Sea and Gulf of Aden Environment (the Jeddah Convention), the Nairobi Convention, the Abidjan Convention and the Bamako Convention. There are numerous other regional and subregional initiatives on coastal and marine resource management, including the Global Programme of Action for the Protection of the Marine and Coastal Environment from Land-based Activities, which was reviewed at an intergovernmental meeting held in Montreal in November 2001.

85. Building on the achievements of the Pan-African Conference on Sustainable Integrated Coastal Management, held in Maputo in July 1998, the Cape Town Declaration on an African Process for the Development and Protection of the Coastal and Marine Environment, particularly in sub-Saharan Africa was adopted in December 1998. It was endorsed at the OAU Summit held in Algiers in July 1999 and reaffirmed at the OAU Summit held in Lusaka in July 2001. The Cape Town Declaration affirmed the commitments of African leaders to strengthening cooperation through relevant existing global and regional agreements, including the Global Programme of Action for the Protection of the Marine and Coastal Environment from Land-based Activities, programmes and institutional mechanisms, in particular through the coordinating mechanism of the Abidjan and Nairobi conventions.

86. The African Process, developed through a UNEP/GEF medium-sized project entitled "Development and Protection of the Coastal and Marine Environment in sub-Saharan Africa", has mobilized eleven national teams to conduct assessments of the degradation of the coastal and marine environment in sub-Saharan African countries. Its outcomes will contribute to the development of a common coastal policy that ensures that coastal and marine resources are conserved and used in a sustainable manner and that coastal development is equitable, sustainable and optimizes the use of valuable coastal resources. It has identified the following priority areas for future interventions: coastal erosion; pollution; sustainable use of living resources; management of key habitats and ecosystems; and tourism. It is expected that these activities will be extended in the near future to cover other regions of Africa.



Mangroves provide a natural habitats for fish, crustaceans, molluscs and water birds

87. The goal of the conservation and sustainable use of coastal and marine resources programme area is to incorporate environmental concerns into the development agenda of countries through targeted actions that address not only environmental concerns, but also institutional, regulatory, policy and capacity aspects. The overall objective of the programme is to support the implementation of the objectives of the Abidjan and Nairobi conventions, to contribute to the implementation of the decisions of the Super Preparatory Conference of the African Process regarding the management of Africa's coastal and marine resources in an integrated manner, which were reaffirmed by the partnership conference held in Johannesburg on 2 September 2002 in the margins of the Johannesburg Summit, and to support the development and implementation of the African Regional Programme of Action on Freshwater, which is being developed by the African Ministerial Council on Water (AMCOW). Activities in the area of fresh water will be undertaken in the context of AMCOW pursuant to its mandate. AMCEN and AMCOW will coordinate on areas of mutual interest within their respective mandates.

Achim Arabi/SIII Pictures

88. In addition, the objectives of this programme area will also aim at assisting African countries to implement the relevant provisions of the Global Programme of Action and the activities contained in the Global Programme of Action work programme for the period 2002-2006, including the Strategic Action Plan on Municipal Wastewater. The activities of the programme area will aim at the following:

- (a) Incorporating the objectives of the Global Programme of Action into action programmes, strategies and plans at the local, national and regional levels and into sectoral policies;
- (b) Strengthening the capacities of regional seas organizations;
- (c) Preparing action plans to address the priorities of interventions;
- (d) Strengthening the capacities of relevant local and national authorities;
- (e) Supporting the implementation of the Strategic Action Plan on Municipal Wastewater;
- (f) Promoting demonstration projects on the implementation of the Guidelines on Integrated Coastal Area River Basin Management;
- (g) Supporting the preparation and implementation of the African Regional Programme of Action on Freshwater;
- (h) Aligning the freshwater environment with the coastal and marine environment.

89. The activities identified under this programme area were recommended by the participants of the NEPAD thematic workshop on coastal and marine resources held in Abuja on 24 and 25 February 2003. They are based on the development of a series of potential interventions and projects to address the problem of conservation and sustainable use of coastal and marine resources and related freshwater ecosystems in Africa. A list of the 45 project proposals identified by the participants is contained in annex II of the present document. Awareness and commitment to the sustainable development of resources through targeted interventions that address priority issues which encompass environmental and socio-economic concerns, linkages to support the implementation of the Global Programme of Action and the interface between freshwater and marine issues are key elements of this programme area.

90. Proposed activities have been clustered in the following seven areas: coastal, marine and freshwater pollution; physical changes in the coastal, marine and freshwater environment; coastal, marine and freshwater biodiversity; integrated management approaches to river and lake basins and coastal zones; environmentally sustainable economic development in coastal areas; augmentation of water resources (surface and underground) and climate change. Some of the proposals, however, are closely linked to more than one thematic area. This confirms strong linkages between individual projects. All the projects in each thematic cluster are grouped into two categories: category 1 — fully developed and ready for submission for funding projects; and category 2 — eligible projects that need further development.





Roland Saitre/Still Pictures

Traditional small-scale fishing in the Comoros

91. Under category 1 of the cluster on coastal, marine and freshwater pollution, the following two projects have been identified: municipal solid waste management and enhancement of environmental quality in sub-Saharan Africa; and management of municipal sewage in sub-Saharan Africa through appropriate technologies. Under category 2, the following three projects have been identified: control of eutrophication in semi-enclosed areas; prevention of pollution from shipping activities and strengthening of national and regional oil spill management systems in sub-Saharan Africa; and development of a conceptual framework for the control of eutrophication of lakes and reservoirs, with particular emphasis on non-point sources of pollution.

92. Under category 1 of the cluster on physical changes in the coastal, marine and freshwater environment, the following two projects have been identified: mitigation of coastal erosion and restoration of degraded areas in sub-Saharan Africa; and development of sound land-use practices and reduction of suspended solids in estuaries and lagoons in sub-Saharan Africa. Under category 2, the following two projects have been identified: addressing land degradation to mitigate the impacts of sediments on the aquatic environment; and mitigation of coastal erosion caused by oil and gas exploration activities.

93. Under category 1 of the cluster on coastal, marine and freshwater biodiversity, the following three projects have been identified: mangrove management in sub-Saharan Africa; improving the protection and stability of coral reefs and associated communities; and conservation of biodiversity through the enhancement and or establishment of marine protected areas in sub-Saharan Africa. Under category 2, the following four projects have been identified: assessment and mitigation of the ecological and socio-economic impacts of destructive fishing practices in sub-Saharan Africa; strengthening management, monitoring, control and surveillance capacity in fisheries management organizations in sub-Saharan Africa; management of invasive species in

the aquatic environment; and addressing transboundary problems of freshwater ecosystems biodiversity.

94. Under category 1 of the cluster on integrated management approaches to river and lake basins and coastal zones, the following two projects have been identified: promoting the establishment of Ramsar sites and developing a participatory and integrated approach for river basin management in sub-Saharan Africa; and supporting the development and implementation of integrated coastal area management (ICAM) in sub-Saharan Africa. Under category 2, the following four projects have been identified: enhancement and conservation of ecosystems functions for river basins and associated coastal areas in Africa; development and application of river basin information systems on the integrated management of Africa's transboundary river basins; integrated watershed and coastal areas management of small island developing States in Africa; and impacts of dams and related development activities in river basins.

95. A project on reduction of environmental impacts from coastal tourism through the introduction of policy changes and strengthening public-private partnerships has been identified under category 1 of the cluster on environmentally sustainable economic development in coastal areas. Under category 2, the following two projects have been identified: promotion of alternative livelihood strategies in sub-Saharan Africa; and mariculture and aquaculture development in sub-Saharan Africa. Under category 2, the following three projects have been identified under the cluster on augmenting water resources (surface and underground): augmenting urban water resources; groundwater vulnerability; and transboundary aquifer management. The project on the impact of global climate change on key marine and coastal ecosystems in sub-Saharan Africa has been identified under category 1 of the cluster on climate change. Under category 2, the following two projects have been identified: assessment of the vulnerability of sub-Saharan coastal zones to the various impacts of climate change (including sea-level rise); and establishment of adaptation strategies for impacts of climate change on water availability and quality.

96. The thematic workshop participants identified the following gaps: Industrial waste, including hazardous waste, toxic chemicals, persistent organic pollutants, including modeling and data collection; erosion caused by oil and gas exploration activities; freshwater ecosystem biodiversity; impact of dams and related development activities in river basins; aquaculture; market facilities; tourism in inland waters; and infrastructures to be addressed at the national level. The Global Ocean Observing System (GOOS)-Africa project and the Regional Operational Observing, Monitoring and Forecasting System in Africa (ROOMFSA) - should be included in this theme. The participants also identified the following associated projects under preparation through GEF resources as potential projects that would contribute to the implementation of the objectives of the programme area: addressing land-based activities in the Western Indian Ocean (WIO-LaB); combating coastal area degradation and living resources depletion in the Guinea Current LME through regional actions; the Canary Current LME; addressing transboundary concerns in the Volta River Basin and its downstream coastal areas; management of the Iullemeden Aquifer system - Mali, Niger, Nigeria.



## 5. PROGRAMME AREA 5: COMBATING CLIMATE CHANGE IN AFRICA

Strengthening the understanding of Flood events in Mozambique



Per-Anders Petterson/UNEP/Still Pictures

97. Africa accounts for 14 per cent of the world's population. Nine out of ten persons in Africa, however, have no access to electricity and three quarters of their energy comes from traditional fuels. Consequently, Africa's emissions of climate-change inducing carbon dioxide are still low, estimated to be only 3.5 per cent of the world's total. In addition, Africa's vast forest reserves serve as a significant sink for carbon dioxide and thus play an important role in alleviating and balancing the emissions of industrialized countries. Although Africa has not historically contributed to climate change and its forests have played the role of a significant sink for the carbon emitted by industrialized countries, it is predicted that the continent will be the most affected by the adverse effects of climate change, as many aspects of African economies are still sensitive to climatic hazards.

98. The historical climate record of Africa shows warming of approximately 0.7° C over most of the continent during the twentieth century, a decrease in rainfall over large portions of the Sahel, and an increase in rainfall in East and Central Africa. Climate change scenarios for Africa, based on results from several general calculation models using data collated by the Intergovernmental Panel on Climate Change (IPCC), indicate future warming across Africa ranging from 0.2° C per decade (low scenario) to more than 0.5° C per decade (high scenario). This warming is greatest over the interior of the semi-arid margins of the Sahara and central Southern Africa.



Jonathan Kaplan/Still Pictures

Smog over Cape Town, South Africa



99. One of the most significant climatic variations has been the persistent decline in rainfall in the 3.5 million km<sup>2</sup> of the Sahel since the late 1960s. The trend has been uninterrupted save for 1994, the only year in which the region received adequate rainfall. Projected future changes in mean seasonal rainfall in Africa are less well defined. Under the low warming scenario, few areas show trends that significantly exceed the natural 30-year variability. Under the intermediate warming scenarios, most models project that by 2050 North Africa and the interior of Southern Africa will experience decreases during the growing season that will exceed one standard deviation of natural variability; in parts of equatorial East Africa, rainfall is predicted to increase between December and February and decrease between June and August. With a more rapid global warming scenario, large areas of Africa would experience rainfall that significantly exceeds natural variability in the December to February and June to August periods. This calls for greater preparedness and for measures to mitigate the causes and impacts of climate change.

100. UNFCCC is an international legal instrument that promotes "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system". It explicitly recognizes the low levels of greenhouse gas emissions and the economic development aspirations of developing countries.

101. At the third session of the Conference of the Parties to UNFCCC, held in Kyoto in December 1997, the parties to the Convention adopted the Kyoto Protocol. The Protocol establishes legally binding obligations on so-called annex 1 countries (developed country Parties) to reduce emissions of greenhouse gases on average by 5.2 per cent below the 1990 levels by 2008-2012. It also establishes a clean development mechanism (in article 12) that is meant to assist non-Annex 1 Parties (generally developing countries) in achieving sustainable development and in contributing to the ultimate objectives of UNFCCC.

102. Most African countries are parties to UNFCCC and many have already signed and ratified the Kyoto Protocol. UNFCCC creates obligations on all parties, including African countries, under article 12, on communication of information related to implementation. The main obligation relates to communicating to the Conference of the Parties information on national inventories of human-induced emissions by sources and removal by sinks of all greenhouse gases, and a general description of steps taken or envisaged to implement the Convention. In addition, African countries are expected to undertake to:

- (a) Integrate climate change considerations into their social, economic and environmental policies and programmes;
- (b) Keep the levels of their emissions under check by periodically or as required providing national inventories of anthropogenic emissions and removal by sinks;
- (c) Promote education, training and public awareness;
- (d) Promote the sustainable management of sinks and reservoirs of greenhouse gases;
- (e) Promote and conduct relevant research and cooperate in the exchange of information.

103. The challenges facing Africa with regard to climate change are important. They are the cause of additional sources of the vulnerability of the continent. Africa is highly vulnerable to the various manifestations of climate change. An IPCC report on impacts, adaptation and vulnerability has identified the following six situations that are particularly important for Africa:

- (a) Water resources, particularly in international shared basins where there is a potential for conflict and a need for regional coordination in water management;
- (b) Food security at risk of a decline in agricultural production and uncertain climate;
- (c) Productivity of natural resources at risk and biodiversity that might be irreversibly lost;
- (d) Vector- and water-borne diseases, especially in areas with inadequate health infrastructure;
- (e) Coastal zones vulnerable to sea-level rise, particularly roads, bridges, buildings, and other infrastructure that is exposed to flooding and other extreme events;
- (f) Exacerbation of desertification by changes in rainfall and intensified land use.

104. These challenges call for the integration of climate concerns into national development planning in order to ensure the long-term achievement of the Millennium Development Goals. They highlight the need to help African countries to cope with the current variability as a first step to building resistance to climate change.

105. In order to finalize the climate change programme area, a consultative meeting was held on 3 and 4 October 2002 in Nairobi during the African preparatory meeting to the eighth session of the Conference of the Parties to UNFCCC. More than 45 African experts attended the meeting. The meeting was followed by a consultative meeting attended by more than 100 African experts held in New Delhi on 25 October 2002 in the margins of the eighth session of the Conference of the Parties to UNFCCC. The results of the consultative meetings were considered at the climate change thematic workshop on the climate change programme area of Action Plan of the Environment Initiative of NEPAD, held in Rabat on 26 and 27 February 2003. More than 45 experts attended the meeting, which resulted in the recommendation of an African strategy on climate change and 26 project proposals, which are contained in annex II. The suggested proposals will be built upon and complement the eight ongoing projects considered as relevant to the objectives of the strategy.

106. The African climate change strategy revolves around the issue of vulnerability assessment and the development of adaptation strategies. It was considered that the following three major steps needed to be taken to increase the resistance of African countries to climate change:

- (a) The ecosystems, regions and people most vulnerable to climate change need to be identified;
- (b) Adaptation strategies need to be developed for the identified regions and sectors;
- (c) Demonstration and pilot projects need to be implemented to show the way forward. Simultaneously, capacity-building support will have to be provided to enable important institutions to function effectively.

