

ENVIRONMENT AND SUSTAINABLE DEVELOPMENT

Paper Presented at the Conference:

**Sustainable Development, Governance and Globalization
an African Forum on Strategic Thinking and Acting Towards the Earth
Summit 2002 and Beyond
(17th-20th September, 2001 Nairobi, Kenya)**

By

**Prof. Iba Kone
African Academy of Sciences
Kenya
afornet@africaonline.co.ke**

CONTENTS

INTRODUCTION

LEADING ENVIRONMENTAL ISSUES

BIOLOGICAL DIVERSITY

**SOIL AND WATER
MANAGEMENT**

MOUNTAIN ECOSYSTEMS

CLIMATE CHANGE

FOREST ECOSYSTEMS

**GLOBAL ENVIRONMENTAL
TREATIES**

MONTREAL PROTOCOLE

CLIMATE TREATY

**CONVENTION ON
INTERNATIONAL TRADE ON
ENDANGERED SPECIES OF
WILD FLORA AND FAUNA
(CITES)**

BIODIVERSITY CONVENTION

TREATY OF THE SEA

DESERTIFICATION TREATY

**INTERNATIONAL ENVIRONMENTAL
GOVERNANCE**

**THE UNITED NATIONS
AGENCIES**

**THE BRETON WOODS
INSTITUTIONS**

**NATIONAL AND REGIONAL
ENVIRONMENTAL GOVERNANCE**

CAPACITY BUILDING

**MERGING ENVIRONMENTAL
PLANS AND POVERTY PLANS**

**COORDINATING THE
AFRICAN ENVIRONMENTAL
AGENDA**

CONCLUSION

The Earth is one but the world is not. We all depend on one biosphere for sustaining our lives. Yet each community, each country, strives for survival and prosperity with little regard for its impact on others (Brundtland, 1978)

INTRODUCTION

1. In June 1992, more than 100 Heads of states or governments and 20,000 NGOs representative from around the world, gathered in Rio de Janeiro for the UN Conference on “Environment and Development”. In 1991, ahead of this historic event, the African Academy of Sciences (AAS) held its Third General Conference on “Environment and Development: A Scientific Responses”. The major outcome of the AAS Third General Conference was embedded in the “Mbabane Declaration” (Annex 1), which was sent to the Rio de Janeiro Drafting Committee of the Agenda 21 as the African scientific community contribution. The Agenda 21 is an ambitious 500-page blueprint for sustainable development towards the 21-st century.

2. The Rio Conference produced not only conventions and treaties on Climate Change, Biological Diversity, but also an authoritative statement of principles for the management, conservation and sustainable development of all types of forests. Since Rio conference in 1992, a steady steam of international meetings and fora were held on key issues of the convention agenda. Almost nine years after Rio, one could see that the pace of real change has not yet taken place. The reality is that the international momentum generated by the United Nations Conference on Environment and Development (UNCED) is flagging and the global partnership which was championed is foundering due to the failure of political will.

3. The purpose of this paper is twofold: firstly it review the leading issues of environment and development and, secondly it examines what has been achieved over the nine years on the international arena and specifically to highlight what is Africa’s records towards the implementation of the UNCED’s major commitments. It aims also at highlighting successes, failures and challenges ahead of the up-coming RIO+10. These sets of issues structure the paper as follows:

- *Part 1* identifies the key environmental problems that threaten sustainable development in African. Its also provides priority-areas identified by the AAS and which are yet to addressed by the African scientific community.
- *Part 2* analyses what has been achieved in the international arena and how Africa could learn form these processes as well as developing partnership with other global players. It defines areas where Africa could harness in order to leapfrog its environment and sustainable development agenda. These areas are: Strengthening environmental governance, building national capacity in environmental management, developing regional cooperation in some key cross-sectoral issues

LEADING ENVIRONMENTAL ISSUES IN AFRICA

BIOLOGICAL DIVERSITY

5. Biological diversity is one the building blocs of sustainable development as it provides economic returns, cultural and medicinal values as well as other biological functions. There is a consensus among the scientists that the Earth is loosing its biological diversity as far as the genes, species and ecosystems are concerned. We do not yet understand the relationship between the biodiversity and the biosphere. As far as food and agriculture are concerned, it is widely admitted in scientific arena that the world has probably ¼ million of flowering plants-all potentially useful as human food. Yet, fewer 1,500 species have been brought into formal agriculture; and, of these, 30 species now produce approximately 95% of global food requirements, with 75% of the diet provided by only 8 crops (Odhiambo, 1986).

6. The loss of biological diversity is indeed a big threat for mankind. The loss of biological resources is essentially due the overlapping factors such as consumption patterns, world production and exchange systems, human population growth and its ancillary implication in terms of settlements, development of agriculture and industries and others basics infrastructures.

SOIL AND WATER MANAGEMENT

7. Constraints related to the management of tropical soils and particularly the low land tropical soils of Africa are widely documented. We know that there are highly weathered, and easily leach and laterize (Odhiambo, 1986). There most predominant soils of the humid and sub-humid regions of Africa are Alfisols, *Ultisols* and *Oxisols* (Lal, 1986). An in-depth survey of Vertisols African soils (Albert and Tavernier, 1972) shows serious physical limitations, which are still recurrent and could be categorized in Figure 1 as follows:

BOX 1: THE MOST PREDOMINANT SOILS OF AFRICA

- i). *Alfisols* have particularly poor physical properties. These soils are easily crusted and compacted and are prone to accelerated soil erosion.
- ii). *Vertisols*, commonly misnamed as “Black Cotton Soils”, have poor soil physical properties and difficult to manage excepted few fast maturing crops such as cotton farming.
- iii). *Aridisols* are prone to recurrent problems of drought stress and constitutes with the *Litho sols* the major soils of arid-Africa. These soils are low in soil organic matter content and low inherent fertility.
- iv). *Incept sols* and *Entisols* are rare and occur along flood plains in inland valleys. These soils have a better moisture regime and nutrient status than residual soils but, due to proximity to water, they pose a severe prevalence of trypanosomiasis, the tsetse-borne disease sleeping disease a well as malaria and other swamp-related diseases. We can therefore establish a good correlation between food deficit in Africa and the climatic variation, and soil’s physical limiting factors.

