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AEO for Youth

Africa Environment Outlook for Youth

Our Region - Our Life

CONTENTS

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l'Information Environementale

Centre for Environment and
Development for the
Arab Region and Europe

Indian Ocean Commission

National Environment
Management Authority

Network for Environment
and Sustainable Development
in Africa

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FOREWORD

The Africa Ministerial Conference on the Environment (AMCEN) has a constitutional mandate to strengthen the participation of youth in sustainable development activities. This was reiterated in our statement to the World Summit on Sustainable Development, which stated in part that, 'We recognize that participation by young people in sustainable development is the foundation of the success of this strategy.' In commissioning the AEO-for-Youth process, AMCEN set in motion a participatory process that has already galvanised youth organizations all across Africa into a vibrant network.

African youth have joined their hands and spoken out in one voice. This voice captures youth perspectives on the state of the environment and shares youth prescriptions on environmental sustainability. Such unique perspectives should prompt action, not only from policy makers, but also among the youth themselves.

We, as Africans have a responsibility to take care of our environment. To a large extent, the quality of the environment determines the quality of life.

For environmental degradation in Africa to be reversed, it is imperative for African youth to translate their enthusiasm and creativity into action. Indeed, deeds are the hallmark of greatness. Youth should intensify their environmental action even as they lobby policymakers to do the same. May the insights contained in this publication greatly enhance environmental action among the youth of Africa.

Abdul-Hakim Rajab Elwaer
President African Ministerial Conference on the Environment (AMCEN)

Bernard Wahihia

PREFACE

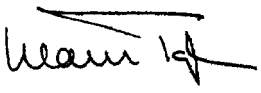
In July 2002, the first Africa Environment Outlook report was launched during the 9th session of the African Ministerial Conference on Environment (AMCEN) in Kampala, Uganda. Following the launch of the report, it was adopted by the Ministers as a tool for monitoring sustainable environmental management in Africa and also to act as the environmental reporting framework at national levels. This premier report mainly targeted Policy Makers.

UNEP however acknowledges the important role youth plays and has put in place a long term strategy for engaging young people in environmental activities and its own (UNEP) work within the framework of TUNZA. It seeks to develop and implement various activities that raise the environmental awareness of young people, to enable them to cope with environmental challenges. It also seeks to develop publications that reach out to young people. It is within this spirit that this publication AEO-for-Youth has been prepared. Hence the title of the publication - ***Africa Environment Outlook-For-Youth (AEO-For-Youth).*** The publication was authored and designed by young people themselves, hence its style and message is meant to be appealing and applicable to the youth.

The United Nations Secretary General's World Youth Report 2005 recommends that, 'The mobilization and support of local youth organizations will be critical to achieving the Millennium Development Goal of ensuring environmental sustainability.' The AEO-for-Youth network has mobilized youth organizations all across Africa to speak out on environmental issues. It is the result of a two-year process that was undertaken by an AEO-for-Youth network that incorporated more than 3 000 young people from 41 countries. These youth submitted contributions that included articles, case studies, poems, photos, paintings, illustrations, quotes and proverbs. Selected youth organizations from the 41 countries acted as National Focal Points, in charge of mobilizing youth in their respective countries to submit contributions.

The voice of youth is an invaluable asset to environmental processes. In capturing this voice, this publication offers young people a roadmap for Africa's environmental journey towards sustainable development. Indeed, as Africa's environmental challenges continue to mount, it is vital for all stakeholders to play a key role in environmental processes. Given their demographic dominance and creativity, Africa's youth are key stakeholders. As such, their inclusion in the Africa Environment Outlook Process is a leap in the right direction. The Environmental Renaissance underscored in the Africa Environment Outlook Process will become even stronger through a systematic youth involvement.

This publication is a living testimony to the unique ability and perspectives of young people. I wish you all an enlightening reading!



Klaus Toepfer
Executive Director
United Nations Environment Programme

"Youth have both special concerns and special responsibilities in relation to the environment. A number of environmental risks and hazards disproportionately affect young people, who have to live for an extended period with the deteriorating environment bequeathed to them by earlier generations. Young people will be compelled to engage in new forms of action and activism that will generate effective responses to ecological challenges."

World Youth Report 2003 (UN 2004)

INTRODUCTION

The trumpet call has sounded all over Africa and the youth have responded enthusiastically. This publication is the youth version of the premier Africa Environment Outlook (AEO) report. AEO was the first comprehensive and integrated report on the African environment. It explained the state of Africa's environment and discussed the policies that cause or influence environmental trends. The report also showed the future scenarios of Africa's environment.

This youth publication is the result of a two-year process in which more than 3 000 African youth from 41 different countries participated. As Chapter 25 of Agenda 21 clearly stipulates, youth have unique perspectives that need to be taken into account (UN 1992). These unique perspectives are captured in the many youth contributions in this publication. The contributions cover different genres-poems, articles, proverbs, drawings and paintings. Many of the photos and paintings capture not only the immense beauty of our environment, but also the unfortunate harm that we are inflicting on it. As for the poems, they echo the anguished voice of our polluted cities and exult the unsung splendour of our biodiversity. Articles and quotes suggest the way forward. At the heart of this powerful youth voice is a desire to steer Africa towards an environmentally vibrant future.

The title of this publication is AEO for Youth: Tunza Africa! Tunza is a Swahili word that means 'to nurture; to nourish and take care of.' Africa's environment needs such consistent commitment, to flourish.

Chapter 1 focuses on the history of Africa's environment, within a social and economic context. This historical background serves to place the evolution of environmental management in Africa in its proper context. Chapter 2 focuses on the state of Africa's environment. It analyses the environmental issues facing the continent, and shares what African youth are saying about these issues. Chapter 3 dwells on human vulnerability to environmental change. It reminds us that in essence, whatever happens to the environment happens to us. In the same vein, what we do to the environment, we do to ourselves. If the world continues to recklessly emit greenhouse gases (GHG), then we may continue to witness climate change through calamities like floods. Chapter 4 explores the future of our environment. It outlines four environmental scenarios and discusses the driving forces behind them. The climax of the chapter is a series of profiles on youth organizations. These profiles capture youth action across the continent and demonstrate that youth can no longer sit in the stands, cheering or jeering the policy makers. They must live their convictions and participate fully in the field of the environment.

Africa is big and beautiful. It is the second largest region in the world, accounting for 20 per cent of the world's landmass. This vast land is clothed in rich biodiversity, colossal forests, beautiful climates, and amazing coasts, ravishing rivers, green land and a host of other environmental beauties. Unfortunately, Africa is also facing diminishing biodiversity, dwindling forests, changing climates, crumbling coasts, polluted rivers, increased desertification, extreme poverty and other forms of environmental degradation. If we take action, we can reverse this environmental degradation and develop an environmentally sustainable continent.

We have yet to grasp the sheer extent of our biodiversity. The Succulent Karoo, shared between South Africa and Namibia, is the richest desert in

the world, with almost five thousand endemic species. The Guinean forest has the highest mammalian diversity of all the world's 25 hotspots. Equally unique are the Eastern Arc Mountain Forests of Eastern Africa. They are 30 million years old and are thought to have evolved in isolation for at least 10 million years.

Our coast is 40 000 km long and it possesses many natural resources. The south-western African coast is home to treasures like oil, gas reserves and diamonds. Further inland, our forests regulate the environment by slowing down erosion and filtering out pollution. They are also important for cultural, spiritual or religious purposes. Yet we continue to destroy them. Between 1990 and 2000, over 50 million ha (hectares) of forest was lost. If we take action, then this destructive trend will be halted and reversed.

Just like the forests, our lakes have immense value. Lake Victoria is the second largest freshwater lake in the world. Lake Malawi has more fish species than any lake in the world, estimated at more than 500 species, of which 90 per cent are thought to be unique to the lake. On the other side of the coin, the surface area of Lake Chad has diminished greatly over the years. If we take action, we can reclaim this Lake and other freshwater bodies that are drying up. We should also extend this action to our land.

Desertification is creeping along Africa's land with alarming speed. This spread of the desert can be checked through activities like afforestation and sustainable agricultural practices. Africa's rate of urbanization is the highest in the world. There are currently 40 cities in Africa with populations of more than a million and it is expected that by 2015 seventy cities will have populations of one million or more. African cities account for 60 per cent of the region's GDP and are important centres for education, employment, and trade.

Maintaining these cities has proved to be quite a challenge. Only one-third of the waste generated in African cities is disposed formally. The rest ends up anywhere from streets to open market squares. We need to clean up our cities and make them environmentally friendly.

Far on the African horizon, a green future is rising, as the Great Transitions scenario beckons. This scenario represents a very optimistic and achievable view of the development of the environment in Africa and elsewhere in the world. In this scenario, Africa can emerge as a continent with a rich and sustainable future. But we will only realize this desirable future if we take informed, systematic and strategic action. It is time to act.

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ENVIRONMENT AND DEVELOPMENT IN AFRICA

The environment has always been woven into the lives of African people. Traditional and cultural values among different communities across the region have governed the way in which people interact with the environment, and the way in which natural resources are used and managed

Africa's vast fertile lands and mineral reserves attracted many European explorers. They signed treaties with local chiefs and received large tracts of land in exchange for European goods and protection from invasion. Thus began the era of colonialism in Africa. However, winds of change began to blow when Ghana attained independence in 1957. This heralded a new era of de-colonization in Africa. Driven by African nationalism, this movement grew in strength in the 1960s and concluded with the eradication of apartheid in South Africa in the early 1990s. A by-product of decolonization was the founding of the Organization of African Unity (OAU) in 1963. Unfortunately, independence did not necessarily usher in peace and stability, as many countries suffered through long bouts of instability, armed conflict and civil war. It is against this background that regional environmental action began taking shape.

It is of crucial importance to document the environmental history and chronology in Africa and lay a basis for future sustainable development for the improvement of the environmental, economic and political status of the African citizen.

Khaled El Hady, Libya

THE 1970S - ROOTS

This is the decade when a lot of environmental seeds were planted and global environmental action started to take root.

Setbacks and Challenges

The Cold War in the Northern Hemisphere was more like a raging fire in many African countries. They became pawns in the capitalism versus socialism debate and fought amongst themselves. Due to such problems, governments concentrated more on developing industries and attaining short-term economic benefits and solutions, while environmental management and sustainability we re not considered development priorities.

Action and Opportunities

The 1972 Stockholm Conference on the Human Environment laid the foundation for international environmental action. The Stockholm Declaration on the Human Environment became the defining document in terms of 'soft law' on environment and development issues. The Stockholm conference resulted in the establishment of several environment ministries in Africa as well as the United Nations Environment Programme (UNEP), with its headquarters in Nairobi, Kenya.

A natural cave is one of those places where time seems to stand still. Because of this, a natural cave is a fridge of the past - it makes what happened decades ago appear as if it happened yesterday. This can bring to light not only the happenings of yesteryears, but also the lessons thereof. The El Djarra cave in Egypt, is one such cave.

THE DISCOVERY OF DJARRA CAVE, EGYPT

The Stone Age hunters and gatherers of the Western Desert expressed their feelings of awe for nature by engraving animals on the walls of caves, like the Djarra cave in Egypt. This could be an indicator that at some point in the past, the climate and vegetation supported humans and many animals. Nowadays, this region is extremely dry. As a result, indigenous plants and animals have either diminished in number or become extinct, causing human to migrate east to the lower river valley and delta.

I believe that the genius of Africa lies in its capacity to recycle and re-invent itself. However, as I live here and now, I would like to follow the footsteps of those hunters and gatherers. The engravings on the walls of the Djarra and other caves symbolize the awe and gratitude this community felt towards nature, simply for being a part of it.

AMR GHARBEIA, EGYPT

THE 1980S - BLOOM

This is the decade when the flower of environmentalism began to bloom. Nations began to walk the talk as the environment started taking centre stage.

Setbacks and Challenges

At the time, internal conflicts were wreaking havoc on humankind and the environment. Even after gaining independence, many African countries suffered from grave social and political problems, as illustrated by their continued dependence on external aid, and increasing external debt.

Natural disasters were another major hindrance to African development in this decade. Recurrent droughts, floods and tropical cyclones had a devastating effect on African countries, especially because most of them did not have the capacity to accurately forecast such conditions. On the other hand, poor land management resulted in general land deterioration, deforestation, and consequently, increased floods.

Action and Opportunities

The Lagos Plan of Action was adopted in 1980. It emphasized the importance of harnessing Africa's resources to benefit Africans and eliminating all dependence on exported raw materials.

During the 1980s, African governments made serious and concerted efforts to achieve sustainable development. In 1983, the World Commission on Environment and Development (WCED) was established. In 1985, the first meeting of the African Ministerial Conference on the Environment (AMCEN) was held in Cairo, Egypt.

In 1987, the WCED report, Our Common Future, popularized the concept of Sustainable Development. In response to the establishment of the WCED, Africa's first Regional Conference on Environment and Development was held in Kampala, Uganda in June 1989, and attended by ministers responsible for economic planning, education and environment, non-governmental organizations (NGOs), youth and women.

The effects of the poorly planned and inadequately implemented environmental policies and programmes of the 1970s began to be felt in the 1980s. Fortunately, it was the environmental initiatives of the governments in the 1980s that put in motion the environmental action of the 1990s.

"The environment is the only gift that everybody without distinction of race or social class can enjoy freely at any moment."

PATRICK B. INDEKWE, RWANDA

THE 1990S - MATURITY

In this decade, the environment was put in the spotlight as environmental action came of age. Nations were now striding the environmental path with purpose and maturity.

Setbacks and Challenges

Wars in countries such as Angola, Liberia, Sierra Leone, Ethiopia, Eritrea and the Democratic Republic of Congo, resulted in the plunder of natural resources and a serious refugee problem. Because of this, the real value of Africa's natural resources was yet to be fully appreciated and utilized. Another equally persistent problem was that of external debt. Declining export earnings and rising debt burdens pushed governments to boost the exploitation of natural resources and cash crop production, leading to widespread environmental damage, as rural communities were forced to cultivate fragile and marginal areas.

Globalization was another challenge. It resulted in the removal of trade barriers and technological advances in the developed world. However, it also harmed the interests of developing countries, especially in the areas of finance and technology. It focused on the expansion of global markets rather than on environmental and social programmes.

HIV/AIDS remained a serious hindrance to development. It led to increased poverty in many African countries. However, more and more Africans are raising the alarm against HIV/AIDS (UNAIDS 2003).

Action and Opportunities

The 1990s were marked by a significant shift from one-party dictatorships and military regimes, towards more political freedom, multi-party systems, accountability, democratic elections, a growing civil society, decentralization, and popular participation in the development process. The end of colonization came with the freeing of Nelson Mandela in 1990, after 27 years in prison, and the abolition of apartheid in South Africa in 1991.

In 1991, the Abuja Treaty was signed. It called for the establishment of the African Economic Community, which set out Africa's obligations towards natural resources and development. A year later, the United Nations Conference on Environment and Development (UNCED) was held. Commonly referred to as the Earth Summit, the UNCED was held in Rio de Janeiro, Brazil, in 1992. The Rio Declaration gave unprecedented support for a balance between environment and development.

Another important product of the Earth Summit was Agenda 21, the blue print for achieving sustainable development. Its recommendations included the integration of environment and development policies, as well as the establishment of legal frameworks and integrated environment and economic accounting systems.

As the years went by, cooperation in environmental management became a priority issue on the OAU agenda. To strengthen sustainable development programmes, a number of regional and sub-regional institutions were established: the African Economic Community (AEC), the Intergovernmental Authority on Development (IGAD), the Common Market for Eastern and Southern Africa (COMESA), Union Douanière des Etats de l'Afrique Centrale (UDEAC), and the Economic Community of West African States (ECOWAS).

THE 2000S - FRUITION

If Africa embraces the lessons of yesterday and seizes the3tunities of today, then this millennium will be much more fruitful.

The New African Initiative crowned the birth of the African Union. It was unanimously adopted by the Lusaka Summit on 11 July 2001. This initiative was a pledge by African leaders to eradicate poverty and place Africa on a path of sustainable growth and development. It is anchored on the determination of Africans to disentangle themselves from the malaise of underdevelopment and exclusion in a globalizing world.

In 2002, Africa hosted the World Summit on Sustainable Development (WSSD) in Johannesburg, South Africa. The main objective of the WSSD was to review progress made on sustainable development since the 1992 Earth Summit. The outputs of the WSSD provided a Plan of Implementation to build on the achievements made since the Earth Summit and to undertake the concrete actions and measures necessary for the achievement of sustainable development. The aims of the Johannesburg Plan of Implementation include eradicating poverty, encouraging cooperation in the fields of finance, technology transfer, debt, and trade. The Plan also acknowledges the importance of peace, security, stability, respect for cultural diversity, human rights and fundamental freedoms, including the right to development, as well as the importance of ethics for sustainable development (UN 2002).

OUR PRIMARY GOAL

Even though Africa is free from the bondage of colonialism, the shackles of poverty are still with us. As long as we do not access the basic needs of water, food and shelter, it will remain difficult to embrace environmental protection and enforce environmental treaties. But we should also realize that continued environmental degradation will push us deeper into poverty. It is thus necessary to take action and break this cycle of poverty and environmental degradation. Africa should be on the forefront of enforcing the Millennium Development Goals, more so the first goal - eradicate extreme hunger and poverty by 2015. We must be able to put food in our stomachs before we can sustainably plant trees in our land. Clean water must trickle down our throats before it can trickle down our hills.

NEEMA MBEYU, KENYA

The history of social, economic and environmental development presented in this chapter demonstrates that African countries have risen to the challenge of environmental degradation. They have developed a collective will to address environmental and related issues, and have created institutions to translate that will into concrete results. However, good intentions and good policies often face several challenges including:

> Little community involvement in information gathering

> Inadequate valuation of forest resources

> Low capacity for drought preparedness and drought relief schemes

> Limited incentives to promote land conservation

> Inadequate attention given to indigenous knowledge in agriculture

The National Environmental Action Plan (NEAP) processes adopted by some African countries allowed them to formulate relevant environmental policies and to enact new laws. These new environmental policies provided guidance, strengthening existing policies, and forming new ones.

DAYS GONE BY

I remember with sadness, the days gone by,
The days of our forefathers,
When man knew no evil, love filled him,
His deeds in harmony with nature
His ways considerate, he nurtured nature
The greenery of the environment
The magic of the oceans, beauty of the heavens
Completing the balance

But,
Man loveth not any more
His ways born of ignorance
Of superiority complexes, that fills his mind,
Of the need to be great, to conquer nature
To wobble the balance

My fellow youth,
Let's protect, preserve and restore the balance
Let's create the paradise again
Plant a tree; clean a beach, campaign for change,
Bring back the golden olden days,
The days of our forefathers
The days gone by...

SARAH MWIKALI KATUSIA, KENYA

CONCLUSION

An environmentally sound and vibrant Africa has yet to be realized. Africans should continue shaping the environmental future of their continent. African leaders should ratify existing treaties, implement existing policies and formulate necessary laws. Vibrant policy action will greatly enhance the efforts of the civil society.

The story of Africa's environment and development has highlighted some of the major policy issues that have had an impact on Africa, especially over the past three decades. Many of these issues are discussed further in the following chapters:

Chapter 2; *'The State of Africa's Environment'* provides more in-depth analysis of the environmental issues facing Africa, and what you, as African youth, have to say about these issues.

Chapter 3; *'Human Vulnerability to Environmental Change'*, explains how African people are particularly vulnerable to changes in the environment. This chapter also captures the voice of African youth on this important issue.

Chapter 4; *'Outlook and Policy Response',* uses four scenarios to explore possible alternative futures in the region, depending on the policy decisions taken to address particular problems. In addition, this chapter addresses some of the policy responses needed to resolve the environmental and development challenges facing the region.

The WCED defines sustainable development as 'a process in which the exploitation of resources... (is) made consistent with future as well as present needs' (UNEP/OAU 1991). In other words, it is development that meets the needs of the present without compromising the ability of future generations to meet their own.

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Photos in this chapter

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Tamer Elshayal, Egypt
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STATE OF AFRICA'S ENVIRONMENT

ATMOSPHERE

Africa's atmosphere is facing three major issues;

> Climate variability

> Climate Change

> Air quality

CLIMATE VARIABILITY

In many African countries, rain shows up unexpectedly or belatedly. Sometimes, it doesn't show up at all. Such fluctuations are what climate variability is all about. It is the seasonal and annual change in temperature and rainfall patterns. All African countries are affected by climate variability. There are many reasons behind climate variability, including; atmospheric winds, weather changes between the Indian and the Atlantic oceans and the El Niño Southern Oscillation (ENSO) phenomenon. Apart from these natural phenomena, human activities such as deforestation and land mismanagement have a direct influence on natural climatic conditions. Countries most regularly affected by drought include Botswana, Burkina Faso, Chad, Ethiopia, Kenya, Mauritania and Mozambique.

CLIMATE CHANGE

Do you remember the floods that have in the past caused immense havoc in some African countries? Do you recall the droughts that have also caused widespread misery? Such weather changes result from higher mean temperatures that are caused by increased greenhouse gases (GHG) in the earth's atmosphere. Carbon dioxide, the most important greenhouse gas, is released during the burning of fossil fuels. Other greenhouse gases are methane, and chlorofluorocarbons (CFC), among others. They are produced from several sources including: factory smoke, exhaust fumes from vehicles, fossil fuel power generation, and forest fires. Climate change can affect any African country. It may even catch up with you in your own house. If the sea level rises when the glaciers melt due to climate change, then sea water will sweep into, and even maybe sweep away, coastal houses. The countries that face a risk of, sea level rise include: Egypt, Gambia, Kenya, Tanzania Mauritius, and Seychelles. Climate change can also affect our forests and biodiversity. Different plant and animal species face extinction if their natural habitats are affected negatively by climate change. Apart from damaging our homes and pushing our plants and animals towards extinction, climate change can also harm our health. Warmer temperatures and altered rainfall patterns could open up new areas to diseases like malaria and yellow fever.

