

State of Biodiversity

in Africa

A. Background

1. The year 2010 marks the International Year of Biodiversity and the global deadline for halting the loss of biodiversity. At the sixth meeting of the Conference of Parties to the Convention on Biological Diversity, in April 2002, the parties adopted a strategic plan, including the target of “achieving by 2010 a significant reduction in the current rate of biodiversity loss at the global, regional and national levels as a contribution to poverty alleviation and for the benefit of all life on Earth”. This 2010 biodiversity target was subsequently endorsed by the World Summit on Sustainable Development and the General Assembly, and was incorporated as a new target under the Millennium Development Goals.
2. The rapidly changing state of biodiversity is chronicled in the third edition of the Global Biodiversity Outlook (GBO-3). On the basis of the information available to date and analysed for GBO-3, a common message emerges: biodiversity is in decline globally, in most regions, and in most of its forms. Most Governments missed their 2010 target and stated their view that assessing each

country's progress towards achieving the biodiversity target had posed a challenging task in the absence of nationally agreed baselines, targets and indicators.

B. Biodiversity in 2010

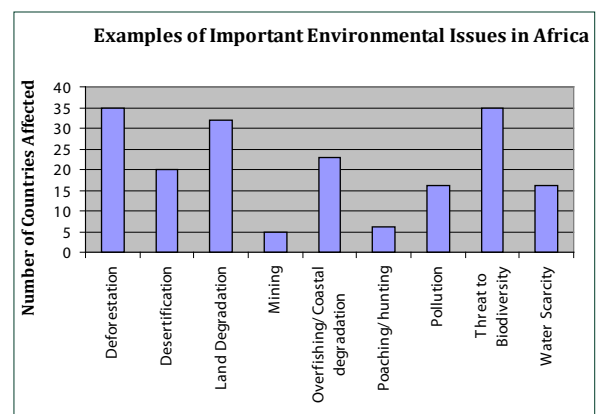
3. At a recent regional consultation for Africa, Governments reported that they had been unable to achieve the 2010 biodiversity target. They said that biodiversity had not been sufficiently integrated into broader sectors, such as agriculture, fisheries, economy and tourism. They observed that, beyond the sectors that directly deal with biodiversity and environmental issues, many other sectors in the countries had intended – but failed – to integrate biodiversity issues into their strategies and programmes. Furthermore, the climate change debate had overshadowed all other environmental concerns and resources for biodiversity had been diverted to climate change issues. Some Governments said that the failure to achieve the biodiversity target was attributable to shortcomings in communication and outreach. The scientific community had been unable to communicate its

concerns effectively to policymakers and decision makers – at least not in a way that sufficiently prioritized biodiversity issues within a political agenda predominantly concerned with employment creation and economic growth.

4. The 2010 biodiversity target has 21 sub-targets. While none can be said definitively to have been met at the global level, some have been achieved partially or on regional or national scales. In fact, the 2010 biodiversity target has inspired action at many levels. In Africa, 49 countries now have national biodiversity strategies and action plans. In all, 35 countries have also completed their fourth national reports, which provide information on measures taken for the implementation of the Convention on Biological Diversity and the effectiveness of these measures (CBD, Fourth National Reports 2010). Protected areas have been expanded in number and extent, both on land and in coastal waters. In Eastern and Southern Africa, 14.6 per cent of the region's total land area is protected. This compares to 10.5 per cent of Western and Central Africa and 7 per cent of Northern Africa: Northern Africa aims to achieve a level of protection of 10 per cent of its area over the coming decade. Environmental impact assessments are being more widely applied and most countries have reported that they have some measures in place for the application of such assessments (*Biodiversity, on the Move to 2010*, UNEP 2008).
5. On the issue of access to genetic resources and the sharing of the benefits arising from those resources, African Governments reported that there had been little progress because of reluctance from user countries to share benefits. In addition, many African Governments lack regulations on bioprospecting, resulting in the unregulated exploitation of their biological and genetic resources. They have recognized that, without

a legal framework, it will be difficult to provide controlled and legally secure access to potential users of locally available biological and genetic resources. Accordingly, African countries are taking an active part in the current negotiations on the international regime on access and benefit-sharing.