107. The determination of vulnerability is of great concern. Most countries have examined only the biophysical impacts of climate change and, in most instances, qualitatively. Very few socio-economic impacts have been analyzed and costed. Since vulnerability can be characterized as a function of both the exposure of a system to climate change and its adaptive capacity, countries should analyze baseline socio-economic development (which can change adaptive capacity), integrated impacts and autonomous adaptation before determining their vulnerability. Stage II adaptation measures could also include such an analysis. Countries need to identify areas in which vulnerability is greatest by sector and, if appropriate, by region (coastal zones). They also need to identify vulnerabilities that are transboundary (e.g., international river basins and migration of species across borders). This will involve an integrated assessment of vulnerable areas and sectors.

108. Even if some African countries have benefited from various bilateral programmes, as evidenced by the eight ongoing projects identified in annex II, there are few projects in Africa to assist countries to assess their vulnerability to climate change. These projects concentrate on specific areas and sectors and will not assist policy makers to compare vulnerability in multiple sectors in the same region. That will require the development of vulnerability indices for the continent to provide the critical tool to policy makers to prioritize actions to adapt to climate change by applying a vulnerability/adaptation approach to understanding the risks of climate change. Vulnerability assessment will systematically link current approaches to vulnerability to short-term risks with emerging understanding of vulnerability to long-term development issues, such as the sustainable security of livelihoods and global change, taking into account the changing nature of risks and uncertainty.

109. Approaching climate change through the perspective of vulnerability will facilitate links to sustainable development policy and emerging climate policy on adaptation. Exploration of potential impacts and adaptive capacity will also be a useful contribution to UNFCCC. The potential and constraints for adapting to climate change can only be identified through research that links local situations to national and global and subregional institutions.

110. The determination of regions where adaptation will be most effective in reducing vulnerability is crucial for the development of adaptation strategies. In the near future, the least developed African countries should have developed national adaptation programmes of action, which allow quick identification and formulation, using a participatory approach, of their urgent and immediate needs for adaptation to climate change. A broad but representative set of adaptation options could be considered. These could include different approaches, reflecting widely varying costs and feasibility, such as changes in rules or regulations, planning, sustainable management of natural resources, infrastructure and technical measures. Ideally, adaptation assessment would consider the anticipated impacts of climate change, current and future patterns of climate variability and extremes, current and future non-climatic (socio-economic, political, etc.) developments, anticipated interactions between climate-related impacts and non-climatic

developments, and likely autonomous and planned adaptation to both climatic and non-climatic impacts. The identification and evaluation of effective adaptation options may be based on the following criteria: effectiveness; costs; feasibility; secondary (incremental) benefits; co-benefits, consistency with national development priorities and sustainable development goals; consistency with other global environmental issues; and acceptability to stakeholders.

111. Clearly, adaptation measures need to be an integral part of any national programme or action plan for combating climate change and for complying with UNFCCC. It would be beneficial for all, particularly the most vulnerable, to develop national adaptation strategies. Possible steps towards the development and implementation of such strategies could include the following:

- (a) Identification of impacts, including setting up of a data collection system, monitoring of changes, data analysis, capacity-building in terms of institutional and scientific capacity and human resources, and technology transfer;
- (b) Identification of vulnerability in the light of possible impacts;
- (c) Identification of adaptation measures that could reduce vulnerability and benefit from new opportunities using a participatory approach involving all stakeholders;
- (d) Creating a conducive environment for the implementation of identified measures through capacity-building, technology transfer, public awareness, political support, incentive measures and integration of adaptation into national development plans and policies;
- (e) Implementing identified measures taking into consideration financial and managerial aspects, timeliness, compatibility with sustainable development, local involvement, transparency, learning by doing, equity, etc.;
- (f) Monitoring and evaluating the implementation of adaptation measures to readjust the strategy.

112. The next step will be to integrate national adaptation strategies into national sustainable development planning. This will entail the integration of adaptation into national development policy, particularly through the involvement of the economic, financial and planning agencies of the Government, working in conjunction with the international donor community and private sector investors. This would also require the integration of adaptation measures into natural hazard reduction or disaster prevention programmes. This could entail the establishment of market-oriented local insurance schemes and their promotion, the development of systematic observation and monitoring networks and forecasting and early warning systems as well as risk-preparedness plans. There is a need for capacity-building in vulnerability and adaptation assessment within the framework of international efforts to design and evaluate adaptive strategies and options. Participation in the process must be local or regional.

113. In addition to the eight ongoing climate change projects of relevance to Africa's strategy on climate change, the following projects have been proposed:



- (a) Integrated assessment of vulnerability to climate variability and change and response strategies;
- (b) Learning about climate change from local action to national dialogues in Africa;
- (c) Climate risk management;
- (d) Adaptive resource management;
- (e) Carbon management for sustainable livelihood;
- (f) Supporting public outreach and education programmes on climate change;
- (g) Strengthening management of shared river basins and developing subregional water resource strategies:
  - (i) Incorporating climate change adaptation concerns into integrated watershed management plans for three watersheds in the Maghreb (Algeria, Morocco and Tunisia);
  - (ii) Assessing the impacts of and adaptation to climate change in the watershed of the Gambia River Basin;
- (h) Capacity-building for early warning;
- (i) Environmental intervention in climate variability, malaria and poverty in the East African highlands;
- (j) Impact of global climate change on key marine and coastal ecosystems in sub-Saharan Africa;
- (k) Assessment of the vulnerability of sub-Saharan coastal zones to the various impacts of climate change (including sea-level rise).

114. Recognizing the insignificant contribution of Africa to global greenhouse gas emissions and low energy consumption, provision of electricity without increasing emissions is considered in this section. Based on recent trends, the demand for electricity in Africa is projected to grow to 619 TWh/yr in 2010 and to 864 TWh/yr by 2020. Beyond recent trends in increase in the demand for electricity, a goal has been identified within the NEPAD Energy Initiative to increase access to sustainable, reliable and affordable commercial energy supply from 10 to 35 per cent or more in the next 20 years.

115. The NEPAD framework has established an energy initiative, led by Senegal, designed to achieve Africa's energy goals. All countries should undertake full social and environmental impact assessments of all energy projects according to recognized procedures and standards in order to ensure that energy needs in urban and rural areas are met in such a way as to optimize sustainable social and economic benefits while minimizing environmental impacts. In the case of hydropower, a full assessment should be undertaken, including the examination of other options for the development of water and energy resources. The role of renewable energy and small-scale projects designed to meet rural electrification needs should be further explored. To this end, the following preliminary projects are proposed within the climate change section of NEPAD:

- (a) Promotion of renewable energy initiatives and strategies;
- (b) Establishment of a sustainable link and working module between climate-change experts and energy initiative capacity-building for sustainable development and the Clean Development Mechanism of the Kyoto Protocol;
- (c) Evaluation of the synergistic effects of adaptation with mitigation activities through pilot projects in the areas of agroforestry, including soil stabilization, income generation, improved soil water retention and enhanced biodiversity.

## 6. PROGRAMME AREA 6: TRANSBOUNDARY CONSERVATION OR MANAGEMENT OF NATURAL RESOURCES

Combating deforestation in Kenya

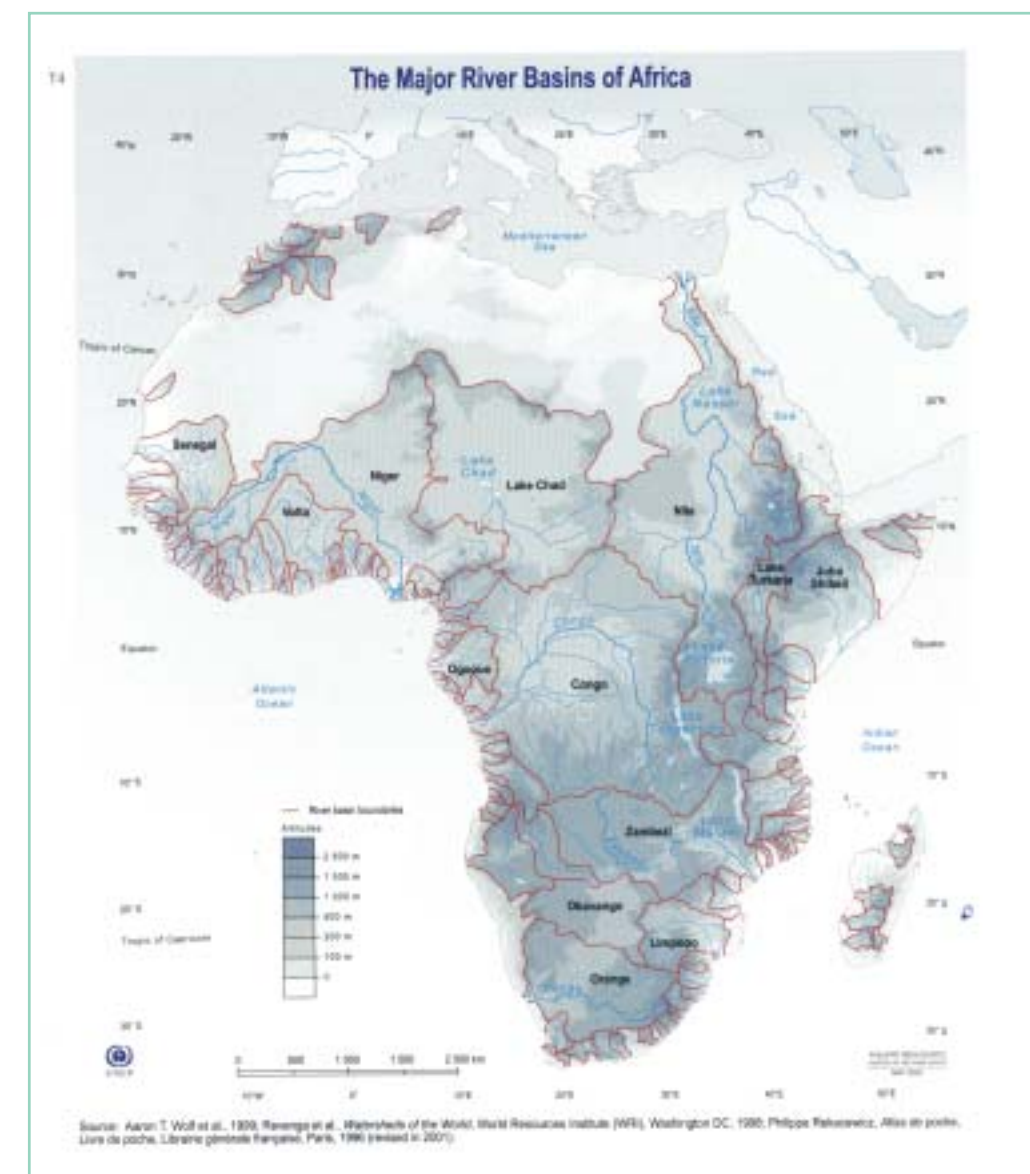


William Campbell/Still Pictures

116. Africa's natural resources, in the fashion of those of other continents, are continuously moving across national borders. Accordingly, sustainable natural resource management requires coordinated transboundary policy and action in conformity with existing agreements among the countries concerned. Transboundary collaboration on the sustainable use, conservation and management of natural resources can provide both economic and conservation benefits greater than would be achieved by countries working alone. A transboundary approach to sustainable use and conservation of natural resources within the Environment Initiative of NEPAD should be seen as a complement and extension to existing national initiatives and should build on these national level initiatives where the opportunity arises.

### (a) Fresh water

117. While Africa uses only about 4 per cent of its renewable freshwater resources, water is becoming one of the most critical natural resource issues. Africa has abundant freshwater resources in large



The major river basins of Africa



rivers and basins. The continent has more than fifty significant international river basins, which is more than those of any other continent. One such river basin is the Congo Basin, which with its tributaries represents the second largest river basin in the world after the Amazon Basin. Africa harbours the second largest freshwater lake in the world, Lake Victoria. The entire territory of fourteen African countries falls within international river basins. The region has more than 160 lakes that are larger than 10 square miles. Most of the lakes are located around the equatorial region and the sub-humid East African highlands within the Rift Valley. There are eighty-three river and lake basins in Africa, distributed as follows: North Africa – 11; West Africa – 29; Central Africa – 8; East Africa – 20; and Southern Africa – 15.

118. Agriculture is the largest user of water in Africa, accounting for 88 per cent of total water consumption. It is estimated that 40 to 60 per cent of the region's irrigation is currently lost through seepage and evaporation. Groundwater resources are also crucial for many countries in Africa. The rate of exploitation, however, is causing increasing threats. The continent is one of the two regions in the world facing serious water shortages. More than 300 million people in Africa lack adequate access to safe water. The demand for water is increasing rapidly due to population growth and economic development. As a result, Africa's share of water on a per capita basis is estimated to have declined by as much as 50 per cent since 1950.

119. Currently, 14 African countries experience water stress or water scarcity, with those in North Africa being the worst hit. A further 11 countries will belong to this category of countries in the next 25 years, bringing the number to more than half of African countries. It has been estimated that by 2025 more than 230 million people (16 per cent of Africa's population) will be living in countries facing water scarcity and more than 460 million (32 per cent of Africa's population) will be living in water-stressed countries. Lake Chad, for example, may become extinct if no measures are taken to protect it. About fifty rivers in Africa are shared by two or more countries. Access to water from shared rivers may become a source of political tension if the situation is not addressed. In addition, water quality is also decreasing at an alarming rate due to industrial pollution and inadequate water treatment, causing major and persistent health problems. Issues of water quantity and water quality are indeed the most pressing environmental issues in Africa.

120. The ministers who adopted the Declaration of the African Ministers Responsible for Water Resources at an international conference on fresh water held in Bonn in December 2001 stressed that water was the key natural resource throughout Africa. They decided to focus their efforts on governance of the water sector, intergovernmental policy dialogue for water security, financing for the development of the water sector, building capacities for the management of the water sector, transfer of technology, meeting the water needs of Africa's urbanizing centers, guaranteeing adequate water, sanitation and hygiene services, strengthening the role of women in the management of water resources and the provision of adequate sanitation services and linking the freshwater environment with the coastal and marine environment. It should be noted that a short-term action plan has been developed and was presented to the Group of Eight in June 2003

by NEPAD. Moreover, a trust fund has been established at the African Development Bank to finance water and sanitation infrastructures.

121. The Abuja Ministerial Declaration on Water: a Key to Sustainable Development in Africa, adopted in April 2002, established AMCOW, which adopted, at its first substantive session, held in February 2003, the African Regional Programme of Action on Freshwater. Further activities in the area of fresh water will be undertaken in the context of AMCOW pursuant to its mandate. AMCEN and AMCOW will coordinate on areas of mutual interest within their respective mandates.

**(b) Biodiversity, biosafety and plant genetic resources**

122. Africa's biodiversity and natural wealth are key factors in the economic development of the continent. Biodiversity includes five globally significant biodiversity hot spots (Cape Floristic Province, the Eastern Arc Mountains and the coastal forests of Tanzania and Kenya, Madagascar and the Indian Ocean islands, the Succulent Karoo, and the Guinean forests of Western Africa). Africa has a large and diverse heritage of flora and fauna, including major domesticated crops. The continent is home to more than 50,000 known plant species, 1,000 mammal species and 1,500 bird species. East Africa has the highest numbers of endemic species of mammals (55 per cent), birds (63 per cent), reptiles (49 per cent) and amphibians (40 per cent). Madagascar is the most endemic-rich



Picking rosy periwinkle in Madagascar, *Catharantus roseus*, used to make drugs to treat cancer

country in Africa, and the Cape Floral Kingdom is one of the six most significant concentrations of plants in the world. Seventy per cent of the wild species in North Africa are known to be of potential value as sources of traditional food, medicine and pharmaceuticals and half of these have more than one potential use.