8. Water constitutes a significant part of living matter, and it is recognized that living organisms consists of 60-70 % of water. We know that water is important to life since it serves as the medium for moving nutrients into plants. It regulates heat transfer in the biosphere and support aquatic systems. Water covers 70% of the Earth surface, and it amounts to about 1,4 billion cubic kilometers. However most of this water, 97.3% of it, is saline (salt water) that makes up oceans, inland seas, and deep underground water. It is also well documented that 77.2% of the little freshwater that exists in the world is stored in polar ice-caps and glaciers, while 22% are stored as ground water and soils moisture, and 0.35% is to be found in the lakes and swamps; 0.04 in the atmosphere and finally less than 0.01 in the steams. In another words, nearly 90% of freshwater are stored in ice caps, glaciers and deep underground water and such these waters are not easily accessible for immediate human consumption.

9. Freshwater resources, like other natural resources, are unequally distributed among the continents and within them. Apart from Australia, Africa is reported to be one of the driest continents in the world. In fact Africa is the most freshwater poor-continent in the present millennium, even though it contains 6 of the largest freshwater storage basins in the world (Odhiambo, 1987; Odhiambo and Kone, 2000). The largest drainage of Africa basins is highlighted in the following Box 1.

BOX 2: THE LARGEST DRAINAGE BASINS OF AFRICA

(i). Nile river is the second longest in the world and extends across nine African countries with 6.695km long and an estimated catchment's area of 2.9 million kilometers square.

(ii). Congo river is the second in the world in volume only to the Amazon and accounts for about 30% of the continent 's renewable water supplies. Unfortunately or fortunately Le Congo River flows largely through sparsely population rain forest. *Properly managed it could provide all the water as well the electricity requirements of both SADC and the whole Eastern Africa and could be use as the backbone of the regional integration.*

(iii). Zambezi River, with a total length of 3,000 km and a catchment's-area of 173 M km³ covering the territorial area of Angola, Botswana, Malawi, Mozambique, Namibia, Zimbabwe and Zambia.

(iv). Niger River with a total length of 4,200 km flowing through several West African Countries.

(v). Senegal River which is 1,790 km with a catchment's area of 2700000 km²

(vi). Other important drainage basins include the Gambia, (75, 000 km², the Volta, the Orange, the Limpopo, the Gimba Scebeli, the Ogoone, the Cunene, the Tana and the Rubumba).

10. The lacks of Africa are the second largest source of Water while the underground are the third source. The lakes are divided into the deep larger lakes (Victoria, Tanganyika, Malawi and Kivu) and shallow ones (Turkana, Edward and Chad).

11. Although Africa is endowed with such natural asset, we currently have over 26 African countries including Kenya, which have more people than their water supplies can adequately

support. The scarcity of water problems in Africa will lead either to an unprecedented degree of corporation or to a combustible level of conflict among riverine countries. The challenge ahead to address potential source of conflict on water over the coming decades will require a far more multidimensional approach than in the past. Focus will have to shift from narrow technical supply aspects of water to broader considerations of regional or sub-regional integrated water's ecosystem management.

MOUNTAINS ECOSYSTEMS

12. Mountains span one fifth of the Landscape and are the home to one tenth of humanity. An additional 2 billion people live downstream from them, and depend on their ample water, hydropower, grassland timber and mineral resources. Mountains ecosystems are very fragile and vulnerable to disturbance. Unlike more productive lowland environments, mountain ecosystems are typically less able to reciprocate from substantial perturbation such as widespread soil erosion or loss of vegetation. The diversity of wild plants on mountains ecosystems constitutes a global gene bank that is vital to future food security. Mountain communities, especially in Ethiopian highlands, are custodian to vital crop species. Potential climate change particularly threatens mountain ecosystems. A warming of 3 degree Celsius by 2050 would roughly bring to an altitudinal shift upward of about 500m. Species already confined to the tops of mountains or even below could be exterminated as they are ecologically squeezed out of their potential habitats and niches.

13. Basic constraints for raising mountain issues on top of the agenda of global policymaking bodies are: (a) the lack of knowledge and information, combined with the perspective scientific uncertainty about the planet's most complex landscapes, and (b) data on mountain areas are often non-existent or incomplete. Thus comprehensive multi-disciplinary research and long term monitoring programme are critical to establish baseline scientific information on mountain ecosystems in order to address the rapid natural anthropogenic changes that are occurring especially in the East African highlands of Kenya, Ethiopia, Rwanda, Tanzania and Uganda where the population has mushroomed 700% in the last 80 years.

CLIMATE CHANGES.

14. Human activities and other anthropogenic factors have increased the concentrations of greenhouse gases in the atmosphere. The greenhouse effects will have in the long term an additional warming of the earth and the atmosphere. An increase in warming will have a devastating effect on the natural habitats as well as on mankind.

15. The global warming threat is not rare. The idea that continued industrial activity could erratically alter Earth's climate goes back to 1896 and to Swedish Chemist Svante August Arrhenius, who then made a simple calculation to show that carbon dioxide (CO₂) accumulating in the atmosphere would increase the temperature at the surface roughly 5 degree centigrade. Half a century ago, Roger Revelle took up the issue and his experiments were based on a celebrated series of CO₂ above the Hawaiian Volcano of Mauna Loa.

16. The outcome is clear-cut one. The CO₂ concentration is indeed increasing steadily, by approximately 0.5 percent a year. However, CO₂ is not the only culprit for the greenhouse effects. There are also methane (which is produced naturally, in agriculture and by waste dumps), the refrigerants known as CFCs, nitrous oxide (from wetlands, tropical forest's soils and vehicle exhausts) and water vapor.