6. Over the past decade, a large number of countries have witnessed genuine improvements in their efforts towards attaining the targets of the Millennium Development Goals that measure environmental progress. In many cases, improvements have been incremental, yet promising. Most countries focused on improving those elements of the environment with direct relevance to human well-being (e.g., sanitation and water). Over 30 countries improved access to safe water and sanitation and 23 countries reduced the percentage of people living in informal settlements. These improvements notwithstanding, there remain numerous environmental challenges facing African countries. The figure below gives examples of important environmental concerns in Africa.



Source: UNEP/GRID 2008

C. Key biodiversity threats in Africa

7. Africa has rich and varied biological resources forming the continent's natural wealth on which its social and economic systems are based. These resources are also of global importance, for the world's climate and for the development of agriculture, industrial activities, pharmaceutical production, construction and tourism, to name but a few of the most important areas.

Africa is home to some one quarter of the world's 4,700 mammal species, including 79 species of antelope. It also has more than 2,000 species of birds – one fifth of the world's total – and at least 2,000 species of fish, alongside 950 amphibian species. The African mainland harbours between 40,000 and 60,000 plant species and about 100,000 known species of insects, spiders and other arachnids. Eight of the world's 34 biodiversity hotspots are in Africa.

(Source: Africa Atlas of our Changing Environment, UNEP 2008)

8. The Atlas Mountains in Northern Africa shelter rich pine and oak forests, and also a number of endemic and rare species such as the wild olive and the Saharan myrtle. The Tibesti Mountains in the southern Libyan Arab Jamahiriya hold some Mediterranean, and also some tropical relicts. These mountains also provide prime habitat for migratory birds and a key refuge for threatened wildlife.
9. Uncontrolled medicinal and aromatic plant harvesting constitutes a major threat to the survival of many endemic species and for the conservation of soil and vegetation cover in many Atlas Mountain areas. In addition, the intensive collection of oak branches for charcoal and the need for livestock fodder during winter gives rise to extensive overgrazing and soil degradation in the forest.

10. In the West Indian Ocean islands such as Madagascar, there are five bird families and five primate families that live nowhere else on Earth. Madagascar's 72 lemur species and subspecies serve on the global stage as the island's charismatic ambassadors for conservation, although – tragically – 15 species have been driven to extinction (Conservation International, Biodiversity Hotspots 2007). The Seychelles and Comoros islands in the Indian Ocean also support a number of critically endangered bird species. For example, the Seychelles Scops Owl (*Syer*) is evaluated as Critically Endangered on the IUCN Red List, due to habitat loss and limited range in some areas (IUCN Red List, 2008).



Ring-Tailed Lemur of Madagascar



Seychelles Scops Owl (*Syer*)

11. In Egypt, some 7 per cent of the country's bird population consists of migratory species which appear on a seasonal basis. The coastal areas of Egypt are situated along extremely important migratory routes for birds and there are very important wintering areas for waterbirds along the coast. The lakes along the Mediterranean shores of Egypt and the country's Bitter Lakes represent some of the most important areas for migrating and wintering waterbirds in the Black Sea and Eastern Mediterranean region (BirdLife International, 2005). Significant concentrations of the world populations of a number of species are also found in these wetlands. Expanding urban, industrial, agricultural and tourism development is now creating hazards to birds in areas where previously they encountered no threats. These new threats include development activities and their related infrastructure; the destruction or degradation of habitats; contamination by pollutants; and the construction of electricity power lines that obstruct avian flyways, causing fatal collisions.



Gerenuk (*Litocranius walleri*)

12 The Horn of Africa also has the continent's highest number of endemic reptiles, alongside a number of endemic and threatened antelopes, such as the gerenuk (*Litocranius walleri*), a species of long-necked antelope found in the dry bushy scrub in the Horn of Africa (Djibouti, Ethiopia, and Somalia), as well as some parts of East Africa, such as Kenya and northeastern Tanzania. Gerenuks are declining in number due to over-hunting, drought, and habitat loss in the case of Somalia.



