



Towards a National Biodiversity Conservation Framework

Key Findings and Policy Recommendations

Proceedings of the International Conference on Biodiversity,
Land-use and Climate Change

September 2010, Nairobi, Kenya



**Publication by African Centre for Technology Studies (ACTS) and
African Conservation Centre (ACC)**

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**Proceedings from the International Conference on Biodiversity, Land-use and Climate Change:
Towards a National Biodiversity Conservation Framework**

Findings and Policy Recommendations

A report by the Policy Working Group

September 2010, Nairobi, Kenya

Following a three-day International Conference on Biodiversity, Land-use and Climate Change held on September 15-17, 2010 in Nairobi, a special policy session of the conference was held to consolidate the policy findings and recommendations arising in the course of the conference. The policy session was convened by the African Centre for Technology Studies and chaired by the Executive Director, Professor Judy Wakhungu. A team made up of Bernard Agwanda, Patricia Awori, James Isiche, Steve Itela and Steve Njumbi compiled the findings and prepared the draft report.

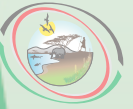
The draft report was expanded by David Western, Lucy Waruingi and Jeff Warden of the African Conservation Centre to more fully reflect the aims and main findings of the conference and to incorporate additional recommendations arising from the conference participants. The expanded draft was circulated to the conference steering committee for comments and approval. Members of the steering committee were drawn from Ministry of Environment and Mineral Resources, ACC, EAWLS, IUCN, JRS Biodiversity Foundation, JSPS, KWS, ILRI, NMK. Many thanks to each of them for their support and contribution towards a very successful conference and for their input in completing this document.

Special thanks to the following who gave specific comments and edits to the final document giving attention to the details to ensure the final policy recommendations reflected the spirit and intent of the conference. Betty Buyu (African Conservation Centre), Nigel Hunter (East African Wildlife Society), Helen Gichohi (African Wildlife Foundation), Mohamed Said (ILRI), Samuel Kasiki (Kenya wildlife Service), Wycliffe Mutero (Kenya Wildlife Service), Gordon Ojwang' (DRSRS). Thanks also to John Kuloba with Dr. Kennedy Mutundu who were rapporteurs of the conference.

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List of Acronyms and Abbreviations

ACC	African Conservation Centre
ACTS	African Centre for Technology Studies
AWF	African Wildlife Foundation
BIONET	Global Network for Taxonomy
CBD	Convention on Biological Diversity
CONABIO	The National Commission for the Knowledge and Use of Biodiversity
DRSRS	Department of Remote Sensing and Resource Surveys
EAWLS	East African Wildlife Society
EOL	Encyclopedia of Life
ETI	ETI Bioinformatics, Netherlands
GBIF	Global Biodiversity Information Facility
GDP	Gross Domestic Product
ICIPE	International Centre of Insect Physiology and Ecology
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
ILRI	International Livestock Research Institute
INBIO	National Biodiversity Institute of Costa Rica
IRRI	International Rice Research Institute
IUCN	International Union for Conservation of Nature
JSPS	Japanese Society for the Promotion of Science
KMFRI	Kenya Marine and Fisheries Research Institute
KFS	Kenya Forest Service
KTB	Kenya Tourism Board
KWS	Kenya Wildlife Service
MDG's	Millennium Development Goals
MEMR	Ministry of Environment and Mineral Resources
NEMA	National Environment Management Authority
NMK	National Museums of Kenya
PES	Payment for Ecosystem Services
RCMRD	Regional Centre for Mapping and Resources Development
REDD	Reducing Emissions from Deforestation and Forest Degradation
UNEP	United Nations Environmental Programme
WWF	World Wildlife Fund



Introduction

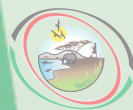
The conservation of biological diversity is emerging as one of the gravest global challenges of the 21st Century. The rapid expansion of human population, coupled with burgeoning development and rising consumption, has caused a biodiversity crisis (Balmford et al, 2001). Extensive land conversion and rapid climate change caused by greenhouse gases have ushered in a new geological era--the Anthropocene--in which all major planetary processes are dominated by human activity. The global environmental transformation has profound implications for economies and societies and will most severely affect poor communities dependent on natural resources. The natural capital that underpins land health and resource production is being rapidly depleted in many regions of the world, most especially in Africa and among marginalized peoples.