123. The savannah, the richest grassland in the world, constitutes the most extensive ecosystem in Africa. It supports many indigenous plants and animals and the world's largest concentration of large mammals. African wetlands also have a rich biological diversity, with many endemic and rare plant species and wildlife such as migratory birds. Wetlands are found in most African countries. African societies have depended on the rich biodiversity of the continent for survival for centuries. They have developed strategies to protect and conserve this natural heritage for the benefit of their own and future generations. In some cultures, rich areas of biodiversity, including forests, were often designated as sacred or protected areas.

124. The first national parks in Africa were created in the first half of the twentieth century, including the Kruger National Park in South Africa in 1928. A symposium on nature conservation was convened in 1938, which resulted in the designation of many of the existing protected areas in the Arab countries of the continent. There are now more than 3,000 protected areas in Africa, representing 240 million hectares. The Algiers Convention was adopted on 15 September 1968 under the leadership of OAU.

125. Most African countries have ratified the biodiversity-related conventions. The large and diverse biological heritage of the continent, however, is at risk in all regions of Africa. Some species have already been reported to be extinct and many others are under threat of extinction. Recent estimates show that a total of 124 animal species have become extinct from the wild and 924 animal species are critically endangered or vulnerable. Twelve plant species are extinct and 869 are critically endangered. Despite being among the most biologically productive ecosystems in Africa, wetlands are being lost as they are in most cases regarded as wastelands and potential areas for agriculture. The introduction of exotic species over the past century has also contributed to biodiversity loss. Armed conflicts have also led to significant ecological damage and biodiversity losses.

126. Environmental pollution is increasingly a major threat to biodiversity in many African countries. Pesticide residues have reduced the populations of several bird species and other organisms. As the region continues to industrialize, the adverse impact of pollution on biodiversity is most likely to increase unless cleaner production processes and technologies are promoted. Climate change is the latest emerging threat to biodiversity in Africa. It has already been identified as an emerging cause of the loss of habitat to many species, particularly amphibian populations.

127. Most African countries have submitted their national reports to the Conference of the Parties to the Convention on Biological Diversity and are in the process of preparing, finalizing and implementing the biodiversity strategies and action plans called for by article 6(a) of the Convention. The objective of the Action Plan is to improve Africa's implementation of the objectives

of the Convention, including the relevant decisions of the Conference of the Parties with special emphasis on sustainable use and the fair and equitable sharing of benefits. To this end, the ecosystem approach will be promoted. Special attention will be paid to the implementation throughout Africa of the Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising Out of their Utilization.

128. African countries played a leading role in the negotiation of the Cartagena Protocol on Biosafety. Many African countries have signed the Protocol and are now in the process of ratification. On the issue of biosafety, the Action Plan will aim at increasing efforts to prepare and implement national biosafety frameworks by African countries. It will also entail the development and implementation of activities to build African human and institutional capacities in accordance with the decisions of the Intergovernmental Committee for the Cartagena Protocol (ICCP).

129. A consultative meeting on the biosafety component of the Action Plan on the Environment Initiative of NEPAD was organized at the African Meeting on Risk Assessment and Public Participation, held in Windhoek from 12 to 15 November 2002 and attended by 86 experts. The participants noted that there was a need to develop biosafety institutions and structures in African countries for the operationalization of the Cartagena Protocol on Biosafety. The need for transfer of experience, both technical and scientific, was also highlighted. To this end, the following activities have been recommended:

- (a) Carrying out an assessment of the current technological capacity to manage biosafety issues and its implications for the implementation of a national biosafety framework;
- (b) Strengthening national capacity to develop national regulatory biosafety frameworks;
- (c) Strengthening national capacity for competent decision-making on notifications and requests related to living modified organisms (LMOs), including the establishment of administrative systems to assist with screening notifications and requests for completeness;
- (d) Risk assessment, including, where appropriate, the consideration of risk management and risk evaluation (as socio-economic issues may be taken into account in accordance with the Protocol);
- (e) Decision-making within the time limits specified in the regulatory framework and in accordance with the provisions of involvement of stakeholders, and a mechanism for feedback between these different steps;
- (f) Applying other measures according to the Protocol, taking into account the work of ICCP and the Meeting of the Parties upon the entry into force of the Protocol;
- (g) Supporting regional and subregional collaboration, including harmonization of the implementation of national regulations;
- (h) Providing all stakeholders with an opportunity to be involved in the design and implementation of a national biosafety framework;
- (i) Raising public awareness and improving information flow to the public on issues relating to the release of LMOs to promote informed debate and to ensure transparency with respect to the regulation of LMOs.



130. There is therefore an urgent need to build the capacity of African countries in the following areas: institutional capacity-building; legislative and regulatory frameworks; the administrative framework; a technical structure, including telecommunications; funding and resource management; follow-up mechanisms; monitoring and assessment; and human resources development and training on issues related to risk assessment, risk management and technology transfer. Capacity-building on public awareness and information exchange mechanisms and data management was also considered important. It was also considered that biotechnology transfer and management was a key element for ensuring the success of the implementation of the Cartagena Protocol on Biosafety.

131. The African Protected Areas Initiative (APAI) is an African-led initiative designed to help mobilize African institutions and expertise to work effectively towards the enhancement of the role of protected areas as vital tools for safeguarding biodiversity, sustaining ecosystem processes and contributing to livelihoods and sustainable development across the continent. The objective of this initiative is to develop an institutional framework to enhance partnership and collaboration among the many stakeholders in Africa's protected areas and build on them to attract new constituencies and resources. The proposed shorter-term objectives are as follows:

- (a) To develop for each sub-Saharan African country a well designed and effectively managed system of conservation areas that will meet its environmental and socio-economic needs;
- (b) To increase material and political support for Africa's conservation areas at the national, regional and international levels;
- (c) To create a mechanism for assisting African countries to implement the Convention on Biological Diversity and other international and regional conventions (e.g. the Algiers Convention);
- (d) To effectively articulate issues relating to African biodiversity conservation and protected areas at key regional and international forums (the World Parks Congress, the seventh meeting of the Conference of the Parties to the Convention on Biological Diversity, etc);
- (e) To create a continent-wide protected areas database to be maintained within Africa to support the activities deemed to be of the highest priority by African countries (building on existing databases, such as the UNEP World Conservation Monitoring Centre);
- (f) To enhance biodiversity management throughout Africa through improved training, institutional and policy development and systems planning;
- (g) To develop a strategy and action plan for APAI and have them approved at the fifth World Parks Congress and at relevant African councils as a blueprint for the regional and continent-wide revival and conservation of Africa's biodiversity;
- (h) To develop and support a network of scientists, protected areas practitioners, experts and policy makers as a forum for exchange of ideas, experience and policy influence.

132. To this end, it is suggested that a trust fund be established. The goal of the trust fund will be to complement and coordinate support from multilateral agencies to assist African Governments and continental and regional bodies in Africa to leverage the highest level of political commitment for conservation of biodiversity through protected areas and to enhance African ownership and

partnership. The objective of the trust fund is to establish a co-funding facility that will provide funding in a predictable and timely manner to complement financial resources from recipient countries or other organizations to strengthen Africa's long-term commitment to the conservation of biodiversity through the maintenance of the integrity of protected areas and to improve the capacity of African institutions (i.e., research institutions, Government agencies, community-based organizations, non-governmental organizations, the private sector, etc.) to manage protected areas. A trust fund with an initial capital of \$250 million is proposed to support African countries to make long-term commitments to the sustainable management of protected areas by providing grants to co-finance proposals aimed at the following:

- (a) Deepening the political commitment of African countries to the conservation of biodiversity through the sound management of protected areas;
- (b) Strengthening the capacity of African organizations to demonstrate and promote the replication of best practices in protected areas management;
- (c) Improving networking among African institutions;
- (d) Developing critical masses of people from diverse sectors of society who can work together despite their approaches to conservation;
- (e) Facilitating long-term commitment and active government support for creating joint public-private sector mechanisms that will function beyond direct government control;
- (f) Promoting basic fabrics of legal and financial practices and supporting institutions in which people have confidence;
- (g) Ensuring sustainable systems of protected areas governance, for example, through sustainable financing and institutions.

#### (c) Forests

133. The forests of Africa cover 520 million hectares and account for more than 17 per cent of the world's forests. Forests play an important economic role in many African countries. They account for 6 per cent of GDP in the region, the highest in the world. But the share of forest products in trade is only 2 per cent. Africa's forests are threatened by a combination of factors, including agricultural expansion, commercial harvesting, increased fuelwood collection, inadequate land and tree tenure regimes, inappropriate agricultural systems and increasing urbanization and industrialization. Droughts and armed conflicts also contribute significantly to forest degradation.

134. During the 1980s, Africa lost an estimated 47 million hectares of forests. By 1995, another 19 million hectares had been lost, an area the size of Senegal. In most African countries, there has been an increasing demand for wood products, especially fuelwood and charcoal. As a result, the consumption of forest products nearly doubled during the period 1970-1994. At least 90 per cent of Africans depend on fuelwood and other biomass for their energy needs. More recently, new economic reform measures have removed subsidies on energy alternatives, which has further increased the demand for fuelwood and other biomass. Recent projections estimate that the consumption of fuelwood and charcoal will rise by 5 per cent by 2010.



Mayombe rainforest reserve, Congo

Michel Gunther/Sill Pictures

135. In adopting the framework of an action plan for the Environment Initiative of NEPAD, the ministers at the ninth session of AMCEN decided to include forests as a separate transboundary issue to be examined in greater detail. To this end, a thematic workshop on the forests component of the Environment Initiative of NEPAD was held in Yaounde on 13 and 14 February 2003. The workshop was organized in close collaboration with the African section of the World Wide Fund for Nature (WWF). The list of project activities is contained in annex II of the present document. It must be noted that in the margins of that workshop an important agreement was signed between Nigeria and Cameroon on transboundary protected areas between the two countries. This was followed by an agreement to conserve endangered species under the UNEP/UNESCO Great Apes Survival Project.

136. The participants at the workshop noted that the general status of the African forest was one of overall decline, a trend that had been apparent through the past century and is expected to continue over the next twenty years. Although there are isolated examples of improvements and progress, in general, Africa's forests are poorly inventoried, lack adequate policy frameworks and legal status, are managed in an inadequate manner and do not have adequate sustainable revenues to guarantee long-term survival despite the fact that they provide significant environmental services. Unless this decline is reversed, it will be impossible for the forest sector in Africa to continue playing its important role in sustaining forest-dependent communities and contributing to national economies, yet they contribute to the long-term social and economic development and poverty alleviation goals of NEPAD.

137. The development of sustainable forest management in Africa requires that the long-term environmental health and ecological function of Africa's forests be maintained in order to provide vital ecosystem services upon which millions of Africans depend. The value of these ecosystem

services must be fully incorporated into African forest policy development and decision-making alongside timber resource values.

138. The forests component of the Environment Initiative of NEPAD focuses on five key weaknesses in the current environmental management of African forest resources, which result from a general lack of capacity at the human, institutional and system levels. More specifically, the weaknesses are as follows:

- (a) Lack of sound national forest programmes, including medium-term national forest plans;
- (b) Lack of capacity for sustained forest resource inventory and monitoring;
- (c) Lack of effective application of appropriate criteria and indicators for sustainable forest management;
- (d) Lack of capacity to protect and manage forests for biodiversity conservation;
- (e) Insufficient participation of both local communities and the private sector in sustainable forest management;
- (f) Insufficient action against increasing illegal forest exploitation.

139. Within Africa, there are planned, existing and ongoing projects and initiatives that demonstrate the progress that could be made in addressing each of these weaknesses. The Environment Initiative of NEPAD could play an important role in supporting, catalyzing and expanding these and similar initiatives. One such initiative is the convergency plan and priority actions of the Congo Basin Initiative, which constitute an important part of the Environment Initiative of NEPAD.

140. For forest programmes, there is a need for continued support to the following:

- (a) Sharing of experience in the development, harmonization and implementation of national programmes to promote sustainable forest management;
- (b) New approaches, initiatives and partnerships that promote sustainable forest management through, for example, the Yaounde Summit Declaration, the Conference on Central Africa Moist-Forest Ecosystems (CEFDHAC) Brazzaville Process and the Pan-African Forest Certification Scheme;
- (c) The promotion of the role of Africa's wet and savannah forests and woodlands as important carbon sinks, biodiversity reservoirs and sources of goods and services and ensuring that these values are incorporated into national forest programmes and the sustainable management of the forests.

141. For mapping and knowledge of forest ecosystems, there is a need to undertake the following actions:

- (a) To improve the integration of forest land into overall land-use planning for sustainable development, for example, through collaboration with AfriCover and other land-use mapping exercises;
- (b) To build national capacity to access and use remote-sensing data and geographical



information processing technologies, including geographical information systems (GIS) and global positioning systems;

- (c) To improve the integration of such data into other available information regarding the goods and services provided by forests to local communities;
- (d) To promote the integration of scientific and traditional knowledge and practice of forest management.

142. For monitoring and assessment, there is a need to undertake the following actions:

- (a) To participate in regional criteria and indicator processes;
- (b) To develop national forest inventory and monitoring systems which take into account these criteria and indicators;
- (c) To improve the scientific underpinning of the use of economic, social and environmental indicators of sustainable forest management, including indicators of the goods and services provided by forests;
- (d) To exchange information and experience with partner countries on monitoring and responding to large-scale disasters affecting forest ecosystems such as forest fires;
- (e) To build capacity in countries for monitoring the impacts of human activity and environmental change on forest resources, including the impacts of fire, infrastructural development, illegal logging, climate change, etc.

143. For protected areas, there is a need to undertake the following actions:

- (a) To improve the capacity to analyze and categorize existing protected forest areas in Africa and identify key forest types not sufficiently represented in the various categories of protection;
- (b) To work with partner countries to establish and maintain protected forest areas and associated networks, including transboundary parks and other transnational and international initiatives, such as the Congo Basin Initiative, aimed at protecting important forest biodiversity and other ecological values;
- (c) To improve the effectiveness of protected areas management by strengthening the capacity of African institutions involved in forest protected areas management;
- (d) To initiate activities on forest landscape restoration within protected areas and to establish buffer zones around core forest protected areas.

144. For broader stakeholder involvement, there are opportunities for greater involvement of both the private sector and civil society groups and new partnerships in sustainable forest management. Sustainable forest management is not possible without the positive involvement and commitment of forest owners, forest industries, civil society, non-governmental and community-based organizations and indigenous people.

145. For the private sector, there is a need to undertake the following actions:

- (a) To encourage the private sector, particularly forest-related industries, to develop and apply

voluntary codes of conduct that support forest certification and sustainable forest management, both domestically and internationally;

- (b) To encourage private voluntary market-based mechanisms that support improved management practices in the forest sector;
- (c) To encourage the private sector to increase efficiencies and reduce waste in the processing of forest products and recycling while at the same time encouraging new international and domestic markets;
- (d) To promote private investment and development of partnerships in sustainable forest management and to identify innovative financing mechanisms to attract private sector finance;
- (e) To develop partnerships between the private sector and Governments and between the private sector and non-governmental organizations, such as the Producers Group Network being established in West and Central Africa.