17. Overall, the effect of one-degree increase in average temperature in the first half of the next century would be significant and economically important. We know that the balance of natural vegetation would be changed, together with the fauna dependent on it. Agriculture as well as sea level would probably be affected. Radar measurements in 1970s revealed that some part of the Antarctic cap could be unstable. Under such scenario, there would be an increase of some 5 meters in global sea level. The UN conference held in Rio de Janeiro used the preliminary assessment of the Intergovernmental Panel on Climate (IPCC) as the backbone of the convention on climate change, which has been now ratified and has the force of an international treaty. The Rio treaty is not in essence an agreement on steps to abate global warming and its effects. But it is just a framework within which signatories must decide what steps to take and when. The treaty includes an exhortation that governments in industrialized countries should restrict the emission of greenhouse gases in 2000 to the levels of 1990.

18. At a conference of the signatories in Kyoto at the end of 1997, it was agreed that total emission in 2010 should be reduced 8 percent below those in 1990: some have said they will comply, others that they will think about doing so while developing countries, including China are exempted. (Maddox, 1998).

FOREST ECOSYSTEMS

19. Natural ecosystems such as forests and Wetlands play a pivotal role in managing the hydrological cycle. Vegetation encourages infiltration of water into the soil, aiding the recharge of underground aquifers, lowering flood risk and anchoring the soil, thus reducing erosion. Forests also take up water and release it into the atmosphere. It is estimated that a rainforest can pump 2.5 million gallons of water into the atmosphere during its lifetime, but much of this is recycled and not lost from the forest.

20. Forests play a significant role in the balance of planetary functions. They contribute to the fundamental ecological processes that keep the planet in a state of quasi-equilibrium. Forests have, apart from humans themselves, the greatest influence on the structure and functioning of the human habitat. Forests are fundamental to the maintenance of a habitable biosphere: They conserve biological diversity, shield the earth's landscape from abrupt change, bring order to the flow and quality of water and help to stabilize climate regionally and globally. These are the common, global services from which all the regions and human societies benefit.

21. Recent advances in satellite imageries show that forests no longer cover the world, especially in the African tropical rain forest (see forest maps). As shown in the images, the rate of loss has increased tremendously through "slash and burn cultivation", and high frequency of fires that has been severely compounded with the warming of the Earth. Available data show that forests have

virtually disappeared in 25 countries, while 18 countries have lost more than 95% of their forests and another 11 have lost 90% of their forest cover.

22. In the last decades of the Brundtland Commission and the Rio Summit, the world has been losing 10-15 million hectares of forest annually to permanent deforestation (WCFSD, 1995). We know that we must make radical adjustment in policies, practices and socio-economic framework that will sustain and their biological diversity as we are facing a situation of forest depletion and forest crisis. The current forest crisis arises because of the importance of forest for the global environment, for the economy, and for all societies.

23. We have entered in an era where forest will be unable to play their fundamental ecological functions in maintaining a habitable Earth. It is noteworthy to highlight that influential conferences, meetings have been organized and reports published from 1972 –to 1992 as per Box 3

Box 3: CHANGE IN THE TROPICAL FORESTRY SECTOR: Influential conferences, meeting and Reports, 1972-1992.

*The UN Conference on the Human Environment, Stockholm (1972) was instrumental in putting environmental affairs onto the international agenda, and for the creation of the United Environment Program (UNEP).

*

The World Bank Meeting (1973) first identified rural poverty and development as priorities for bank lending. For the first time the issue of livelihoods was put on the agenda.

*The 18th World Congress at Jakarta (1978) focused explicitly on people and forests for the first time. This meeting was followed with the incorporation of social dimension into forestry aid.

*The 1980 FAO assessment of Global Forest Cover (FAO1985) brought deforestation, the wood fuel crisis.

*The TFAP (Tropical Forestry Action Plan, 1985-1995) gave many donors their first opportunity to act together in the tropical forestry sector, and to make preliminary analyses of the causes of forests problems in developing countries. The TFAP came too early when best practices such as was still poorly understood

*The International Tropical Timber Agreement (1987) and the creation of the International Tropical Timber Organization, which brought together several countries to share more interests into tropical forestry affairs.

*The Brundtland Report, “Our Common Future”(1987) was crucial for reorientation of aid in response to poverty, and for the explicit recognition that environmental degradation could not be addressed without simultaneous attention to economic development.

*The United Nations Conference on “Environment and Development in Rio (1992) strongly influenced greater interest in conservation and sustainable development, and in tropical forests in general. Even though no convention was signed, the meeting adopted an “Authoritative Statement of Principles for the Management, Conservation and Sustainable Development of All Types of Forests”.

Source: *The EU Tropical Forestry Sourcebook (1998) and modified by Kone, 2000.*

24. Sustainable development is a dynamic concept built on three pillars: economic growth, ecological balance and social progress. It means living on nature’s income rather than on its capita: that is, not taking more from nature than we put back. It means also ensuring a better quality of life, now and for generations to come (Stigson, 2000). These three pillars are

ubiquitous throughout the Agenda 21. The Rio conference has provided in international momentum towards agreeing on those basic principles. The Convention's treaties and other legally-binding types of accords are among more than 180 environmental treaties, which have been ratified between 1921 and 1994 as per Figure.... Although the conventions and treaties are not panaceas for the resolution of the current web of ecological, economic and social standards, they provide instruments, protocols as well as litigation and arbitration among nations. Though some treaties have been successes, many have failed to achieve the desired goals. The Earth is yet facing with ecological unbalances, increased concentration of carbon dioxide into the atmosphere, extinction of unknown amount of species, scarcity of freshwater, degradation of arable land as well as the shrinking of forest cover and the subsequent impact in term of food deficit, hunger, malnutrition and diseases. This section shall review the status of the broad framework of international agreements, which are yet to be translated into action. An in-depth analyses of what works and what doesn't is as follows:

THE MONTREAL PROTOCOL ON DEPLETION OF THE OZONE LAYER

25. The hallmark of international environmental governance to date is the Montreal Protocol on the Depletion of the Ozone layer. This protocol has successfully zeroed in the production of CFC's in industrial countries by 1996 – 97 while it restricts the use of several other Ozone depleting chemicals such as *halons, carbon tetrachloride's, methyl chloroform and hydrochlorofluorocarbons*. Developing countries were given a 10-year grace period in which to meet the original protocol and its amendments. As far as Africa is concerned, we have a challenge of monitoring of this protocol and its amendments. This aspect shall be addressed under the section on capacity building.