Red-headed Rock Agama (*Lizard*)

13. African forests support many wild vertebrate species, such as chimpanzees, Jentink's duiker, mandrills and the pygmy hippopotamus, that are threatened or in danger of extinction. The lowland forests of West Africa are home to more than one quarter of Africa's mammals, including more than 20 species of primates. As many as six species are endemic to the Upper Guinea forests, and nine are endemic to the forests of Cameroon and Nigeria. The mandrills are the world's largest monkeys and can claim to be the most colourful of all mammal species. They live in the rainforests of the Congo

Basin, which covers Cameroon, the Central African Republic, the Congo, the Democratic Republic of the Congo Equatorial Guinea and Gabon, and, after the Amazon region, constitutes the world's second largest area of natural tropical rainforest. Its species are, however, not well protected and mandrills are still illegally hunted for bushmeat. Furthermore, logging, mining, hunting and human population growth are placing extreme stress on the forests, causing habitat loss at an unprecedented pace. As the rainforests are logged for wood and exploited for other natural resources, hundreds of species are put in danger of extinction. The most direct effect of logging in, for example, the Sangha Tri-National Park is the depletion of commercial timber (UNEP-WCMC, 2008).



Mandrill

14. In Kenya, the forests have dwindled because large tracts of terrestrial and wetland ecosystems have been converted to farmland. The once extensive Mau Forest has been seriously degraded by human actions. This situation is threatening the very existence of the ecologically and economically important Masai Mara Game Reserve, and the Sondu Miriu and Mara rivers. These rivers are the lifeline of major lakes in Kenya, such as Lake Naivasha, and a number of transboundary lakes – Lake Victoria in the Nile River basin; Lake Turkana in Kenya and Ethiopia; and Lake Natron in the United Republic of Tanzania and Kenya (Africa's Lakes Atlas, 2006).

The Mau complex, the largest forest of Kenya, covers some 400,000 hectares. It is one of the five main catchment areas – known as the “water towers” of Kenya, which, together with Mount Kenya, the Aberdare Range, Mount Elgon and the Cherengani Hills, form the upper catchments of all but one of the principal rivers west of the Rift Valley. It feeds major lakes, three of which are cross-boundary. The Mau complex also generates over \$270 million annually from tourism, energy and tea.

(Source: UNEP Annual Report 2009 and Kenya Wildlife Service Annual Report 2008).



Mau Forest, Kenya

15. Over the past decade more than 46,000 hectares of the Mau have been cut off and converted to other land uses, such as human settlement and private agriculture. The large-scale encroachment of human populations, charcoal production and the logging of indigenous trees are causing massive deforestation, with severe impacts on water resources, leading to the drying up of boreholes and rivers.
16. The Congo basin forests measure nearly 200 million hectares in area and account for 30 per cent of the plant cover on the African continent and 19 per cent of the world's tropical rainforests. Plant species have played an essential role in the livelihood of human beings throughout history. Cultures develop and evolve together with plants as people gain ever deeper

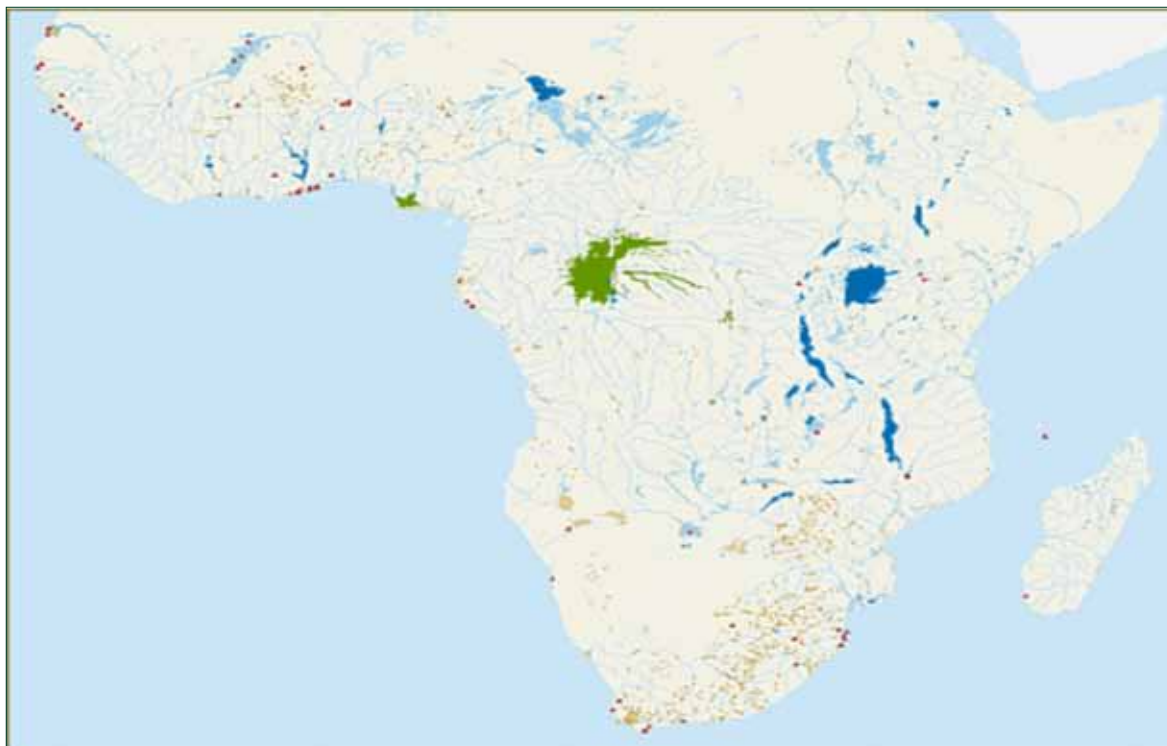
understanding of the uses of specific plant species. Thus local communities in rural areas use a wide range of plant species for fuelwood, medicine, food and various tools. At the same time, however, the use of non-timber forest products is rampant and unsustainable in many areas, constituting a threat to biodiversity. The main factors underlying this threat are a lack of regulation, the practice of slash-and-burn agriculture, poor harvesting methods and unsustainable logging. In addition, non-timber forest products are not properly valued and their control and regulation left to local communities. If these products were sufficiently regulated and valued, they could generate large income for local communities (Africa Environment Outlook-2, 2006).