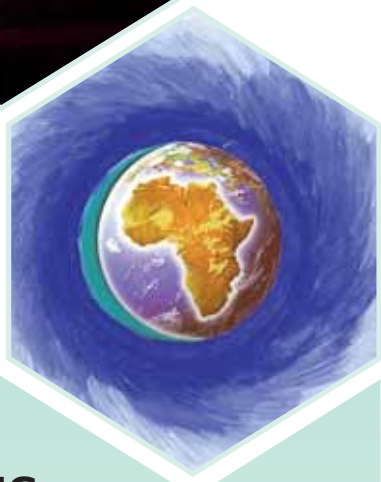
AIR QUALITY

Take a deep breath. Unfortunately, the air that you just breathed in may be seriously polluted. This will be especially true if you live in a big city. The Urbanisation rate in Africa is the highest in the world, thus influencing the quality of air in most urban areas. High populations in cities, together with increased industrial activities, increase air pollution. Vehicle emissions such as carbon monoxide, benzene, and lead have the most direct effect on the environment.

Policy measures such as high taxes on fuel and on importation of new vehicles have also contributed to emissions, by encouraging the use of dirty fuels and an increase of old and more polluting vehicles.

Pollution can seriously affect our health. Exposure to toxic emissions is associated with acute respiratory infections, lung diseases such as asthma and chronic bronchitis, lung cancer and pregnancy-related problems. Women are particularly vulnerable because of their traditional role as cook, which means that they spend more time indoors and close to pollution sources.

Although Africa contributes very little to global greenhouse emissions, it remains extremely vulnerable to the impacts of climate change. This is because it depends a lot on agriculture.



COPING WITH CLIMATE CHANGE

Climate change can also result in extreme events like droughts, which in turn affect agricultural productivity. When people can no longer produce food from their farms, their lives are reduced to bleak survival. History has shown that climate change can change lives forever, from good to bad, to worse. Governments have a responsibility to institute long-term strategies that will mitigate the risks that arise from extreme weather events.

YVETTE INGABIRE, RWANDA

THE SILENT KILLER

Have you ever taken a deep breath and tried to savour the air coming into your lungs? Have you ever wondered why you are uncomfortable sighing with relief after a long and exhausting day? Do you feel as if a thorn is stuck in your chest as you breathe in the air that is accompanied with unwelcome guests, whether you like it or not? Have you ever thought that each molecule of air you breathe in is accompanied by harmful fumes, particles of dust (we stomp them under our feet and they take revenge on us by stomping on our lungs), and their third friend is one we invite ourselves - tobacco smoke!

SAADA NAILE,SUDAN

Did You Know?

As of 24 May 2004, 189 countries have ratified the United Nation's Framework Convention on Climate Change (UNFCCC) (UNFCCC 2004). As for its proposed mechanism for implementation, the Kyoto Protocol, it has been ratified by 150 states and regional economic integration organizations as of 29 April 2005 (UNFCCC 2005). In 2001, 180 countries from all over the world agreed to this protocol. The ultimate objective of the UNFCCC is to stabilize greenhouse gas concentrations in the atmosphere.

Did You Know?

> Globally increased temperatures will lead to rising sea levels, accompanied by displacement of people in low lying areas, and loss of some island states.

> According to the Intergovernmental Panel on Climate Change (IPCC), global average temperatures rose by 0.6 °C over the past century.

> The 1990-99 periods were probably the warmest decade since the 1860s.

CAIRO'S DEADLY COCKTAIL

Air pollution is a big problem in Cairo. Home to 10.6 million people, Cairo has the worst air pollution in Egypt. Every autumn, during the months of October and November, a black cloud of pollution hangs over Cairo. Since 1999, the cloud has appeared yearly, above the Nile Delta and Cairo. A thick, bitter-smelling fog invades the city, reducing visibility, causing breathlessness and prickling the throat and eyes.

People have attributed the cloud to several things, including; the burning of rice straw in the Delta, automobile emissions, garbage incineration and the unpredictable changes in atmospheric pressure. After each harvest, farmers in the Delta burn the straw left on the ground to clear fields for the next crop. Even though the quantity of rice straw burnt in 2004 was significantly less than the preceding years the black cloud was just as intense. The rice straw is not the sole culprit for the black cloud; automobile emissions and factories, especially steel plants, surrounding Cairo are also possible culprits.

As a possible preventive measure, the government plans to recycle rice straw into fertilizer and distribute compressors to farmers so that they can compact the straw, for easier transportation. In late 1998, the Egyptian Environmental Affairs Agency (EEAA) and US Agency for International Development (USAID) launched the Cairo Air Improvement Project (CAIP). This project has raised hopes by seeing the largest privately owned smeltery in Cairo reduce its harmful emissions by more than 90 per cent and has also succeeded in reducing harmful emissions substantially. Despite all these efforts, Cairo continues to struggle with air pollution.

ASMAA SHOKRY, EGYPT

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WHAT SHOULD BE DONE?

> Many African governments have adopted the 'polluter pays principle.' This principle advocates fines for companies exceeding certain emission levels. Mechanisms should be put in place to ensure the implementation of this principle.

> Long-term responses to droughts and floods include crop research to develop more resistant strains of staple crops, improved housing design and construction, and better urban planning to reduce the vulnerability of human populations.

> For climate change to be dealt with successfully, African countries must change their attitudes and act decisively. Several countries are already doing this. Amongst others, Algeria, Botswana, Cape Verde, Côte d'Ivoire and Egypt have embarked on National Communications Strategies to provide detailed inventories of emissions and programmes to mitigate the impacts of climate change. In both Northern and Southern Africa, options for further exploitation of alternative sources of energy (for example, solar, wind, micro-hydro, geothermal and biomass) are being explored as additional means to combat climate change.

CONCLUSION

Has it ever occurred to you that climate change and air quality deterioration affect the health of Africans? Think of how natural disasters contribute to the setting up of informal settlements around cities. Picture the resulting breeding grounds for pests (mosquitoes and rats), and infectious diseases such as cholera, malaria and yellow fever. Air quality deterioration in urban areas is linked to acute respiratory diseases such as bronchitis and lung cancer. In addition, droughts and floods, which result from climate change, affect agricultural production creating situations of food insecurity, and sometimes famine.

Our governments must take action by implementing relevant policies like the 'polluter pays principle.' They should make and enforce relevant laws aimed at reduction of harmful gas emissions. On our part, we as Africans should move towards renewable and energy sources such as hydro-electric power and solar and wind energy. African countries also need to invest in disaster preparedness strategies in the short term, and to diversify their economies away from the heavy dependence on rain-fed agriculture in the long term.

Indeed, the action we take today will determine the kind of air we breathe tomorrow.

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Photos and illustrations in this sub-section

Alfred Muchilwa, Kenya
Ange Gnacadja, Benin
Caroline Mugo 2, Kenya
Ida Imeda, Uganda
Neema Mbeyu, Kenya
Sara Bakr, Egypt
Wendy, Mauritius

BIODIVERSITY

The beauty of our continent lies in its rich biodiversity. Biological diversity or 'biodiversity' means the variety of plant and animal life at the ecosystem, community or species level, and even at the genetic level. Biodiversity is most commonly measured and reported at species level with characteristics such as:

> Species richness (number of ...species)

> Species diversity (types of species)

> Endemism (uniqueness of species to a certain area)

Only a fraction of the earth's species have been identified and studied to date and little is understood about the roles they play in influencing the environment. Studies and conservation efforts have mostly concentrated on higher plants and mammals. This gives a misleading impression of the importance of 'lower organisms', such as bacteria, insects and fungi, which play vital ecological roles-for example, in nutrient cycling, and regulation of water, soil and air quality.

In addition, local communities and pharmaceutical companies harvest plants with medicinal value. Other plants provide the genetic resources for improved agricultural products such as disease and drought-resistant crops. The richness and diversity of ecosystems in Africa also provide opportunities for tourism.

Africa's biodiversity is under threat from four main causes: natural habitat loss, species loss, invasion by alien species, and lack of recognition of indigenous knowledge and property rights.

SPECIES LOSS

The reasons for high rates of species loss or endangerment include:

> Habitat loss

> Illegal hunting (for food and trade in species)

> Medicinal or commercial use

> National and international trade

Africa's flora and fauna often end up in greedy bellies and wallets. In Central and Western Africa, bush meat is responsible for the decline in populations of gorillas, chimpanzees, elephants, bush pigs, and forest antelopes. Eighty per cent of both rural and urban populations depend on medicinal plants for their health needs. The resulting selective harvesting of medicinal plants ends up taking its toll on species diversity and abundance.

Every time a pet is bought illegally, Africa's biodiversity suffers a blow. Every time demand for ivory ornaments and game hunting goes up, Africa's biodiversity goes down.

VALUES OF BIOLOGICAL RESOURCES

There are many ecological, economic, and social values of biological resources. These resources are the heart and soul of Africa as they support African economy and livelihoods. Plants and animals provide food and raw material for manufactured goods like household utensils, clothing and paper. Many resources such as timber and agricultural produce are sold or used in traditional crafts like basket weaving and carving.

The exotic pet trade is a powerful international driving force for species reduction, as is demand for animal products such as ivory, rhino horn, skins, furs, and other trophies.

NATURAL HABITAT LOSS

This is the reduction in the total habitat size, break-up of habitat or change in the characteristics of the habitat. The major causes of natural habitat loss in Africa are: human population growth and the resulting demand for living space, widespread poverty and over harvesting of natural resources (such as over fishing and cutting down of trees). Coastal habitats are under threat from over harvesting of resources, physical modifications, urban and industrial developments, siltation, pollution, introduction of alien species, and global climate change.

Failure to enforce conservation policies has also contributed to a decline in the area of natural habitat. Only six African countries (Botswana, Burkina Faso, Namibia, Rwanda, Senegal and Tanzania) have more than 10 percent of their land area under protection. World Heritage Sites, Biosphere Reserves, and Transborder Parks (e.g. Kgalagadi Transfrontier Park, between South Africa and Botswana) have been influential in establishing conservation priorities.

SAVING AFRICA'S BIODIVERSITY

The global community has committed to targets for reversing biodiversity loss for poverty reduction by 2010. Africa's rich and varied biological resources are a contrast to the widespread poverty that besets the continent. Biodiversity conservation in Africa will therefore depend on striking a balance to ensure that the costs and benefits are equitably distributed.

The global community enjoys benefits derived from Africa's biodiversity such as tourism, development of pharmaceutical industry; improved agriculture and provision of ecosystem services like pollination and water purification. In contrast, most of the costs of conserving biodiversity are borne by local communities. Lake Mburo National Park in Uganda is a good illustration where the conservation of biodiversity is justified primarily in terms of external, intangible benefits and yet gives rise to significant local cost to a poor community.Faced with limited opportunities for expanding national reserves, attention must shift towards encouraging local communities to conserve biodiversity.

Significant opportunity exists to work with Africa's dynamic youth in reversing biodiversity loss. Groups of young people in Africa are developing innovative entrepreneurial solutions to conserving biodiversity and reducing poverty. Examples include the Allanblackia Seed project in Nigeria and SULEDO community conservation initiative in Tanzania. Significant support is needed for Africa's next generation of biodiversity conservation leaders to build capacities, enhance knowledge, improve networking, and expand market access. This requires partnerships with the private sector, governments, and NGOs.

The long-term solutions to halting habitat and species loss lie in empowering the young generation with skills and information.

PHILIP OSANO, KENYA

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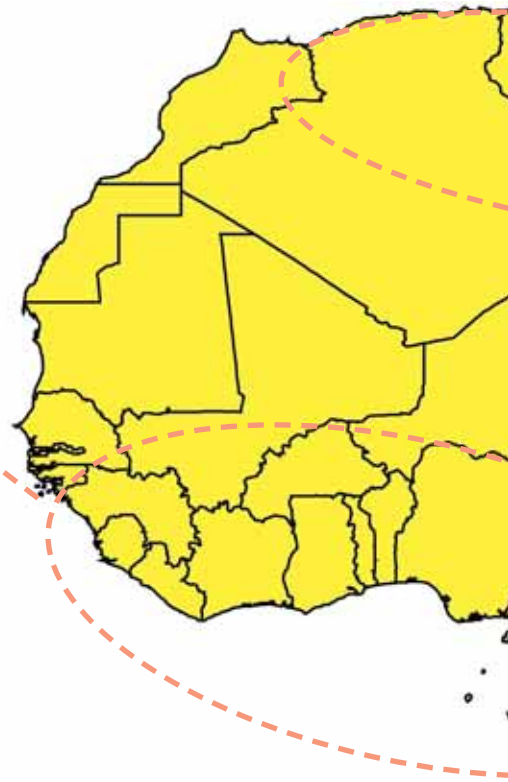
BIODIVERSITY HOTSPOTS

The Guinean Forest hotspot is a strip of fragmented forest running parallel to the coast of Western Africa from Guinea to Cameroon. It has the highest mammalian diversity in all of the world's 25 hotspots (551 out of the 1 150 mammalian species on the African continent), and contains 2 250 plant species, 90 bird species, 45 mammal species and 46 reptile species found nowhere else.



The Succulent Karoo, shared between South Africa and Namibia, is the richest desert in the world-40 per cent of its 4 849 species are endemic.

The Mediterranean Basin Forests constitute just 1.5 per cent of the world's forests, yet are home to 25 000 plant species and 14 endemic genera.

The Eastern Arc Mountain Forests of Eastern Africa are 30 million years old and are thought to have evolved in isolation for at least 10 million years, making more than 25 per cent of the plant species endemic.

The Western Indian Ocean Islands have extremely high levels of endemism due to their isolation. Madagascar has the highest number of endemic species in Africa (including 700 endemic vertebrate species) and is ranked 6th in the world.

The Cape Floristic Region in South Africa is the smallest and richest of the world's floral kingdoms, with 68 per cent of the 8 700 plant species endemic to the region.

SPECIES LOSS IN ANGOLA

The Tômbwa Municipality in Namibe province lies between the Atlantic Ocean and the Namibe desert. The pressure on resources in this municipality has led to competition for such resources and encouraged the use of illegal fishing gear and methods like small size nets and grenades. Coupled with human dependency on fish, this has led to the elimination of several fish species. In addition, people along the coast of Tômbwa have been losing their homes because the desert is getting bigger. To address this, the Ecological Youth of Angola engaged in tree planting campaigns and planting natural barriers.

TERÊNCIO GONÇALVES, ANGOLA

Did You Know?

In Africa, there are about:

> Eight million insect and myriapod species, but only one-eighth have been identified and recorded to date.

> One and a half million species of fungi, of which 72 000 have been described.

> One million species of bacteria, of which a mere 4 000 have been described.

ALIEN INVASIVE SPECIES

A further threat to biodiversity comes from invasion by non-native (or alien), species of plants and animals. In some cases, alien plants form such dense growths and produce so many seeds that they can hardly be controlled. They also change the dynamics of the natural system and may produce toxic chemicals, holding back the growth of native species. In other cases, they threaten native species through an excessive consumption of resources such as water. In Southern Africa, pines, eucalyptus, and acacias have been introduced for commercial forestry, but have invaded natural habitats where they threaten ecological integrity by using many times more water than native species. It is therefore important to protect our native species from alien invasion!

THE RAINFORESTS HAVE BEEN INVADED!

The Victoria Falls Rainforest is one of the natural wonders of the world and a UNESCO World Heritage site. Unfortunately, it is under attack by invasive alien species, which are threatening to destroy its biodiversity. A study by Environment Africa and members of the Victoria Falls Environmental Action Society identified some four main alien species that are spreading fast in the rainforest. The four species are the *Lantana camara*, *Ipomea cairica*, *Ageratum houstonianum* and the *Solanum seafurthianum*. The *Lantana camara* has spread at a very fast rate inside and outside the rainforest.

The Environmental Management Act of Zimbabwe states that it is an offence for anyone to have *Lantana camara* in and around their property. This is because it is a noxious weed and is poisonous to livestock. It is a scrambling shrub of up to four metres high with numerous branches and hooked spines. Arranged in tight clusters, its flowers are red, yellow, white and pink. It dominates or replaces any canopy or sub canopy layer of a natural ecosystem. Its expansion has resulted in the loss of indigenous species of trees and a significant reduction in the biodiversity of the Rainforest.

SIKHULULEKILE NCUBE, ZIMBABWE

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Did You Know?

Over 211 million hectares of African forest have been lost since 1970, amounting to almost 30 per cent of the original extent. In the same period, the land area under cultivation has increased by 36 million hectares, or 21 per cent.

INDIGENOUS KNOWLEDGE

In many African communities, there exists a clear knowledge of species and ecological systems. There are definite links between cultural diversity and biological diversity. Indigenous peoples have for a long time used their knowledge to manage their natural resources.

SUSTAINABLE CONSERVATION OF BIODIVERSITY

Conservation is embedded in African culture and in religion. Traditional conservation measures include the Bedouin practice of 'Hema', to conserve rangeland and manage grazing areas; forest reserves, known as 'Harags', dating from Mediaeval Egypt; and the protection of oases in Morocco. Other conservation measures include the re-introduction of species to areas from where they had formerly been eradicated and management of wildlife-livestock interactions.

The past 30 years have seen expansion of protected areas in southern Africa to a current total of 578 nationally protected areas and 44 marine protected areas. Governments and scientific institutions are realizing the value of indigenous knowledge and attempts are underway to document and record what still exists and incorporate traditional conservation methods into modern ones.

In response to natural habitat loss in Central Africa, the network of protected areas has been expanded. Unfortunately, logging activities, bush meat poaching, agriculture, and oil exploration regularly eat into protected areas. Therefore, there needs to be better enforcement of regulations.

International efforts to conserve natural habitats have been very successful in Africa, mainly as a result of the ratification of the Ramsar Convention (on Wetlands), and the Convention on Biological Diversity. At the country level, relevant laws and policies have been enacted to protect and conserve biological diversity, especially forests, fauna and wetlands. However, these regulations are largely outdated and too underresourced, leading to poor implementation.

THE BIODIVERSITY

Universal biodiversity!
I am neither trying to exalt you nor to eulogize you
But to reveal your true face
You are the very incarnation of life here on earth
Without you there would be no world
You reveal the genius of the Almighty
As you stretch yourself through out the vast earth,
Providing beauty and life

LOUIS KALISA, RWANDA

SPEAK OUT FOR THE EARTH

Who will speak for the trees?
For the leaves are dying
Who will speak for the streams?
For the life is dying

Who will speak for the flowers,
As the petals are bleeding?
Who will speak for the birds,
Whose feathers are shaking?
Who will speak for the soil?
Whose skin is baking?
Who will speak for the elephants,
Since the tusks are falling

It's me, to shout for the trees,
It's you, to scream for the flowers,
It's us, to fight for the birds and elephants,
And all of us to speak for the earth.

KIMANI MWANGI, KENYA

THE REHABILITATION OF KISSAMA NATIONAL PARK

During the civil war, many protected areas in Angola were affected as many species were killed for food and commercial purposes. In some cases, local communities living in the surrounding areas entered the protected areas and hunted a number of animals, particularly antelopes, to extinction.

Peace ushered in a number of initiatives to rehabilitate protected areas. One such initiative is the Noah's Arc Operation. It has brought animals from Southern African countries to Kissama national park. The animals include elephants, antelopes and zebras. Other animals such as the red sable will be re-introduced at a later stage. This park is located in the Bengo province, some 80 km south of Luanda, extending as far as the Atlantic Ocean. It is one of the most beautiful national parks in Angola. The Kwanza River, one of the biggest rivers in Angola, flows through the park. The re-introduction of animals in the Kissama National Park has opened up opportunities for young people to visit the park and learn more about flora and fauna.

MAURO MONTEIRO E SILVA, ANGOLA

BREAKING CHAINS FROM WILDLIFE

Youth for Conservation (YFC), an organization based in Kenya specializes in removing the traps that are set up to capture animals. They normally go for wildlife de-snaring missions all over Kenya. One such mission took them to the Kitengela region on the outskirts of Nairobi.

They found reams of wire and four snares along the local river, in a sparsely populated area. However, the team did not find any snares on communal land, although snares and wires had previously been present. They were informed that snares were banned on the communal land, as a result of problems caused by cattle getting caught in the snares. The YFC team had discussions with members of the Ilparakwa Land Owners Association. Elders asserted that animals had diminished greatly within 20 years. The elders also confirmed that people were warned against the snaring of animals.

For sustainability, YFC started an official de-snaring team within the community. Participants were trained in first aid, teamwork, camp and fire management and bush tracking. Training also included de-snaring procedures and guidelines, and identification of active snares and "snaring hotspots."

SHIVAN BHALA, KENYA

Did You Know?

The Nile perch (*Lates nilotica*), was introduced into Lake Victoria 30 years ago to stimulate the fisheries of Uganda, Kenya and Tanzania. In the 1960s, the Nile perch accounted for about 1 per cent of fish catch; it is now dominant in the lake, representing close to 80 per cent of annual fish harvests, and its introduction is believed to have caused the loss of more than 200 endemic species.

HUMAN-WILDLIFE CONFLICTS IN EASTERN AFRICA

Rapidly growing human populations have led to an overlap in people and wildlife needs as both compete for limited resources. Uganda is battling with the problem of human-wildlife conflicts. A report by Uganda Wildlife Authority cites cases of conflict between chimpanzees and the local communities surrounding the national park. Chimpanzees have attacked children and in some cases these attacks were fatal. Such conflicts cause a serious threat to wildlife as humans are bound to kill the animals in retaliation.

In the past, governments excluded local communities from wildlife management leading to serious hurdles in conservation efforts. Community participation in natural resource management is a very important mechanism that should be used to address the issue of poverty alleviation and to create employment for young people.

In the Amani Nature Reserve in Tanzania, eco-tourists are encouraged to take up low cost accommodation among the local community where the youth are employed as tour guides. The benefits gained are ploughed back into the community.