CLIMATE TREATY

26. This treaty in essence does not provide clear-cut targets, goals and penalties. It urges but does not require industrial nations to stabilize emissions of carbon. Developing countries face no numerical goals whatsoever, though all signatories must conduct inventories of their emissions, submit detailed reports of national actions taken to implement the convention, and endeavor to take climate change into account in all their social, economic and environmental policies. But no specific policy measures are required.

27. As at today, few countries have addressed comprehensively the climate treaty. African countries lack the capacity, the capability and the political will to implement the treaty. During the last session of the recent meeting on the implementation of the Kyoto Protocol in Bonn, Germany, Africa was represented by Nigeria, Zimbabwe and Sudan out of the 53 African countries. Major developed countries are likely to implement the treaty as they fail to tackle politically difficult policies e.g. the reduction of coal subsidies in Germany and the increase of gasoline taxes in United States of America.

28. The unresolved issues ahead of Rio +10 include among others the following:

- *Consensus on the regional distribution of projects under the Clean Development Mechanism (CDM) of the Kyoto Protocol;*
- *Provision of adequate financial resources for countries to adapt to the adverse effect impacts of climate change;*
- *Agreeing on quantitative figures for the amount of greenhouses gas emissions industrialized countries should reduce domestically, at source.*
- *Agreeing on technology transfer from developed to developing countries.*

CONVENTION ON INTERNATIONAL TRADE ON ENDANGERED SPECIES OF WILD FLORA AND FAUNA (CITES)

29. Tremendous efforts have been done to raise the awareness on wild flora and fauna. Yet, too little has been done to protect the same critical species on the verge of extinction. Success story accounts for the ban on elephant killings. The ban on Ivory trade has been enforced. Some countries have capitalized on their Ivory tusks while in other countries, drastic laws and subsequent burning of ivory have discouraged the hunters and vanished the illegal trade of Ivory

THE BIODIVERSITY CONVENTION

30. The conservation and preservation biological diversity are laudable goal that all countries have a stake. However no single country can effectively do it alone. The convention on one hand rejects the notion that biological diversity is the “common heritage of mankind” and on the other hand it recognizes that biological resources are the sovereign property of nation states. The rationale in this ambiguous state of affairs is embedded in the fact that when countries can profit from a natural asset, they have an incentive to protect it.

31. The convention encourages the gene-rich countries to charge for access to these valuable resources. The convention further gives provision for the same gene-rich countries to pass national legislation to set the terms of access to natural resources by international pharmaceutical companies. The Convention major provisions are highlighted Box 4 as follows:

BOX 4: SOME KEY PROVISIONS OF THE BIODIVERSITY CONVENTION

- (i). The countries, which are endowed with biological diversity, which are mostly in the South and likely all developing countries, are recognized as sovereign over their biological resources (Article 3 and 15.1 of the Convention).
- (ii). The industrialized countries, which are in the North, are recognized as the sources of biotechnology - to be taken as genetic engineering rather than biotechnology *per se*- (Article16), and finance (Article20) of the Convention.

32. Under the Convention framework, the financial resources are seen as coming from the North to South in way of a fair and equitable sharing of the commercialization of biological diversity

from the South (Article 15.7), and to enable Southern countries to fulfill their obligations, which are highlighted in Box 8 as follows:

BOX 5: COMMITMENTS OF SOUTHERN COUNTRIES TOWARDS THE BIODIVERSITY CONVENTION

- (i). The development of national strategies, plans or programs for the conservation and sustainable use of biological diversity (Article 6);
- (ii). The identification and monitoring of biological diversity (Article 7);
- (ii). *In-situ* (Article 8) and *ex-situ* (Article 9) conservation and sustainable use (Article 10) of biological diversity;
- (iv). Research and training (Article 12), and public education and awareness about (13) biological diversity;
- (v) Assessment of the impact on biological diversity of development projects; and
- (vi) Exchange of information (Article 17), technical and scientific cooperation on (Article 18) biological diversity

Source: Tewolde B. Gebre Egziabher, 1996.

33. The Biosafety Protocol, which falls under the Biodiversity convention, has been now ratified. It is a legally binding agreement for protecting the environment from risk posed by the transboundary transport of living modified organisms created by modern biotechnology. However many African countries will have to make decisions regarding the use of the techniques of modern biotechnology or the import and export of products containing or derived from transgenic organisms

34. Many African countries although endowed with national environmental plans lack the capacity to achieve the set goals and targets of the convention on biological diversity. Future actions towards Rio +10 should focus on the following sets of complementary and inter-related actions:

- (i). Assisting African countries to meet their obligations highlighted in Box 8.*
- (ii). Undertaking discussion of a protocol on biotechnology*
- (iii). Finalizing deliberation on international standards for biodiversity prospecting agreements*

35. The agreement between Merck & Co and Costa Rica provide a good foundation for the exploration of an appropriate model towards an innovative mechanism for the conservation of many African sacred forests and protected areas. The agreement between Merck a leading World Pharmaceutical Company and Costa Rica's National Institute of Biodiversity (INBIO) is highlighted in the following Box 6.

BOX 6. THE BACKBONE OF THE AGREEMENT BETWEEN MERCK AND INBIO IS AS FOLLOWS:.

- (i). Merck agreed to pay INBIO \$1 million for conservation programs in exchange for access to the country's plants, microbes and insects.
- (ii). In the advent of a discovery and commercialization of a new product, Merck shall pay INBIO a commensurate share from the royalties.