17. Africa has a number of large transboundary ecosystems, which are areas of land or sea that straddle one or more political boundaries. Some are officially protected areas which are of extreme importance for safeguarding the remarkable animal populations of Africa and their habitats. The importance of transboundary protected areas is especially obvious for migratory species. Examples of transboundary protected areas in Africa include Nyungwe forest (Rwanda)/Kibira National Park (Burundi); Great Limpopo Transfrontier Park (Mozambique, South Africa, and Zimbabwe); and the W-Arly-Pendjari complex in Benin, Burkina Faso and the Niger. As the availability of natural resources in non-protected areas dwindles, the protected areas, as the sole remaining repositories of fuelwood and forage, etc., are becoming a focus for poaching, illegal grazing and other human activities that affect the sustainability of these protected areas. Multinational approaches are crucial to conserving these shared areas, underscoring the need for cooperative management strategies among neighboring countries (UNEP, Geo Data Portal, 2008).

18. Furthermore, Africa is home to numerous wetlands of international significance, a number of which are listed in the Convention on Wetlands of International Importance, Especially as Waterfowl Habitat (Ramsar Convention). These wetlands cover some 1 per cent of the continent's total surface area, and are found in virtually all countries (WRI, 2010). Over the past year, four new African sites have become Ramsar sites: two on the coast of the Sudan and two in the Democratic Republic of the Congo. Wetlands in Africa are an important source of water and nutrients necessary for agricultural production, food security and habitat for a number of species. The sustainable management of wetlands is therefore critical to the long-term health, safety and welfare of many African communities. Their importance

Wetlands and Ramsar Sites in Africa



Source: http://ramsar.org/key_montreux_record.htm

notwithstanding, wetlands are being modified or reclaimed, often driven by economic and financial motives. They contain numerous goods and services, however, which have an economic value not only to local populations, but also to people living outside their periphery. The importance of wetlands for local populations in Africa is poorly understood, as are the economic consequences if wetlands are degraded. The figure below shows the location and extent of wetlands in Africa

19. In terms of water resources, Africa is endowed with hundreds of lakes and rivers. There are 677 lakes in Africa, of which 88 are principal lakes. Africa has also some 80 transboundary rivers and lake basins, and the catchment areas of the 17 largest exceed 100,000 square kilometres. The largest freshwater lake in Africa and the second largest in the world is Lake Victoria (Africa's Lakes Atlas, 2006). The Lake Victoria Basin is rich in both natural (terrestrial and aquatic) and agricultural biodiversity, although

natural habitats are under threat from rapidly increasing human-caused pollution. Alien invasive species have also contributed to biodiversity loss. The Nile perch, introduced into the lake in the mid-1950s, is having serious predatory impacts on the lake's own fish species. Moreover, alien waterweeds, such as water hyacinth, are severely affecting the abundance and diversity of the aquatic species of Lake Victoria. The water hyacinth has spread at an alarming rate on the lake, causing serious disruption to local communities, the economy and the ecosystem.