The youth are the focal point if the human-wildlife conflicts are to be curbed, because their future is at stake. Conservation agencies and governments must use strategies that seek to empower youth groups in the local communities surrounding the protected areas.

MAO ANGUA, UGANDA

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Terris, J. (1999). Unwelcome (Human) Neighbours, the Impacts of Sprawl on Wildlife. Natural Resources Defence Council.Available at:

WHAT SHOULD BE DONE?

Habitats should be conserved to allow present and future generations to benefit from the resources and services that they provide. These habitats should be large enough to provide food, water and nesting sites. In addition, conservation policies that protect natural habitats must be enforced.

Africa cannot afford to keep losing her plants and animals. The diversity of our beautiful species must be sustained at all costs. Harvesting of medicinal plants should be done sustainably and trade of animal products should be halted.

For sustainable conservation to be achieved, indigenous knowledge must be tapped into, documented and utilized. Traditional conservation practices should also be incorporated into existing conservation programmes.

CONCLUSION

Biodiversity is the rainbow of living things. Yet despite its immense beauty and importance, Africa's biodiversity continues to suffer blow after blow. So what remedies will lessen biodiversity's suffering? A key solution lies in giving the proper valuation of natural resources. This way, resources will be valued for their true worth and will thus be consumed sustainably. Another solution lies squarely in the hands of communities. Through community conservation, people will play an active role in conservation. This is already happening through the community based natural resource management (CBNRM) programs.

Lasting success can be achieved if management strategies are based on the specific requirements of each community. These strategies should include the active and meaningful participation of young people. Because most of the valuable biodiversity resources cut across different countries and sub-regions, African countries must cooperate and take advantage of the existing national and regional youth networks. This will enable a regional integration in the management of our rich biodiversity. If this is done, then biodiversity will shine brighter and longer as the rainbow of life.

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Photos and illustrations in this sub-section

Alfred Muchilwa, Kenya
Amira Chawki, Egypt
Amr Orensa, Egypt
Arthi Sanpath , South Africa
Caroline Mugo, Kenya
Hannington Kataka, Kenya
Sara Bakr, Egypt
Mayar Sabet, Egypt

COASTAL AND MARINE ENVIRONMENT

Africa's coastline spreads across 40 000 km, in 32 countries. Coastal ecosystems are so biologically productive that they account for 26 per cent of all biological productivity in the world.

FISHING

Fishing provides a big boost to national economies and to the livelihoods of local communities. In the late 1990s, fishing contributed over 5 per cent to the GDP in Ghana, Madagascar, Mali, Mauritania, Mozambique, Namibia, Senegal, and Seychelles.

Some fishing methods are harmful to marine and coastal resources. Dynamite fishing, which is still practiced in Eastern Africa, damages coral reefs and results in fish decline. Bottom trawling is also a destructive method as it disturbs seabed communities and drags up accumulated material such as sand, rocks, plants and non-target animal species, all of which are regarded as waste and are dumped elsewhere.

Overfishing by foreign fleets leads to fish decline, particularly along the Western African coast. Such fish decline reduces the local communities' capacity to meet their food requirements. It can also affect the export earnings of a country.

MY FASCINATION WITH THE INDIAN OCEAN

Although I visit the beachside almost every fortnight, it still amazes me how the ocean seems to journey endlessly. The blue ocean waters always amaze beach revellers. Parents relax along the beach as their children build sand castles. When they all dash into the water to swim, the strong currents invite them as the bubbly foam engulfs them. Indeed, the Indian Ocean ensures that you enjoy every moment you spend in its company.

ANONYMOUS, SOUTH AFRICA

Coastal pollution often drives away coastal glory. Below is a suggestion on how this glory can be reclaimed.

EMBRACE THE OCEANS

Let us clean up our act and stop using our oceans as dumping spots for our waste. Let us take full responsibility and take care of our oceans strategically and consistently.

SAMUEL MABIKKE, UGANDA

COASTAL POLLUTION

Both land and marine based pollution continues to strangle Africa's coast. Among the culprits are the effluents from fish processing plants and industries located in the coastal zone. Due to population growth and poor urban planning, domestic sewage is sometimes discharged directly or indirectly into the sea. When the brown of the sewage meets the blue of the ocean, then disaster looms for marine life and humans. Diseases like cholera and hepatitis can result from such pollution.

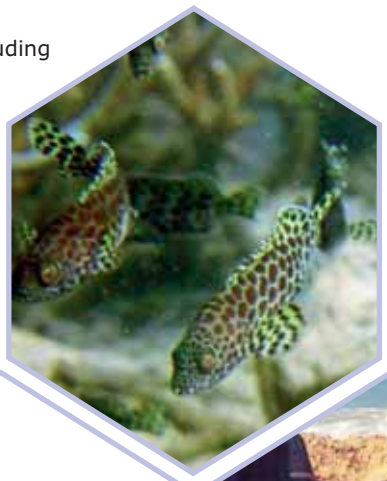
Coastal and marine pollution affects natural habitats, human communities and economic activities. Solid waste washed up on the shore is unsightly and a health hazard. At sea, solid waste, especially plastics, can be mistaken for food items by dolphins, turtles, seals and sea birds.

The waters around Africa are major transportation routes for oil and there have been many serious accidents in recent years, including the break up of the Apollo Sea in 1994, and the Treasure in 2000, both off the Cape of Good Hope. Oil spills resulting from such accidents smother plants and animals and break down thermal insulation in sea birds and mammals.

"Bahari hutunza maisha bila uoga na mapendeleo."

"The ocean sustains life without fear or favour."

SWAHILI PROVERB, (SUBMITTED BY MPASUA MSONOBARI, KENYA)



PARADISE

I can see you, Sea
Smiling at me
With your beautiful waves
And your busy beaches
All surrounding a sunny island

Sea, multi-coloured sea
Coated and bathed by the sunset
Attracting young children
All of them covered with sand
Sea, haven for fishermen
Those who feed my people
May you remain calm and clean
Far from all the chemical wastes
That destroys your great beauty

Sea, with a magic and mythical beauty
Rich and fruitful
You make our hearts move
Move to our dreamlands
Those islands next to the Paradise

Sea, you are exceptional
You will remain my only hope
My life and my destiny
My companion forever
Even my Eternal Mother

ANONYMOUS, COMOROS ISLANDS

WHAT SHOULD BE DONE?

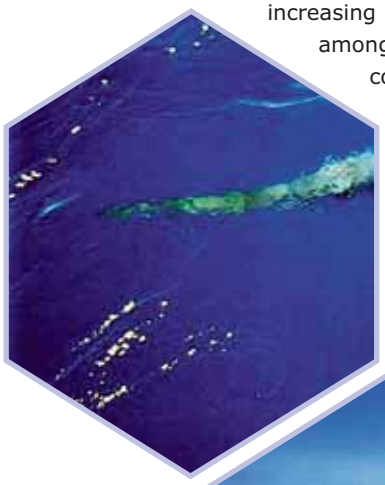
Integrated Coastal Zone Management (ICZM) is a management approach that draws strength from the entire coastal and marine environment. Many African governments have realized the benefits of ICZM and have enacted policies and legislation to put its principles into effect. However, sustained resources (financial support, equipment, training of personnel, and monitoring of activities) are required to achieve maximum benefits to the coastal and marine environments and the economies that depend on them.

Photos and illustrations in this sub-section
Alfred Muchilwa, Kenya
Guillaume Baya, Mauritius
Hannington Kataka, Kenya
JEA, Angola
Karine Pothin, Reunion Islands

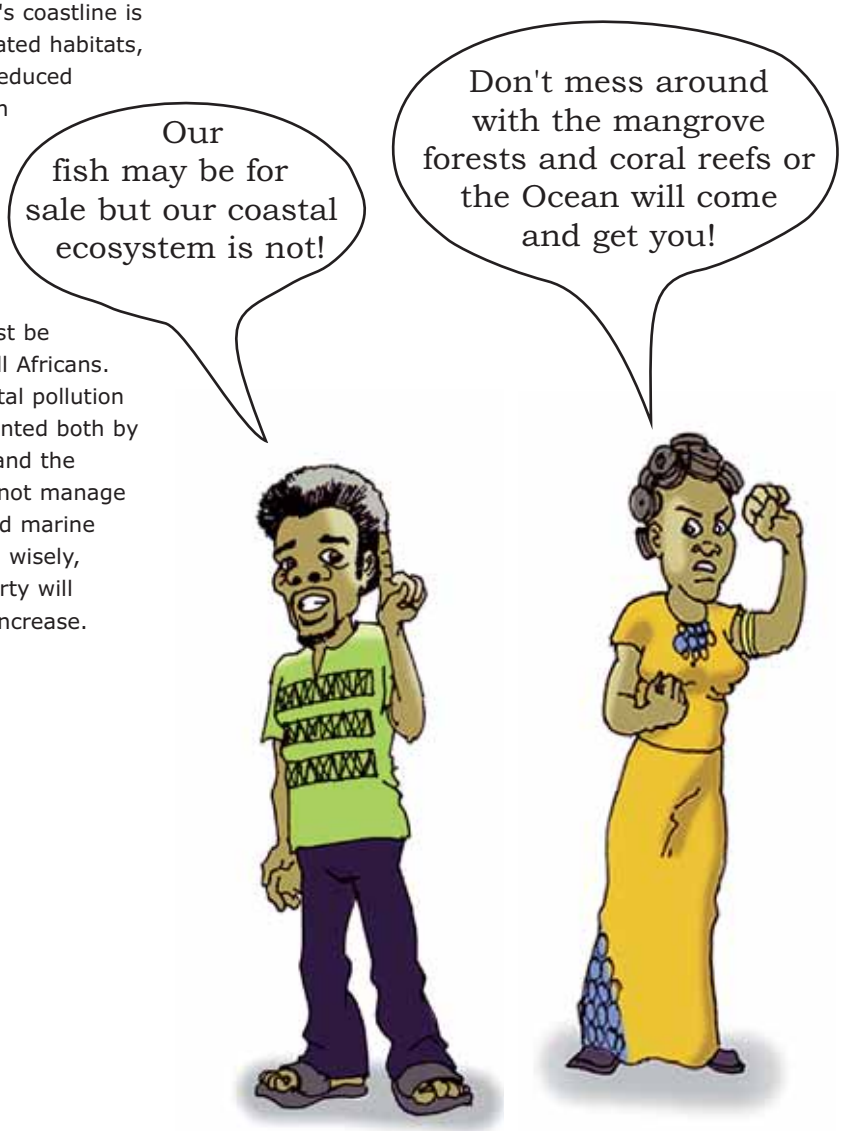
CONCLUSION

The African coastline possesses diverse and useful natural resources. These resources are to coastal communities what fertile land is to farmers. Coastal people use mangrove trees for construction, medicine, food, and small-scale trade. In addition, the natural beauty of the coast attracts tourists. Coastal and marine resources, therefore, have great ecological, social and economic importance, both locally and globally.

Yet despite its enormous importance, Africa's coastline is facing increasing pressures: erosion, suffocated habitats, fewer resources, polluted ecosystems and reduced biodiversity. Consequently, there is a drop in economic opportunities, thus increasing poverty amongst coastal communities.



Africa's coast is a treasure that must be looked after by all Africans. Solutions to coastal pollution must be implemented both by the government and the people. If we do not manage the coastal and marine resources wisely, poverty will increase.



FORESTS

Forests play a vital role in the survival of human population and provide habitats for many animal species. Forests indirectly regulate the environment by slowing soil erosion. They control the run-off of rainwater and store it, and regulate its release into our rivers and lakes. Globally, forests help to regulate the climate and protect coastlines.

Forests and woodlands are remarkable ecosystems. The moist tropical forests of Africa support an estimated 1.5 million species that in turn support the local communities in terms of food, shelter, utensils, clothing, and medicinal needs. Some of the forests have multiple uses. Many commercial crops originate from tropical forest plants such as coffee, bananas, oranges, sugar, pineapples, rice, maize and cocoa.

VALUE OF FORESTS AND WOODLAND

A Ghanaian proverb rightfully states that when the last tree dies, the last man will die. Indeed, forests are invaluable to humans. Their ecological, economic and social values are plentiful. They are a sink for atmospheric carbon dioxide, thus helping to lessen global climate change.

As Côte d'Ivoire and the Gambia have experienced, the more trees you cut, the less rainfall you receive. Deforestation can also lead to intensified droughts especially in places that are more vulnerable to dry spells.

Forests protect the soil from erosion and contribute to its fertility. They accomplish this by maintaining the balance of nutrients in the air, soil, water, and organisms. Forests also prevent silting of water downstream, and control the drought-flood cycles in rivers. Major hydroelectric schemes can suffer if these phenomena are disrupted, resulting in a lower capacity for power generation that can affect industries and their ability to provide employment.

The moist tropical forests of Africa support an estimated 1.5 million species, which in turn support the local communities in terms of their food, shelter, utensils, clothing, and medicinal needs. By far the most dominant use of woodland resources is for domestic energy needs, mainly from wood and charcoal. In sub-Saharan Africa alone, these traditional fuels accounted for 63.5 per cent of total energy use in 1997. Other forest and woodland resources gathered and used by households or traded informally amongst villagers include meat, fruits, honey, and vegetables, construction materials and medicinal products.

Savannah and woodlands are common in Africa's more arid countries. They are very different from closed canopy forests but are also rich in diverse natural resources.

The Cross River State rainforest of Nigeria is home to over 700 species of plants and animals, over 430 of which are used by local residents. In the West African savannas, from the Gambia to Cameroon, local residents ferment wild beans to make a nutritious traditional food that provides protein and fat. In South Africa, communities in woodland areas are known to have regularly used between 18 and 27 wild products from up to 300 species of plants and animals.

Forests and woodlands have been important for cultural, spiritual or religious purposes. The Zigua ethnic group in Tanzania protects 748 forests, which they use for burial sites and ceremonies, worshipping, traditional practices, and training, Koluhombwa (places where people with incurable diseases are left to die), meeting places and boundaries and for water protection. At the national level, the commercial exploitation of African forests and woodlands is an important source of income, foreign exchange, and employment. The enormous economic, social, cultural, and environmental value of forests means that the high rates of deforestation in Africa require attention and immediate remedial action.

FOREST COVER AND QUALITY

Africa has the fastest rate of deforestation in the world. Trees are often cleared to make way for expanding farms and human settlements. Also contributing to forest decline is the rising demand for fuel wood and charcoal. Forest loss between 1990 and 2000 was over 50 million ha, representing an average deforestation rate of nearly 0.8 per cent per year over this period. Over harvesting of wood for fuel and charcoal production brings changes to the species composition of a forest or savannah.

Slash-and-burn agriculture also contributes to forest cover decline. Commercial agriculture, especially plantation agriculture, plays a significant role in this cycle of forest loss and soil depletion. Fires can start in other areas through human activity, and then spread to forests. Fragmentation of forests exposes and harms species adapted to the sheltered forest interior and not used to greater intensities of sunlight, greater wind speeds, or increased levels of predation.

KAKUM FOREST

Kakum forest is found in the central region of Ghana with an area of about 350 square kilometres. It is a thick rainforest with tall trees and a rich presence of mammalian and reptile species. The forest's greatest attraction is the aerial canopy walkway, which allows visitors to the forest to have a wider view of the forest.

ASHIA ABA FENUA AND LILY DORA, GHANA

"Garab bo guis dana mosa jerin."

"Every tree provides service everyday."

WOLOF PROVERB, SENEGAL

KEEPING TREES ALIVE

People must eat to live, and to eat, they generally have to cook food. Many people in rural areas can only afford firewood. They cannot access electricity and cannot afford cooking gas and paraffin. This is the case in my local village in Zimbabwe.

Unless alternative means of energy are provided, we shall continue using firewood. We are much more concerned about cooking our food and staying alive, than we are about keeping trees alive.

AUSTIN BANDA, ZIMBABWE

Did You Know?

> Forests cover approximately 30 per cent of the world's surface.

> The growth in Northern Africa's population has also increased the demand for forest products for energy and various domestic uses in the sub-region especially charcoal manufacture.

> Forests make up approximately 45 per cent of the land area of Central Africa, constituting 37 per cent of Africa's total forest cover.

> The total forest cover in Africa was estimated to be just less than 650 million hectares in 2000, equivalent to 17 per cent of the global forest cover, and approximately 22 per cent of Africa's land area.

SUSTAINABLE MANAGEMENT OF FORESTS AND WOODLANDS

To date, sustainable forestry development in Africa has been hampered by: inadequate political commitment; weak or inappropriate institutions or policies; weak and poorly funded forestry departments; poor adoption and coordination of funding mechanisms; failure of the international community to translate forest conservation concerns into financial support; and national budgetary constraints. There is a need to encourage local efforts to mobilize resources for forest management in order to reduce donor dependency and to provide support for post-project financing to firmly consolidate the gains made during the life of the project.

KHARTOUM SUNT FOREST

Sudan, as a sub-Saharan country, suffers from a variety of environmental problems such as desertification, drought, poverty, people displacement and deforestation. The Khartoum Sunt Forest is considered to be the lungs of Khartoum City. It is near the White Nile and is considered as one of the important wetlands in the state. It represents a natural habitat for migratory overseas birds.

> Indeed, not only is Sunt Forest the lungs of Khartoum State, it is also home to a vast range of flora and fauna.
>
> ***MOHAMMED EL KHATIM, SUDAN***

KIBIRA FOREST

Kibira forest
Why are you so persecuted?
What are you accused of?
Kibira forest

Rather than ensuring your survival
And the survival of the many lives that you support
They destroy you with eagerness
With the pretext of building

When we remember your green cloak,
We are saddened by your gradual nudity
You who were once our pride

All youth should arise
And protect Kibira forest
Let them watch over its environs
And protect its biodiversity.

MFURANZIMA ARSENE, BURUNDI

A thousand years ago, the tree that fell alone,
Now joined by a thousand more,
And made for man's use, coal,
But man, he used it at one go,
Where will another a thousand years come from?

JOEL MUSUNGU, KENYA

HELP!

Many years ago I was fresh and green
Different animals lived with me
Fresh, clean and pure water passed through
The sound of singing birds made me sound pleasant
But just as I dripped off my splendid nature,
There came in a nuisance
With two legs, two hands, two eyes and so on...
He uses his eyes to look, legs to enter and hands to kill the animals, cut me off and build houses in my territory
Presently I am lonely, not fresh and green
But dry and brown with polluted water passing through
Please rescue me or I will perish,
Help! Help! Help!
Are we ready to heed to the cry of the forest?

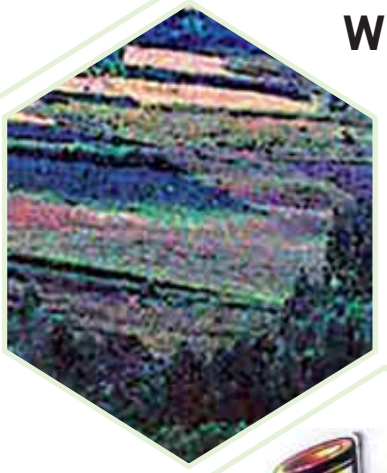
ANONYMOUS, BURUNDI

MY SECRET PLACE

I had a special secret place, hidden within the forest
Away from the world, I sat to savour nature's fresh breath
With the trees did I commune, shared my secret with the birds
Alas, I stand today, desolate, alone and afraid
The scorching sand mocks, beating harshly on my back
No shelter again from the rains, gladly soaking me wet
No thanks to the vicious edges of the chain saw
Tree after tree falls...protected trees
In the wake of destruction are several bleeding tree stumps
Gone is my special secret place
Lost are my trees and birds around
A company I cherished more than anything else
My secret place, I need you back

RUTH UDU OKON, NIGERIA

WHAT SHOULD BE DONE?



Political commitment and community involvement in protection of indigenous forests, sustainable harvesting practices and community ownership need to be strengthened.

CONCLUSION

Africa can be a green continent. Already, forests cover one-fifth of Africa. As you read this page, feel the paper and remember that you have our forests to thank for that paper. Feel the wood on the chair that you are sitting on and whisper 'thank you' to the forests. Look at the wooden ceiling above you, the wooden door of your house, the dining table in your dining room, and thank the forests. More than this, remember that our forests also protect and stabilize the soil, recycle nutrients to maintain soil quality and regulate water quality and flow. They give us picnic sites, create habitats for animals and provide our communities with sacred sites for worship. As if this is not enough, forests are vast sinks for atmospheric carbon dioxide, thus playing a critical role in mitigating global climate change.

Sadly, our forests are on the decline. They have been drastically reduced in size over the last century as countries struggled to improve their economies through exploitation of natural resources. Deforestation for commercial timber sales and clearance for agricultural and urban developments are the most intensive pressures. Other pressures include over harvesting of wood for fuel, medicine, and construction materials. The remaining forests have also been degraded as a result of clear felling, fires, and selective harvesting. Impacts of this degradation include losses of biodiversity, soil erosion, increased risk of flooding, and loss of livelihoods for local communities.

For forest destruction to stop, local communities should share in the management of forest resources. They should also reduce their tree cutting and increase their tree planting. Just as forests will always be caretakers of the soil, we should also be caretakers of the forests.