The threats to biodiversity conservation in Kenya are varied and acute. Human population growth and the pressure on land and renewable natural resources are the biggest threats. With a population of 38 million (GoK Kenya Census Report, 2010) growing at over 1 million people a year, Kenya's natural resources are dwindling and its lands degrading. Forest cover that is vital to water catchment, carbon sequestration and other ecological services, has shrunk by half in a decade (UNEP 2001, Fourth Kenya CBD report, 2009). Further erosion of its natural capital will severely curb Kenya's development goals outlined in Vision 2030 unless reversed quickly.

Kenya's less productive habitats and marginal lands are also under great pressure. Population spill-over from the arable lands is degrading the rangelands that cover three quarters of Kenya, causing a loss of the wildlife and livestock populations that support the tourism industry and rangeland economy. The number of indigenous species on the IUCN Red List of threatened species is rising rapidly with habitat conversion to farms, settlements and industry. Alien invasive species are rising as a result, causing further displacement and extinction of native species.

Climate change will add to the impact of land use change on species and ecosystems. Rising temperatures, rainfall variability, and new climatic regimes pose threats to biodiversity and human livelihoods alike. The interactive effects of land use and climate change will accelerate the loss of biodiversity, lower ecological resilience and increase vulnerability of marginalized communities.

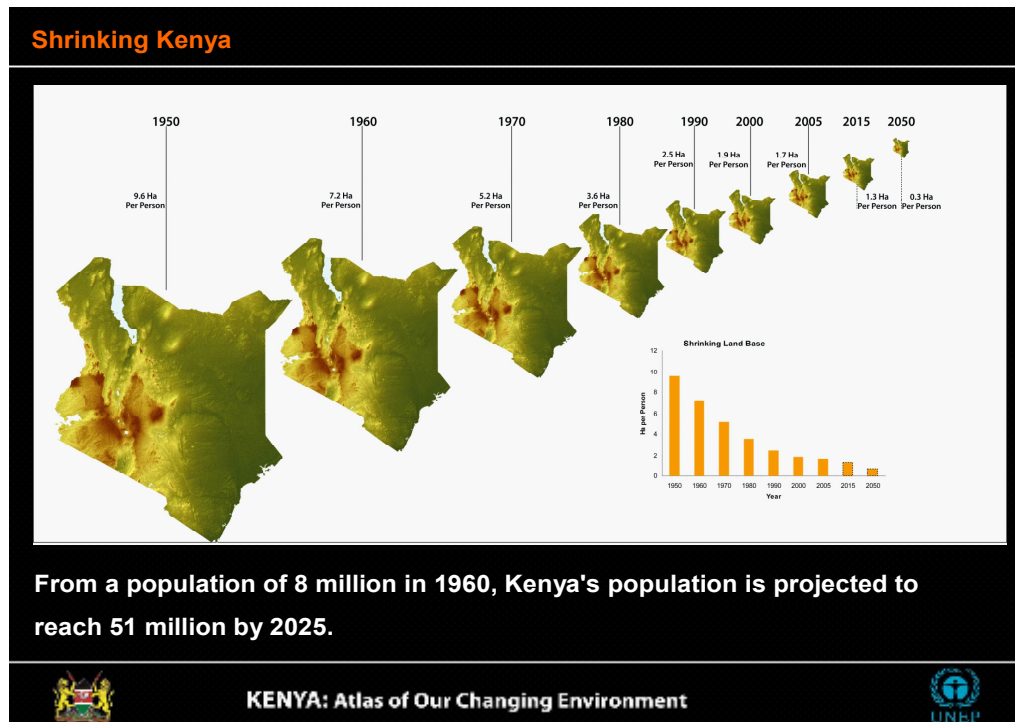
Shortcomings in Kenya's protected areas system reinforce the impact of land conversion and climate change on biodiversity. Though vital for protecting wildlife lands from encroachment, Kenya's parks and reserves protect barely one third of all its wildlife and a far smaller fraction of its biodiversity. More worrying, wildlife populations in protected areas are faring no better than populations outside. Numbers have almost halved in the parks over the past 40 years, a rate that matches the country-wide losses (Western et al, 2009). Non-migratory wildlife in Mara National Reserve declined 58% between 1977 and 1997 (Otichillo et al, 2000), numbers in Tsavo East and West by 63% in and Meru by



78% (Western et al, 2009). The threats and losses point to an urgent need to expand our conservation policies from a preoccupation with the large charismatic vertebrates to a full coverage of biodiversity—to all plants, animals and the ecosystem processes they depend on.