THE TREATY OF THE SEA

36. The Treaty of the Sea was ratified in 1994 and it contains an extensive array of environmental provisions for protection against over fishing, oil spills, land-based sources of pollution and other anthropogenic disturbances affecting the oceans and estuaries. The treaty provides to all signatories privileges and obligations, which are highlighted as follows:

BOX 7: KEY PROVISIONS OF THE TREATY OF THE SEA

- (i). Countries are granted sovereignty over waters within 200 miles of their shore called then exclusive economic zones (EEZ);
- (ii). Countries accept as obligations to protect or ensure the ecologic balance of their EEZ.
- (iii). The treaty serves as cluster of existing international agreements that cover the Oceans, including the London Dumping Convention, the MARPOL agreement relating shipping and numerous international fisheries agreements; and
- (iv). The treaty contains path breaking compulsory provisions under which countries are bound to accept the verdict of an international tribunal

THE DESERTIFICATION TREATY

37. The Desertification treaty was adopted in 1994 in order to provide a framework to protect the livelihood of million of people who live in semi-arid and arid lands of Africa. The idea of this came up in Rio, as a response to developing-country concerns that the issues most relevant to them were left off the table. The Convention for Combating Desertification (CCD) provides a broad framework for nurturing and developing local projects. It provides plate form for information exchange, research and training as well as a global mechanism to mobilize funds from various sources. It encourages the creation of a national desertification trust funds (DTF) in each country.

INTERNATIONAL ENVIRONMENTAL GOVERNANCE

THE UNITED NATIONS AGENCIES

38. There are key UN agencies, which play critical role in the management of the global environmental portfolio. These are highlighted as follows:

BOX 8: MANAGEMENT OF THE GLOBAL PORTE-FOLIO BY THE UNITED NATIONS ORGANISATIONS.

- (i). UNEP is the premier environmental organ of the UN system, which was created in 1972 at the UN conference in Stockholm. It plays a pivotal role and is charged with catalyzing Environmental work throughout the UN.
- (ii). WHO deals primarily with health issues but it also promulgates air and water pollution guidelines that are considered as the international norm
- (iii). WMO makes important contribution to better understanding of the complexities of climate sciences
- (iv). FAO primary mandate is on Agricultural productivity, fisheries and it has a strong agenda on forestry and related development issues.
- (v). UNDP has launched a capacity 21 initiative in order to help countries integrate environmental consideration into their development plans.

31. It appears from the Box 8 that the global environmental portfolio is scattered. It is not yet clear whether this is a result of a division of labor within the UN system or mere “*Etat de fait*” of the intricate process of the Agenda 21. Some scholars have suggested either the upgrading of UNEP as a full fledge UN specialized agency or to create a new UN environment agency. One of the suggestions floated by Dan Esty is the establishment of a Global Environmental Organization (GEO).

The GEO in Esty mind shall provide some overarching structure and coordination to the current scattered process of the international environmental governance. He foresees the main attributes of the proposed GEO as follows:

BOX 9: MAIN FEATURES OF THE GEO

- (i). To develop basic environmental principles analogues to widely recognized trade principles advanced by WTO or particularly the ILO which elaborates, strengthens and modifies the hundreds standards it has issued on concerns such as workplace safety, child labor as well as the compliance of member to its standards;
- (ii). To become a global environmental information clearing house (doing on bigger scale what UNEP’s Global Environmental Monitoring System is already doing in small scale)
- (iii). To serve as the implementing agency for some UNDP financed project such as land reclamation projects
- (iv). To elaborate some common minimum international production standards (pulp and paper industries).

THE BRETON WOODS INSTITUTIONS

40. The Breton Woods Institutions, the World Bank, the International Monetary Funds (IMF), and to a greater extent the World Trade Organization (WTO) are critical players in the field of sustainable development, particularly in developing countries. These institutions have been widely criticized in recent years as being environmentally insensitive. The Breton Woods institutions have adjusted their policies towards the environmental agenda as per box:

BOX 10: MANAGEMENT OF THE GLOBAL ENVIRONMENTAL PORTFOLIO BY THE BRETON WOODS INSTITUTIONS

- (i). The WTO, which has replaced the GATT, has established a Trade and Environmental Committee
- (ii). The WB has increased its spending on environmental programs (e.g. the electric power sector, energy efficiency, forestry sector as well as the GEF investment operations which in compliance with the Climate Change Convention
- (iii). The IMF as the chief advisor of macroeconomic policy in developing countries is yet to incorporate new tools such as natural resource, accounting and environmental taxation among its instruments.

41. For many outsiders including the civil society and other professional and learning societies, the “*Modus Operandi*” of the Breton Woods Institutions is not a clear-cut one. Though industrialized countries and many multilateral institutions are exhorting developing countries, in the name of good governance, to be more accountable to their citizens, yet the Breton Woods Institutions and similar global governance structures have not adopted so far more transparent and participatory approaches. Their own procedures are hermetic and information and documents are tightly kept secret. Negotiations between government and the Breton Woods institutions are closed to observers and to public scrutiny. It is a common knowledge that when a national law is challenged as a trade barrier under the GATT-the predecessor of WTO-, the case is heard behind the doors by a panel of professors and bureaucrats who are more concerned with the interest of WTO than those of the Earth.

42. The bottom-line is that many developing countries, particularly the African countries lack the institutional capacity, skills and the “*critical mass*” of experts to balance the negotiations of the WTO. The UNDP has made a proposal in four actions in order to strengthen the bargaining capacity of poor countries. The UNDP proposal is highlighted as follows:

BOX 11: UNDP PROPOSAL FOR STRENGTHENING THE BARGAINING CAPACITY OF POOR COUNTRIES

- (i). Providing legal aid. UNDP has launched an independent legal aid center for assisting poor countries (Seattle, 1999) as WTO dispute settlement mechanisms can be fair only when all the parties have access to experts to argue their case.
- (ii). UNDP shall appoint an ombudsman to respond to grievances and investigate injustices.
- (iii). UNDP shall support policy research as the OECD countries arrive at multilateral forums with a battery of policy research to formulate, articulate and defend their position.
- (iv). UNDP shall encourage poor countries to rely more on regional solidarity and regional institutions towards establishing regional coalition and pooling of available experts

NATIONAL AND REGIONAL ENVIRONMENTAL GOVERNANCE

43. Developing countries, especially African countries are in a big dilemma. They have agreed on a number of conventions and are signatories of key global environmental treaties. They are dealing with such pressing issues such as globalization, poverty and the debilitating HIV/AIDS pandemic as well as other development issues. At the same time they have to fulfill their obligations towards the Agenda 21. The purpose of this section is to highlight what are Africa's own deficiencies in implementing Agenda 21 at national, sub-regional and regional levels and how she could address her commitments without compromising the well-being of current and future generations.