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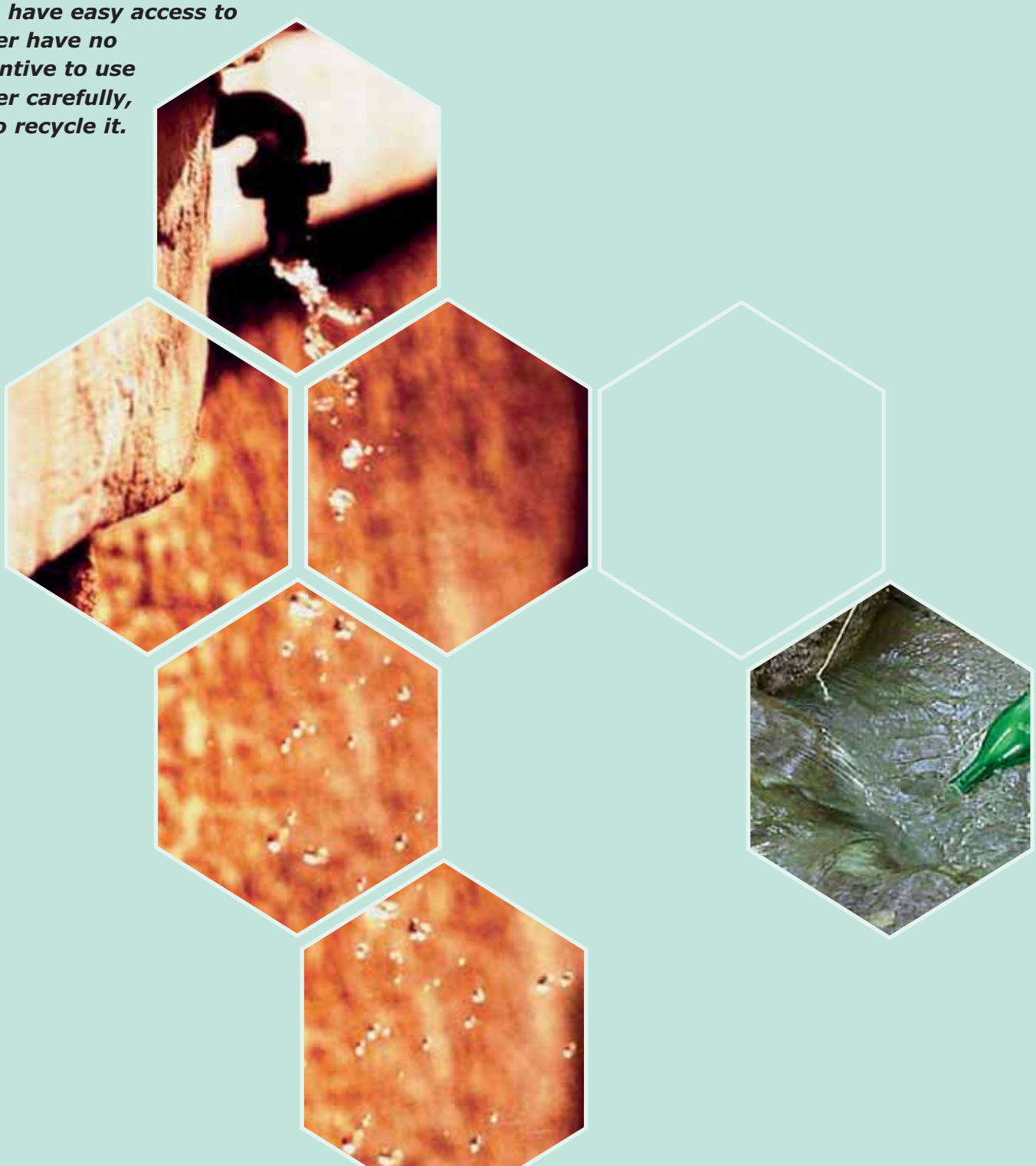
Photos and illustrations in this sub-section

Alfred Muchilwa, Kenya
Caroline Mugo, Kenya
Emmanuel Edudzie, Ghana
Fred Owuoth,Uganda
Shahistha Naidou,Somalia

FRESHWATER

Even though 71 per cent of the earth's surface is water, less than 3 per cent is freshwater, and most of that is either in the form of ice and snow in the polar regions, or in underground aquifers.

Over the last 30 years, a lot of efforts have been made to increase the availability and distribution of water. However, many people continue to lack access to water for domestic use. By contrast, some industries and people who have easy access to water have no incentive to use water carefully, or to recycle it.



A SONG FROM RWANDA: "SHE IS LIFE"

She Is Life!
Water is life
Water is a vital element
Always indispensable
When one wants to be clean
Whenever we want to eat
Whenever you want to save a life
Water is there

Chorus;
She is life, she is health
She gives us comfort
She helps us in our hygiene
She is to us everything

Even flora and fauna do need water
She is a solution to some of life's problems
Thanks to her, the unborn child in a mother's womb lives
Because to water it owes its creation

Chorus;

Others pollute ground water,
Then we consume toxic products,
And that is how we get the diseases
Caused by such products

Before we recycle those toxic products
Let us first fight such industries that dump them into lakes.

ALIDA BARANYIZIGIYE, AND
ITEKA CYNTHIA, RWANDA

WATER IN COMOROS

Have you ever wondered where the water you use at home comes from? In Moroni city, water is pumped up from underground. In other areas, one can get it from wells or water streams. Some people capture rainwater from their rooftops and store it in tanks. In Great Comoros, streams run dry during certain times of the year. Hence the need to utilize both ground and rainwater. In Moheli or Anjouan areas, some rivers dry out due to mountain deforestation. Indeed, water is not an inexhaustible resource, and should be used economically.

SAID BEDJA, COMOROS

WATER QUALITY

When water quality declines, water shortages are intensified, through increased costs of water treatment and increased time spent in collecting water. Reduced water quality can also lead to reduced biodiversity. Freshwater lakes, wetlands and dams have suffered biodiversity loss, due to industrial pollution and contamination of water sources. This has led to an increase of water-related diseases and a decline in water-intensive industries.

Measures to control water quality have been implemented in many countries. They include:

> Establishment and enforcement of safe drinking water and wastewater standards.

> Rehabilitation of existing wastewater treatment facilities.

Water pollution is a definite recipe for trouble. As the following article states, it can also lead to death.

INDUSTRIAL WASTEWATER

Rapid industrial and population growth has continued to threaten water resources in African countries.

In Kenya, effluent from black tea factories is poisoning some rivers. 271 fish from a river in Central Kenya have died due to pollution of their river. They suffocated due to effluent from a neighbouring tea factory. The chemical composition of green tea is similar to that of the young shoots initially cultivated. It is such chemicals that eventually make their way to the river and end up harming fish. Rehabilitation of the water bodies and prevention of further pollution can be achieved if discharged wastewater is consistently given proper treatment so that it does not overwhelm the purification power of the receiving water body.

OMOSA ISAIAH, KENYA

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JEWEL OF THE NILE

There are 1 001 things that Ugandans associate with the Nile. Owen Falls Dam, Karuma falls, Murchison falls, Jinja, Nile Special beer, Bujagali falls, white water rafting and bungee jumping. While some associations are general, others are more personal. Mine is paraa. Raa is the name for a hippo in Luo, pa means of; the place was so named because it teemed with hippo. Although the numbers have decreased, there remain a significant number of raa, enough to merit the given name. Paraa, is for me, the real 'jewel of the Nile.'

Also to be found in plenty at the Nile are birds. They live in the crags and cliffs, and pretty much everywhere else; in fact if this place were not called paraa, it would be pawinyo. (winyo is a bird in Luo). Like the hippos and birds, crocodiles love the Nile. They can be seen basking in the sun, dead still, save for the slow flick of their eyes, following your movement, waiting for you to get careless. They lunge when they see dinner, their ungainly bodies attempting to move quickly into the water where they reside.

IDA IMEDA,
UGANDA

AFRICA'S WATER VISION

Africa's Water Vision was developed through consultative processes in 1999 and 2000, and presented at the second World Water Forum in The Hague in 2000. It stresses the need to change attitudes towards water supply and use, and proposes a framework for building on these achievements.

The proposed mechanism for attaining Africa's Water Vision is comprised of four key components, namely:

> strengthening governance of water resources;

> improving our understanding of water-related issues;

> meeting urgent water needs; and providing financial resources for the development and management of water resources in the future.

Africa's Water Vision stresses the need for enhanced regional cooperation and for a new model for water resources management. The significant movement towards Integrated Water Resources Management (IWRM) in several countries is, in part, a reflection of the thinking consolidated in Africa's Water Vision. The Nile Basin Initiative (NBI), the Regional Programme for the Sustainable Development of the Nubian Sandstone Aquifer (NSA), the Southern African Development Community (SADC) and the Protocol on Shared Water Courses (PSWC) are successful examples of trans-boundary cooperation for the sustainable use and development of water resources.

CLEAN WATER IN MADAGASCAR

Water is one of the life-sustaining elements and is essential for everyday life and activities. Unfortunately, not every one has access to clean water in Madagascar. Even in Antananarivo, the capital city of Madagascar, many households do not have access to clean water. This is a major problem that the government has to tackle. In lower suburban areas, people mainly rely on surface water like wells, rivers, lakes, and irrigation canals for drinking water. For better distribution of safe drinking water, the following measures should be taken;

> Government's funding for organizations that can provide clean water.

> Community education on hygiene and preventive measures for water-related diseases.

Indeed, water is so important that a faster and sustainable development largely depends on how each individual uses water.

RANDRIAMARO CHRISTIAN HARIVONY, MADAGASCAR

"Amazi ni Isoko y'ubuzima."

"Water is the source of life."

ßKINYARWANDA PROVERB (SUBMITTED BY MUSHAYARA GAPIKI, RWANDA)

Did You Know?

> Over the next 20-30 years, 25 African countries are expected to experience water scarcity or water stress.

> Lake Malawi has more fish species than any lake in the world, estimated at more than 500 species, of which 90 per cent are thought to be unique to the lake.

> Lake Tanganyika alone could supply water to 400 million people through the annual extraction of less than 1 per cent of its volume.

LAKE KIVU

When I talk about,
Your beauty Rwanda,
I cannot forget your Lake Kivu.
Kivu, we love you so,
With you, life makes sense,
Without you, how can I
Enjoy my life?

LAMBERT HAKIZIMANA, RWANDA

ARE YOU THE EARTH?

Your moans melt the heart and sear me,
Are you the Earth?
No don't answer me.
For your streaming tears tell of secrets and grieve me.
Oh, our sweet Nile, you are no longer sweet for we
Some have defiled you with filth and that pains me.
And Cairo, oh conqueror of enemies, you say now farewell,
Where is your sweet breeze that used to cool me?
Are you suffocating from the crowds?
Oh paradise, return and do not scare me,
With the dark clouds that have corrupted you,
And with blind ignorance that hurts the eyes and ruins me.

SHAIMAA MOHAMMAD, EGYPT

WHAT SHOULD BE DONE?

> All African countries should pursue Africa's Water Vision.

> Ensure equitable access to clean water and manage water demand for domestic, industrial, and agricultural purposes. In addition, maintain healthy ecosystems, in order to ensure sustained supplies of good quality water.

> Rainwater should be captured systematically and sustainably.

> Youth should use water carefully, avoid polluting water, and raise awareness amongst those who do.

CONCLUSION

Water is life! It comes from above in the form of rain and from below in the form of groundwater. Water travels our continent through rivers and lakes. It rains a lot in some parts of Africa but barely rains in other parts. In the humid tropical belt of Western, Eastern and Central Africa, the average rainfall per year is 50 times higher than in the arid countries encompassing the Sahara desert.

As the population of Africa increases, so should the quality of water management be increased. The more people we have, the more our demand for water will be. We need water for use in our houses, farms and industries. There is also an increase in consumption patterns, especially among the wealthier communities. Many consumption patterns lead to water misuse. On their part, many industries rarely pay the true price of water. They should be compelled to recycle water or reduce their consumption.

Western and Central African countries have plenty of freshwater resources and fairly predictable rainfall. However, uneven distribution of water makes it difficult for some people to access water. The rural poor have to walk long distances to collect water for domestic consumption, whereas agricultural and industrial users have access to subsidized resources.

Most other countries, particularly those in northern Africa, experience extreme water shortage. Almost all African countries experience problems of water quality and are struggling to upgrade water treatment and wastewater processing plants. Better water management will lead to better distribution and sustainable usage. We all have a duty to use water sustainably and responsibly.

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Photos and illustrations in this sub-section

Alfred Muchilwa, Kenya
Caroline Mugo, Kenya
Khaled El Hady, Libya
Nellie Nour, Egypt
Sara Bakr, Egypt
Tamer Elshayal, Egypt
Waad Hadidy, Egypt
Abel Murumba, Kenya

LAND

Africa is the second largest region in the world, accounting for 20 per cent of the world's landmass (2 963 313 000 ha). Most Africans live in rural areas, where they practice small-scale cultivation or pastoralism. Consequently, the direct dependence on land creates production pressures and competition for resources.

Africa often uses a large part of its fertile land to plant commercial crops. This can result in less land for food production and more dependence on food imports.





The high profits generated from mining can sometimes lead to indiscriminate exploration and exploitation, at the expense of the environment.

GREEN MINING

Mining can result in grave consequences for the environment. It can lead to a change in vegetation cover, which may increase soil erosion, and wash away nutrients in the process. As vegetation is cleared to make way for mines, flora and fauna are affected, consequently affecting the people who depend on them. In light of this, it is clear that mining of gold may strike gold, but it can also strike out lives and livelihoods. It is therefore essential for extensive environmental impact assessments to be carried out before, during and after mining ventures. In addition, the mining companies should restore land to its former natural glory.

HEGA MARTIN FRIDOLIN, CAMEROON

ZAMBIA GIRL GUIDES (ZGG) FRUIT TREE PLANTING PROJECT

In 2003, ZGG Association embarked on a campaign to plant fruit trees in Chingola District schools. The purpose of this was to encourage young people to plant more fruit trees and guard them jealously as compared to ordinary trees. As a continuation, the Association is making efforts to replicate the project in other Zambian schools and communities.

LOREEN MWANZA, ZAMBIA

Did You Know?

> In the northern parts of the Sahara Desert (northern Sahelian zone), where animal husbandry is the dominant agricultural practice, the main agent of soil erosion is the wind, which is supported by dry climatic conditions.

> Overgrazing causes more than 50 per cent of Southern Africa's land degradation.

Did You Know?

> Urban agriculture is growing faster in Africa than in any other region of the world.

> Agriculture employs the largest number of workers, and generates a significant share of Gross Domestic Product (GDP) in many African countries.

> In 1990, the agricultural sector accounted for 68 per cent of the workforce in sub-Saharan Africa, and 37 per cent of the workforce in Northern Africa. This compared with industry, which accounted for 9 per cent and 25 per cent of the orkforce respectively.

> In 2001, Africa produced 67 per cent of the world's cocoa, 16 per cent of the world's coffee, and 5 per cent of the world's cereal production.

REGION	MAJOR CROPS
Northern Africa	cereals, fruits, vegetables, sugar, nuts
Eastern Africa	bananas, beans, coffee, cotton, maize, millet, rice, sesame
Western Indian Ocean Islands	bananas, cassava, cloves, coffee, copra, onions, potatoes
Southern Africa	maize, wheat, tobacco, tea, nuts, sugarcane coffee, cotton
Central Africa	cassava, cocoa, cotton, groundnuts, maize, millet, rubber
Western Africa	cotton, coffee, cassava, cocoa, groundnuts, maize, millet, palm oil

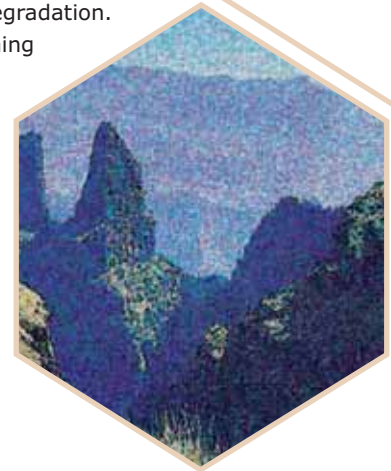
LAND QUALITY AND PRODUCTIVITY

Land degradation and reduced productivity can be grouped into hydrological and chemical degradation, physical degradation, or biological degradation. Chemical degradation is caused by pollution from industrial, household, and medical refuse. Physical degradation includes deterioration of soil structure and can be due to inappropriate use of machinery, mining and quarrying activities, and exposure to erosion. Biological degradation generally refers to the loss of nutrients and is due to the exhaustion of soil fertility.

Frequent planting of cash crops means that more fertilizer is used and fallow periods reduced, resulting in land degradation. This leads to declining yields; vegetation and soil degradation and loss; and, in extreme cases, desertification.

Approximately 22 per cent of vegetated land in Africa (494 million ha) has been classified as degraded. Desertification describes an extreme form of degradation in dry land areas (land that is no longer productive). Currently, 46 per cent of Africa's land area is vulnerable to desertification, especially along desert margins and areas that have high populations.

Extreme reductions in productivity may result in people abandoning their farms and migrating to urban centres. In addition, civil unrest or conflict can result in vast movements of refugees, many of whom are resettled in marginal or fragile areas.



NATURE'S BEAUTIFUL MEANDER

I had a dream yester night,
The harsh glare of the sun smiled,
A lizard in the sun lingered,
Then slashed back into the bush, wild,
In the moist clean wind, a leaf trembled, then the leaf fell.

The fallen leaf landed,
On the clear river water, soon it washed away, to the water banks,
And now was heard, the patter,
Of hooves of an eland drinking deep:
A crocodile, in the water swam,
The eland, it approached its supper,
As though it knew, the eland bit its tongue,
A brief struggle, the two, like lovers huddled,
It was the end of an eland, the end of its term:

JOEL MUSUNGU, KENYA

WHO AM I?

I may require you to use your hands
I may require you to use your machines
I may ask you to employ workers

You will get rich if you use me effectively
You can be famous if you stretch your intellect to the boundaries
And use me productively
I am the bearer of gold, a bearer of coal

Some criticize me for not being fertile
Forgetting there are different purposes I have to fulfill
Some blame me for hiding their loved one
Underground eternally

Who am I?

MXOLISI DLAMINI, SOUTH AFRICA

LAND RIGHTS AND POLICIES

Land rights are closely linked to poverty and land degradation. Ownership and access to resources is now largely determined by economic status, with commercial farmers occupying the best farmland. In some regions, lack of effective land policies and practices present direct threats to sustainable land quality. Whereas traditional land rights are granted through inheritance, and are centered on communal access to resources, statutory laws encourage state and private ownership, with the emphasis on commercial rather than household production.

In some parts of Africa, current land ownership policies have been derived from pre-colonial and colonial systems. Such policies have not always been relevant to current realities. The nomadic herdsmen of the Horn of Africa have suffered extreme marginalization due to the capture of their land by colonial governments. Governments are now recognizing that effective land policy reform is important for sustainability and agricultural growth.

Women and Land Tenure

In most parts of Africa, both modern and traditional laws favour male-dominated ownership of land and control of resources. Women may be granted access to resources through their fathers or husbands on a temporary basis but, if they become widowed, they may be forced to leave their land. There is also a financial bias towards male ownership, as women tend to have lower incomes than men and, therefore, may not be able to afford to purchase land, or to acquire access to credit schemes. However, with progress in land reform in many African countries, access to land, ownership and registration systems are helping to shift the balance of equity in recognition of the rights of vulnerable groups, including women and minority, ethnic or nomadic groups. Governments' recognition of women's rights with regard to land reform, and the issue of gender reform, has not progressed as far in Eastern Africa as in Southern Africa, although Burundi, Eritrea and Ethiopia are starting to encourage the inheritance of land by women, and the allocation of land to couples as household holdings.

WHAT SHOULD BE DONE?

> There should be a balance between cultivation of food crops and cash crops.

> Alternative grazing opportunities should be identified, as overgrazing is responsible for more than half of land degradation in Africa.

> Governments should implement effective land policy reform. Such reform will enhance sustainability and agricultural growth.

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Photos and illustrations in this sub-section
Alfred Muchilwa, Kenya
Amr Orensa, Egypt
Caroline Mugo, Kenya
Sara Bakr, Egypt
Tamer Elshayal, Egypt
Vladimir Russo, Angola

CONCLUSION

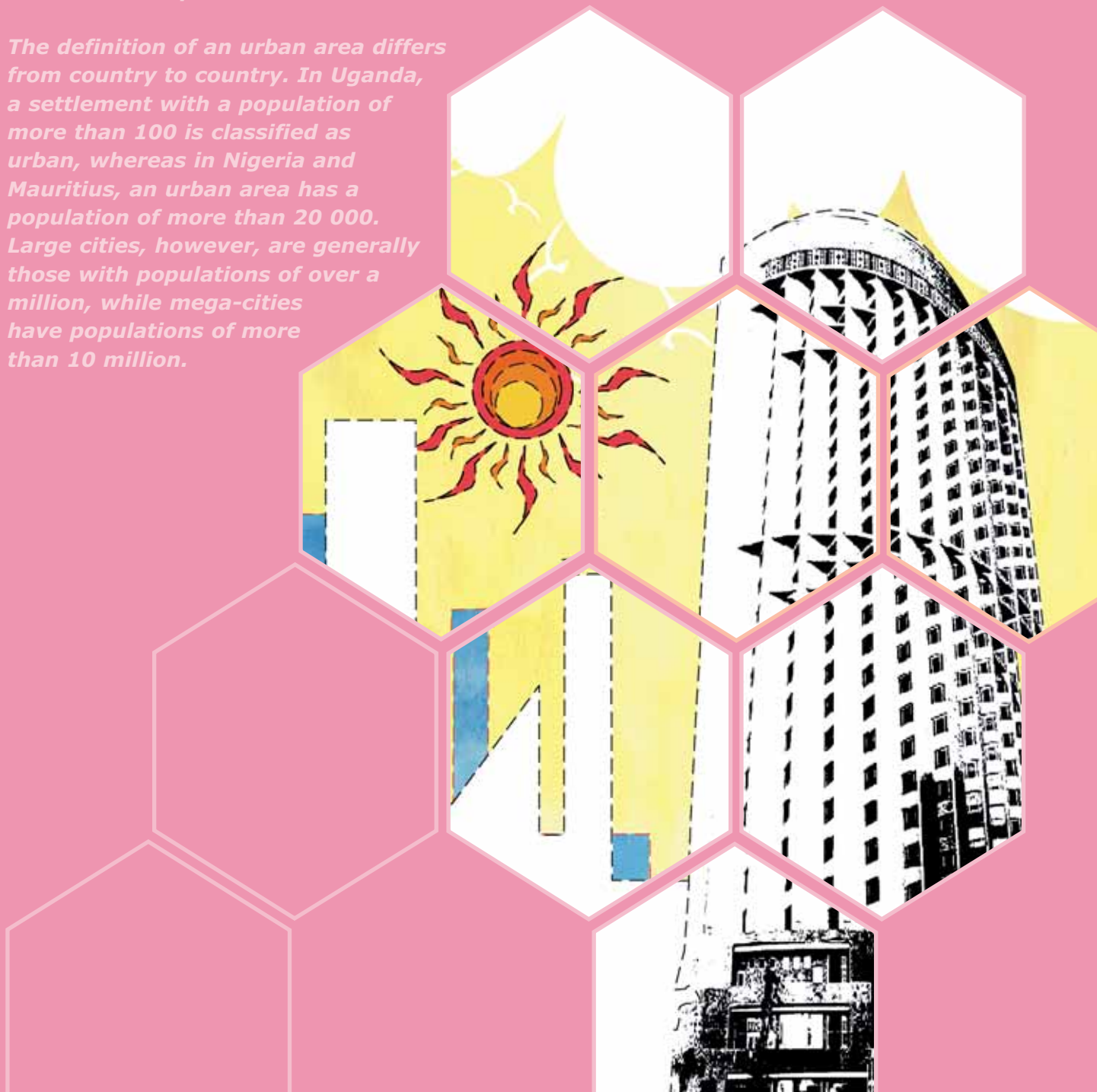
The land of Africa is full of invaluable resources. It is the foundation of economic, social and environmental development. Traditionally, African societies depend directly on subsistence farming to meet their daily needs. Commercial agriculture is equally important as it employs the largest number of people in most countries. It also contributes significantly to export earnings and national economic growth.