Lake Victoria basin is located on the upper reaches of the Nile River basin and occupies an area of about 250,000 square kilometers, 68,870 of which are covered by the lake itself. The lake is shared by Kenya, Uganda and the United Republic of Tanzania. Lake Victoria supports the most productive freshwater fishery in the world with annual fish yields in excess of 500,000 tonnes worth \$600 million annually.

(Source: Africa Atlas of our Changing Environment, 2008, UNEP).

20. Lake Ichkeul in Tunisia, the last of a chain of lakes which in the past extended throughout the North African littoral, has seven freshwater rivers as tributaries. It has been designated by the World Wide Fund for Nature as one of 200 global ecoregions and also as a conservation hot spot. A national park has been created to safeguard the rivers, and also the associated wetlands with their diversity of terrestrial and aquatic ecosystems. The national park also protects important fossil mammal deposits and boasts a wealth of scenic beauty. The area around the lake, however, its bird populations and the park's World Heritage status all remain at risk from the effects of climate change, periodic droughts and the inadequate mitigation of these risks. Dam construction on the lake's feeder rivers has also resulted in major changes to the ecological balance of the lake and wetlands.
21. Furthermore, the River Nile constitutes a key biodiversity corridor across the arid Sahara desert, but is heavily affected by human activities in its lower reaches. New irrigation schemes may further diminish water supplies in the lower Nile system and pose additional threats to its biodiversity. Similarly, other development projects, including those related to hydropower, will increase demands on the existing water resources and this, in turn, will exert additional pressure on the Nile basin's ecosystems and biodiversity.
22. In coastal and marine ecosystems, Africa is facing many challenges, including a decline in fish stocks and pollution and acidification from land-based sources. In many coastal areas in Africa, habitats such as mangroves, sea-grass beds, salt marshes and shellfish reefs continue to decline, threatening highly valuable ecosystem services, including the removal of significant quantities of carbon dioxide from the atmosphere.



23. Coral reefs are also facing multiple threats including overfishing, the dynamiting of reefs, outbreaks of disease, bleaching from the warmer sea temperatures resulting from climate change, and ocean acidification linked to the higher concentrations of dissolved carbon dioxide resulting from human-induced atmospheric emissions.
24. The consequences of biodiversity loss are clearly evident in the sensitive desert regions of Africa, where the periods of extreme temperature are growing longer under the impact of climate change. Owing to frequent over-intensive use of the land, the vegetation cover is steadily being destroyed, with consequent soil erosion and land degradation.

The Sahara desert occupies 4.6 million square kilometers or 10 per cent of the land mass of Africa. The fauna of the Sahara is relatively rich: there are 70 mammalian species, 20 of which are large mammals; 90 species of resident birds, and around 100 species of reptiles.

(Source: Global Desert Outlook, UNEP 2006).

25. In the Sahara desert, wildlife habitats have been heavily altered by human activities, as previous tree cover has been removed for fuel and fodder by pastoralist communities and traders. Some factors are conspiring to make conditions yet more difficult for these plants. Some localities have been overstocked with domestic animals, especially around waterholes or wells. The deserts of Namibia boast rich succulent flora and an exceptional plant endemism – 69 per cent of its plants are found nowhere else on Earth – together with unique reptile species. The effects, however, of grazing, agriculture and mining, the fragmentation of wildlife habitats by roads, the illegal exploitation of reptiles and other human activities are threatening this fragile desert (Global Desert Outlook, 2006).