CAPACITY BUILDING AND INSTITUTIONAL REFORM

44. Human capital development is central and ubiquitous throughout the Agenda 21. Chapter 36 of Agenda 21 specifically encourages educational training and environmental public awareness. Africa is lagging behind, as she does not have the prerequisite capacity. The following sets of actions are required:

45. **EDUCATION.** There is need to develop new curricula which incorporate fundamental principles of Agenda 21 into primary and high education. The Agenda 21 could be also translated into the main African languages for outreach programs

46. **AFRICAN ENVIRONMENTAL THINK-TANK.** There is need to establish an African environmental think-tank. The International panels of scientists convened to study both Ozone depletion and climate change played instrumental roles in forging consensus and in guiding the revision of agreements in light of new scientific findings. The AAS has already established similar think tanks in areas of forestry such as the African Forestry expert Group (AFEG) and the AAS forestry Board. Such panels could be broadened as the African Environmental Think-Tank

47. **REGIONAL CENTRE OF EXCELLENCE.** There is need to create or uplift selected local training institutions, as regional centers of excellence to train professionals in all disciplines in environmental issues. These environmental training and research institutions shall cater not only to balance the African brain drain but also to strengthen the existing manpower in environmental assessment and environmental impact assessment as well as other technical environmental legal matters.

48. **NATIONAL ENVIRONMENTAL PLANS.** Several African countries have established National Environmental Plans. Kenya for example enacted a framework environmental law known as the "Environmental Management and Co-ordination Act (1999)". The purpose of the Act is to create a strategy through which Kenya can synchronize international obligations and mainstream National requirements. (1)

49. There is need to implement the next phases of the plans through consensus building among the key stakeholders including government, the private sector, local communities, NGOs and donors. The implementation shall involve key issues such as: (a) the Institutional Reform in order to establish at district, local and municipal level for enhanced Environmental Management

as well as encouraging private sectors to greening of industrial processes;(b) the Promotion of Participatory Approaches through enhancing local participation among different stakeholders and (c) the Prioritization of Issues through the refining NEAP in order to identify priorities for attracting external and local funding; as well as Legal and policy reform which include the following:

- *Adjusting prices of natural resources such as forests, water, Energy to reflect full economic costs, that is to incorporate environmental externalities, environment assessment, legislation and mechanism for their implementation*
- *Harmonization of environmentally related laws and practice (e.g. land tenure, legal frameworks)*
- *Adoption and harmonization of obligations under international conventions (CITES, Biodiversity Convention, Climate)*
- *Addressing legal aspects related to existing or potential conventions and treaties (international river basins agreements)*

BRIDGING THE GAP BETWEEN ENVIRONMENT PLANS AND POVERTY PLANS

50. The Cairo Conference in 1994 was focused on the complex interconnections among population grow, deteriorating social conditions, gender inequity, environmental degradations as well as other interrelated issues. This was follow up in 1995 by the Copenhagen Conference on the Social Summit, which mandate was on poverty, unemployment, and social integration. The major aim of the Copenhagen meeting was to make the development assistance more effective in combating the pervasive threats.

51. At the Social Summit, developing countries, especially African countries made firm commitment to eradicate poverty and drastically reduce overall poverty. However, African countries have run into a complex wed of burdens as highlighted in the following

BOX 12: BURDENS OF AFRICAN COUNTRIES SINCE THE COPENHAGEN SOCIAL SUMMIT

(i). Financial crisis have exacerbated. They include: devaluation of the principal currencies (e.g. CFA, NAIRA, KSH RAND, ...etc); onerous debt severely compounded by protectionism from developing countries (restriction on trade in textiles and clothing alone are estimated to cost the Third World some \$50 billion in lost foreign exchange annually;

(ii). Internal conflicts, war and civil unrest and political upheaval in several African countries;

(iii). Array of unprecedented natural disasters (El Nino, El Nina, drought flooding) and their consequences in term of hunger, disease and malnutrition); and

(iv). Donors shifting their development assistance to their own internal and domestic agenda.

52. Because of these ills, African countries have not been able to integrate yet the Development Poverty Plans into National Environmental Plans. Some African countries formulated their NEPs after the Rio conference in 1992 while Poverty Plans were devised after the Social Summit in

1995. Under the broad framework of the Poverty Plans the boards of the IMF and the World Bank, at their annual meeting in September 1999, endorsed the measures to provide faster, deeper and broader debt relief to 41 heavily indebted poor countries (HIPC). The new initiative is encapsulated into the following:

- (i). Prospective recipient countries will prepare a Poverty Reduction Strategy Paper (with assistance from the World Bank the IMF and others as appropriate); and***
- (ii). The Strategy Paper will provide the IMF with the central policy framework for all lending operations of its Enhanced Structural Adjustment Facility –now to be called “the Poverty Reduction and Growth Facility”.***

53. The lessons we could draw from current efforts could summarize in a nutshell as follows:

- (i). Human poverty and environment are multisectoral and multidimensional problems, which cut across the traditional scientific disciplines.***
- (ii). They cut across countries and within a country they cut a cross sectoral responsibility of government departments.***
- (iii). They need to be addressed through multisectoral, holistic and multi-country-driven initiatives.***
- (iv). The IMF, the World Bank and the international community should assist the African regional groupings such as the ECOWAS, the SADC, and the East African Community to mount strategic regional programmes that are compliant with proper intergovernmental mechanisms, as well as compliant with growing demand from the civil society and from the private sector.***
- (v). The scarce resources should be pooled to support these multisectoral and multi-country-driven initiatives rather than undertaking a financial sprinkling on disjointed projects in selected countries.***