African Governments are developing and implementing land reforms. The main objectives of these reforms are to address land rights and access, harmonize existing laws, create incentives for better land management, raise productivity and economic development, improve dialogue between stakeholders, and diffuse potential conflicts. Our land is our heritage and our pride. It is up to us to shower it with care so that it can continue nourishing us.

URBAN AREAS

Our cities are growing at a dazzling speed. Indeed, Africa's rate of urbanization of 3.5 per cent per year is the highest in the world. This fast growth can be attributed to a general public feeling that urban areas have better schools, more hospitals, more jobs and good social services. As more people are drawn to the cities, more pressure piles up on those cities. The increased demand for shelter and services, as well as rising consumption, has often resulted in many social and environmental problems.

The definition of an urban area differs from country to country. In Uganda, a settlement with a population of more than 100 is classified as urban, whereas in Nigeria and Mauritius, an urban area has a population of more than 20 000. Large cities, however, are generally those with populations of over a million, while mega-cities have populations of more than 10 million.



As seen in the article below, urban growth brings with it many challenges.

URBAN CHALLENGES IN ZIMBABWE

There is a regular influx of people everyday into the major towns of Zimbabwe, in search of jobs and all the associated myths of urban life. In the two major cities of Harare and Bulawayo, the rate of urbanization has continued to increase. Unfortunately, most of these people find themselves homeless and end up living in the streets or in informal settlements.

Apart from housing, another strain is on water and sewage systems, thus resulting in several water-borne diseases. Other challenges include; solid waste disposal, increasing crime rate, prostitution, traffic congestion and air pollutions. Against this gloomy background, the government and civil society must pull up their socks and ensure constructive urban growth.

SIKHULULEKILE NCUBE, ZIMBABWE

CAUSES OF URBAN GROWTH

African cities account for 60 per cent of the region's Gross Domestic Product (GDP) and are important centres for education, employment, and trade. Several factors, which can be classified as 'push factors' and 'pull factors' contribute to urban growth. The push factors compel people to leave rural areas in pursuit of a better life in urban areas while the pull factors attract people to the urban areas.

Northern Africa	Eastern Africa	Western Indian Ocean Islands	Southern Africa	Central Africa	Western Africa
Push Factors					
Infrastructure development is greater in urban areas	Improved living standards	Improved living standards	Perceived job opportunities	Improved living standards	Educational systems promotes urban occupation
Better social services	Employment opportunities and improved security of housing tenure	Opportunities for education and employment	Better infrastructure and housing	Access to trade, travel and international communication	Employment opportunities
More opportunities for investment and employment		Better access to communication and trade			
Pull Factors					
	Declining agricultural productivity and poverty in rural areas	Shortage of land	Shortage of land and declining returns from agriculture		Worsening food insecurity
			Civil conflict		Fragmentation of tenure and systems

SAD CITY

My city is sad, one hundred thousand persons and yet no one exists
Rivers of money carry thousands of ghosts like one man
My city is grey.
It's going to be so dark that there will be no remedies left.
But tomorrow, tomorrow if you wish,
Tomorrow in the early morning,
You and I will restore my city, my environment.

ARLETTE RAVOLATSARA, MADAGASCAR

Once people have been 'pushed' or 'pulled' to cities, then they get to realize that life in the cities is definitely not a bed of roses. Indeed, life in Antananarivo, the capital of Madagascar, can be much more difficult than life in the biodiversity-rich countryside of this beautiful Indian Ocean Island.

ANTANANARIVO'S PLIGHT

Antananarivo, the Malagasy capital, has continued to experience population growth. Consequently, it is experiencing a growth of illegal constructions. In addition, infrastructure is crumbling. The city's population is overwhelming environment as the city becomes untidy and air pollution increases due to car and factory smoke. To make matters worse, there is an ever-present mammoth traffic.

Wastewater also causes street filthiness. The sewage system is serving many more people than it was originally intended for. Such strains will continue to strangle Antananarivo unless action is taken. Many NGOs are now working in the city to improve its state. They have launched an urban beautification strategy by encouraging schools and associations to create green belts across the city. On its part, the State is repairing streets and markets, aiming for a more beautiful urban landscape.

However, the entire city planning should be reviewed with the aim of establishing a more environmentally friendly city.

NOROMANDROSO RASOABAKO, MADAGASCAR

URBAN GROWTH AND ENVIRONMENTAL SUSTAINABILITY

Development always seems to begin in urban areas. For many youth, urban centres offer more possibilities for jobs, education, health and leisure. Even governments seem to share this view because most cabinet members and presidents have made their homes in cities. This may explain why many governments tend to be more inclined to develop urban centres than rural areas. But as cities progress, the environment often retrogresses. Large shopping malls and flats are usually constructed at the expense of large tracts of land that used to form important environmental ecosystems like forests and wetlands. It is thus important to strike a balance between urban expansion and environmental sustainability.

GISELE UMUTONI, RWANDA

MANAGEMENT OF POLLUTION AND WASTE

Huge numbers of people living in urban areas cause huge levels of pollution and waste. Solid waste production and management and air pollution are the issues of greatest concern in African towns and cities. The major sources of air pollution are fossil fuel power generation, vehicle exhausts, industrial emissions, and domestic use of wood, coal, paraffin or refuse. Burning of solid waste generates toxic fumes, which should be filtered to prevent emissions.

The amount of waste generated in African cities since 1990 far exceeds the capacities of most municipalities to collect, treat and dispose of waste. Only one-third of the waste generated in African cities is disposed of formally. Lack of suitable landfill sites and rapid filling of existing ones is a problem experienced by many municipalities. Other problems include lack of integrated waste management policies, inadequate funds and low access to appropriate, affordable technologies. Some African countries have taken measures to reduce the health risks associated with waste and pollution. These are measures like household electrification, promotion of low-smoke fuels and improved ventilation.

URBAN FORESTRY IN TANZANIA

The practice of urban forestry in Morogoro Municipality and elsewhere in Tanzania is on the rise. However urban forests are often managed as individual trees instead of whole forest ecosystems. Most of the urban communities manage these tree species to meet many important needs such as ornamental purposes in gardens and along avenues, shade around houses, property boundaries, and recreation in the city. Urban forestry and its management have big potential roles in reducing global warming by mitigating carbon dioxide emissions.

Also, trees in the urban area provide food, nesting cavities, and perches for animals that fly or climb such as reptiles, amphibians, birds, insects and a few mammals, such as rabbits, mice, mongoose, monkeys (blue and velvet nkeys), civets, bush babies, rats, bats and squirrels. In light of the enormous importance of urban forests in the ecosystem, there is a need to establish urban wildlife corridors for wild animals to migrate back to the forest reserves and national parks. In addition, there is a need to plant more native tree species in urban areas for provision of natural food like flowers, fruits, nectar and fodder for much wildlife living in urban areas. A strategic management of urban forests will ensure that urban forest ecosystem is turned into a form more ecologically sustainable for the community and for wildlife conservation. Wildlife from urban forests can continue to diffuse into other urban sinks such as public parks, zoos, ponds, streams, rivers and gardens. This will enhance sustainable reproduction for future generations and sustainable conservation.

MUSA MHAGAMA, TANZANIA

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Did You Know?

There are currently 40 cities in Africa with populations of more than a million and it is expected that by 2015, seventy cities will have populations of 1 million or more. Lagos, with its current population of 13.4 million is the largest city in Africa, and the 6th largest in the world.

Cairo, Africa's second largest city, has a population of 10.6 million and ranks 19th in the world. Currently, 38 per cent of Africa's population (297 million people) lives in urban areas. By 2030, this is expected to grow to approximately 54 per cent.

Plastics are some of the worst pollutants in urban areas. Nature Kenya youth committee in Kenya has a remedy to the plastic menace.

ALTERNATIVE USE FOR PLASTICS

Most of the world's 6 000 million human beings beings that are using plastics in their day-to-day life often dump them after use. If this trend is to be reversed, then their cost should be increased so that their reusability is assured. On the other hand, the same plastic bags can be recycled and made into more durable materials that can replace wood as raw material for furniture and construction. This would be a win-win scenario, as it would reduce both pollution and deforestation at the same time.

KIMANI NDUNG'U, KENYA

ENDING PLASTIC FLOWERS

May 2003 heralded a greener beginning for the South African environment when legislation was introduced to replace thin plastic bags with thicker, recyclable ones. Consequently, shoppers had to bring along their own bags to carry their items. The other alternative is to buy stronger plastic bags with a minimum thickness of 30 microns. The infamous plastic bag had long been dubbed the unofficial national flower of South Africa - an eyesore found on bushes, roadsides, shorelines and flying around backyards. Many South Africans embraced the new laws by buying large, trendy and colourful bags for their shopping trips. This policy illustrates how laws can have a positive impact on our environment, and as a result help change people's wasteful habits.

BY ARTHI SANPATH, SOUTH AFRICA

URBAN BURDENS IN AFRICA

In the large cities of Northern Africa, industries surround residential areas and choke them with pollution, thus affecting the health of local communities. In some Eastern African countries, plastic waste has increased. These plastics block drainage systems, leading to frequent flooding in urban areas. Disposal has also remained a pressing problem in this sub-region. In Kigali, a staggering 84 per cent of solid waste is burned openly, giving rise to unpleasant and sometimes toxic fumes. Intensive animal rearing in the Western Indian Ocean Islands, especially the pasturing of goats around urban areas, creates pressures on the environment and human health when waste is disposed improperly. In addition, the combined pressures of residential and industrial developments have a cumulative impact on the urban environment.

The slow pace of the development of urban infrastructure in southern Africa has resulted in increasing traffic congestion throughout the sub-region, with central business districts of most major cities having inadequate public transport networks and parking spaces. The advanced age of most of the vehicles, and heavy dependence on leaded fuel and diesel contribute to high levels of smog and lead pollution.

In many cities, very little waste is recycled, as collection services and recycling programmes have not been established and there are few markets for recycled materials. Furthermore, incentives for recycling are quite minimal. Negative attitudes towards reducing, re-using and recycling of waste are prevalent in many parts of Africa.

Did You Know?

Northern Africa is the most urbanized sub-region with 64 per cent of its population living in urban areas.

WHAT SHOULD BE DONE?

Sustainable urban development can only be realized through collaborative effort. There should be vibrant partnerships between governments, non-governmental organizations (NGOs), private enterprises, communities, and citizens.

CONCLUSION

Cities are the heartbeats of nations. They generate jobs and investment opportunities. They also host the headquarters of most governments and international institutions. Unfortunately, the growth of urban areas often means the destruction of the environment. Environmental protection should go hand in hand with city growth. Good city planning will reduce the expansion of slums and protect the environment. Efforts should also be made to encourage the use of recycled or sustainably produced building materials. The health problem in African cities can be reduced through better water supply and sanitation, waste disposal, education, and community-based preventive healthcare. This way, our hearts will beat longer as our cities continue to enliven our continent's prospects.

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Photos and illustrations in this sub-section

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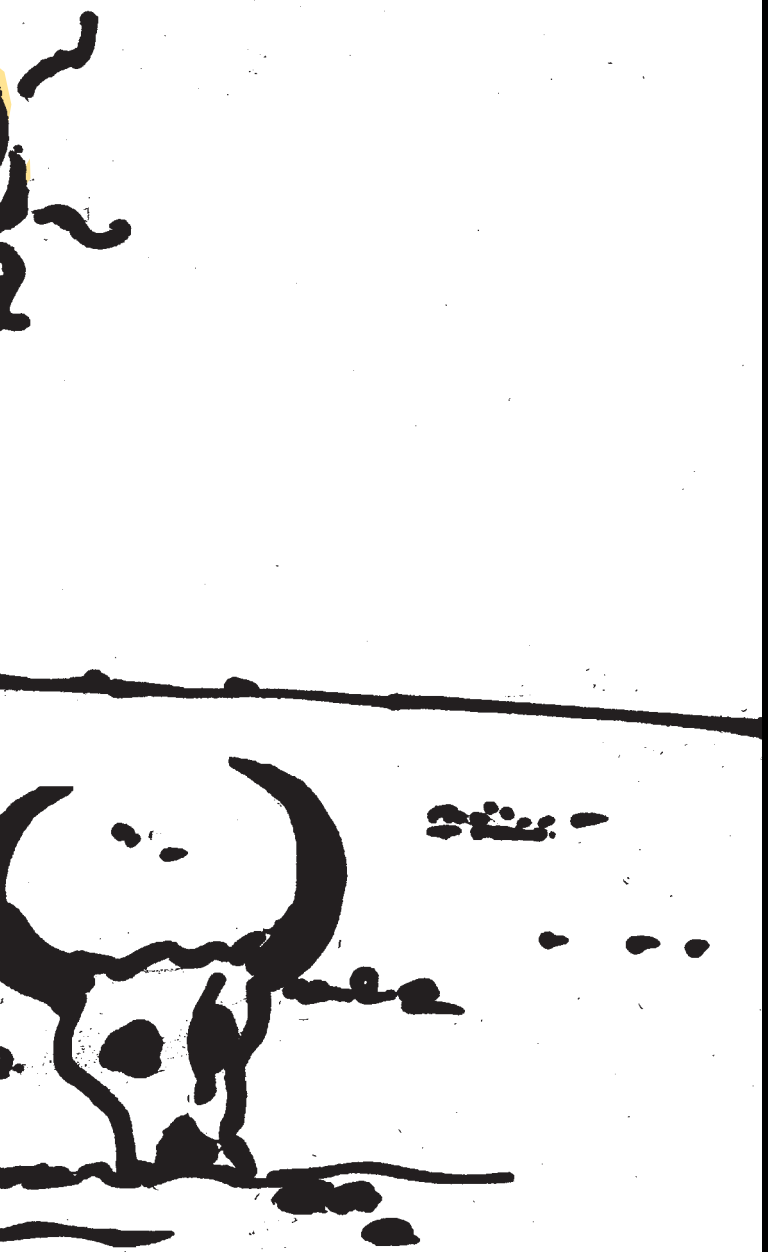

HUMAN VULNERABILITY TO ENVIRONMENTAL CHANGE

Principle 1 of the Stockholm Declaration clearly stipulated that a healthy environment was a fundamental human right. The OAU (Which is now the African Union) and many African countries followed suit and enshrined this right in their constitutions. However, the past 30 years have seen many challenges and setbacks. Africa's environment has continued deteriorating. The resulting environmental change has left many Africans vulnerable due to increased risk and inadequate coping capability.

HUMAN VULNERABILITY IN AFRICA

A glance at Africa reveals the impact of poverty on environmental change. Poverty often leads to environmental degradation and more poverty. People in Africa, the majority of whom are poor, depend directly on what they can grow, catch or gather. They are, therefore, more vulnerable to environmental change than people in other regions of the world.

Human-induced environmental change, brought about by rapid population growth and overexploitation of natural resources, is considered to be one of the main causes of natural resource degradation, deepening poverty and increasing food insecurity in sub-Saharan Africa. People cause environmental change through activities like deforestation and water pollution.

Human vulnerability revolves around two issues - exposures to environmental hazards and the coping capability of people to these hazards. People who have more capability to cope with extreme events or stresses are at lesser risk and are, therefore, more secure. Most African countries fall under the category of high risk and low coping capacity. Over the past 30 years, many African countries have faced increasing risk from floods, earthquakes, lava flows, fires, droughts, civil strife, and armed conflicts.

These disasters have increased poverty, intensified serious health problems, and resulted in hunger. In addition, they have displaced populations across national borders and internally, contributing to further environmental degradation, and leading to more vulnerability and insecurity.

Human mismanagement of environmental resources and processes considerably worsens the impacts resulting from disasters and their effects on natural resources. Although natural disasters cannot be prevented, sustainable utilization and management of the environment can increase coping capacities at community level.

HUMAN GROWTH AND ENVIRONMENTAL DECLINE

Humans seem to have the biggest impact on freshwater ecosystems and biodiversity. Urgent action needs to be taken to cut back the human excesses that strain harmonious co-existence with other species. Nigeria, the most populous African nation, has a population of over 100 million people. Consequently, there is an increase of industrial activities, which increases pollution. Even as domestic and industrial wastes are released daily into freshwaters, humans and animals continue to depend on those waters. African Governments should view population regulation as a means of conserving natural resources and improving living standards. They should not wait for natural and human-induced disasters to destroy people. Neither should they sit back and watch as people destroy the environment.

EMMANUEL AKINDELE, NIGERIA

ANGRY SKIES

I remember it as if it was yesterday. When it started raining that day, no one thought it would continue raining much longer and harder than ordinary rain. But this was no ordinary rain; it was El Niño. The taps of heaven refused to close and the rain poured down in torrents. Roads, railway lines and bridges collapsed, as transport became a nightmare. Communications also crumbled when telephone lines were tossed to and fro like ping-pong balls. In the midst of this water deluge, Kenyans were left exposed to the ensuing damage.

DAMARIS MUNGAI, KENYA

DEFENDING NATURE

Humanity is increasingly becoming an adversary of Nature. This stems from poverty and uncontrolled industrial advances that exploit resources irrationally. It is our duty to sustain natural resources and protect nature from the consequences of our own harmful acts. In order to fulfill this duty, we must overcome indifference, ignorance, and irresponsible behaviour.

ISSAKA IBRAHIM, COMOROS

IMPACTS OF ENVIRONMENTAL CHANGE

The forced movement of people, creating what has come to be known as environmental refugees. Globally, there were 25 million environmental refugees in 1994, more than half of whom were in Africa.

The dependence on rain-fed agriculture increases the risk of food and economic insecurity, especially in areas of high climate variability.

Eastern Africa has suffered at least one drought per decade for the past 30 years. In the 1970s in Ethiopia, drought killed 400 000 people, and about 1.2 million others were displaced. About a decade later, in 1984-85, a total of 7.8 million Ethiopians were affected, causing 1 million deaths.

Floods also contribute to the vulnerability of people in Africa. Mozambique alone lost US$273 million in physical damage, US$247 million in lost production, US$48 million in lost exports and US$31 million in increased imports as a result of the flooding.

Habitat and biodiversity loss can also affect tourism in the region, contributing to poor economic performance. This has serious impacts on revenue and jobs, particularly in countries in Eastern and Southern Africa, which are heavily dependent on wildlife tourism.

SOCIAL DIMENSIONS TO HUMAN VULNERABILITY

Health

Environmental damage - whether it is water or air pollution, or waste and sanitation - has serious consequences for human health. Generally, most African countries face high environmental threats to health. Pollution of water and air, and their impact on human health, is of immediate concern. Water pollution and contamination increases water-borne diseases. Air pollution - from industrial and car exhaust emissions, and the burning of traditional fuels in homes - kills a large number of people each year. People die from respiratory damage, heart and lung diseases, and cancer. Urban air pollution causes close to 1 million premature deaths worldwide every year, primarily due to respiratory diseases affecting mostly the poor. About 4 million people die annually due to overcrowding, and from indoor pollution caused by burning biomass fuels for cooking and heating. As many as 25 million poor agricultural workers in the developing world (11 million in Africa alone) are poisoned by pesticides every year, and hundreds of thousands die.

The HIV/AIDS epidemic has spread with devastating speed and is among the leading causes of death in sub-Saharan Africa, where 2.4 million adults and children are estimated to have died due to HIV/AIDS in 2000 alone. Through its systematic impact, HIV/AIDS is a threat to sustainable agriculture and rural development. At the household level, HIV/AIDS can result in labour shortages, declining productivity, reduced income, and increased expenditure on medical treatments. This pandemic can also lead to a rise in the number of dependents relying on a smaller number of productive family members. The disease also results in the loss of traditional farming methods, inter-generational knowledge, and specialized skills, practices and customs.

THE PLASTIC ILLNESS

I stop in front of the shop on the corner of our street, and for the third time I talk to the owner about the plastic bag he insists on using to cover the pot of beans on the stove in front of his shop. I talk to him about the dangers of this bag, and how the steam from the pot melts a lot of the harmful components that are key components of plastic bags, and which then find their way into the beans, and then into our stomachs, and how the accumulation of such material can cause lethal diseases.

SAADA NAILE, SUDAN

BLOWING AWAY THE ENVIRONMENT

The regular use of dynamites in limestone mining is causing havoc on the environment. Dynamite can lead to the destruction of groundwater bodies and geological formations, which leads to a loss of vegetation cover and foliage. The limestone mining also leads to the deterioration of human health due to inhalation of toxic vapours and dust coming from plant chimneys. In addition, untreated effluents emanating from mining plants flow indiscriminately into rivers, further compromising human and wildlife health.