Diagram 1: Illustration of increasing human population against shrinking land base resources. In 1950 Kenya had 9.6 Hectares per person, at projected rate of growth we will have 0.3 Hectares per person



Undervaluing the economic and societal values of biodiversity also poses a threat to biodiversity and investment in conservation. The value of conventional natural resources such as forestry, fisheries, and wildlife has long been understood and managed as vital, often strategic sectors, of national economies. Less appreciated and seldom valued are the wider ecological services biodiversity provides. Ecological services include water catchments, a natural cleansing of the air, water and soils we pollute, carbon sequestration and, in developing economies such as Kenya, the biomass energy that fuels the lives of most Kenyans in the form of wood and charcoal.

Far less appreciated and not yet audited and monitored is the value of biodiversity as the natural capital that sustains the productivity and health of the land and waters on which Kenya's farming, ranching, fishing and forestry industries depend. Despite underpinning the bulk of Kenya's economy and supporting most livelihoods, the value of Kenya's biodiversity has yet to be enumerated or a full inventory of species conducted.



Yet another threat to biodiversity is the conflicting policies among sectors and ministries governing natural resource use. For instance, irrigation schemes for agricultural development on the Tana River threaten habitats and wildlife in the Tana River Primate Reserve and in the Tana Delta wetlands that support large pastoral populations and a rich biodiversity. Such incompatible developments undermine the additive value of natural resource productivity on which the realization of Kenya's Vision 2030 depends.

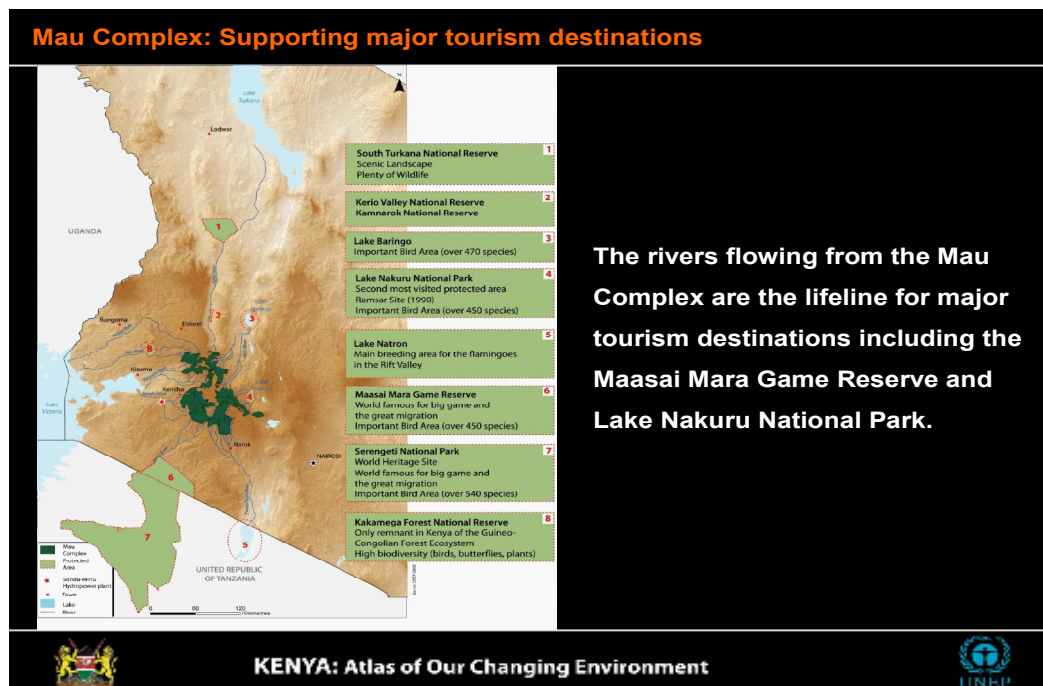
Land productivity has declined in many areas of Kenya in recent decades due to weak and conflicting policies and guidelines on land use and a failure to enforce existing conservation regulations. The lack of user rights, poverty, poor market access and lack of government investment in infrastructure and social services also contribute directly to Kenya's habitat loss, land deterioration and rising vulnerability to drought and environmental hazards. Food security in the more marginal livestock and farming lands has fallen steeply as a result. The rising pressure on primary food production systems has taken a heavy toll on renewable natural resources, land health and ecosystem resilience. Tree felling for charcoal, sand harvesting and bush meat poaching have climbed sharply in recent years due to persistent food shortages. The depletion of Kenya's natural capital will cause further loss of land productivity and vulnerability to drought and climate change in the coming years unless halted and restored quickly.