146. For civil society, there is a need to undertake the following actions:

- (a) To devolve forest ownership and management to the lowest appropriate level compatible with sustainable forest management;
- (b) To encourage the formation of community forests and strengthen community participation in policy development and implementation;
- (c) To expand market opportunities for forest communities and small forest operations.

147. For forest law and governance, there is a need to undertake the following actions:

- (a) To encourage information sharing and assessment of the nature and extent of international trade in illegally harvested timber as a basis for developing practical and effective counter-measures;
- (b) To work with interested partner countries and through international organizations, including the United Nations Forum on Forests (UNFF), the Collaborative Partnership on Forests, the Food and Agriculture Organization of the United Nations, the Centre for International Forestry Research, UNEP, and elements of the International Tropical Timber Organization's Libreville Action Plan relating to illegal forestry, to develop capacity to assess the nature and extent of illegal logging and trade in illegally harvested timber and the capacity to develop and implement counter-measures such as chain-of-custody verification;
- (c) To expand participation in the Lusaka Agreement Task Force to include more African countries and to strengthen their activities in transboundary investigation of poaching and illegal trade undertaken by criminal syndicates;
- (d) To develop joint activities to reduce illegal wildlife trade with the CITES Bushmeat Working Group, Monitoring of Illegal Killing of Elephants (MIKE), the World Bank/Association for the Development of Information on Environment (AIDE) Regional Environmental Information Management Project (PRGIE) and other relevant African organizations;
- (e) To encourage African Governments to take measures to implement their obligations under international agreements aimed at combating bribery and corruption in international business transactions as they pertain to trade in timber and wildlife.

## C. CROSS-CUTTING ISSUES

Poverty eradication central to sustainable development



Mark Edwards/Still Pictures

148. Major cross-cutting issues include health and environment, poverty and environment and transfer of technology. The actions identified cannot take place without the consideration of issues related to gender and traditional and indigenous knowledge.

### 1. Health and environment

149. Exacerbated by rapid population growth, poverty remains the primary cause of most of sub-Saharan Africa's environmental health problems. With a total population of about 450 million, half of Africa's population has no access to health services and two thirds lacks safe drinking water, according to a 1991 report by the World Bank. Most water in sub-Saharan Africa is undrinkable and contaminated by bacteria, untreated or poorly treated sewage, heavy metals and silt from soil erosion, fertilizers and pesticides, mining tailings and industrial waste. Most Africans are also gravely affected by indoor and outdoor pollutants, microbes that cause life-threatening diarrhea and tropical diseases, HIV/AIDS, inadequate sanitation and sewage treatment, desertification and deforestation, mining and the over-use of pesticides and insecticides. The impacts of genetically modified organisms on human health are an important aspect under the Cartagena Protocol on Biosafety. Due to lack of knowledge on environmentally sustainable alternatives and proper quality control of agricultural products, African farmers have greatly increased their use of chemical-based pesticides, herbicides, and fungicides.



Ernst Tobisch/UNEP/Still Pictures

Health and environment: The Action Plan to deal with Assessment, development and implementation of health indicators

150. More than 11 million cases of acute pesticide poisoning, including those with only minor effects, occur annually in Africa, making them a major public health problem. Chemicals such as arsenic, cadmium, lead, mercury and sulphuric acid used in various industrial processes, including mining, contaminate water and soil and affect human health. Persistent organic pollutants, widely used in agriculture, disease vector control and industry and generated as by-products in industrial



processes and uncontrolled combustions, represent a serious threat to human health due to their endocrine disruption effects on the immune function, the nervous system and certain aspects of reproduction in both humans and wildlife. At least 50,000 tons of obsolete pesticides and tens of thousands of tons of contaminated soils have accumulated in most African countries over long periods. These pesticides pose a serious threat to the health of both rural and urban populations and contribute to land and water degradation.

151. Many African countries are parties to the Basel Convention, the Bamako Convention and the Rotterdam Convention. African countries are also working for the ratification of the recently adopted Stockholm Convention. They have initiated activities for the preparation of National implementation plans as required by article 7 of the Convention. The objectives of the activities to be undertaken under this programme area of the action plan aim at assisting African countries to implement their commitments under chemicals-related conventions to which they are parties and to address other related environmental problems such as atmospheric pollution.

152. A consultative meeting on the health and environment component of the Action Plan of the Environment Initiative of NEPAD was held in Geneva on 8 December 2002 in the margins of the sixth meeting of the Conference of the Parties to the Basel Convention. It was attended by more than 100 African experts. With the objective of finalizing the health and environment section of the Environment Initiative of NEPAD, a thematic workshop was held in Dakar on 17 and 18 February 2003. The participants came up with 28 project proposals. On issues related to environmentally sound management of pesticides and other toxic chemicals, the following projects were proposed:

- (a) Education and awareness;
- (b) Establishment of poison centres;
- (c) Development of emergency response plans;
- (d) Development of the African input into a strategic approach to international chemicals management;
- (e) Assessment, development and implementation of health indicators;
- (f) Implementation of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS);
- (g) Prevention of illegal traffic in chemicals;
- (h) Elimination of stockpiles of obsolete pesticides from Africa;
- (i) Establishment and/or capacity-building of the regional centres (e.g., the Basel Convention regional centres in Nigeria, Senegal and South Africa) for the management of hazardous wastes in the context of building synergies with the Stockholm Convention and the Rotterdam Convention.

153. On issues related to waste management, the following project proposals were made:

- (a) Sewage systems and waste water;
- (b) Solid waste management;
- (c) Environmentally sound management of hazardous wastes;

- (d) Development and implementation of waste minimization programmes;
- (e) Management of obsolete stockpiles (the African Stockpiles Programme covers pesticides and industrial chemicals).

154. Regarding the support infrastructure, the following project proposals were made:

- (a) Establishment of environmental information management systems;
- (b) Establishment of improved capacity in laboratory and scientific risk assessment;
- (c) Monitoring of environmental contaminants in environmental samples and marketable products.

155. On issues related to sustainable production and consumption, the following project proposals were made:

- (a) Assessment of the current status of production facilities;
- (b) Capacity to assess alternative cleaner production technologies;
- (c) Development of cleaner production capacity;
- (d) Research into alternative approaches to the use of current hazardous formulations;
- (e) Development of strategies for rehabilitation of contaminated sites.

156. Regarding networking and dissemination of information, the following project proposals were made:

- (a) Support for the development and enforcement of legislative frameworks;
- (b) Dissemination of information on chemicals and pesticides;
- (c) Coordination among countries on cleaner production centres, poison centres and laboratories.

157. On issues related to atmospheric pollution (reduction of particles and harmful gases) the following project proposals were made:

- (a) Reduction of emissions from automobiles;
- (b) Elimination of lead in gasoline;
- (c) Strengthening of legislation related to automobile emissions (i.e., inspections).

## 2. TRANSFER OF ENVIRONMENTALLY SOUND TECHNOLOGIES

158. Sustainable development of Africa is largely dependent on the continent's ability to develop, acquire and apply environmentally sound technologies. Environmentally sound technologies are not just individual technologies, but total systems which include know-how, procedures, goods and services, equipment and organizational and managerial procedures.

159. African countries have been active in negotiating for favourable terms of technology transfer. In conventions such as the Convention on Biological Diversity and UNFCCC, African countries have always called on the industrialized countries to facilitate the transfer of new technologies through relaxation of the protection of intellectual property. Issues of technology transfer are also noted in national and subregional action programmes on desertification.

160. To facilitate the acquisition and/or transfer of environmentally sound technologies to African countries, the following activities will be considered and developed:

- (a) Establishment of a regional clearing-house mechanism that would gather and disseminate information on the nature and range of environmentally sound technologies on the international market;
- (b) Support to African countries to formulate and implement incentive measures that may include subsidies and tax policies;
- (c) Establishment of a fund for the acquisition of technologies and support to local research efforts aimed at generating environmentally sound technologies.

### 3. ASSESSMENT OF AND EARLY WARNING ON NATURAL DISASTERS

161. Africa's environmental assessment capacity to address environmental challenges will need to be enhanced. To this end, the following activities may be promoted:

- (a) Support for the development of an African programme on early warning, including the establishment of an African information network;
- (b) Preparation and implementation of institutional capacity-building for integrated environmental assessment;
- (c) Enhancement of access to relevant data and information to support vulnerability assessment and the issuing of early warnings on issues and threats of environmental emergencies;
- (d) Incorporation of the environmental aspects of early warning and vulnerability assessments into the decision-making process for disaster preparedness and management;
- (e) Facilitation of access to and dissemination of information on environmental issues and threats at the national, subregional and regional levels, using the best possible up-to-date information.

### 4. THE ENVIRONMENT DIRECTORY OF NEPAD

162. The implementation of the Action Plan on the Environment Initiative of NEPAD requires the establishment of a system to track, monitor and catalyze the information required. To catalyze the implementation phase of the NEPAD process, a mechanism to bring together and to coordinate the existing information resources is needed. Such a mechanism would track the implementation of the NEPAD process in a transparent manner and at the same time build a network of focused information systems to maximize efficient exchange of expertise, data and information. Therefore, an environment directory for the implementation of the Action Plan on the Environment Initiative of NEPAD will be established. The environment directory will be a tool that aims at building a comprehensive directory of institutions and existing information resources they own or manage (including project activities, documents, expert rosters, etc). The system will be built on a network structure that actively involves international and national governmental and non-governmental organizations in the collection and maintenance of data and information and thus will have a relatively low operational maintenance cost. It will utilize Internet technology to link with other databases to share and exchange data and information. Also planned as part of its inclusion under the UNEPNet framework is the development of an exchange interface to allow any environmental information system on the Internet to be searched from this single point. There are four main categories captured by the system (and, therefore, it provides a structured approach to selecting and finding information): addresses (expert rosters and institutions); projects; documents (national reports, assessments, etc); datasets (measurements, inventories, etc); and maps (GIS and printed maps).

163. The environment directory of NEPAD will provide, at a minimum, links and direct access to the following information resources for each of the programme areas:

- (a) Planned and ongoing project activities (through linkage with and integration into the existing project databases);
- (b) Project concepts submitted as a result of the planning phase;
- (c) Expertise available in and outside the region (institutions and people);
- (d) Trends and findings of the Africa Environment Outlook, enabling activities inventories etc.;
- (e) Best practices and lessons learned for issues of concern in thematic areas;
- (f) Selected GIS applications (such as the African Freshwater Atlas showing surface water resources, power generation dams, water stress levels, etc, in Africa);
- (g) A special graphical interface to map and link existing information systems based on a search;
- (h) A searchable catalogue of existing and trusted interactive forums.





IV. IMPLEMENTATION OF THE ACTION  
PLAN OF THE ENVIRONMENT  
INITIATIVE OF NEPAD



164. *T*he Action Plan of the Environment Initiative of NEPAD is a living document that will need to be reviewed on a regular basis by AMCEN in order to adjust it to changing needs and circumstances. Its implementation will require a long-term approach. It will be implemented in harmony with the other components of NEPAD and will build on the achievements and work programme of AMCEN and other relevant African initiatives such as AMCOW and the African Process. It will require an appropriate implementation mechanism and adequate financial resources. In this regard, the role of the private sector has been emphasized. The relation between the environment and culture and traditional knowledge are considered essential for addressing the environmental objectives of NEPAD.

165. As reflected by the outcomes of the nine NEPAD thematic workshops and the proceedings of the fourth meeting of the Steering Committee held at the ministerial level in Maputo on 23 and 24 April 2003, the development of the human and institutional capacity of African countries is one of the continent's most pressing priorities. Accordingly, the implementation of the Strategic Plan to Build Africa's Capacity to Implement Global and Regional Environmental Conventions contained in annex I should be considered as a matter of high priority, and the plan should be submitted to the donors' meeting as a priority project.

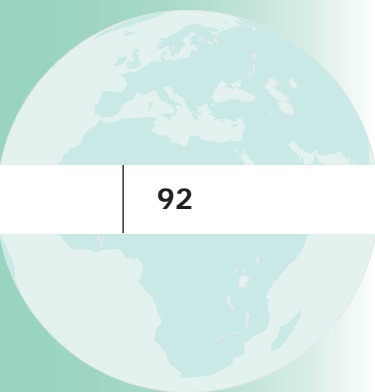
166. Implementation of the Action Plan requires adequate financial resources to be mobilized by Africans themselves. However, based on the commitments agreed upon by the international community and as contained in the United Nations Millennium Declaration, the Monterrey Consensus on Financing Development, chapter VIII of the Johannesburg Plan of Implementation and the United Nations Declaration on NEPAD, adopted on 16 September 2002 at a high-level plenary meeting of the United Nations General Assembly during its fifty-seventh session, additional international financial resources will be required. To this end, a donors' meeting to be attended by bilateral and multilateral financial institutions, including GEF and the private sector, will be convened in Algiers in December 2003 at the invitation of the Government of Algeria.

## CONCLUSION



167. *T*he Action Plan of the Environment Initiative of NEPAD is a concrete response by African leaders to the environmental challenges facing the continent and is aimed at promoting sustainable development in one of the poorest continents. It offers a unique opportunity to build a strong and vibrant partnership between Africa and its partners, including the private sector. African leaders are determined to fulfill their commitments and their responsibilities towards present and future generations in order to protect the local and the global environment. The three pillars of sustainable development, however, cannot be achieved without peace and security on the continent. Africa expects its bilateral and multilateral partners to join forces and support this historical initiative. As a matter of urgent priority for the establishment of such a partnership, annex I to this document, setting out the Strategic Plan to Build Africa's Capacity to Implement Global and Regional Environmental Conventions, is an integral part of the Action Plan.

168. Recognizing that poverty reduction depends on good stewardship of the environment, AMCEN will play a key role in achieving NEPAD's goal to implement national strategies for sustainable development by 2005 so as to reverse the loss of environmental resources by 2015. The natural resource base on which much of poverty eradication depends also satisfies many of the needs of many African communities, including medicines, food and building materials, few of which are recorded in government statistics on income and poverty levels. The effective implementation of chapter VIII of NEPAD is inextricably linked to effective and long-term poverty eradication.



## ANNEX I STRATEGIC PLAN TO BUILD AFRICA'S CAPACITY TO IMPLEMENT GLOBAL AND REGIONAL ENVIRONMENTAL CONVENTIONS

### INTRODUCTION

1. Agenda 21 (chapter 37) defines capacity-building as encompassing "the country's human, scientific, technological, organizational, institutional and resource capabilities. A fundamental goal of capacity-building is to enhance the ability to evaluate and address the crucial questions related to policy choices and modes of implementation among development options, based on an understanding of environmental potentials and limits and of needs as perceived by the people of the country concerned. As a result, the need to strengthen national capacities is shared by all countries". It is a knowledge-intensive process requiring the continuous upgrading of skills, organizational capabilities, policies and laws. Capacity-building is therefore a long-term and dynamic process.

2. Building the capacity of African countries to implement global environmental conventions has been recognized as one of the priority challenges in the attainment of sustainable development. This recognition is articulated in decisions of conferences of the parties to all major global and regional environmental conventions. As the financial mechanism of the conventions signed in Rio de Janeiro, the Global Environment Facility (GEF) recognized such a need by initiating in 1996 enabling activities and an initiative known as the Capacity Development Initiative. There is a growing commitment by African countries themselves and the international community to investing in strategic and coherent activities that build the region's capacity to implement conventions in a coordinated and comprehensive manner.