BAOLIMO LOMBO AYEMA, DEMOCRATIC REPUBLIC OF CONGO

CIVIL STRIFE AND ARMED CONFLICT

A total of 26 armed conflicts erupted in Africa between 1963 and 1998, affecting 474 million people in Africa, or 61 per cent of the population. The resulting refugee settlements often lead to environmental degradation that, in turn, increases human vulnerability, exposing the refugees to health risks. Environmental change due to environmental stress has played an indirect role in the outbreak of conflict. Environmental stress - including deforestation, land degradation and scarce supply of freshwater - alone and in combination with high population density, increases the risk of low-level conflict. Armed conflicts, in addition to exacerbating environmental degradation and increasing human vulnerability, also cause a lot of damage to invaluable environmental resources, especially wildlife and biodiversity.

Because the affected population has become vulnerable and has lost coping capacities, such costs are usually taken up by governments, relief agencies, donors, and neighbouring communities.

The impacts of adverse environmental change on human vulnerability are due to a reduction in productivity, production, income, reserves and purchasing power. They can also lead to increased aid dependence, indebtedness, poverty, food insecurity and health problems. These, in turn, lead to reduced taxes to the treasury; increased budget deficits; decreased social spending; increased foreign aid dependency; decreased debt repayment; decreased competitiveness; decreased foreign exchange; and overall poor economic performance.

ECONOMIC DIMENSIONS TO HUMAN VULNERABILITY

The economy is both a pressure on, and a victim of, environmental change. The overexploitation of resources for economic growth may cause environmental change, and such change may, in turn, negatively impact economic performance. There are direct and indirect economic implications of human vulnerability to environmental change. Direct costs are dramatically illustrated when losses resulting from the impacts of floods, earthquakes, wind storms, or fires are evaluated. The economic impacts of over harvesting natural resources, such as fish or timber, can result in vulnerability as these resources, on which people depend for their livelihoods, become scarce.

"It is a dangerous misconception to think that environmental issues are other people'

MARIE TAMOIFO NKOM, CAMEROON

FIRES OF DOOM

A man is cutting a tree in the forest and he pauses for a smoke. Without thinking, he drops the cigarette butt and continues with his tree cutting. Before he can finish killing off the tree, he smells smoke and automatically glances behind him. What he sees causes him to drop his sturdy axe and speed off frantically. The forest is on fire and the man is on the run, fleeing from a mess that he carelessly started. Like this particular fire, humans cause most bush and forest fires, either accidentally, carelessly, or intentionally. Other examples of human-induced causes include: charcoal burning, slash-and-burn farming, electric short circuits, and inappropriate storage of inflammable materials. But sometimes, nature is to blame for the fires, like when volcanoes erupt. Whatever their cause, forest fires often leave destruction in their hot trail. They destroy human settlements and forest ecosystems. They emit toxic gases and drive animals from their natural habitations. They cause all manner of destruction. Tragically, all this destruction can start with a carelessly dropped cigarette butt.

BRIDGITTE KIDANA, REPUBLIC OF CHAD

Food Security

Hunger is the most extreme manifestation of poverty, and the eradication of hunger is instrumental to the eradication of other dimensions of poverty. Agricultural production varies from one sub-region to the other and is projected, due to the impact of climate change, to significantly decrease in the tropics and sub-tropics, areas where food insecurity and hunger are already a problem.

COMBATING HUMAN VULNERABILITY TO ENVIRONMENTAL CHANGE

The latest initiative adopted by African leaders in 2001 is the New Partnership for Africa's Development (NEPAD), whose long-term objective is to 'eradicate poverty... and to place African countries, both individually and collectively, on a path of sustainable growth and thus halt the marginalization of Africa in the globalization process.' The NEPAD environment the initiative targets a number of areas for action, including: combating desertification; wetland conservation; global warming; environmental governance; and financing. Such measures will help in reducing human vulnerability. Another key response to reduce the vulnerability of people is early warning. Various early warning initiatives have been implemented in the region. The Famine Early Warning System (FEWS) is perhaps one of the more widely known initiatives in Africa. The 1985 famine in Ethiopia galvanized African countries to establish FEWS. The main objective of FEWS is to lower the incidence of drought-induced famine by providing timely and accurate information to decision makers regarding potential famine conditions.

Community-based Natural Resource Management Programmes

Wildlife management in the region has undergone many changes over the past 30 years, from the colonial policies of protectionism of wildlife at the expense of communities, to sustainable utilization, which supports community involvement. Countries in different sub-regions have implemented or are implementing community-based natural resource management (CBNRM) programmes not only to address the issue of biodiversity conservation, but also to generate income for communities and to help to reduce rural poverty, thus reducing vulnerability.

Indigenous Knowledge Systems

Indigenous knowledge systems (IKS), which were discouraged during colonialism, are being revived throughout the region in order to promote human nature linkages and to help communities to adapt to their changing environment. The Hausa of northern Nigeria, for example, developed a wealth of indigenous knowledge to cope with vulnerability to drought and famine in the sub-humid to arid regions of the Sahel. These included: inter-cropping with nitrogen-fixing legumes; intensive manure application; and soil conservation works. Other household and communal coping strategies included: wild food substitutes; increasing petty trading by women; selling livestock; craft production; and a strong communal ethic of sharing food with the hungry.

One important coping strategy throughout Africa is 'communal action based on social capital'. In this strategy, traditional societies in rural Africa draw on the collective strength of the weak to cope with stress in order to decrease vulnerability and insecurity, for example, through informal communal institutional processes, such as barter and trade.

Intellectual Property Rights

Related to the issue of IKS is intellectual property rights (IPR), which has assumed increasing importance in terms of conservation, management, sustainable utilization and benefit sharing of genetic resources. The plunder of African intellectual property rights contributes to human vulnerability, because the region will be unable to derive benefit from its resources, particularly after patenting. African countries which are particularly rich in genetic resources, traditional knowledge, and folklore have an interest in the role of IPR, in the sharing of benefits arising from the patenting and use of biological resources and associated traditional knowledge.

Policy Interventions

African countries are party to various policy instruments at global, regional, sub-regional and national levels. However, compliance and implementation with these instruments of environmental management and policy are often ineffective. This is an indication of policy failures that have to be addressed if Africa is to move towards sustainable development. Policy failures can contribute to increased human vulnerability to environmental change. This can be due to inaction on the part of authorities, unsustainable policies, poor implementation of existing policies, or insufficient human and financial resources to give effect to policies.

Consequently, there is absolute need to strengthen policy implementation measures at community, national, sub-regional, and regional levels. This certainly calls for support at the global level, but the responsibility is that of governments, through the necessary political will and commitment, and in cooperation with their sub-regional and regional organizations.

"Environmental stability and sustainable development are closely interlinked like twins and the impact of their interaction is very sensitive at all levels."

JEAN BAPTISTE MARANGA,
DEMOCRATIC REPUBLIC OF CONGO

Did You Know?

Some 86 per cent of known higher plants, 99 per cent of the world's indigenous people and 96 per cent of the world's farmers live in the South (Africa, Asia and Latin America).

The South's share of species diversity ranges from a low of 52 per cent of known fish species to a high of 91 per cent of reptile species. The South has 87 per cent of the global diversity of higher-order plant species and at least 83 per cent of all forests (tropical and temperate).

STOP THE KILLING AND START THE PLANTING

If only the bullets would stop flying,
Then maybe the maize would start growing
If only the landmines would stop exploding,
Then maybe our land would explode into healthy plants
In killing one another, we also kill innocent animals
In destroying peace treaties, we destroy the environment
It is time to stop the killing and start the planting,
So that we can feed from our land,
And not from aid
It is time to keep the peace and
Keep the environment green

BENOIT MURERA MANZI, RWANDA

WHAT SHOULD BE DONE?

In order to effectively reduce human vulnerability and increase security in anticipation of, during, or after adverse environmental change, policies need to be adopted which adequately address environmental issues at national, sub-regional, regional, and global levels, as well as enhance their implementation.

African governments should assume their responsibilities to reduce human vulnerability and increase security by lowering risk and enhancing coping capacities.

Environmental management should be integrated into development planning.

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Everything that is not from the youth is from the AEO report, hence there is no need to give this reference.

Photos and illustrations in this Chapter
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Grace Andahwa, Kenya
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CONCLUSION

Our environment is our life and when it changes for the worse, our lives change for the worse. Environmental change is making our people more vulnerable. They are now exposed to more risk, yet their coping capabilities are quite low. This means that disaster, when it strikes, finds people who cannot shield themselves. If our people do not have umbrellas, then rain will drench them to the skin. If our people are poor, then environmental change will affect them deeply. If our governments do not institute relevant policy frameworks, then people will be ill-prepared and ill-equipped to meet the onslaught of environmental change. If we take two measures from the environment and give back only one measure, then the environment may end up with nothing to give us.

OUTLOOK POLICY AND RESPONSE

VISUALIZING THE FUTURE

The future depends on the present. A sustainable development strategy in Africa depends on insight into the present and the future. Since the future is essentially unknown, we need to develop proper mechanisms for understanding it. These mechanisms are captured in scenarios that offer different opportunities for Africa's future. One of these scenarios offers the greatest promise for the continent over the next 30 years, while the others spell out the potential setbacks and failures that the future may present.

What is a Scenario?

A scenario is a story that shows how future events could unfold, and offers lessons on how to influence these events towards a more sustainable path. Scenarios draw on science, the past, the present, physical and social processes, as well as the imagination.

DRIVING FORCES OF THE SCENARIOS

Driving forces determine environmental change. They control trends and are also influenced by social, economic, and environmental conditions. There are several driving forces, including:

Demographics

Young people make up a big percentage of Africa's population. About 43 per cent of the population is below the age of 15 years, about 52 per cent is between the ages of 15 and 60 years, and 5 per cent are aged 60 years or older. The large percentage of young people transforms them into a gigantic workforce for increased investment and economic development.

Economics

The economic underdevelopment of African countries reflects, in part, their history of economic and political colonization and, partly, the policies adopted by governments following independence. Debt has also been a stumbling block for many African nations, which have had to spend more on servicing their debt than on providing basic social services. To make matters worse, most of the wealth generated by trade liberalization has flowed to developed countries, leaving Africa even more impoverished. In the late 1990s, more than 46 per cent of, or 290 million, people in sub-Saharan Africa lived on less than US$1 per day, up from 217 million people a decade earlier. Such extreme economic handicaps can disable Africans from being environmentally active, thus affecting the future of Africa's environment.

Social Issues

Half of Africa lacks access to health services. Life expectancy is expected to reduce as a result of the HIV/AIDS epidemic. On average, African nations continue to grow sicker and poorer. There are great inequalities in income distribution, opportunity and social welfare. Even though literacy has risen considerably, African countries are experiencing 'brain drain', as the best-trained people migrate to developed countries. Young people have been especially tempted due to what they see as better opportunities abroad. On their part, African women have made tremendous progress over the past four decades but more action is required to maintain this momentum. Such social issues can greatly determine environmental progress in the future.

Culture

Culture and the natural environment are strongly linked. Cultural norms and values shape people's perceptions, aspirations, and attitudes and, in turn, their actions. In this way, culture strongly influences the choices that people make. In this era of increasing globalization, culture can be quite dynamic. Such a cultural revival will constitute a crucial fulcrum for the African renaissance, and its effects will soon become noticeable on the environment.

Governance

Young people dream of transparent and democratic political governance. Some African governments shatter this dream by embracing corruption. In the 1990s, the winds of change blew across Africa as most people demanded greater accountability from their elected leaders. Political governance plays a big part in environmental governance and is thus of vital importance to the environment.

THE SCENARIOS

The four scenarios are:

>The Market Forces Scenario

>The Policy Reform Scenario

>The Fortress World Scenario

>The Great Transitions Scenario

The Market Forces Scenario

This scenario assumes that globalisation will progress as it did at the end of the 20th century. Increasingly, the world becomes more and more like a global village, with more economic and cultural integration. There is free trade, and information technology continues to play an important role. The World Trade Organization (WTO) provides the legal basis for the global trading system. African economies will comply with the policy reforms promoted by the World Bank and the International Monetary Fund towards a greater reliance on the market forces. These market forces determine economic and social relations, investment patterns, and development of human resources and institutions. Trade barriers gradually diminish and a free market economy emerges. However, the negative effects of globalization, such as consumerism and individualism, spread, resulting in wider gaps between the haves and the have-nots.

Competition and private investments stimulate initiative and become engines for growth. The ensuing economic growth ensures a balance between environmental growth and economic development.

In the African situation, market forces have brought more social and economic problems than were experienced in earlier decades. People have neglected to consider the negative impacts of their activities on the environment. Africa and Africans continue to be vulnerable to unrestrained economic exploitation of resources, a trend that leads to unsustainable patterns of living and assaults on the environment.

Assumptions

The assumptions of the Market Forces Scenario may be summarized as follows:

> The dominant western model of development prevails, with the spread of consumerism/materialism and individualism. The world economy converges on this mode.

> Policies promoted by international financial institutions are adopted, whether willingly or otherwise, and are found to have positive impacts on aggregate growth as the scenario progresses.

> The most effective poverty reduction strategy is growth promotion. Growth will tend to be broad-based and will trickle down.

> Effective institutions will emerge and spread.

> Economic growth will automatically contribute to recovering the environmental damage incurred as a result of development.

> An active policy-making environment is in place. However, although policies are implemented, they tend to be market-based.

Illustration: Alfred Muchilwa, Kenya

COCOA PRODUCTION AND ENVIRONMENTAL DEGRADATION IN THE IVORY COAST

Ivory Coast is the world's top producer of cocoa with more than 40 per cent of market share, fluctuating between 2.5 and 3 million tonnes every year in average. Cocoa production represents 15 per cent of the GDP and is a direct means of livelihood for 700 000 farmers, involving the lives of 4 million people. Small-scale farmers are the main cultivators of Cocoa, and 84 per cent of its production comes from exploiting a land with only an area of less than 5 ha.

Ivory Coast's top position in world cocoa production is nevertheless not without consequence on its environment. Deforestation proves to be the most visible impact of the country's huge production of cocoa. The country suffers from advanced and rapid deforestation mainly caused by the abusive exploitation of wood, and also by agricultural development efforts that involve the clearance of entire forests. In fact, with its 2 million ha of area, cocoa growing has contributed by nearly 14 per cent to forest clearance in Ivory Coast. This situation prompts peasants to open up new fields in an attempt to maintain, if not increase, their income. Another cause of deforestation is the methods of farming used; the open-air farming system is the most popular and it implies systematic tree cutting, and this has consequences on the biodiversity of animal and vegetable species whose habitat is threatened by such disturbed environments.

For better protection of the environment, we must adopt a system of sustainable cocoa production. The following is needed in order to achieve these:

> To replant or reutilize old cocoa fields or other food generating fields in order to use land sparingly.

> To improve the techniques of production by making use of biological elements in order to increase the productivity of our plantations, without causing chemical degradation.

CHRISTIAN ADO, CÔTE D'IVOIRE

"Unless nature is obeyed, our dreams and predictions may end in oblivion."

IKENNA ISIFE, NIGERIA

Did You Know?

Most structural adjustment policies introduced have tended to impact negatively on human livelihoods, vulnerability and coping capacities. In Cameroon, for example, the International Monetary Fund (IMF) encouraged the government to reduce export taxes on forest products. This resulted in a 49.6 per cent increase in lumber exports between 1995 and 1997, resulting in the wholesale destruction of one of Cameroon's most valuable environmental resources.

The Policy Reform Scenario

The Policy Reform scenario is the Market Forces scenario with a human face. It balances market driven prescriptions with social and environmental policies. This scenario is based on a set of social and environmental goals adopted by the international community. It is a journey towards desired goals. The defining feature of the Policy Reform scenario is the emergence of the political will to constrain market-driven growth with a comprehensive set of sustainability policies.

At the turn of the century, Africa was plagued by a myriad of problems like HIV/AIDS, poverty and environmental problems. Development in most of Africa's countries seemed to be on a go-slow, at a standstill, or in reverse gear. This triggered renewed commitment to sustainable development and environment, and therefore adoption of social and environmental goals to reflect global, regional and national commitments, through policy reform. Though it does lead to triggered economic recovery, the policy reform scenario would ultimately sideline environmental issues as more emphasis is placed on targeted policies than their corresponding automatic results.

For Africa, the Policy Reform scenario offers an opportunity for the region to break with more than four decades of 'unfulfilled promises of global development strategies' (OAU 1980). Though it does lead to triggered economic recovery, the policy reform scenario could ultimately sideline environmental issues if more emphasis is placed on targeted policies then their corresponding results. Under the Lagos Plan of Action, African leaders emphasized that Africa's huge resources must be applied principally to meet the needs of the people and reverse the virtual 'total reliance on the export of raw materials' (OAU 1980). Unfortunately, many of the targets set by the Lagos Plan of Action and other meetings remain unmet, largely because of ignorance or indifference.

Assumptions

The assumptions of the policy reform scenario may be summarized as follows:

>Policy initiatives for achieving goals are regionally differentiated, but include a mix of economic reform, regulatory instruments, voluntary actions, social programmes and technological development.

>There is an emergence of the political will to constrain and guide market-driven sustainability policies.

>The 'western' model still prevails, and 'western' values still spread.

>There is less trust in automatic positive results from markets, and more emphasis on targeted policies.

Illustration: Alfred Muchilwa, Kenya

Fortress World Scenario

The Fortress Scenario is the result of governments ignoring the need for strong environmental policy reform, and failing to recognize the links between the environment and development. Development thus declines as poverty rises. The result is environmental degradation, food insecurity, terrorism, and health crises. Alarmed by this, the affluent minority resort to creating protected enclaves for themselves in rich nations and strongholds in poor nations as well. The irony of a Fortress World crisis is the elite minority living in bubbles of privilege while the poor majority live in oceans of misery, suffering, and hardship with few options and resources.

History is full of examples of the elite living in prosperity while the majority of the public struggles in poverty, working mainly for the benefit of that elite. In the Fortress World scenario, the elite organize themselves into strongholds to protect their interests, families, businesses and assets. In so doing they create strong, well connected networks, especially through multinational companies which operate within their strongholds. As a result, there is a decline in the capacity of the state to perform adequate developmental tasks outside the fortress. The basic needs of the people are thus not met, leading to the breakdown of peace and security.

The Fortress Scenario in Africa could unfold in two ways. Firstly, a self generated fortress driven by the African issues that continue to plague the region such as poverty, HIV/AIDS, and disease, while the rest of the world remains unaffected and possibly prosperous. Secondly, a global Fortress World in which economic, social, and political systems collapse, with Africa being the most affected due to its high vulnerability.

At present, the western world prefers to deal with Africa as sub-Saharan Africa, while the north is viewed in the Mediterranean context. This has implications for regional alliances between the elite of Europe and Northern Africa, which go against the true African view of one united Africa. The alliances in a fortress world, such as those driven by special interest groups and individuals, are likely to weaken the trend of African unity and integration. Current social, economic, political, and environmental conditions in Africa indicate that the fortress world is already dominating many African countries. This is evidenced through elite business holdings, fenced and highly secured residential areas, and segregated private schools.

Assumptions

The assumptions of the Fortress World Scenario may be summarized as follows:

>Increasing social and environmental problems lead to authoritarian 'solutions'.

>Those in the fortress reap the benefits of globalization, while those outside the fortress have few options and resources and are excluded from the privileges of the elite.

>Components of the environment may improve under this scenario, because the elite control valuable environmental resources. However, it may be impossible to maintain this improvement indefinitely.

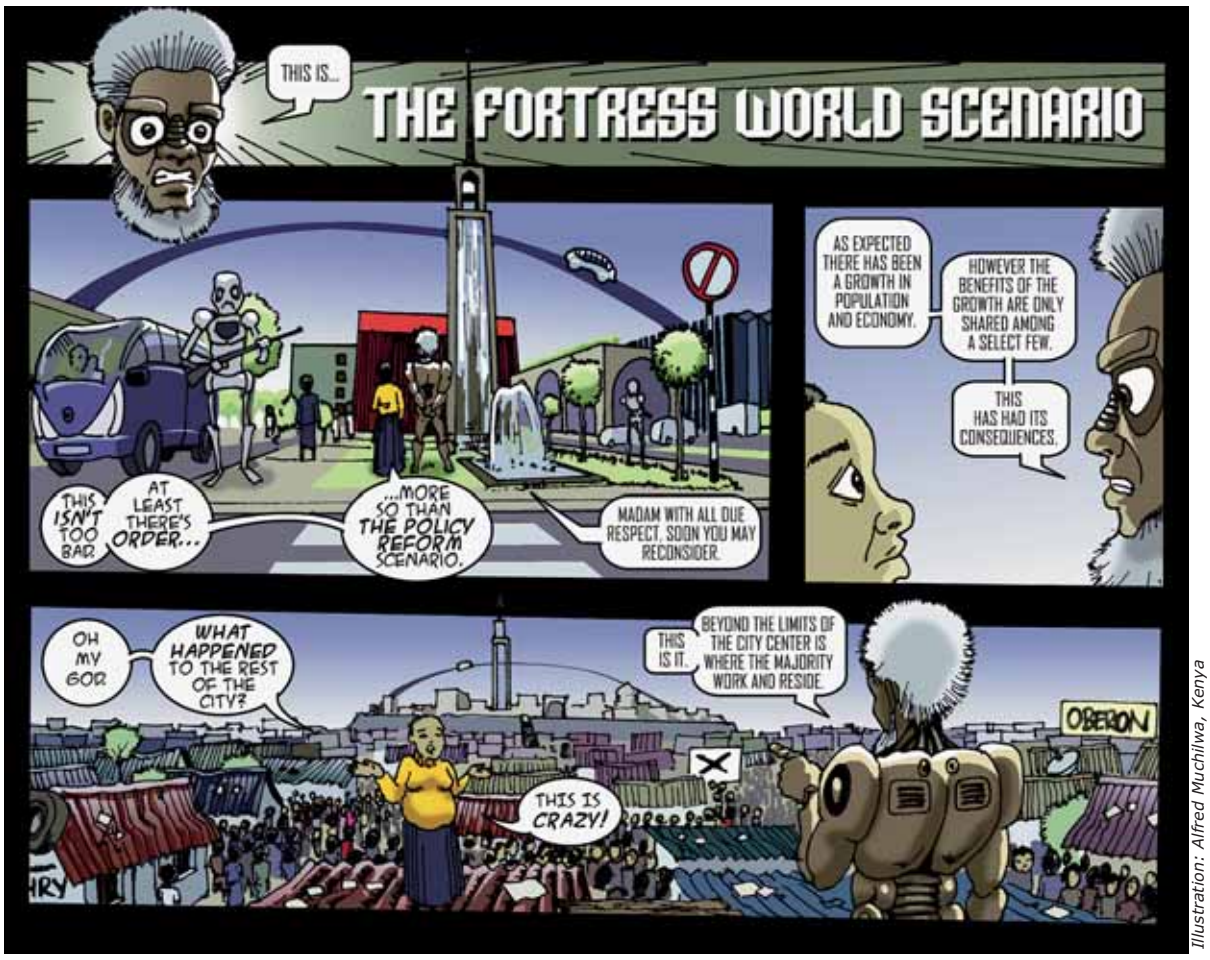


Illustration: Alfred Muchilwa, Kenya

The Great Transitions Scenario

In the Great Transitions Scenario, the market remains important in production and distribution of goods, but policy development remains in line with social, cultural and environmental goals.