Kenya, like other emerging economies, must balance competing needs for limited natural and financial resources. Conservation has been sorely neglected in both the public and private sector. Little heed has been given to the natural capital on which Kenya's economic output depends. The sustainable post-oil economy laid out in Vision 2030 calls for linking economic and environmental health through sustainable development principles and for an ethic of corporate social and ecological responsibility.

These threats to biodiversity, while grave enough, are compounded by a lack of appreciation of the full meaning of biodiversity, despite its common usage. What does biodiversity mean and why does it matter to human wellbeing? How can Kenya shift from a narrow focus on parks and charismatic large mammals to a comprehensive conservation strategy for all species and the sustainable use of natural resources?

Kenya, ranks among the world's richest biodiversity nations (IUCN & UNEP 1986, Groombridge 1992, Rathbun 2009). The Kenya-Tanzania borderlands are among the richest in vertebrate species anywhere on earth. The Taita Hills, part of the East African Arc Mountains, is among the richest 25 biodiversity hotspots worldwide (Burgess et al., 1998). In all, Kenya hosts over 35,000 species which collectively support the livelihoods of over three quarters of its population. Kenya's biodiversity is a global heritage and the foundation of its economy, yet is being lost at an alarming pace. Some measure of the potential loss can be gleaned from ecological services supplied by biodiversity worldwide. In 2010, ecological services were valued at half the world's total GDP and the cost of restoring depleted natural capital at 10 to 100 times the cost of its conservation (TEEB, 2009). Conserving Kenya's biodiversity must be treated as a matter of national priority and economic necessity.

Diagram 2: Value of Forest Ecosystems: Case Study of Mau Complex



Background to the Conference

Biodiversity underpins Kenya's national development, particularly in the agricultural, tourism, industrial and health sectors. In the agricultural sector alone, biodiversity supports the livelihoods of 70% of the 38.6 million rural Kenyans. Wildlife-based tourism, the third largest foreign exchange earner after tea and horticulture, makes up 10% of Kenya's GDP (National Tourism Policy, 2006). In the power sector, hydropower driven by Kenya's rivers generates 51% of the country's electricity (Kenya Vision 2030). Over 80% of Kenyans rely on plants as a primary source of medicine and over 57% of the modern drugs they use are biodiversity derivatives (AMNH-CBD 2003). These four sectors alone underscore how heavily the attainment of the Millennium Development Goals and Vision 2030 depend on the conservation of biodiversity.

Recognizing the importance of our natural capital, the Ministry of Environment, Ministry of Wildlife and Forests, the Kenya Wildlife Service and a coalition of conservation bodies, businesses and donors sponsored the conference on Biodiversity, Land Use and Climate Change. Supporting bodies included the Kenya Wildlife Service, African Conservation Centre, National Environmental Management Authority, the National Museums of Kenya, the Department of Resource Surveys and Remote Sensing, International Livestock Research Institute, United Nations Environment Program, East African Wildlife Society, African Wildlife Foundation, African Centre for Technology Studies, World Wildlife Fund, International Union for the Conservation of Nature, Regional Centre for Mapping and

Regional Development, The Royal Netherlands Embassy, J.R.S Biodiversity Foundation and the Japan Society for the Promotion of Science. Kenya Wildlife Service acted as the host and the African Conservation Centre as the coordinating agency and secretariat.

The conference drew 450 participants from the public and private sectors, local communities, academia, neighboring East African states and internationally from North America, Europe and Asia.

The conference marked Kenya's participation in the United Nations International Year of Biodiversity 2010. The conference reviewed the wealth of Kenya's biological diversity and looked at the challenges of a growing population, intensifying land use and climate change. The conference also considered how to improve livelihoods and sustain economic growth through better conservation policies, tools and practices.