3. GEF, through its Capacity Development Initiative, has supported a number of assessments of national and regional capacity needs. National capacity needs assessments are aimed at identifying and clarifying the specific human resource, institutional, financial, policy and other capacity requirements of countries. They provide the necessary basis for formulating and implementing national and regional capacity-building programmes.

4. One of the priority goals of the Environment Initiative of the New Partnership for Africa's Development (NEPAD) is to build Africa's capacity to implement environmental conventions and such related international legal instruments as the Cartagena Protocol on Biosafety to the Convention on Biological Diversity. To respond to such an urgent need, the Strategic Plan for Capacity-Building for Africa (SPCB) - to achieve capacity-building goals of the Environment Initiative - has been developed. The plan is organized around clusters of activities and processes that will be implemented over a five-year period. The proposed activities target specific needs identified by African countries themselves. The countries will also take overall leadership in implementing this plan. The suggested plan will build on and complement the GEF Capacity Development Initiative and will aim at achieving its overall objectives. It will be submitted to the donors' meeting

to be held in December 2003 on the Action Plan of the Environment Initiative of the New Partnership for Africa's Development.

5. African countries face numerous challenges in their efforts to implement their commitments under global environmental conventions and to achieve sustainable development. Since the Stockholm Conference on the Human Environment, many agreements and related regulatory instruments have been adopted at the international level to conserve and manage the natural environment and to guide human activities for sustainable development. Today, there are well over 200 relevant multilateral agreements concluded on environmental subjects as diverse as biological diversity, biosafety, transboundary long-range air pollution, the law of the sea, climate change, toxic substances, desertification and protection of the world's cultural and natural heritage. Several environmental agreements have been concluded at the regional and subregional levels.

6. The implementation of global environmental conventions must necessarily be carried out at the national level. Unfortunately, many African countries lack the capacity to fully implement the complex provisions of this growing body of international law. Building the capacity of these countries to do so must now be given top priority. Such capacity-building, however, must be informed by and based on the country's own needs and priorities.

7. Africa's priorities for the implementation of these conventions can generally be drawn out of national reports, strategies and action plans, statements by delegations at meetings of conferences of the parties, project proposals submitted to financial institutions and donors, reports of national workshops and country studies. Africa's capacity needs include the following:

- (a) Development of adequate national policy frameworks for the effective implementation of global and regional conventions;
- (b) Coordinated preparation and implementation of national, legal and regulatory frameworks to comprehensively address the complexity of issues covered by global conventions;
- (c) Promotion and enhancement of adequate institutional mechanisms for the implementation of such frameworks, including strengthening the role of environmental institutions;
- (d) Promotion and enhancement mechanisms for environmental information, including coordination, integration and delivery to identified targets, particularly those involved in the policy and decision-making process;
- (e) Promotion and enhancement of mechanisms required for regional cooperation on issues of common concern such as the management of shared ecosystems, in conformity with existing agreements between the countries concerned, including, for example, migratory species, trade in endangered species, shared coastal and inland water bodies, transboundary river basins, pollution and exchange of information and expertise;
- (f) Promotion of information on and understanding of the status of and trends in environmental degradation, vulnerability to climate change, impacts of land degradation and desertification and implications of biodiversity loss in addition to a variety of other environmental challenges is still modest in many African countries;



- (g) Enhancement of the negotiating and technical skills of the African representatives at the meetings of the major global conventions;
- (h) Public awareness of global conventions and related sustainable development instruments.

## I. OBJECTIVES

8. The overall objective of SPCB is to enable African countries to implement in a coordinated and comprehensive manner their commitments under global and regional environmental conventions and other international legal instruments. It will also promote sharing of experiences at the national, subregional and regional levels and encourage South-South cooperation.

9. SPCB is being developed and will be implemented through partnership among Africans themselves and between them and the international community. It will take a comprehensive approach to the development of the capacities needed by African countries to fulfill their commitments under global and regional environmental agreements. It is process-oriented and aims at maximizing impact at the national and regional levels. As stated above, the plan focuses on capacity needs identified by countries themselves. The following are the specific objectives of SPCB:

- (a) To support African countries to generate and use relevant knowledge and information to implement their commitments under global environmental conventions;
- (b) To assist African countries to implement the capacity-building provisions of the United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa;
- (c) To support African countries in implementing the capacity-building provisions of the Convention on Biological Diversity and other biodiversity-related conventions such as the Convention on International Trade in Endangered Species of Wild Fauna and Flora, the Convention on Wetlands of International Importance, Especially as Waterfowl Habitat (Ramsar Convention) and the Convention on the Conservation of Migratory Species of Wild Animals;
- (d) To assist countries to implement the capacity-building decisions adopted by the second meeting of the Intergovernmental Committee for the Cartagena Protocol on Biosafety (ICCP);
- (e) To assist African countries to implement the capacity-building decisions adopted at the seventh session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) held in Marrakech, Morocco in November 2001;
- (f) To support African countries to prepare for the entry into force and implementation of the Kyoto Protocol to UNFCCC;
- (g) To support countries in creating skills for negotiating and participating at meetings of parties to global environmental conventions;
- (h) To support the implementation of national, subregional and regional policies and related legal capacity-building for the implementation of environmental conventions;

- (i) To strengthen national, subregional and regional institutional arrangements for the implementation of global environmental conventions and related sustainable development instruments;
- (j) To assist countries to implement capacity-building decisions and activities of chemicals and waste-related conventions, including through existing regional mechanisms;
- (k) To assist the least developed countries (LDCs) of Africa to prepare and implement national adaptation programmes pursuant to the decision of the Conference of the Parties to UNFCCC adopted at its seventh session;
- (l) To support African countries in implementing the Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes Within Africa and the Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Basel Convention) and to prepare for the entry into force and the implementation of the Stockholm Convention on Persistent Organic Pollutants (Stockholm Convention) and the Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade ;
- (m) To strengthen the capacity of African countries to implement regional seas conventions and related regional and global programmes of action;
- (n) To support countries in implementing the environmental pillar (in particular those aspects related to global environmental conventions) of the Johannesburg Summit Plan of Implementation;
- (o) To promote the maximization of synergies between environmental and other global and regional conventions.

## II. GUIDING PRINCIPLES AND ELEMENTS

10. The design, preparation and implementation of SPCB shall be guided by the following principles:

- (a) It should be consistent with African national priorities and needs as contained in national action plans and strategies as well as national reports on the implementation of relevant conventions submitted to the conferences of the parties;
- (b) It should be consistent with the relevant provisions of environmental conventions and the guidance of their conferences of the parties;
- (c) It should be country-driven, with the full participation of major stakeholders, in particular the representatives of civil society, including non-governmental organizations, women and youth;
- (d) It should be flexible so as to be adaptable to the evolving needs and priorities of countries;
- (e) It should follow the principle of learning by doing and take a step-by-step approach;
- (f) It should be a continuous, progressive and interactive process;
- (g) It should be undertaken in an effective, efficient, integrated and programmatic manner;

- (h) It should mobilize and enhance national, subregional and regional institutions and build on existing processes and endogenous capacities;
- (i) It should take into full consideration the specific needs of the LDCs of Africa;
- (j) It should be consistent and in conformity with other activities of the Environment Initiative of NEPAD;
- (k) It should assist in the implementation of the environment component of the Millennium Declaration adopted in September 2000 by the United Nations General Assembly;
- (l) It should build on existing bilateral and multilateral capacity-building initiatives;
- (m) It should complement, support or be part of the GEF Capacity Development Initiative.

### III. ACTIVITIES

11. To achieve the above objectives, the activities below may be considered and developed.

#### A. Human resources development

12. One of the capacity requirements of many African countries is human skills or expertise in policy, legal, technical and scientific aspects or issues emerging from environmental conventions and related protocols. Generally, the expertise necessary to translate the provisions of conventions into concrete national activities, policies and laws is in short supply in many countries. The countries have often identified shortage of skills in such areas as taxonomy, climate science, environmental economics and environmental law. There is also a shortage of expertise or skills for negotiating environmental agreements.

13. To support the building and strengthening of Africa's human resources base for the implementation of environmental conventions and related sustainable development instruments, the following activities may be considered:

- (a) Preparation and review of appropriate training course modules on environmental conventions;
- (b) Identification and selection of appropriate regional and international training institutions;
- (c) Preparation of specific training projects. These will focus on specific capacity needs of countries. The training may be offered as short and long courses, depending on specific needs. Emphasis will be placed on developing a core of skills or critical mass of expertise that can be shared across the continent. This critical mass will also be utilized for training. Specific training courses on negotiations, with emphasis on different approaches and tools for negotiating conventions, may be developed;
- (d) Frequent review and evaluation of training projects.

#### B. Public education and awareness raising

14. The achievement of the objectives of global environmental conventions by African countries largely depends on the extent to which their general public and decision makers are aware of the conventions and their respective national obligations. Public and decision makers' support to and ownership of the conventions are very crucial to national implementation.

15. Most global environmental conventions recognize the importance of educating the public and increasing public awareness of the conventions. The Convention on Biological Diversity, for example, has devoted its article 13 to measures aimed at public education and awareness. Article 13 calls on parties to the Convention to "cooperate, as appropriate, with other States and international organizations in developing educational and public awareness programmes, with respect to conservation and sustainable use of biological diversity." Public education and awareness considerations are also integrated into the Convention to Combat Desertification, UNFCCC and the Stockholm Convention.

16. Within the framework of SPCB, specific activities will be developed to implement the public education and awareness provisions of global environmental agreements. Recognizing that countries have developed or will develop their own priorities and activities on public education and awareness, the following activities may be considered:

- (a) Development of common strategies to integrate issues on environmental conventions into education at all levels. This may involve review and revision of school and university curricula;
- (b) Establishment of a regional environmental education programme to be coordinated through a network of centres of excellence;
- (c) Supporting university and other tertiary research and educational activities on environmental policy and law. In addition, encouraging and supporting the establishment of interdisciplinary environmental courses in African universities;
- (d) Supporting countries to develop and provide appropriate information packages to the public, if possible in their national languages;
- (e) Supporting countries to establish media facilities that focus on global environmental conventions and related sustainable development issues;
- (f) Organizing regional youth environmental sessions and putting emphasis on dissemination of information on global environmental conventions;
- (g) Encouraging and supporting non-governmental organizations to increase their involvement in environmental awareness building, with emphasis on issues on and emerging from global conventions.

#### C. Strengthening institutions and improving coordination

17. The capability of African countries to fulfill their commitments under global environmental agreements largely depends on the nature and capacities of institutions that they establish and how such institutions are configured to achieve synergies in their operations. As already stated above, the implementation of conventions is often not effectively achieved because of weak institutions at the national, subregional and regional levels. Strengthening the capacity of institutions, particularly to develop and negotiate appropriate mandates and modus operandi as well as appropriate legal and regulatory frameworks, will be one of the key priorities of SPCB.

18. On the basis of the specific priorities of African countries, SPCB may focus on the following:

- (a) Supporting countries to strengthen the mandate and capacities of the relevant institutions responsible for the implementation of global and regional environmental conventions;
- (b) Promoting coordination of and synergies among national, subregional and regional institutions responsible for the implementation of conventions;
- (c) Supporting the strengthening of AMCEN and participation of subregional and regional economic bodies in the negotiation and implementation of conventions;
- (d) Promoting the establishment and/or strengthening of centres of excellence in environmental law, policy and science and strengthening their participation in regional processes on conventions.

**D. Supporting the development of information systems and related environmental assessments**

19. The absence of adequate and relevant information and data has been identified as one of the capacity needs for the implementation of global and regional environmental conventions. In addition, the capacity to generate, manage and effectively use information and data on various aspects of environmental management and governance is in short supply in Africa. Meeting commitments under global conventions will require African countries to strengthen their capacity to generate, manage and use relevant information and data.

20. To contribute to the building of capacity to implement information and environmental assessment-related provisions of global conventions, and building on such ongoing efforts as the African Environment Outlook produced through AMCEN, SPCB may:

- (a) Support training of Africans in the assessment and information management aspects related to global environmental conventions;
- (b) Support national and regional capacity to collect and use multi-sectoral information in decision-making processes and build capacity to collect and analyze data and information for decision-making;
- (c) Consider supporting the establishment of a comprehensive regional information framework.

**E. Mobilizing and strengthening the role of the scientific and technical communities**

21. The implementation of global environmental conventions and related sustainable development instruments is a knowledge-intensive effort that largely requires scientific and technical knowledge. For African countries to meet their commitments, such as drawing up inventories, assessments and restoration of ecosystems, they require scientific and technical capacities.

22. SPCB will support African countries in mobilizing and utilizing their existing scientific and technical communities. Emphasis will be placed on strengthening the role of existing science networks in negotiation, participation in meetings of the parties and scientific research. African science networks can play a major role in the mobilization of existing scientific skills and expertise, generation and provision of scientific information to policy makers and agencies, organizing and

offering specialized training courses on environmental conventions, participation in project design and development with governmental agencies, and support to project review, monitoring and evaluation.

23. SPCB may support the mobilization of the scientific and technical communities by:

- (a) Assisting countries in the preparation of capacity profiles of African scientists working on various aspects of environmental conventions and related sustainable development;
- (b) Organizing or supporting the organization of meetings of regional science networks or academies to explore specific thematic issues on global conventions;
- (c) Promoting information exchange between African science networks and their counterparts in other regions of the world;
- (d) Supporting research through such networks on issues or problems identified as a priority by African countries;
- (e) Promoting information exchange through such means as newsletters or journals on environmental conventions.

**F. Promoting South-South cooperation and sharing of experiences**

24. The building of Africa's capacity to implement global and regional conventions can be achieved through the development of South-South cooperation and networking. South-South cooperation is crucial for enabling African countries to learn or to draw lessons from the capacity-building efforts of other developing countries and regions. In addition, South-South cooperation is important for purposes of training, information exchange and exchange of scientists. Some Asian and Latin American countries have developed expertise and experience that are useful to Africa's goals of building capacity to implement conventions.

25. In addition, South-South cooperation may be a source of institutional strengthening in Africa. African countries can learn from various institutional models developed in other developing countries. On the basis of the specific identified priorities of African countries, SPCB will promote South-South cooperation through activities that include the following:

- (a) Promotion of exchange and dissemination of good practices and lessons learned between Africa and other developing regions;
- (b) Strengthening of collaboration on issues of common interest at the regional, subregional and inter-regional levels among developing countries;
- (c) Promotion of sharing of information and experiences in the implementation of conventions.

**IV. IMPLEMENTATION MODALITIES**

26. SPCB will be a flexible, long-term framework so as to adjust its activities to the evolving needs and requirements of countries and their changing circumstances. It should be considered as a living document and be reviewed on a regular basis.



27. The implementation mechanism for this plan shall be the same as the mechanism for implementing the overall Environment Initiative of NEPAD. It will be implemented under the overall responsibility of AMCEN through its Bureau, which will be assisted by the steering committee for the implementation of the Action Plan of the Environment Initiative of NEPAD, which comprises representatives of the five members of the Bureau of AMCEN and the five founding members of NEPAD. The first meeting of this steering committee will identify and recommend for adoption to AMCEN, through its Bureau, a process of identifying relevant capable institutions to develop and implement the proposed activities. The steering committee will provide guidance to the process for developing each of the clusters of activities on the basis of needs and priorities of countries. It will report on a regular basis to AMCEN, through its Bureau, on the status of implementation of this plan.