The major strategies through which the Great Transitions scenario will evolve are described by the African renaissance- the resurgence of African culture, human resource development, outreach programmes and public participation in the development process.

The attributes of an African Renaissance and thus the Great Transitions scenario are based on visions of a desirable and environmentally sustainable future. These visions depart from development that is crisis-oriented, donor-fed and state-centred.

The Great Transitions scenario is expected to usher in better educational facilities; greater empowerment of all people, especially women; and absolute reductions in poverty levels through enlightened policy reforms. It is also expected to bring about greater political consciousness and commitments at local, national, regional, and global levels, through visionary leadership, the eradication of corruption, and improved economic performance. This scenario also embraces increased regional cooperation on all levels, including environmental management. Some initiatives in Africa already subscribe to the principles of the Great Transitions. Examples include the Africa Union, the 2001 Millennium Africa Recover Plan (MAP), and the evolution of the New Partnership for Africa's Development (NEPAD).

The Great Transitions scenario represents a very optimistic and achievable view of the development of the environment in Africa, as well as all over the world. In this scenario, Africa can emerge as a continent with a rich and sustainable future.

Assumptions

The assumptions of the Great Transitions Scenario may be summarized as follows:

>Neither the Market Forces scenario nor the Policy Reform scenario possesses adequate strategies for addressing the assault on the environment.

>Social, cultural, and environmental goals take precedence in development planning, while market forces are not abandoned as a policy tool.

>In general, there is a cultural renaissance which is not only critical of past behaviour and its effect on the environment, but also outlines new ways of thinking, and fosters environmental goals.

>The affluent, having become disillusioned with consumerism, other ills of society, and the negative environmental impacts of development, undertake steps to develop new values and value systems. These are gradually introduced, and promote a new set of ethics in society.

>A new generation of thinkers, leaders, and activists join together, and shape national and global dialogue towards environmental sustainability.

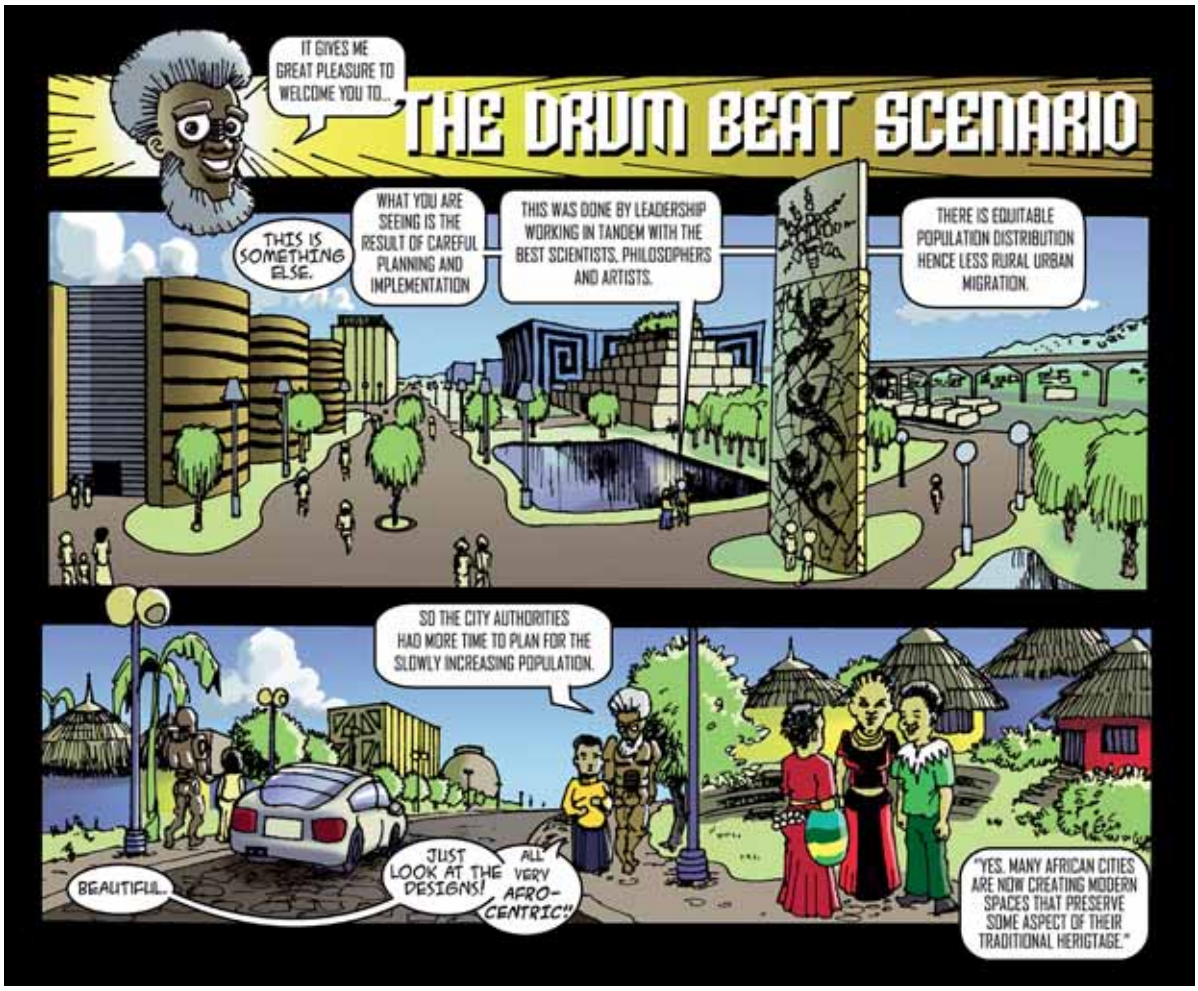
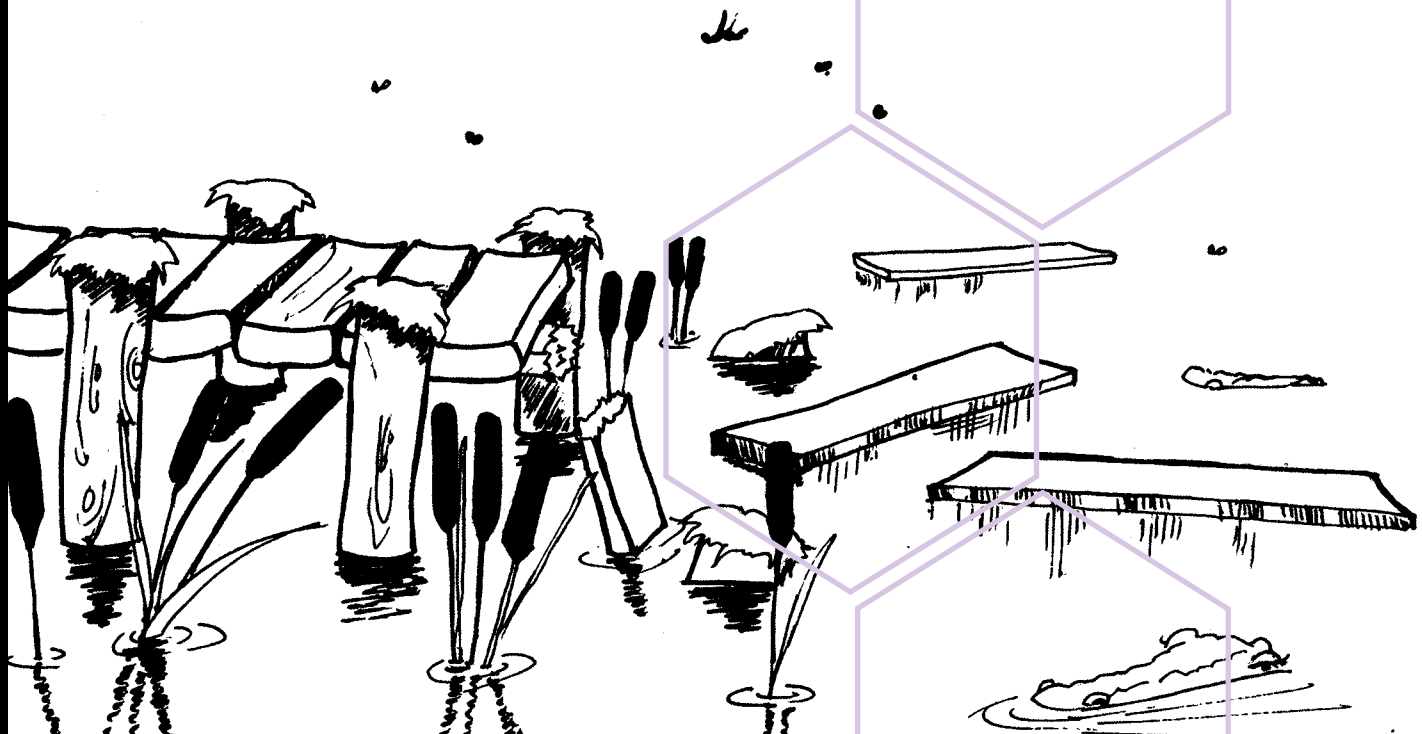


Illustration: Alfred Muchilwa, Kenya

TOMORROW'S AFRICA

The African environment is currently exposed to harsh conditions that can affect the future of the whole continent. I would like Africa to have the best environment one can live in, and this can be achieved by working hand in hand to conserve our natural resources. Proper planning of all activities should precede implementation. If we plan now, we shall have a disaster-free continent in the near future. Only then, will our children enjoy as well as benefit from the lovely environment. Preaching and living the "EVER GREEN" slogan all over Africa will make our continent a paradise.

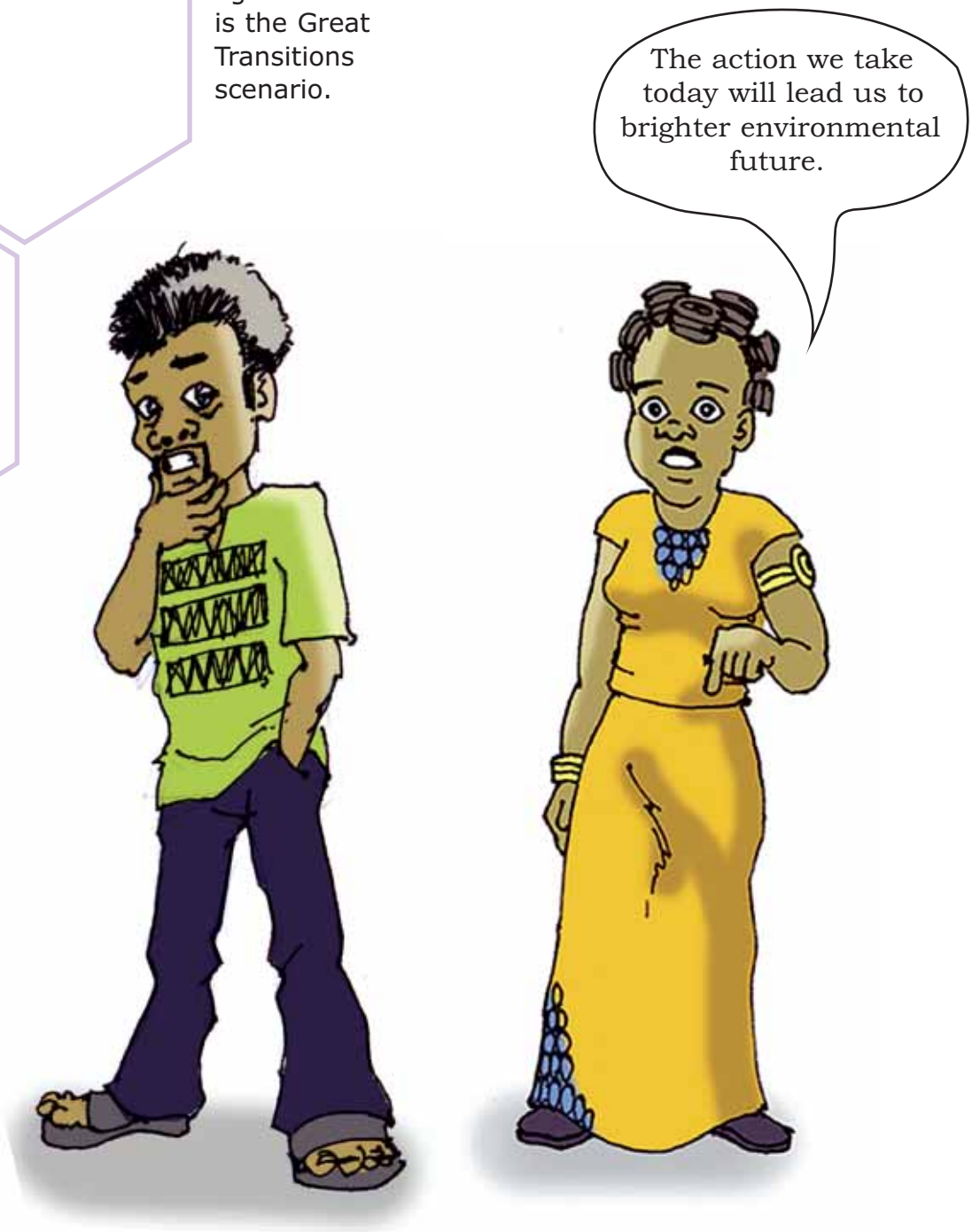
JENNIFER NAKACHWA,
UGANDA



Picture this...

A world in which social, cultural, and environmental goals take precedence in development thinking. A world driven by ethics and material simplicity, not consumerism, individualism, or profit. An Africa no longer stigmatized as the hopeless continent, riddled by poverty, war and HIV/AIDS… but one in which thinkers, leaders and activists unite in a renaissance that places sustainability as its pivotal agenda. This is the Great Transitions scenario.

Photos and illustrations in this Chapter
Alfred Muchilwa, Kenya
Ange Gnacadja, Benin
Grace Andahwa, Kenya
Hatem El Toudy, Egypt
Monir El Shazly 2, Egypt
Velma Mwendwa, Kenya



YOUTH IN ACTION !

Peacemakers and Environmental Activists

Our hearts' desire is to make peace in our communities and on our continent. This is why we named our organization, 'Africa Peace.' We believe that a better future for Africa is possible, that a greener, peaceful, healthy and wealthy Africa is possible. To translate this conviction into concrete reality, we train youth in peace building, leadership and entrepreneurship. So far, 40 Western African youth leaders have received our training. This trained youth engaged in lobbying and advocacy for peace, better education and decentralized cooperation. They also took part in our Pacific Match for Peace in Côte d'Ivoire, in January 2003. The following year in May, we participated in a peace caravan from Nigeria to Togo via Benin in partnership with the African Renaissance Network.

As we marched for peace, we also decided to write on the environment and share environmental information. The resulting newsletters were circulated to secondary schools in Benin and were read by over 1 500 youth. We look forward to circulating more environmental newsletters and continue marching for peace.

Africa Peace, Benin
Godomey-Houedonou,
04 BP 0340 Cotonou, Benin
africa_peace@yahoo.fr

For the Love of Water

Our country is one of Africa's 22 landlocked countries. But even though our borders do not touch the waters of any ocean, we are deeply concerned with freshwater. Our organization is working towards youth empowerment in integrated water resources management in Botswana. Towards this end, we design and distribute public education materials on water conservation. We also hold public education meetings on water conservation. These meetings are used to mobilize youth towards water conservation. In addition, we organize international exchange programmes on water issues. Through this programme, there has been an exchange of information with Lesotho Youth Water Action Team. Since water is a scarce resource in Botswana, our work will help to conserve the little that we have. Every time you drink water, pause and remember that the water in your mouth has been through a hazardous journey. We urge you all to join us in making this journey less hazardous.

Botswana Youth Water Action Team
education@kcs.org.bw

Illustration: Vivien Ayair, South Africa

Students on the Move

Our country's School Environmental Education Programme started in 1999 after the National Environment Management Authority (NEMA) conducted an Environmental Education workshop on environmental management for teachers. After the course, the trained teachers initiated various activities. In our school, the teachers founded three environment clubs and named them after three colours, Green, Orange, and Blue.

Each Club handles projects that address certain environmental problems. The Blue Club built fuel saving stoves. Members constructed the stoves using clay to line the inside and conserve heat. These stoves have saved time and money. Using less fuel means one less tree cut, more convection rain and more soil fertility.

In the Orange Club, we specialize in the recycling of polyethylene bags and paper. The paper is mashed and used to make learning materials, while the polythene is used to make ropes and balls. Everyday, we sort rubbish, remove the paper and polythene, and put the biodegradable material in the compost pits. All our three clubs come together during home visits. Together, we visit the neighbouring houses and identify environmental problems, then take action like collecting rubbish and digging channels.

Buliigo Day and Boarding Primary School
P.O. Box 328, Iganga, Uganda

Uniting Youth across Northern Africa

Our goal is to unite the Northern African youth in a vibrant environmental network. Since its birth in 1978, our organization has assisted in establishing national environmental networks in all the Northern Africa countries. In 1993, our national networks set up a youth volunteer program for about 4,000 youth volunteers from Northern Africa. The volunteers worked on different environmental programmes in the region. Some of them were later hired as part-time and full-time employees in their respective programmes. We will continue tapping the enormous energy of youth towards environmental programmes in this region.

Arab Office for Youth and Environment (AOYE)
P.O. Box 2, Magless El Shaab Cairo Egypt
aoye@link.net

Preaching the Environment Gospel

Our country is home to the source of River Nile. Not far from this great river are some of the 25 primary schools in which we started environmental clubs. As these clubs were sprouting up, we set up a resource centre for youth to access environmental information and receive environmental training. We have trained ten trainers of trainers in organic farming. With the help of these trainers, we organized workshops and seminars on environmental education for youth and primary school teachers. To increase environmental education even further, we started a sports programme for youth in slums. Through sports, we are now able to hold environmental talks and distribute environmental products. Our goal is to score environmental goals even as our youth score soccer goals.

Conservation Trust, Uganda
P.O. Box 1665, Kampala, Uganda
contrustug@yahoo.com

Making a Green Difference in Angola

We are the largest non-profit environmental non-governmental organization (NGO) in Angola. When we took our first steps on 11 May 1991, our primary purpose was to promote environmental conservation and sustainable development through the involvement and participation of young people in environmental education and active learning processes and activities.

Our 5 000 conservation volunteers and environmental educators are based in 8 of Angola's 18 provinces. These young volunteers address different environmental issues facing the country, such as sanitation, biodiversity loss, soil erosion, desertification, and urban solid waste. To this end, we have developed programmes and projects such as Communication, Education and Public Awareness (CEPA), capacity building, database management, clean-up and waste recycling campaigns, research and environmental assessment and tree planting. In June 2002, we were recognized by the United Nations Environment Programme (UNEP) by receiving the UNEP Global 500 Youth Environmental Award.

Juventude Ecológica Angolana (JEA), The Ecological Youth of Angola
Box 542, Luanda, Angola
roquerusso@nexus.ao

Using the Information Highway to Create Change

In our organization, we are enthusiastically driving along the information highway. Our mission is to use the Internet as a means of spreading information to a wide youth audience in Gabon and all across Africa. This information will be geared towards equipping the youth to deal with major problems like unemployment, HIV/AIDS, environmental degradation and child trafficking. In the spirit of youth empowerment, our website is wholly managed by the youth.

ONG Forum des Amis du Net
Incubateur Coopgabon.net,
BP 13434 Libreville, Gabon
fan@cooperation.net

Painting Ghana Green

The Green Earth organization was born in 1989. It seeks to conserve the environment and promote rational use of natural resources by serving as an environmental watchdog and educator. Green Earth fully recognizes that youth are central in any attempt to change the future. It therefore targets youth in all its activities and believes that youth empowerment will result in a green future.

Green Earth activities include: biodiversity conservation, water resources conservation, reforestation projects and policy formulation. The organization also operates a video resource centre with the support of TVE International, where videotapes on various issues are lent to clients and also used in community outreach programmes.

In the 15 years since its inception, Green Earth has been able to influence policy change as well as improvement in livelihoods of people in rural communities. Green school clubs have also been formed all over Ghana. As its name suggests, Green Earth aches for a green earth and the only respite from this ache will be the realization of a green earth.