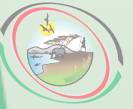


Goals of the Conference

- Promote the expansion of wildlife policy to a comprehensive biodiversity policy
- Highlight the need for a full valuation of biodiversity
- Review the status of Kenya's biodiversity and the threats it faces
- Review the policy implications of the Constitution of Kenya, 2010
- Recommend steps towards the development of a national conservation framework

Highlights of the Conference Findings

- A large new database presented at the conference on the continental distribution of vertebrate species shows that Kenya and its neighboring states hold the richest biodiversity in Africa.
- Large mammals are a distinctive feature of East Africa's fauna unrivalled anywhere on earth.
- Kenya's has an extraordinary diversity of landscapes and cultures in addition to biodiversity.
- This rich natural legacy offers Kenya enormous scope to diversify and expand its tourism industry.
- Land use, population growth and pressure on resources are the gravest threats to biodiversity.



- Wildlife populations have declined sharply within parks as well as countrywide in recent decades.
- Over two thirds of all wildlife and most of Kenya's biodiversity are found outside protected areas.
- Kenya needs clear policy guidelines and conservation strategies for conserving critical areas outside protected areas and to foster the collaborative management this requires.
- The impact of climate change will be severe and greatly amplified by land fragmentation and degradation.
- Current global climate models are too coarse to provide reliable forecasts of regional and local changes. Finer scale models are urgently needed to increase the resolution of forecasts and guide adaptation measures.
- Urgent restoration is needed for Kenya's extensive degraded lands and water catchments.
- Restoration is an expensive and lengthy process and can be avoided by immediate conservation measures that avert further environmental degradation and bring quick benefits to impoverished communities.
- Kenya was a leader in conservation policies and practices in past and should strive to do so again.
- The progressive environmental rights and conservation measures mandated by the new constitution offer Kenya a chance to resume a world leadership role in conservation.
- Progressive policies also feature in the Environmental Management and Coordination Act, 2000, Vision 2030, the draft National Land Policy, 2008.
- However, Vision 2030 cannot be achieved without sustaining Kenya on its biodiversity and the ecological services they provide. Perverse subsidies that support environmentally deleterious practices should be eliminated.
- There is urgent need of a national integrated environmental policy that reflects the constitutional principles of environmental rights, devolution and governance to guide all sectors of the economy.

- Parks can no longer be considered in isolation. Protected area planning must be nested within ecosystem and landscape conservation strategies in order to sustain ecological integrity and viable species populations.
- A policy and legal framework specific to endangered and threatened species is needed as a matter of urgency.
- Parks and biodiversity conservation plans should expand from 10-year planning horizons to long-term sustainability.
- In line with global strategies for maintaining planetary process on which all nations depend, Kenya should adopt measures to audit its natural capital along with economic and social indicators. A national audit should also highlight the linkages between all three.
- The trans-border movements of species and the regional scale of biodiversity distribution calls for conservation strategies prepared with neighboring states under the aegis of the East African Community.
- Biodiversity policies and conservation strategies must reinforce landowner initiatives and encourage voluntary environmental management practices in parallel with the devolution of political and environmental governance.
- Kenya should develop and formally adopt a national framework that identifies the biodiversity gaps in conservation coverage and identifies the Minimum Viable Conservation Area needed for sustainability, taking into account projected changes in land use and climate.

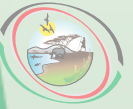
Policy Implications and Recommendations

A special session of policy experts and conference participants was convened and chaired by Professor Judi Wakhungu, executive director of the African Centre for Technology Studies. The session drew on the conference recommendations prepared by the rapporteurs, with the aim of drawing up the policy and legal policy provisions for developing a national conservation framework for Kenya. The key recommendations of the special policy session, clustered by conference theme, were as follows:

Biodiversity

- Quantify the many values of biodiversity, including natural capital, ecological services and the diversity of life.