28. The implementation action plan on capacity building will be submitted to the donors' meeting to be held in Algiers in December 2003.

## ANNEX II LIST OF PROJECTS IDENTIFIED BY THE NEPAD THEMATIC WORKSHOPS

### A. Programme area 1: Combating land degradation, drought and desertification

#### 1. Arab Magreb Union

- Green belt: Conservation and sustainable use of natural resources in the Magreb countries;
- Management of watersheds of Wadi Mellegue and M soun-Inaoune;
- Rainwater harvesting and use in the arid and semi-arid zones of the Arab Magreb Union;
- Sustainable management of the agro-pastoral resource base in the Magreb zone and Egypt;
- Rehabilitation and development of the oases ecosystems;
- Promotion of development research for combating desertification in the Magreb Union;
- Strengthening of the role of civil society in combating desertification;
- Implementation of a long-term ecological monitoring network;
- Creation of an observatory for drought, desertification and natural disasters in the Arab Magreb Union and CILSS;
- Development of arboriculture on foot slopes and marginal lands;
- Combating sand encroachment in the transboundary area between Algeria and Tunisia (Taleb Larbi-Hazouna);
- Improving and protecting the irrigated agricultural land of In Guezzam in the Algeria-Niger transboundary area;
- Integrated management of the IGUELEN Tamanrasset zone between Algeria and Mali;
- Protection of the trans-Magreb route from Nouakchott-Nouadhibou.

#### 2. CILSS/ ECOWAS region

- Support programme for strengthening of management of transboundary rangelands;
- Support programme for forest management;
- Promotion of the establishment and maintenance of shared and/or transboundary protected areas;
- Conservation Strategy for Western African Elephants;
- Conservation and rational management of sensitive ecosystems (mangroves, humid zones and arid zones);
- Adaptations to climate change in West Africa;
- Development of diagnostic tools and monitoring systems for natural resources and the environment in West Africa;
- Management of shared natural resources, diversification of livelihoods and strengthening of transboundary integration and combating desertification;
- Pilot transboundary project for the "Le Kantchari" (Burkina Faso and Niger);
- Pilot transboundary project for "Lazaouoak" (Mali and Niger);
- Pilot transboundary project for "Cures Salées";
- Coordination of the control of crop pests and diseases;
- Harmonization of phytosanitary legislation and regulations;

- Control of weeds and pests on tree species;
- Control of livestock diseases;
- Commercialization of typha australis in the transboundary areas of the Senegal River valley;
- Provision of petrol to the subregion (ECOWAS and CILSS);
- Rural electrification;
- Commercialization of coal mined in Niger in the subregion;
- Communication and dissemination of environmental information in the Volta Basin;
- Control of invasive aquatic weeds;
- Control of sand encroachment in water courses and coastal areas;
- Integrated management of the Oueme River Basin;
- Integrated Management of Niger River Basin;
- Integrated management of Park W;
- Integrated management of the upper and middle Niger;
- Integrated land and water management in the Illumenden aquifer;
- Integrated management of the Fouta Djallon Highlands;
- Integrated management of the Lake Chad Basin;
- Integrated Management of the Senegal River Basin;
- Integrated Management of the Gambia River Basin;
- Integrated Management of the Mono River Basin.

### 3. ECCAS region

- International initiative for the sustainable management of natural resources in the Congo Basin;
- Sub-regional programme for training of primary school teachers in combating desertification in the CEMAC region;
- Generation of information for awareness raising on bushfires in the CEMAC Region;
- Water harvesting in arid and semi-arid zones (Chad, Cameroon, Central African Republic);
- Transboundary management, including transfer of water between Oubangui and the Lake Chad Basin;
- Desertification observatory in Central Africa;
- Development of a subregional cooperation strategy for combating desertification;
- Development of community-based agro-forestry;
- Sustainable management of soil fertility in equatorial humid zones.

### 4. IGAD region

- Household energy for poverty alleviation and the economic empowerment of women in the IGAD sub-region;
- Environmental education and training in the IGAD sub-region;
- Capacity-building in integrated water resources management in the IGAD sub-region;
- Building capacity for community-based natural resources management in the IGAD sub-region;
- Strengthening environmental pollution control in the IGAD sub-region;

- Promotion of sustainable crop production in the drylands of the IGAD sub-region;
- Management of soil fertility and water-use efficiency;
- Promotion of sustainable crop production in the drylands of the IGAD sub-region: IGAD human resources and gender equity development for semi-arid agricultural research;
- Assessment and mapping of natural resources in the IGAD sub-region;
- Assessment and mitigation of the impact of invasive plant species;
- Natural resources use conflict resolution resulting from droughts and environmental refugees;
- Rehabilitation and management of degraded rangelands;
- Strengthening environmental pollution control in the IGAD sub-region;
- Promotion of transboundary ecotourism;
- Integrated watershed management for two transboundary systems - The Omo-Turkwel-Kerio-Tarch Rivers and Lake Turkana basins and the Juba-Shebele-Ewaso Ngiro River basins.

### 5. SADC region

- Kalahari-Namib project on transboundary desertification control in Botswana, Namibia and South Africa;
- Demonstration phase activities of the Africa Land and Water Management Initiative in the Limpopo River Basin in Southern Africa;
- Capacity-building for integrated rangeland management in the SADC region;
- Assessment of the surface water resources of Southern Africa;
- Protection and strategic uses of groundwater resources in the transboundary Limpopo Basin and drought-prone areas of the SADC region;
- SADC Regional Project to Control Infestation and Translocation of Aquatic Weeds;
- Okavang-Upper Zambezi Natural Resources Management Project;
- Sustainable conservation of Miombo and savannah woodlands in the SADC region (Tanzania, Malawi, Mozambique, Zambia and Zimbabwe);
- Lake Malawi / Niasa/ Nyasa Ecosystem Management Tanzania, Mozambique and Malawi;
- Beira Corridor Sustainable Transboundary Natural Resources Management Programme;
- Promotion of stakeholder participation in water resources management: Feasibility study for creating a fund to support the participation of non-governmental and community-based organizations in water resources management programme on means to empower women in water resources;
- Networking/information sharing on the Convention to Combat Desertification in the SADC region;
- Okacom water resources management;
- Biodiversity conservation participatory development;
- Integrated management in the south-west region of Madagascar (Toliara Province).

### 6. Regional Action Programme

- Ecological monitoring, mapping of natural resources remote sensing, and early warning within the context of the regional action programme for Africa of UNCCD;
- GIS on water resources in the countries of the Arab Maghreb Union and Egypt;

- Promotion of cultivation and marketing of agroforestry fruit trees for food, nutrition and improved incomes for small-scale farmers in African countries.

**B. Programme area 2: Conserving Africa's wetlands**

- Capacity-building for wetlands assessment, planning, management and monitoring in Africa;
- Strengthening the information base and the opportunities for sharing experiences for the management of wetlands in Africa;
- Restoration and rehabilitation of African wetlands;
- Integrated management of wetlands ecosystems in major lake/river basins in Africa;
- Sustainable management of wetlands to enhance the livelihoods of communities;
- Management, restoration and rehabilitation of coastal wetlands;
- Assessment and monitoring of Africa's freshwater ecosystems;
- Improvement of Africa's freshwater ecosystems governance and management;
- Valuation of Africa's freshwater ecosystems in economic development and poverty alleviation.

**C. Programme area 3: Prevention, control and integrated management of invasive alien species**

- Assessment and mitigation of the impacts of selected plant invaders (Prosopis juliflora, Acacia spp.) in agriculture, forestry and rangelands in the IGAD subregion;
- Sustainable management of key invasive woody species in Southern Africa;
- Assessment and mitigation of the impacts of selected woody alien plant invaders (Prosopis juliflora, acacia spp.) in agriculture, forestry and rangelands in Africa;
- Assessment and mitigation of the impacts of the water hyacinth Eichornia crassipes and other invasive alien aquatic plants (Pan-African);
- Control of the invasive Indian house crow on the East African coast and its hinterland;
- Mitigation of impacts of invasive alien species caused by trade and development aid;
- African Islands Biological Control Programme;
- African Risk Assessment Programme;
- Pilot programme to prevent invasive alien species from entering through airports;
- Hull Fouling/Caulerpa Prevention Programme;
- Mariculture Monitoring Programme;
- African Ballast Water Programme;
- Raising awareness and providing information to enable the effective management of invasive alien species in Africa;
- Assessment of the existing institutional and human capacity to enable the effective management of invasive alien species in Africa.

**D. Programme area 4: Conservation and sustainable use of marine, coastal and freshwater resource**

- Municipal solid waste management and enhancement of environmental quality in sub-Saharan Africa;
- Management of municipal sewage in sub-Saharan Africa through appropriate technology control of eutrophication in semi-enclosed areas;
- Prevention of pollution from shipping activities and strengthening of national and regional oil spill management systems in sub-Saharan Africa;
- Development of a conceptual framework for the control of eutrophication of lakes and reservoirs, with particular emphasis on non-point sources of pollution;
- Mitigation of coastal erosion and restoration of degraded areas in sub-Saharan Africa;
- Development of sound land-use practices and reduction of suspended solids in estuaries and lagoons in sub-Saharan Africa;
- Addressing land degradation to mitigate sediment impacts on the aquatic environment;
- Mitigation of coastal erosion caused by oil and gas exploration activities;
- Mangrove management in sub-Saharan Africa;
- Improving the protection and stability of coral reefs and the associated communities;
- Conservation of biodiversity through the enhancement and/or establishment of marine protected areas in sub-Saharan Africa;
- Assessment and mitigation of the ecological and socio-economic impacts of destructive fishing practices in sub-Saharan Africa;
- Strengthening management, monitoring, control and surveillance capacity in fisheries management organizations in sub-Saharan Africa;
- Management of invasive species in the aquatic environment;
- Integrated management and conservation of fragile ecosystems such as mangroves;
- Addressing transboundary problems of freshwater ecosystems biodiversity;
- Promoting the establishment of Ramsar sites and developing a participatory and integrated approach for river basin management in sub-Saharan Africa;
- Supporting the development and implementation of integrated coastal areas management (ICAM) in sub-Saharan Africa;
- Enhancement and conservation of ecosystems functions for river basins and associated coastal areas in Africa;
- Development and application of river basin information systems on the integrated management of Africa's transboundary river basins;
- Integrated watershed and coastal areas management of small island developing States in Africa;
- Impacts of dams and related development activities in the river basins;
- Reduction of environmental impact from coastal tourism through the introduction of policy changes and strengthening public-private partnership;
- Promotion of alternative livelihood strategies in sub-Saharan Africa;
- Mariculture and aquaculture development in sub-Saharan Africa;
- Augmentation of urban water resources;



- Groundwater vulnerability;
- Transboundary aquifer management (Kalahari Aquifer System - Botswana, Namibia, Angola and Zaire; Great Oriental Erg Aquifer System - Algeria, Tunisia and Nubian Aquifer System - Egypt Libya, Sudan, Chad);
- Impact of global climate change on key marine and coastal ecosystems in sub-Saharan Africa;
- Assessment of the vulnerability of sub-Saharan coastal zones to the various impacts of climate change (including sea-level rise);
- Establishment of adaptation strategies for impacts of climate change on water availability and quality;
- Addressing Land-based Activities in the Western Indian Ocean (WIO-LaB);
- Combating Coastal Areas Degradation and Living Resources Depletion in the Guinea Current LME Through Regional Actions;
- Addressing transboundary concerns in the Volta River Basin and its downstream coastal areas;
- Management of the Iullemeden Aquifer System - Mali, Niger, Nigeria;
- Industrial wastes, including hazardous wastes, toxic chemicals, persistent organic pollutants, including modeling and data collection;
- Erosion caused by oil and gas exploration activities; Freshwater ecosystem biodiversity;
- Impact of dams and related development activities in river basin aquaculture;
- Market facilities;
- Tourism in inland waters;
- Infrastructures to be addressed at the national level;
- The GOOS-Africa project - Regional Operational Observing, Monitoring and Forecasting System in Africa (ROOMFSA) will be included in the portfolio.

#### **E. Programme area 5: Combating climate change in Africa**

##### **1. Existing projects**

- Agriculture: Impacts on and adaptation of agro-ecological systems in Africa (Regional-Burkina Faso, Cameroon, Egypt, Ethiopia, Ghana, Kenya, Niger, Nigeria, Senegal, South Africa, Zambia and Zimbabwe);
- National Adaptation Programmes of Action;
- Assessments of Impacts and Adaptations to Climate Change (AIACC);
- Capacity-building for observing systems for climate change;
- Refinement of early warning systems to enable timely remedial measures;
- Dialogue on water and climate in the Sahel region (see IUCN West Africa office);
- Vulnerability and Adaptation to Climate Change in the Sahel - project funded by the Canadian and implemented by CILSS.

##### **2. Proposed projects**

- Integrated assessment of vulnerability to climate variability and change and response strategies in Africa: (learning about climate change from local action to national dialogues

in Africa; climate risk management and adaptive resource management, carbon management for sustainable livelihood);

- Supporting public outreach and education programmes on climate change;
- Strengthening shared river basin management and developing subregional water resource strategies: incorporating climate change adaptation concerns into integrated watershed management plans for three watersheds in the Maghreb (Algeria, Morocco, Tunisia; assessing the impacts of and adaptation to climate change on the watershed of the Gambia River Basin);
- Capacity-building for early warning (early warning, seasonal forecasting and development of tools);
- Environmental intervention on climate variability, malaria and poverty in the East African highlands;
- Impact of global climate change on key marine and coastal ecosystems in sub-Saharan Africa: (develop predictions, build capacity and promote outreach);
- Assessment of the vulnerability of sub-Saharan coastal zones to the various impacts of climate change (including sea-level rise): (Measure historical sequences, identify vulnerable coastal areas, characterize vulnerability and identify adaptation options).

#### **A. Programme area 6: Transboundary collaboration and natural resources management**

##### **1. Forests**

- Support to forest programme development;
- Mapping and inventory (knowledge) of forest ecosystems;
- Monitoring and assessment;
- Protected areas;
- Private sector partnerships;
- Civil society partnerships;
- Forest law enforcement and governance;
- Carbon trading through storage/sequestration (linked to protected areas);
- Reforestation for improved ecosystem services.

##### **2. Others**

- Integrated management of mountain ecosystems, including the border mountainous areas between Tunisia and Algeria.

#### **B. Cross-cutting issues**

##### **1. Health and environment**

###### **(a) Existing projects**

- Support for the implementation of the Stockholm Convention;

- Development of national implementation plans for the management of persistent organic pollutants;
- Reducing reliance on the use of agricultural pesticides through integrated production and pest management and establishment of community-based pollution prevention systems in the Senegal and Niger River basins;
- Regionally based assessment of persistent toxic substances;
- Agrochemical pesticides project;
- Minority International Research Training (MIRT) Programme;
- Chemical information exchange (CIEN);
- Preparation of national inventories of PCBs and PCB-containing equipment in the SADC sub-region;
- The African Stockpiles Project;
- Survey of chlorinated dioxins, dibenzofurans and PCBs in the major waters of South Africa;
- Atmospheric environmental issues in developing countries;
- Development of national chemical profiles;
- Development of action plans as part of an integrated chemicals management programme;
- Implementation of GHS.