Namib Desert, Namibia

D. Strategy to halt biodiversity loss

26. If the numerous threats to biodiversity in Africa are to be tackled effectively, it is essential to integrate biodiversity into national development planning and policies. Current trends reaffirm the need for an ecosystem approach to biodiversity conservation, its sustainable use and the fair and equitable sharing of its benefits. Other activities that can contribute to the halting of biodiversity loss include efforts to reduce the impacts of agriculture and extractive industries; the restoration of degraded ecosystems; the development of alternative livelihoods for local communities; and greater collaboration with the private sector, and also with non-governmental organizations working on conservation.
27. Where desert biodiversity is concerned, it is crucial for Governments to develop the potential of deserts as providers of goods and services without allowing their ecological value to become degraded under increasing human pressures and the impact of climatic variations. Furthermore, transboundary collaboration, such as the recently initiated biodiversity corridor between Côte d'Ivoire and Liberia, is crucial. This transboundary collaboration project for the conservation of the Tai-Sapo corridor complex, which spans the border of the two countries, aims to safeguard the remaining fragments of one of the most important ecosystems within the Upper Guinea forest region. These lowland forests form the largest block of relatively intact tropical rainforests in West Africa. They are also home to more than a quarter of Africa's mammals, including 12 species of primates, extensive chimpanzee populations and unique species such as pygmy hippos and forest elephants. This collaboration between Côte d'Ivoire and Liberia is not only creating an incentive for the conservation of biodiversity, but can also lead to the fair and equitable sharing of benefits arising from the genetic resources of the forests.
28. UNEP, in collaboration with a range of partners, is working with countries, through the Great Apes Survival Partnership (GRASP), to establish a transboundary protected area shared by the Democratic Republic of the Congo, Congo and Angola in the south-western part of the Congo basin. UNEP is also helping to halt encroachment in the Virunga National Park in the Democratic Republic of the Congo – home to half the remaining mountain gorillas in the world. In collaboration with the Government of Kenya, UNEP is also working to restore the Mau Forest complex.

29. At the policy support level, UNEP is encouraging implementation of the Environmental Action Plan of the New Partnership for Africa's Development, with its extensive biodiversity conservation programme. UNEP, which hosts the secretariat of the African Ministerial Conference on the Environment (AMCEN), is also supporting implementation of AMCEN decisions and recommendations. In addition, UNEP is working through United Nations Development Assistance Framework processes to mainstream issues of biodiversity conservation into the development plans of African countries.
30. There is a need for continued investment in knowledge creation and sharing, awareness-raising and institutional capacity for the effective conservation of biodiversity. It is also important to integrate access and benefit-sharing into sectoral policies, such as agriculture, fisheries, tourism and finance. The integration of access and benefit-sharing can be achieved through pilot projects to ensure effective linkages among these sectors. Given that access and benefit-sharing represents one of the most complex issues under the Convention on Biological Diversity and is a priority for African countries, capacity development at the local and national levels is crucial to protect the traditional knowledge of local and indigenous communities, and to establish suitable measures for the provision of information and transparency in societies in which most of the population continue to have no or very limited access to computers and the internet.
31. The implementation of the Convention on Biological Diversity by African countries has had a positive impact, not only on the conservation and sustainable use of biodiversity, but also on environmental management in general. In addition, the implementation of the Convention, mainly through national biodiversity strategies and action plans, has led – among other things – to the better conservation of existing protected areas.
32. These gains notwithstanding, the general public and decision makers remain insufficiently aware of the importance of biodiversity. Consequently, investments that would make biodiversity conservation possible are limited. Biodiversity forms an integral part of a country's economy; it is therefore necessary to promote investment in biodiversity to exploit to the full the potential that its restoration and conservation contribute to sustainable development.
33. Governments can no longer regard the continued loss of biodiversity as an issue distinct from the core concerns of society – namely, to tackle poverty, to improve the health, prosperity and security of populations and to deal with climate change. Each objective is undermined by current trends in the state of the ecosystems, and each will be greatly strengthened if Governments finally accord biodiversity the priority that it desperately needs.
34. The time is right for Governments to review progress, policy directions and delivery mechanisms with a view to focusing investment and efforts in line with clear priorities that tackle the underlying causes of biodiversity decline. Governments need also to mount public awareness campaigns and capacity-building initiatives, to promote knowledge exchange at all levels and to foster the active participation of local communities in the decision-making process that influences their lives.

E. Conclusion

31. The implementation of the Convention on Biological Diversity by African countries has had a positive impact, not only on the conservation and sustainable use of biodiversity, but also on environmental management in general. In addition, the implementation of the Convention,

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Contact information:

Kamar Yousuf
Division of Environmental Law and Conventions/
Regional Office for Africa
United Nations Environment Programme
P.O Box 30552
Nairobi, 00100, Kenya
kamar.yousuf@unep.org