Green Earth Organization
PO BOX 16641, Accra North, Ghana
greenearth@cs.com.gh

Illustration: Vivien Ayair, South Africa

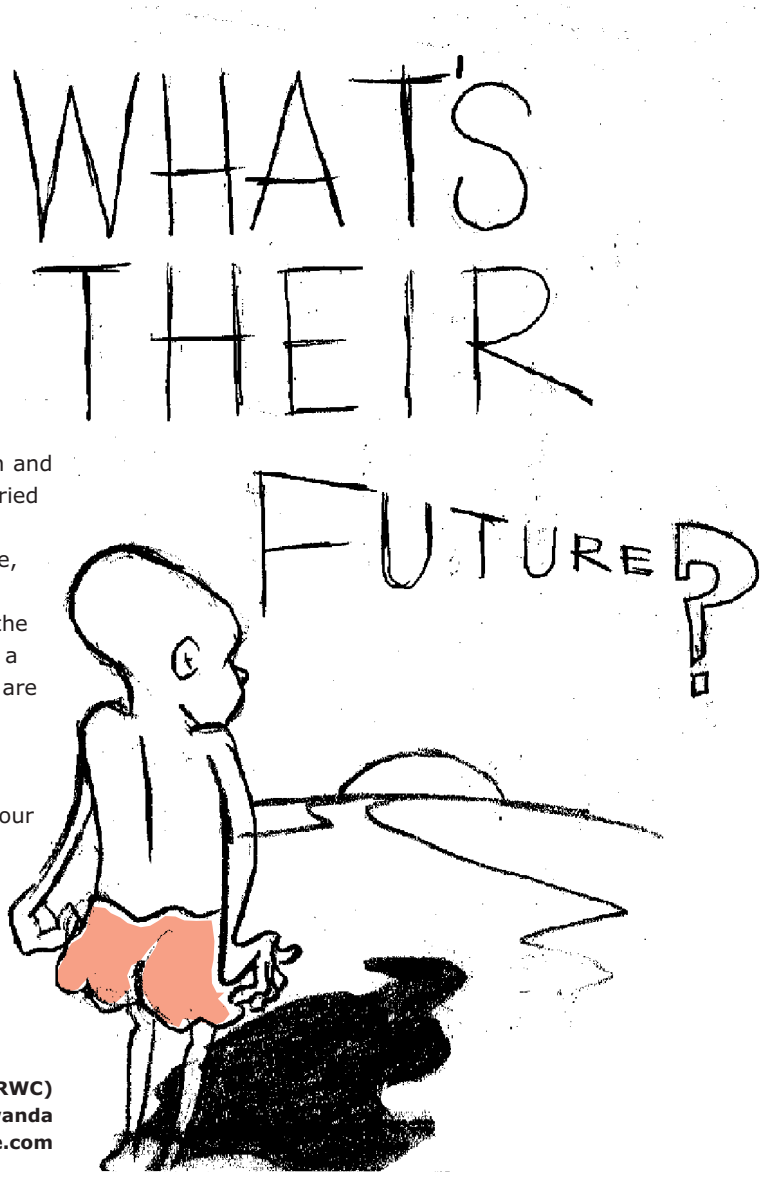
Uniting University Students

We are a 186-member association and have an executive board that keeps us moving in the right direction. We also have a Disciplinary Committee to warn or suspend members who drag us behind. Membership is open to any university student who has registered for at least one geography course. Our association seeks to increase environmental and HIV/AIDS Awareness. We do this in all the ten districts of Lesotho.

National University of Lesotho Geography Association (NULGA)
rangoananam@yahoo.co.uk

Keeping Youth Informed and Involved

The Rwanda Wildlife Clubs (RWC) is on a mission to help youth recognize the value of conserving wildlife heritage and environment. To enable a long-term and systematic involvement of youth, we have set up 2 clubs in colleges, 10 in secondary schools and 5 in primary schools. These clubs are used as forums of environmental education and implementation. Since our inception in the year 2000, we have been promoting the scientific study of wildlife and the environment. This is done by taking our members on educational tours in national parks. Apart from the parks, other educational trips target communities. We have managed to train 28 farmers in Ruhengeri community on soil conservation, eco-tourism management, and progressive terracing techniques.



At the policy level, we participated in the formulation and validation of the national forestry policy. We also carried out a feasibility study for the Integrated Natural Resources Management Project in Ruhengeri Province, near the Volcanoes National Park, home to the endangered mountain gorillas. Based on this study, the National Tourism and National Parks Office approved a pilot program for natural resource management. We are currently working with the International Gorilla Conservation Program (IGCP) to protect the natural habitat of mountain gorillas and prevent local people from encroaching the Volcanoes National Park. With our multidisciplinary team and partnerships, we are able to develop expertise in many environmental conservation activities. Our strategy is to involve youth in all these activities so that the youth voice may be duly represented and youth dynamism fully tapped into.

Rwanda Wildlife Clubs (RWC)
BP 396 Butare, Rwanda
rwc@planet-save.com

Illustration: Somali Organisation for Community Development Activities (SOCDA) Youth Club

Capturing the Voice of Youth

In early 2003, the Somali Organization for Community Development Activities (SOCDA) initiated a voluntary project known as Peace, Environment and Development (PED). This project is geared towards youth mobilization, sustainable peace, environment and development. For more environment-focused action, SOCDA designated 2004 as the year of Youth for the Environment. Young people in parts of Somalia were invited to artistically express their feelings on the environment. This enabled the voice of the youth to be captured in lasting art form. Through its youth programme, SOCDA hopes to continue involving youth towards environmental sustainability, peace, and sustainable development.

Somali Organization for Community Development Activities (SOCDA)
P.O. Box 34919 - Nairobi, Kenya
socda@globalsom.com

Environmental Whistle-blowers

Can you imagine a country so big that nine countries border it? Can you imagine a country that has both equatorial and tropical climates? Can you imagine a country that has over 200 ethnic groups? Well, stop imagining and visit the Democratic Republic of Congo, for it has all these attributes. It is in this unique country that our organization was born in 2001. The organization was formed to uphold the new concept of sustainable development through human rights and environmental protection. One of our early activities was to hold sensitization campaigns on the protection of biodiversity for future generations. This is especially important because the Congo Basin forest is one of the most biologically diverse and poorly understood ecosystems.

Even as we sought to understand, and make others understand, our biodiversity, we also organized school conferences whose purpose was to educate students on sustainable development. In the course of events, we realized that if development was to be sustainable, and if biodiversity was to be protected, then tough action needed to be taken against those who violated the environment. This led us to become environmental whistle-blowers, on the lookout for environmental offenders. In June 2003, other organizations joined us in blowing the whistle against illegal hunting, poaching, and tree cutting in the equatorial forest.

SOS Congolese Youth (SOSJECO)
Epulu 812/98 c/lemba, Kinshasa, DR CONGO
sosjeco@yahoo.fr

Saving a River and Spreading a Tree

Masue is a polluted river that cuts across the Victoria Falls-Bulawayo highway. It is located next to a dumpsite and it is home to scavengers. Next to it are sewage treatment ponds. The Victoria Falls Environment Action Society youth adopted a 2 km stretch of the river. They clean it once every two months and hold awareness campaigns on river pollution. The Masue River is inside the Victoria Falls World Heritage boundary. The group is working closely with the Municipality, Environment Africa and the Department of National Parks.

Moringa is a nutritious tree that boosts one's immune system. Environment Africa got into a partnership with the Ministry of Health and Child Welfare to propagate and distribute this tree. As an extension to this, the youth group embarked on this project but their target group was the elderly and the orphaned. Seventy Moringa trees were thus planted at the old people's home. The group does the monitoring and watering of these trees once a week. In addition to this, the group is reaching out to disadvantaged communities like the DRC squatter camp, giving talks about the importance of the tree, its uses, and its propagation. The group gave a tree to each household at the DRC Squatter camp. It is hoped that these trees will improve the nutritional requirements of the squatters.

Victoria Falls Environmental Action Society
C/o Environment Africa, P.O.Box CT 502,
Chinotimba, Victoria Falls, Zimbabwe
eafrica.vicfalls@utande.co.zw

Youth Employment Summit in Africa

Stretching across 32 African countries, the Youth Employment Summit (YES) has a vision of young people building their communities, nations, and sustaining their environments. YES operates within the United Nation's Secretary General's 4Es framework, namely; Employability, Employment Creation, Equity (Equal Opportunity), and Entrepreneurship. YES has also added a fifth E - Environmental Sustainability. This vibrant network believes that environmental sustainability can only be achieved through economic incentives. Youth are thus encouraged to embark on ventures that will increase the quality of their livelihoods and promote sustainable development in their communities. Renewable energy is one of the many sectors that can realize both environmental sustainability and employment. YES Country Networks are youth-led national-level coalitions focused on implementing YES at the country level.

Youth Employment Summit, Ghana

Since our inception in 2001, we have organized national consultations to understand the local youth employment scenario and place youth issues on the national agenda. We have also brought together youth-led and youth-serving organizations to focus on the issue of employment. This has entailed developing partnerships between youth organizations, government, private sector, NGOs, and educational institutions.

In line with our vision, we have been able to develop National Action Plans for Youth Employment, organize three successive National Stakeholder Consultations on Youth Employment in Ghana, organize career development workshops for over 100 school leavers, and are currently implementing a renewable energy project that has employed over 50 young people.

P.O. Box HP 688
Ho-Volta Region, Ghana
edudzie@hotmail.com

Youth Employment Summit, Gambia

The youth constitute 47 per cent of Gambia's population. Most of these youth are unemployed. Because of this, many youth resort to environmentally unfriendly means of survival like over-harvesting of beach sand. It is with this in mind that we at YES Gambia are targeting the creation of 100 000 job opportunities for youth in the Gambia by 2012. The way we look at it, every job created will save at least 30 trees. Think of all those trees we will save if we create 100 000 jobs! To help in formulating ways of job creation, we already have an internship and apprenticeship programme in place. These interns and apprentices work closely with our members, to realize job creation and environmental sustainability. We have a monthly radio programme that helps us to reach an even wider youth audience. We are hosted at the National Youth Council of Gambia and we work closely with them.

Gambia Red Cross, P.O. Box 472,
Banjul, the Gambia
drgano@hotmail.com

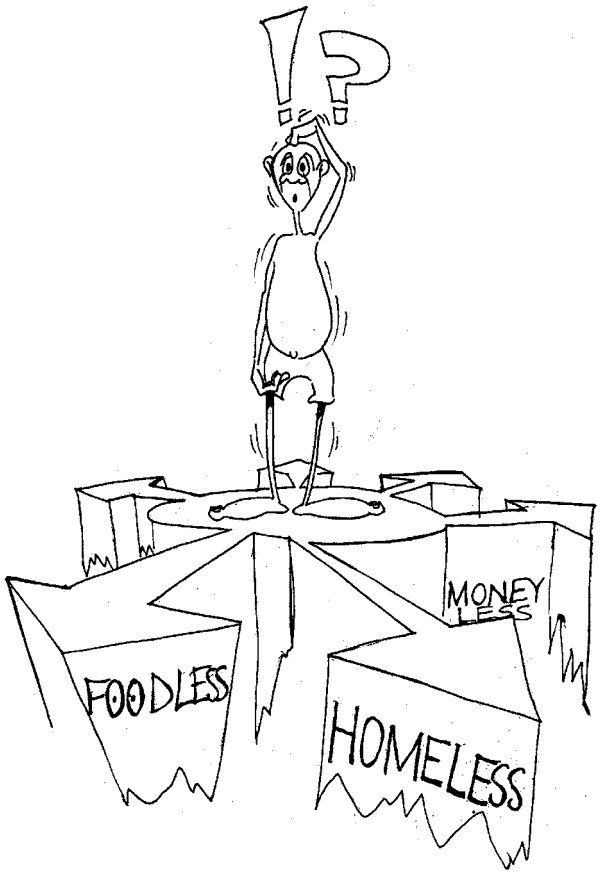


Illustration: Abel Murumba, Kenya

Giving Youth a Voice

Youth Media is a youth-focused NGO whose mission is two - fold: Firstly, to give young people information that enables them to make responsible decisions about their sexuality, as well as equipping them to effectively contribute to personal, social, political, economic, and national development. Secondly, we train young Zambians aged 12-25 with media skills that amplify and articulate their voice on issues that directly affect them. Such a youth voice enables young people to participate in national development and environmental sustainability by creating an understanding of issues that affect youth.

One of our main projects is Trendsetters, a monthly magazine for youth aged 18-25. Trendsetters combines popular entertainment with social development and health messages, by using entertainment to get educational messages to young people.

The Children's Press Bureau is a news and information agency delivering young people's views to the national media, on issues in the news that have a direct impact on children and youth. CPB articles are written by children aged 12-17.

Youth Media
P.O. Box 35767
Lusaka, Zambia
trends@zamnet.zm

Volunteers for the Environment

Young Volunteers for the Environment (YVE) is a youth-led nation-wide organization. Our mission is to educate and empower the youth of Togo and involve them in the sustainable development process. We have more than 30 local branches in our country. Our projects involve environmental education in schools, integrated resource management, weekly TV programmes, promoting access to water resources, and summer youth camps. As a result of our efforts, we received two awards including the Best Performance Certificate awarded by the International Award Council (United Arab Emirates) and the Reuters-IUCN 2002 Environmental Press Award.

Jeunes Volontaires pour l'Environnement
37 rue 218 Akossombo, Box: 80470, Lome, Togo
yvetogo@hotmail.com

The Journey of Youth

Our organization started its journey in May 2000. The 15 founder members were students, ex-students and professionals who decided to use their spare time to improve the quality of life. Since solid waste management remains a challenge in our country, we developed pilot projects of waste collection and recycling and went on sensitizing both youth and adults. This kept our youth busy and our neighbourhoods clean. Through this programme, our youth as well as adults learned the importance of managing solid waste and conserving our beautiful environment. We also have continuous capacity building workshops for our youth members as well as for our partners.

We urge youth all across Africa to put into practice wise practices. We believe in Action! Action!! Action!

Service San Frontiers
Dunputh Lane, Lamarie Vacoas
Republic of Mauritius
ssfenvyouth@hotmail.com

For the Love of Wildlife

We have been actively involved in wildlife conservation projects since 1999. We were formed to help safeguard wildlife from snares, poaching, cruelty, mistreatment and exploitation. Our long-term mission is to collaborate with other stakeholders to unite youth, communities, and organizations through programmes aimed at protecting and preserving our biodiversity.

Snares are indiscriminate lethal weapons such as wires, spikes, dug pits, and sisal ropes set to trap and kill animals. We have managed to collect and remove (de-snare) over 5 000 snares in 66 de-snaring projects in and around National Parks as well as ranches. Alongside de-snaring, we educate the local communities about wildlife and the environment as a whole. Consequently, we have established a strong network with community-based groups. These groups help in the sustenance of the conservation projects. We worked with one of the community groups to initiate a bee-keeping project as an alternative to snaring animals for bush meat trade.

We also realize that youth action is crucial in our country's policy formulation. In 2003, we collected over 2 000 signatures from the public to petition a total ban on the wildlife (cropping) ranching programme in Kenya and presented the petitions to the Minister of Environment, Natural Resources, and Wildlife. This led to the suspension of the game-cropping programme in

Kenya. We, as young people, should be vocal in what we believe in, even when we are looked down upon… Lets fight on. It is our future!!! We have a right to it.

Youth for Conservation
P.O. Box 27689 - 00506, Nairobi, Kenya
info@youthforconservation.org

Le Club Vert

An environmental Conservation club from Burundi.

Christmas tree ornaments made from recycled waste paper, by Le CLub Vert.

Mobilizing Cameroonian Youth

Association Jeunesse Verte du Cameroon (AJVC) works towards sustainable environmental management and human rights promotion. Since our inception in 1999, we have shared best practices amongst youth organizations and promoted environmentally sound technologies. Towards these ends, we held two national youth forums that brought together at least 50 youth organizations and 150 individuals from all over Cameroon. These young people shared songs, plays, ideas and information. In order to identify and network with more youth environmental initiatives, we hold tours throughout all the provinces of Cameroon. For better information flow, we prepare a regular youth magazine containing the different youth activities around our country.

Our vibrant youth association comprises 15 core members and more than 300 national members. Because of our national outreach, our activities draw media interest, government acknowledgement, and international recognition. We believe that such recognition of active youth organizations should be translated into actual support. This will build the capacities of youth organizations and greatly enhance their activities.

AJVC
P.O Box 7814
Yaounde, Cameroon
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CONCLUSION

Throughout the ages, humankind has strived to interpret the future. This drive for knowledge stems from an impulse to forecast the future in order to avoid catastrophes. Since the future is essentially unknown, writing about it can be a tricky affair. The scenarios presented alternative possibilities that can emerge from current conditions and driving forces. It is hoped that these scenarios will guide decision-makers to take informed action.

Africa's youth can ensure that Africa heads towards the great transitions scenario. With the right mindset, good governance, effective policy and an informed public, Africa can stride into the future presented in the Great Transitions scenario.

The greatest prospect for the environment in Africa is empowered youth.

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A CALL TO ACTION

As young people of Africa, it is our duty to leave Africa better than we found it. We have found polluted rivers, weary cities and deforested land. We have found an Africa that is enacting wonderful environmental policies but implementing few of those policies. We have found an Africa that is becoming increasingly vulnerable to environmental change. As we lobby our authorities to put green ink on paper and action into that ink, we can also take action. We can plant more trees and adopt more rivers. We can clean up the beach and embrace environmentally sound technologies. We can refuse to eat illegal bush meat and decide to recycle.

A wish list is not enough to reverse the environmental degradation that our continent faces. Neither is an accusing finger strong enough to build a greener Africa. Only our hands, joined together, in strategic and systematic action will bear fruit. We shall experience a better tomorrow if we take action today. The past, present, and future of our environment is interlinked through us. The Great Transitions may be a future scenario but it is not a dream. If we draw from the lessons of the past and seize the opportunities of the present, we shall be able to usher in a brighter environmental future.

ANNEXES

Glossary

Delta; An alluvial deposit usually triangular in shape, at the mouth of a river or stream.

Capitalism; An economic and political system, in which a country's trade and industry are controlled by private owners for profit rather than by the state. (Oxford)

Socialism; Political and economic theory for social organization which advocates that means of production, distributions and exchange should be owned or regulated by the community as a whole.

Global Environment Facility; The Global Environment Facility (GEF) was established as a joint international effort to help solve global environmental problems. The GEF Trust Fund was established by a World Bank resolution on March 14, 1991 while the Facility was formally established in October 1991 as a joint programme between the United Nations Development Programme, UNEP and the World Bank.

El Nino Southern Oscillation (ENSO); the natural shift in ocean currents and winds off the coast of South America which occurs every two to seven years. ENSO events bring above average rainfall to some regions and reduced rainfall to others.

Fossil fuels; any hydrocarbon deposit that can be used for fuel. Examples are petroleum, coal and natural gas.

Trypanosomiasis; A disease of human and animals caused by infection with species of tsetse flies and other insects.

Chlorofluorocarbons (CFC); A compound consisting of chlorine, fluorine and carbon; has the potential of destroying the ozone layer.

Greenhouse gases (GHG); Gas such as carbon dioxide that contributes to the greenhouse effect by absorbing infrared.

Greenhouse effect; the trapping of a sun's warmth in a planet's lower atmosphere, due to the greater transparency of the atmosphere to visible radiation from the sun than to infrared radiation emitted from the earth's surface.

Global warming; the gradual increase in the overall temperature of the earth's atmosphere due to the greenhouse effect caused by increased levels of carbon dioxide, CFCs and other pollutants.

Myriapod; Centipede, millipede, or other arthropod having an elongated body with numerous leg bearing segments.

Endemism; Peculiar to a certain regions.

Multinationals; operating in several countries.

Alien species; introduced from another country and later naturalized.

Biosphere Reserves; the regions of the surface and atmosphere of the earth occupied by living organisms.

Ecotourism; tourism directed towards unspoilt natural environments and intended to support conservation efforts.

Ramsar Convention; it is an intergovernmental treaty which provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. It was adopted in the Iranian city of Ramsar in 1971 and came into force in 1975, and it is the only global environmental treaty that deals with a particular ecosystem.

Ecosystem; the entirety of plant, animal, and micro-organisms and non-living materials interacting as one unit within a defined physical location. The term may be applied to a unit as large as the whole eco-sphere, but it usually refers to part of it.

Endemic; native or restricted to a certain area.

Ratification; the formal acceptance to be held accountable to carry out the activities elaborated in a convention. Failure to act would lead to pre-agreed sanctions by other parties to an agreement.

Mangrove; tree or shrub, which grows in muddy, mainly tropical coastal swamps and has twisted roots that grow above the ground and form dense thickets.

Afforestation; establishment of a new forest by planting on a non-forested land.

Reforestation; establishment of a new forest by planting seedlings on a forest land that fails to re-stock naturally.

Roundwood; timber which is left as small logs, typically taken from near the top of trees and used for furniture.

Deforestation; the act or process of removing trees from a forest.

Desertification; the progressive reduction of the productivity of arid, semi arid and dry sub-humid land. Such can be caused by various factors, especially climatic variations and human activities.

Slash and burn; a method of agriculture in which vegetation is cut down and burned off before new seeds are sown.

Acid rain; a widespread term used to describe all forms of acid precipitation (rain, snow, hail, fog, etc). Atmospheric pollutants, particularly oxides of sulphur and nitrogen, can cause precipitation to become more acidic when concerted to sulphuric and nitric acids.

Aquifer; a porous layer of sediment and bedrock under the earth's surface saturated with water.

Effluent; the liquid waste of sewage and industrial processing.

Animal husbandry; the care and breeding of animals.

Demographic; relating to the characteristics of human populations, including the size, growth rate, density, distribution, race composition, births, marriages, death, health and other vital statistics.

Biomass; the total mass of living organisms in a given area or volume.

Biodegradable; capable of being broken down by living organisms and other natural processes into inorganic compounds.

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