(b) Proposed projects

(i) *Environmentally sound management of pesticides and other toxic chemicals*

- Education and awareness;
- Establishment of poison centers;
- Institutional capacity-building for the management of chemicals;
- Development of emergency response plans;
- Development of an African input into the Strategic Approach to International Chemicals Management;
- Assessment, development and implementation of health indicators;
- Implementation of GHS;
- Prevention of illegal trade in chemicals;
- Elimination of stockpiles of obsolete pesticides from Africa.

(ii) *Waste management*

- Sewage system/waste waters;
- Solid waste management;
- Environmentally sound management of hazardous wastes;
- Development and implementation of waste minimization programmes;
- Management of obsolete stockpiles (the Africa Stockpiles Programme covers pesticides-need industrial chemicals).

(iii) *Support infrastructure*

- Establishment of environmental information management systems;
- Establishment of improved capacity in laboratory and scientific risk assessment;

- Monitoring of environmental contaminants in environmental samples and marketable products.

(iv) *Sustainable production and consumption*

- Assessment of the current status of production facilities;
- Capacity to assess alternative cleaner production technologies;
- Development of cleaner production capacity;
- Research into alternative approaches to the use of current hazardous formulations;
- Development of strategies for rehabilitation of contaminated sites;
- Development of integrated vector management programmes.

(v) *Networking and information dissemination*

- Support for development and enforcement of legislative frameworks;
- Dissemination of information on chemicals and pesticides;
- Capacity-building at all levels for better environment management;
- Coordination amongst countries on cleaner production centres, poison centres and laboratories.

(vi) *Atmospheric pollution (reduction of particles and harmful gases)*

- Reduction of emissions from automobiles;
- Elimination of lead in gasoline;
- Strengthening of legislation related to vehicle emissions.

2. **Poverty and environment**

(a) Programme and project areas

- Promotion of good governance (institutional);
- Capacity-building for formulation, implementation and monitoring policies and strategies at the regional, national and local levels (technical);
- Promotion of community-based natural resources management;
- Prevention, resolution and management of conflicts;
- Development and implementation of vertically and horizontally integrated sound strategies;
- Environmental information, education and public awareness;
- Promotion of sustainable agricultural practices through the promotion of science and technology;
- Promotion of sustainable energy;
- Improvement of the policy (macroeconomic and sectoral) environment with a view to attracting foreign investment and facilitating factor (capital and labour) mobility;
- Cross-country harmonization of policies and strategies;
- Promotion of integrated management of natural and man-made disasters and movement towards sustainable development.

Projects proposed in the Central African Region (Congo Basin Initiative) by all the Ministers of the region at the special session of AMCEN held in Maputo on 9 and 10 June 2003

#### 1. Environmental information

- Establishment of a coastal and marine environment observatory, a regional observatory of the forest ecosystem and an information exchange network;
- A data collection and dissemination programme for the strengthening of the regional environmental information programme;
- Extension of the forest information system;
- Development of a bushfire and seismic observatory;
- Rehabilitation of hydrometeorological stations and environmental observation stations.

#### 2. Freshwater resources

- Water supply and sanitation (rehabilitation and extension of infrastructures to reduce by half the percentage of the population without access to drinking water and sanitation services by 2015);
- Extension of research activities on the hydraulic potential and the physico-chemical characterization of the water resources of the region;
- Oceanographic and Fisheries Research Programme;
- Transboundary Management of the Oubangui River;
- Establishment of early warning stations for flood monitoring;
- Alien Invasive Species Programme;
- Evaluation of the hydrological potential of the river basins of Central Africa;
- Erosion Control Programme;
- Integrated management of wetlands.

#### 3. Land degradation

- Desertification and Land Degradation Programme;
- Land rehabilitation programmes;
- Sustainable Agricultural Development Programme;
- Bushfires and Deforestation Programme;
- Subregional Cultural and Land Diversification Programme;
- Rehabilitation of agronomical research centres.

#### 4. Marine and coastal management

- Combating coastal and marine erosion;
- Combating oil pollution;
- Protection of fragile ecosystems such as mangrove swamps;
- Management of ballast water;
- Protection of fisheries and marine turtles;
- Management of toxic and hazardous wastes;
- Institutional capacity-building for the management of chemicals.

#### 5. Health and Environment

- Harmonization of the hygiene code and development of a legislative framework for water management;
- Waste management plan;
- Drainage and wastewater treatment (domestic, industrial and installations, including hospitals);
- Development of information, education and communication programmes;
- Intensification of combating water-borne diseases, malaria and HIV/AIDS;
- Intensification of research on the reservoir of the Ebola virus.

#### 6. Forest Ecosystems

The convergence plan includes the following:

- Harmonization of standards on assessment of natural resources;
- Establishment of a data base on management and diffusion of data on natural resources;
- Identification of priority conservation areas;
- Settlement plan for indigenous populations;
- Establishment of priority national and transboundary protected areas;
- Carbon sequestration potential of the Congo Basin;
- Vulnerability/adaptation of ecosystems to climate change;
- Development and implementation of national and transboundary protected areas;
- Establishment of standards for the elaboration, approval and implementation of management plans (protected areas, forests);
- Implementation of a sustainable management plan for natural resources;
- Development of an African forestry certification system;
- Combating illegal logging;
- Strengthening the local processing capacity of timber;
- Strengthening intra-African trade in timber;
- Supporting sustainable management of forest products, including medicinal plants;
- Tree-planting operations;
- Encouraging agroforestry in fragile ecosystems;
- Promotion of ecotourism;
- Development and implementation of co-management mechanisms of animal and forest biodiversity;
- Poverty reduction of local communities, including Pygmies;
- Development of alternative activities in the surroundings of protected areas;
- Definition and implementation of a legislative framework in support of the effective participation of communities in natural resources management;
- Harmonization of policies, legislation and environmental tariffication;
- Strengthening of regional cooperation;
- Capacity-building;
- Promotion of forestry and biodiversity research programmes;
- Coordination, follow-up and evaluation of programmes;



- Harmonization of national planning initiatives with the convergence plan;
- Development of national and subregional strategies for financing priority actions.

#### 7. Trade and Environment

- Combating illegal logging and exploitation of the fauna;
- Border control of genetically modified organisms likely to alter fragile biodiversity;
- Surveillance of trade, import and licensing of toxic chemicals and wastes.

#### 8. Social economy

- Capacity-building for better environmental management.

## **ANNEX III SUSTAINABLE DEVELOPMENT FOR AFRICA (CHAPTER VIII (PARAGRAPHS 62-71) OF THE PLAN OF IMPLEMENTATION OF THE WORLD SUMMIT ON SUSTAINABLE DEVELOPMENT, HELD IN JOHANNESBURG FROM 26 TO 30 SEPTEMBER 2002)**

62. Since the United Nations Conference on Environment and Development, sustainable development has remained elusive for many African countries. Poverty remains a major challenge and most countries on the continent have not benefited fully from the opportunities of globalization, further exacerbating the continent's marginalization. Africa's efforts to achieve sustainable development have been hindered by conflicts, insufficient investment, limited market access opportunities and supply side constraints, unsustainable debt burdens, historically declining levels of official development assistance and the impact of HIV/AIDS. The World Summit on Sustainable Development should reinvigorate the commitment of the international community to address these special challenges and give effect to a new vision based on concrete actions for the implementation of Agenda 21 in Africa. The New Partnership for Africa's Development (NEPAD) is a commitment by African leaders to the people of Africa. It recognizes that partnerships among African countries themselves and between them and with the international community are key elements of a shared and common vision to eradicate poverty, and furthermore it aims to place their countries, both individually and collectively, on a path of sustained economic growth and sustainable development, while participating actively in the world economy and body politic. It provides a framework for sustainable development on the continent to be shared by all Africa's people. The international community welcomes NEPAD and pledges its support to the implementation of this vision, including through utilization of the benefits of South-South cooperation supported, inter alia, by the Tokyo International Conference on African Development. It also pledges support for other existing development frameworks that are owned and driven nationally by African countries and that embody poverty reduction strategies, including poverty reduction strategy papers. Achieving sustainable development includes actions at all levels to:

- (a) Create an enabling environment at the regional, subregional, national and local levels in order to achieve sustained economic growth and sustainable development and support African efforts for peace, stability and security, the resolution and prevention of conflicts, democracy, good governance, respect for human rights and fundamental freedoms, including the right to development and gender equality;
- (b) Support the implementation of the vision of NEPAD and other established regional and subregional efforts, including through financing, technical cooperation and institutional cooperation and human and institutional capacity-building at the regional, subregional and national levels, consistent with national policies, programmes and nationally owned and led strategies for poverty reduction and sustainable development, such as, where applicable, poverty reduction strategy papers;

- (c) Promote technology development, transfer and diffusion to Africa and further develop technology and knowledge available in African centres of excellence;
- (d) Support African countries in developing effective science and technology institutions and research activities capable of developing and adapting to world class technologies;
- (e) Support the development of national programmes and strategies to promote education within the context of nationally owned and led strategies for poverty reduction and strengthen research institutions in education in order to increase the capacity to fully support the achievement of internationally agreed development goals related to education, including those contained in the Millennium Declaration on ensuring that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling and that girls and boys will have equal access to all levels of education relevant to national needs;
- (f) Enhance the industrial productivity, diversity and competitiveness of African countries through a combination of financial and technological support for the development of key infrastructure, access to technology, networking of research centres, adding value to export products, skills development and enhancing market access in support of sustainable development;
- (g) Enhance the contribution of the industrial sector, in particular mining, minerals and metals, to the sustainable development of Africa by supporting the development of effective and transparent regulatory and management frameworks and value addition, broad-based participation, social and environmental responsibility and increased market access in order to create an attractive and conducive environment for investment;
- (h) Provide financial and technical support to strengthen the capacity of African countries to undertake environmental legislative policy and institutional reform for sustainable development and to undertake environmental impact assessments and, as appropriate, to negotiate and implement multilateral environment agreements;
- (i) Develop projects, programmes and partnerships with relevant stakeholders and mobilize resources for the effective implementation of the outcome of the African Process for the Protection and Development of the Marine and Coastal Environment;
- (j) Deal effectively with energy problems in Africa, including through initiatives to:
  - (i) Establish and promote programmes, partnerships and initiatives to support Africa's efforts to implement NEPAD objectives on energy, which seek to secure access for at least 35 per cent of the African population within 20 years, especially in rural areas;
  - (ii) Provide support to implement other initiatives on energy, including the promotion of cleaner and more efficient use of natural gas and increased use of renewable energy, and to improve energy efficiency and access to advanced energy technologies, including cleaner fossil fuel technologies, particularly in rural and peri-urban areas;
- (k) Assist African countries in mobilizing adequate resources for their adaptation needs relating to the adverse effects of climate change, extreme weather events, sea level rise and climate variability, and assist in developing national climate change strategies and mitigation

- programmes, and continue to take actions to mitigate the adverse effects on climate change in Africa, consistent with the United Nations Framework Convention on Climate Change;
- (l) Support African efforts to develop affordable transport systems and infrastructure that promote sustainable development and connectivity in Africa;
- (m) Further to paragraph 42 above, address the poverty affecting mountain communities in Africa;
- (n) Provide financial and technical support for afforestation and reforestation in Africa and to build capacity for sustainable forest management, including combating deforestation and measures to improve the policy and legal framework of the forest sector.

63. Provide financial and technical support for Africa's efforts to implement the Convention to Combat Desertification at the national level and integrate indigenous knowledge systems into land and natural resources management practices, as appropriate, and improve extension services to rural communities and promote better land and watershed management practices, including through improved agricultural practices that address land degradation, in order to develop capacity for the implementation of national programmes.

64. Mobilize financial and other support to develop and strengthen health systems that aim to:

- (a) Promote equitable access to health-care services;
- (b) Make available necessary drugs and technology in a sustainable and affordable manner to fight and control communicable diseases, including HIV/AIDS, malaria and tuberculosis, and trypanosomiasis, as well as non-communicable diseases, including those caused by poverty;
- (c) Build the capacity of medical and paramedical personnel;
- (d) Promote indigenous medical knowledge, as appropriate, including traditional medicine;
- (e) Research and control Ebola disease.

65. Deal effectively with natural disasters and conflicts, including their humanitarian and environmental impacts, recognizing that conflicts in Africa have hindered, and in many cases obliterated, both the gains and efforts aimed at sustainable development, with the most vulnerable members of society, particularly women and children, being the most impacted victims, through efforts and initiatives, at all levels, to:

- (a) Provide financial and technical assistance to strengthen the capacities of African countries, including institutional and human capacity, including at the local level, for effective disaster management, including observation and early warning systems, assessments, prevention, preparedness, response and recovery;
- (b) Provide support to African countries to enable them to better deal with the displacement of people as a result of natural disasters and conflicts and put in place rapid response mechanisms;

- (c) Support Africa's efforts for the prevention and resolution, management and mitigation of conflicts and its early response to emerging conflict situations to avert tragic humanitarian consequences;
- (d) Provide support to refugee host countries in rehabilitating infrastructure and environment, including ecosystems and habitats that were damaged in the process of receiving and settling refugees.

66. Promote integrated water resources development and optimize the upstream and downstream benefits therefrom, the development and effective management of water resources across all uses and the protection of water quality and aquatic ecosystems, including through initiatives at all levels, to:

- (a) Provide access to potable domestic water, hygiene education and improved sanitation and waste management at the household level through initiatives to encourage public and private investment in water supply and sanitation that give priority to the needs of the poor within stable and transparent national regulatory frameworks provided by Governments, while respecting local conditions involving all concerned stakeholders and monitoring the performance and improving the accountability of public institutions and private companies; and develop critical water supply, reticulation and treatment infrastructure, and build capacity to maintain and manage systems to deliver water and sanitation services in both rural and urban areas;
- (b) Develop and implement integrated river basin and watershed management strategies and plans for all major water bodies, consistent with paragraph 25 above;
- (c) Strengthen regional, subregional and national capacities for data collection and processing and for planning, research, monitoring, assessment and enforcement, as well as arrangements for water resource management;
- (d) Protect water resources, including groundwater and wetland ecosystems, against pollution, and, in cases of the most acute water scarcity, support efforts for developing non-conventional water resources, including the energy-efficient, cost-effective and sustainable desalination of seawater, rainwater harvesting and recycling of water.

67. Achieve significantly improved sustainable agricultural productivity and food security in furtherance of the agreed Millennium development goals, including those contained in the Millennium Declaration, in particular to halve by 2015 the proportion of people who suffer from hunger, including through initiatives at all levels to:

- (a) Support the development and implementation of national policies and programmes, including research programmes and development plans of African countries to regenerate their agricultural sector and sustainably develop their fisheries, and increase investment in infrastructure, technology and extension services, according to country needs. African countries should be in the process of developing and implementing food security strategies, within the context of national poverty eradication programmes, by 2005;

- (b) Promote and support efforts and initiatives to secure equitable access to land tenure and clarify resource rights and responsibilities, through land and tenure reform processes that respect the rule of law and are enshrined in national law, and provide access to credit for all, especially women, and that enable economic and social empowerment and poverty eradication as well as efficient and ecologically sound utilization of land and that enable women producers to become decision makers and owners in the sector, including the right to inherit land;
- (c) Improve market access for goods, including goods originating from African countries, in particular least developed countries, within the framework of the Doha Ministerial Declaration, without prejudging the outcome of the World Trade Organization negotiations, as well as within the framework of preferential agreements;
- (d) Provide support for African countries to improve regional trade and economic integration between African countries. Attract and increase investment in regional market infrastructure;
- (e) Support livestock development programmes aimed at progressive and effective control of animal diseases.