COORDINATING THE AFRICAN ENVIRONMENTAL AGENDA

54. Natural resources cut across several African countries. The geographical distribution of natural resources transcends the geo-political framework. Africa is the most subdivided continent with 165 borders dividing 51 countries. This fragmentation of the continent is an impediment for promoting environmentally sustainable development. Experience from elsewhere in the world shows that consolidation into regional trading blocks is a prerequisite for development. Another building is the development of regional public goods. With respect to African natural resource management, there are several initiatives, which have been on the top of African policy-maker's agenda. Among the most important are the African Ministerial

Conference on the Environment (AMCEN), the Millennium Partnership for the African Recovery Programme (MAP), the Omega Plan for Africa, and the Compact for African Recovery.

55. The African Ministerial Conference on the Environment (AMCEN) met from 5 to 6 April 2000 in Abuja, Nigeria with its main output embedded into the Abuja Declaration on AMCEN (Annex 1), and suggested decisions towards AMCEN's role in sustaining Africa's future (Annex 2), which summarized as follows:

(i). Decision 1: Programme Priorities, which adopted mainly under Para (a) two proposals:

- *The proposals for policy and institutional change; and*
- *The proposals for a medium-term programme.*

(ii). Decision 2: Global negotiation on environment adopted under Para (f) and Para (g) the following:

- *To invite donors to support African countries in their efforts at capacity building in implementation of conventions on climate change (CCC), biodiversity (CBD) and desertification (CCD)*
- *To work towards the formulating common positions regarding climate change convention' Buenos Aires Plan of Action, clean development mechanisms, transfer of technology and capacity building;*
- *To request UNEP to assist African countries by convening a regional meeting of scientific/technical, policy and legal experts to prepare position papers on key issues of the forthcoming meetings on CBD, CCD, and CCC*

(iii). Decision 3: Building strategic partnership

(iv). Decision 4: New and emerging environmental matters adopted under Para (b) the following:

- *To join hands with the OAU, ECA, ADB, and the UNEP in carrying out the preparations for the development of a common position paper for in 2001 to be submitted to Earth Summit II (2002).*

(v). Decision 5: Financial resources adopted in Para (b) the following:

- *To urge their countries to increase their current contributions to Trust Funds to a total of \$3 million by December 2001...*

56. The Millennium Partnership for African Recovery Programme (MAP). Is the brainchild of the President of Nigeria, the President of South Africa and the President of Algeria). This initiative implicitly recognizes natural resources, but it does not yet provide a joint programme, which transcends the individual sectors that could involve several countries. The MAP identifies the following major components of Africa natural assets as follows:

BOX 13: THE FOUR COMPONENTS OF AFRICA RESOURCE BASE

- (i) The rich complex of mineral, oil and gas deposits, its flora and fauna, and its wide unspoiled natural habitat, which provides the basis for mining, agriculture and tourism (Component I);
- (ii) The ecological lung provided by the continent's rain forests, and the minimal presence of emissions and effluents that harm the environments – a global public good that benefits all humankind (Component II);
- (iii) The palaeontological and archaeological sites containing evidence of the evolution of the earth, life and the human species, the natural habitats containing a wide variety of flora and fauna, and the open uninhabited spaces that are a feature of the continent (Component III);
- (iv) The richness of Africa's culture and its contribution to the variety of the culture of the Universe (Component IV)

57. *The Omega Plan for Africa* is another new initiative, which was launched by the President of Senegal. Its priority areas for which the plan intends to bridge the gaps are highlighted in Box 15 as follows:

BOX 14 THE OMEGA PLAN FOR AFRICA

- (i). Infrastructure
Inclusive of Road infrastructure, Railways infrastructures, Sea and floral ports, Regional and National airport, Bridges, Dams, as well as Telecommunication infrastructures
- (ii). Education
Two classrooms shall be provided to each village. Country to assess their need in compulsory, tertiary and vocational training, as well as the rationalization and clustering of African universities.
- (iii). Health
Each Country shall undertake an exhaustive inventory with the aim of establishing of: a Health Center per Village, a rural hospital for a cluster of Villages with health personnel., a hospital per department/ province, and several hospitals of various sizes in the cities.
- (iv). Agriculture
Whereby a need assessment shall undertaken for Irrigation and their exploitation, as well as for farming facilities, processing of port -harvest products and Transport facilities

58. *The Compact for Africa's Recovery* represents an ECA's contribution towards the implementation of the Millennium Declaration, which was adopted by the United Nations Millennium Summit in September 2000. The key features of the Compact is as follows:

BOX 15 KEY FEATURES OF THE ECA's COMPACT

- (i). Key strategic natural actions
- (ii). Key areas for joint African-International action
- (iii). Enhanced partnership for development
- (iv). A transformed aid relationship
- (v). An enhanced role for the private sector.
- (vi). The way ahead.

59. The Compact for Africa's recovery has identified a set of actions that are required by African governments and multinational partners. These are highlighted in Box 15 as follows:

BOX 16: ACTIONS REQUIRED BY AFRICAN GOVERNMENTS AND MULTINATIONAL PARTNERS.

- (i) Boosting investment.
 - Rehabilitating ports, railways and long-distance roads.
 - Upgrading urban power, water, sanitation and telecommunications systems.
- (ii) Improving policies and management.
 - Explore more efficient ways of sustaining existing infrastructure.
 - Institute effective regulation of private sector Infrastructure projects as a prelude to liberalization of the sector.
 - Develop private-public partnerships for investment and maintenance and management.
- (iii). More efficient utilization of shared resources.
 - Promoting the most efficient use of shared riverine resources.
 - Promoting efficient use of trans-border grazing land usage by allowing freer movement of pastoralists.
- (iv). Regional co-operation.
 - Improving cross-border transport networks.
 - Common investment in air traffic control systems to create safe skies across Africa.
 - Pooled energy grids to take advantage of economies of scale and geographical concentrations of hydroelectric power potential.
 - Improved regional ICT networks and links to global information infrastructures.
 - Creating trans-border 'spines' of high-quality infrastructure to attract investment

60. The lessons we could draw from these initiatives are as follows:

(i). The regional environmental and development agenda appears to be scattered with initiatives that overlaps one another.