68. Achieve sound management of chemicals, with particular focus on hazardous chemicals and wastes, inter alia, through initiatives to assist African countries in elaborating national chemical profiles and regional and national frameworks and strategies for chemical management and establishing chemical focal points.

69. Bridge the digital divide and create digital opportunity in terms of access infrastructure and technology transfer and application through integrated initiatives for Africa. Create an enabling environment to attract investment, accelerate existing and new programmes and projects to connect essential institutions and stimulate the adoption of information communication technologies in government and commercial programmes and other aspects of national economic and social life.

70. Support Africa's efforts to attain sustainable tourism that contributes to social, economic and infrastructure development through the following measures:

- (a) Implementing projects at the local, national and subregional levels, with specific emphasis on marketing African tourism products, such as adventure tourism, ecotourism and cultural tourism;
- (b) Establishing and supporting national and cross-border conservation areas to promote ecosystem conservation according to the ecosystem approach, and to promote sustainable tourism;
- (c) Respecting local traditions and cultures and promoting the use of indigenous knowledge in natural resource management and ecotourism;
- (d) Assisting host communities in managing their tourism projects for maximum benefit, while limiting negative impact on their traditions, culture and environment;



- (e) Support the conservation of Africa's biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources, in accordance with commitments that countries have under biodiversity-related agreements to which they are parties, including such agreements as the Convention on Biological Diversity and the Convention on International Trade in Endangered Species of Wild Fauna and Flora, as well as regional biodiversity agreements.

71. Support African countries in their efforts to implement the Habitat Agenda and the Istanbul Declaration through initiatives to strengthen national and local institutional capacities in the areas of sustainable urbanization and human settlements, provide support for adequate shelter and basic services and the development of efficient and effective governance systems in cities and other human settlements and strengthen, inter alia, the joint programme on managing water for African cities of the United Nations Human Settlements Programme and the United Nations Environment Programme.

## **ANNEX IV DECISION ADOPTED ON 10 JUNE 2003 BY THE SECOND SPECIAL SESSION OF THE AFRICAN MINISTERIAL CONFERENCE ON THE ENVIRONMENT ON THE ACTION PLAN OF THE ENVIRONMENT INITIATIVE OF NEPAD**

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We, the Ministers of the African Ministerial Conference on the Environment,

Recalling the Kampala Declaration on the Environment for Development adopted at the ninth meeting of the African Ministerial Conference on the Environment held in Kampala from 1 to 5 July 2002,

Recalling also the Plan of Implementation adopted by the World Summit on Sustainable Development, held in Johannesburg, from 26 August to 4 September 2002 and its chapter VIII on sustainable development for Africa,

Recalling also the United Nations Declaration on the New Partnership for Africa's Development adopted on 16 September 2002 by the General Assembly, at a high-level plenary meeting,

Recalling the United Nations Millennium Declaration adopted by the United Nations General Assembly in September 2000,

Recalling also the relevant decision on the New Partnership for Africa's Development adopted by the group of eight major industrialized countries at their meeting held in Kananskis, Canada from 25 to 27 June 2002,

Recalling also the results of the Conference on the role of the private sector in financing the New Partnership for Africa's Development held in Dakar in April 2003,

Expressing its appreciation to the United Nations Environment Programme and the Global Environment Facility for their support in the development of the action plan of the Environment Initiative of the New Partnership for Africa's Development,

Concerned that Africa is the only continent in which poverty is expected to rise during the twenty-first century,

Concerned also about the increasing environmental threat facing the African continent as a result of global environmental changes with adverse effects,

Decide to:

1. Note with appreciation the results of the fourth meeting of the Steering Committee of the United Nations Environment Programme/Global Environment Facility medium-sized project

on the environment initiative of the New Partnership for Africa's Development, held at ministerial level in Maputo, Mozambique from 23 to 24 April 2003;

2. Note the reports of the eight thematic workshops and the civil society consultation on the finalization of the action plan of the environment initiative of the New Partnership for Africa's Development;
3. Endorse the action plan of the environment initiative of the New Partnership for Africa's Development;
4. Reaffirm that the African Process for the Development and Protection of the Coastal and Marine Environment is an integral part of the action plan of the environment initiative of the New Partnership for Africa's Development and its recommendation and projects should be entrusted to African institutions under the overall coordination of the Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region (Nairobi Convention) and Convention for Cooperation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region (Abidjan Convention);
5. Invite the President of the African Ministerial Conference on the Environment and the host of the special session to submit the action plan of the environment initiative of the New Partnership for Africa's Development, through the President of Senegal, to the Summit of the African Heads of State to be held in Maputo, in July 2003 and encourage the members of the Steering Committee to attend the meeting;
6. Invite the President of the African Ministerial Conference on the Environment and the host of the special session to submit the action plan of the environment initiative of the New Partnership for Africa's Development, through the President of Senegal, to the next meeting of the Heads of State Implementation Committee of the New Partnership for Africa's Development;
7. Invite the President of the African Ministerial Conference on the Environment and the host of the special session to submit the action plan of the Environment Initiative of the New Partnership for Africa's Development, through the President of Senegal, to the Secretary-General of the United Nations;
8. Invite bilateral and multilateral donors to actively participate in the donors meeting on the action plan of the environment initiative of the New Partnership for Africa's Development to be held in Algiers, in December 2003;
9. Invite the Global Environment Facility in partnership with the African Development Bank, the United Nations Environment Programme, the secretariat of the African Ministerial Conference on the Environment and the New Partnership for Africa's Development to play

a leading role in mobilizing additional financial resources for the implementation of the action plan of the environment initiative of the New Partnership for Africa's Development and its associated projects, with special emphasis on the implementation of its annex on capacity-building;

10. Welcome the offer by Egypt to host in October 2003, at ministerial level, the fifth meeting of the Steering Committee, on capacity-building for the implementation of the action plan of the environment initiative of the New Partnership for Africa's Development;
11. Keep under review the implementation of the action plan of the environment initiative of the New Partnership for Africa's Development at the regular meeting of the African Ministerial Conference on the Environment and mandate the Steering Committee to continue playing a leading role in overseeing the implementation of the action plan and its annex on capacity-building in particular;
12. Invite the President of the African Ministerial Conference on the Environment and the host of the special session to submit through the Steering Committee a detailed report on the implementation of the action plan of the environment initiative of the New Partnership for Africa's Development at the next meeting of the African Ministerial Conference on the Environment to be held in 2004;
13. Express its appreciation to the Governments of Algeria, Cameroon, Kenya, Mali, Morocco, Nigeria, Senegal and South Africa for hosting and supporting the convening of the eight thematic workshops for the finalization of the action plan of the environment initiative of the New Partnership for Africa's Development;
14. Further express its appreciation to the Government of Mozambique for hosting the fourth meeting of the Steering Committee and in particular Mr. John Kachamila, Minister for the Coordination of Environmental Affairs of Mozambique for his leadership in the finalization of the action plan of the environment initiative of the New Partnership for Africa's Development.

## **ANNEX V MAJOR EVENTS RELATED TO THE IMPLEMENTATION OF THE UNEP/GEF MEDIUM-SIZED PROJECT ON THE NEW PARTNERSHIP FOR AFRICA'S DEVELOPMENT**

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Adoption of the UNEP/GEF medium-sized project on the environment component of NEPAD, 26 July 2001, Lusaka

Launch of NEPAD at the inaugural meeting of the Implementation Committee of Heads of State and Government, 23 October 2001, Abuja

First meeting of the Steering Committee of the UNEP/GEF medium-sized project on the environmental component of NEPAD, January 2002, Pretoria

Second meeting of the Steering Committee of the UNEP/GEF medium-sized project on the environmental component of NEPAD, 11-12 March 2002, Algiers

Third meeting of the Steering Committee of the UNEP/GEF medium-sized project on the environmental component of NEPAD at the level of experts, 12-13 June 2002, Dakar

Third meeting of the Steering Committee of the UNEP/GEF medium-sized project on the environmental component of NEPAD at the Ministerial level, 14 June 2002, Dakar

Meeting with the President of Senegal, Mr. Abdoulaye Wade, and the members of the Steering Committee, 14 June 2002

Ninth session of AMCEN endorsed the framework of an action plan for the Environment Initiative of the New Partnership for Africa's Development, 1-5 July 2002, Kampala

Framework presented to the Implementation Committee of NEPAD in the margins of the first meeting of the Assembly of the African Union, 8 July 2002, Durban

Presentation on the finalization of the Action Plan made to the Steering Committee of NEPAD, 2-4 August 2002, Addis Ababa

Inter-agency meeting with WWF, IUCN, UNEP and the World Bank on the finalization of the Action Plan, 5 August 2003, Geneva

Workshop on the Environment Initiative of NEPAD convened in the margins of the World Summit on Sustainable Development with the participation of the President of Senegal and President of Mauritania, 3 September 2002, Johannesburg

Workshop on the Environment Initiative of NEPAD held in the margins of the second GEF Assembly, 17 October 2002, Beijing

Presentation on the finalization of the Action Plan made to the High-Level Committee on the Programme of the Chief Executive Board, 23-24 September 2002 Vienna

Climate change component of the draft Action Plan on the Environment Initiative of NEPAD discussed at the African meeting preparatory to the eighth session of the Conference of the Parties to UNFCCC, 3-4 October 2002, Nairobi

Presentation on the implementation of the second phase of the medium-sized project made at the 4th annual regional consultation of United Nations agencies, 24-26 October 2002, Addis Ababa

Consultative meeting on the preparation of projects to combat desertification in the context of NEPAD, Ouagadougou, from 16 to 18 September 2002

Coordination meeting held with the representatives of IUCN, 6 November 2002, Nairobi

Presentation of the medium-sized project made at the meeting of the Chief Executive Board chaired by the Secretary-General of the United Nations, 8 and 9 November 2002, New York

Discussion on the biosafety component of the draft Action Plan at the African meeting on risk assessment and public awareness, from 12 to 15 November 2002, Windhoek

Desertification issues discussed with the African representatives attending the first meeting of the Committee on Review of Implementation of the Convention on Desertification, 16 November 2002, Valencia, Italy

African representatives discussed the wetlands issues in the margins of the eighth meeting of the Conference of the Parties to the Ramsar Convention, 17 November 2002, Valencia, Italy

Meeting with the African ambassadors accredited to UNEP to discuss the finalization of the Action Plan, 28 November 2002, Nairobi

Health-related issues of the Environment Initiative of NEPAD discussed with the African negotiators attending the sixth meeting of the Conference of the Parties to the Basel Convention, 8 December 2002, Geneva

Thematic workshop on desertification, 19 - 20 January 2003, Algiers

Thematic workshop on poverty and environment, 23-24 January 2003, Bamako



Thematic workshop on invasive species, 23-24 January 2003, Pretoria

Non-governmental organization consultation, 1 February 2003, Nairobi;

Discussion on the Environment Initiative of NEPAD at the UNEP Global Ministerial Environmental Forum with the participation of 1000 delegates under the chairmanship of the President of Senegal, Mr. Abdoulaye Wade, and the Vice President of Kenya, Mr. Michael Kijana Wamalwa, 5 February 2003, Nairobi

Thematic workshop on wetlands, 10-11 February, 2003, Nairobi

Thematic workshop on forests, 13-14 February 2003, Yaounde

Thematic workshop on health and environment, 17-18 February 2003, Dakar

Thematic workshop on marine and coastal environment, 23-24 February 2003, Abuja

Thematic workshop on climate change, 26-27 February 2003, Rabat

Fourth meeting of the Steering Committee of the UNEP/GEF medium-sized project on the environmental component of NEPAD, 23 - 25 April 2003, Maputo

Special session of AMCEN, 9 - 10 June 2003, Maputo

Meeting of Heads of State the African Union, 10-12 July 2003, Maputo

Fifth meeting of the Steering Committee of the UNEP/GEF medium-sized project on the environmental component of NEPAD, Egypt, 1-22 October 2003

Partnership conference on the Environment Initiative of NEPAD, 15-16 December 2003, Algiers.

## **ANNEX VI DECISION ADOPTED ON 12 JULY 2003 BY THE SUMMIT OF THE AFRICAN HEADS OF STATE ON THE ACTION PLAN OF THE ENVIRONMENT INITIATIVE OF NEPAD**

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Assembly/AU/Dec.5 (II)

The Assembly:

**CONCERNED** about the rapid degrading of the African environment as a result of adverse global changes;

**RECALLING** the environmental aspects of the Millennium Declaration adopted by the United Nations General Assembly in September 2000,

**RECALLING** the adoption of the New Partnership for Africa's Development (NEPAD) as a programme of the African Union (AU) by the African Heads of State and Government in Lusaka, Zambia, in July 2001,

**RECALLING** the relevant decision on the New Partnership for Africa's Development Programme (NEPAD) by the Group of the Eight major industrialized countries (G8) and other partners,

**RECALLING** the Plan of Implementation adopted by the World Summit on Sustainable Development, held in Johannesburg, from 26 August to 4 September 2002 and its chapter 8 on sustainable development for Africa,

**CONSIDERING** the United Nations Declaration on the New Partnership for Africa's Development adopted on 16 September 2002 by the General Assembly, at a high-level plenary meeting,

**CONSIDERING** the results of the Conference on the Role of the Private Sector in Financing the New Partnership for Africa's Development held in Dakar in April 2003,

**CONSIDERING** the decision of the Second Special Session of the African Ministerial Conference on the Environment held in Maputo from 9 to 10 June 2003 to forward the Action Plan of the Environment Initiative of NEPAD for consideration by the second ordinary session of the Assembly of the African Union and the third ordinary session of the African Union Executive Council to be held in Maputo, Mozambique from 4 to 12 July 2003,

1. **NOTES** the outcome of the second special session of the African Ministerial Conference on the Environment held in Maputo, Mozambique from 9 to 10 June 2003 which adopted the Action Plan of the Environment Initiative of the New Partnership for Africa's Development;

2. **APPRECIATES** the support extended by partners, particularly the United Nations Environment Programme and the Global Environment Facility in the development of the Action Plan of the Environment Initiative of the New Partnership for Africa's Development;
3. **ENDORSES** the Action Plan of the Environment Initiative of the New Partnership for Africa's Development;
4. **INVITES** the Commission of the African Union, the NEPAD Secretariat, the UNEP and other partners to pursue their co-operations in order to give effective support to all the country Member States and the RECs in the implementation of the NEPAD Environmental Action Plan;
5. **ALSO INVITES** bilateral and multilateral partners to actively participate in the donors conference on the Action Plan of the Environment Initiative of the New Partnership for Africa's Development to be held in Algiers, in December 2003;
6. **FURTHER INVITES** the African Ministerial Conference on the Environment and the Secretariat of the New Partnership for Africa's Development in collaboration with the Global Environment Facility, the development banks including the African Development Bank, the United Nations Environment Programme, to play a leading role in mobilizing additional financial resources for the implementation of the Action Plan of the Environment Initiative of the New Partnership for Africa's Development and its associated projects.