(ii). It appears that there is a poor coordination mechanism among the major African bodies such as AMCEN, SADC, ECOWAS, and Presidential forums.

(iii). There is need of a regional mechanism to harmonize all these the African environmental portfolio in order to strengthen the bargaining position of Africa in the international forums. Though the extraordinary summit of the OAU in Sirte, Libya in March 2001, agreed that MAP and Omega Plan be merged, there is still long way to go for achieving a comprehensive and integrated African environment and development programme.

(iv). There is need to merge the UNDP, the UNEP and the ECA initiatives in order to achieve greater efficiency and good governance of the global environmental agenda in Africa.

61. Integrating Natural Resource into Regional Cooperation. There are some natural resources (minerals, oils, gases forests, lands, water...) that cut across several countries. The management of these natural resources on sustainable basis requires the development of regional mechanism such as the former European common market (which was set up by the six member states of the European Coal and Steel Community in 1957). The African Union has been ratified and it is expected to replace the OAU. This is a golden opportunity to put high on the agenda some key natural resources as the axis and the backbone of the African regional cooperation. However there are some bottlenecks that have yet to be addressed. These are highlighted as follows:

62. Lands. We have already examined the biophysical issues of lands in Africa. There is also a very pervasive aspect of land that has created so far a great confusion. Land ownership, land tenure and “*security of land tenure*” in Africa are source of conflict in some countries. It could be in a nearest future a potential source of national and social disintegration. In many African countries there has been a greater concentration of ownership and narrowing of family or clan rights (customary rights) to land. The lack of comprehensive tenure acts as an absolute constraints to investment in business premises, which in turn, manifests itself in a substandard physical appearance. Lack of tenure also generates a feeling of indifference to the improvement and maintenance of physical environment.”

(Perera and Amin, 1996)

63. The way forward for the resolution of the “*security of land tenure*” is to reconcile indigenous common property forms with the individual free hold market system. The Community Land Trust (LCT) initiative developed in the US and recently tried in Kenya (Bassett and Jacobs 1997) is worth to be extended to other African countries. The LCT combines Community ownership and control of land with individual ownership of improvement of the land. Individuals have a number of well-defined rights, including the right to beneath rights to the property and build improvements on the land while the community retains the right to make

decisions on the permissible use of land and other natural resources, as well as control alienation of land.

64. Water resources. Water is lifeblood of our planet and they represent one of the most tangible crosscutting issues. The scarcity of water resources is potentially source of conflict and social disintegration in Africa. Sustainable management of water resources in Africa, especially the international rivers, will require a more multidimensional, cross-sectoral and regional approaches. There is need to shift our focus from narrow technical supply aspects to legally binding agreements that are compliant with the basic principles of an integrated ecosystem management

65. Forest resources. Forests are the third natural resources where Africa lacks a comprehensive strategy. Forests and trees on the same footing as waters should be treated as economic, social and environmental goods. Their utilization on sustainable basis should rely on market, pricing mechanisms as well as on ecosystem approach and requires local, national and international cooperation. It is against those basic principles that we are suggesting the re-activation of the “Forest Trust International”. The World Commission on Forest and Sustainable Development spearheads this initiative in 1998. The FTI is embedded into four pillars as per Box 16.

BOX 17: THE FOUR PILLARS OF FTI

The FTI will be an entity built upon 4 pillars, with corresponding activities dedicated to:

- (i) Monitoring the forest situation
- (ii) Investigating and publicizing incidents of abuse of rights and power
- (iii) Encouraging coordinated approaches and harmonized provisions in management criteria and performance indicators
- (iv) Recognizing and rewarding exemplary practice by communities, corporations and countries in managing forests sustainably.

66. The lack of a convention on forestry and a mechanism similar to the FTI create a vacuum towards the devolution of forest management from the government to local people and the private sector. This devolution is highly expected in the trade in carbon through massive tree plantations. This trade in carbon mechanism cannot yet be implemented in many African countries as they lack the proper legal framework under which economic operators are guaranteed adequate security for their investment while the land owners are equally provided with for the lease of their land over a long period (50-90) years. In order to address the trade in carbon in Africa, there should be two supportive policy issues. These are as follows:

(i). Carbon sinks and forestry activities should be included in the “Clean Development Mechanism” (CDM), and

(ii) New policies are required to reflect the changes in the global economy. These new policies should reflect the openness to the global economy, with laws and regulations that can attract local and foreign capital for development projects.

CONCLUSIONS

67. Some nine years ago, the world leaders, decisively, agreed on forging a new global partnership for environment and sustainable development. The world community has enacted a number of international initiatives. Some of these initiatives have been a breakthrough, while for others there is still need to arrive at mutual understanding.

68. In the meantime the planet ecological, economic and social indicators have worsened, especially in majority of African counties. Reversing those bad trends require more than treaties, conventions and others non-binding instruments. We need a new Earth governance system based on a strong political and a new division of responsibilities that allow a two traffic flow of information among the stakeholders (community, state, national, sub-regional, regional and global levels).

69. This paper has attempted to review achievements, identify gaps and recommend priority areas that need to be addressed ahead of the Rio+10 conference in 2002. The major feature of this paper is to contently highlight the fact that environment and development are complex issues. They should be addressed through multidisciplinary, multisectoral and multi country-driven approaches. Even though those conditions are met, a strong political will and adequate findings are require to achieve the goals and objectives of the Agenda 21.

BIBLIOGRAPHY

BOXES

FIGURES