- Enumerate and quantify the importance of biodiversity to land and natural resource productivity, resilience to drought and environmental shocks, and adaptability to climate change.
- Draw up a system for auditing and monitoring Kenya's natural capital along with economic and social indicators of national wellbeing.
- Establish the institutional mandates and capacity at national, county, and local level for auditing and monitoring biodiversity, natural resources and land health, and for forecasting the key environmental threats.
- Bring environmental policy in general, and biodiversity policy in particular, in line with the new constitution, recognizing individual rights to a clean, safe environment, the conservation of biodiversity, the devolution of environmental rights and responsibilities, the need for the integration of natural resource management based on sustainability, and the importance of environmental security based on the precautionary principle.
- Develop mutually compatible and reinforcing incentives and regulations at all levels of environmental governance in line with the new constitution.
- Promote voluntary environment management and new tools and practices that build public-private sector partnerships and local initiatives for conservation.
- Promote integrated and multi-sectoral approaches to the formulation and implementation of biodiversity conservation strategies in line with the draft National Land Policy 2008. The strategies should include zoning, best-use practices, the maintenance of land health, building resilience and adaptation to current inimical human activities and future anticipated climate change.
- Develop and promote the use of Payments for Ecosystem Services for costing and sustaining biodiversity.
- Base an evaluation of the benefits of biodiversity and ecosystem services on sound scientific and sustainable development principles and on reliable databases.
- Develop ecosystem viability analysis and sustainability plans for all protected areas to ensure the long term viability of species and the ecological processes on which they depend.

- Inventory and map all species, biodiversity hotspots and vulnerable species, habitats and ecosystems.
- Prepare an endangered species policy, legislation and strategies, including ex-situ conservation support programs such as captive propagation and gene banks where called for on precautionary grounds.
- Develop an integrated framework for conserving biodiversity at all scales from a national to county and ecosystem levels using a Minimum Viable Conservation Area Framework.
- Integrate national conservation policies and strategies with neighboring states under the umbrella of the East African Community.
- Promote awareness of biodiversity and environmental health through formal education and informal conservation awareness programs.

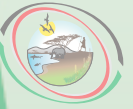
Biodiversity Informatics

- Develop a national, open-access, biodiversity and environmental database using biodiversity informatics tools and analytical techniques.
- Make the information readily accessible to all users in a viewer-friendly and interactive manner.
- Develop a biodiversity informatics policy and best-practices for a national open-access data base in line with new constitutional rights of Kenyans to access information from all government agencies.
- Develop procedures for bioinformatics standards, access rights and the protection of intellectual property rights of contributors.
- Prepare a bound biodiversity atlas of Kenya. The preparation of an atlas should be overseen by the task force that convened and organized the conference.
- Establish a national electronic atlas that can be continually updated Wikipedia-like. Such an open access database will move Kenya towards democratic and accountable environmental governance in line with Kenya's larger goal of establishing an e-governance system in line with the constitution.



Land Use and Community

- Prepare a national integrated environmental policy and a biodiversity conservation strategy in line with the draft National Land Policy 2008 and the new constitution.
- Develop a policy framework and guidelines for granting the rights and devolving the responsibilities for environmental conservation and management to a county and local community level.
- Rights and responsibilities should be devolved to the lowest level of efficiency and practicality, as mandated by the constitution.
- Devolution below the county level should cohere around private and community landowner groups and environmental user groups.
- Draw up a fast-delivery program for building the environmental capacity of counties, communities, and user groups to monitor and manage natural resources and biodiversity sustainably. The private sector and non-government organizations should play a large role in building the capacity for devolved environmental governance.
- Promote conservation enterprises based on successful best-practice and indigenous natural resource governance systems.
- Document the indigenous knowledge systems that add value to biodiversity conservation.
- Protect the rights of indigenous peoples and their access to resources on which they depend.
- Encourage associations such as wetlands, forests, rangelands and marine working groups to assemble the expertise and support for conserving Kenya's key biomes.
- Encourage the formation of landowner associations that match the scale of fragile ecosystems, migratory wildlife populations, water catchments and vital ecological services.
- Recognizing the large-scale land degradation across Kenya, especially in the rangelands, prepare a strategy for the restoration of land health, biodiversity and ecological services, based on sound conservation principles and practices.



Climate Change

- The policies and strategies presented in Kenya's National Climate Change Response Strategy 2010 gives clear recommendations for combating climate change. The strategy will need to be fully incorporated into all sectors of the economy and integrated across ministries.
- Recognizing that an evaluation of the likely impact of climate change on Kenya's biodiversity is lacking, the preliminary results of the conference should be expanded, based on the work undertaken by the conference steering committee and task forces. The assessment should:
 - Draw up an all-species inventory, map and model the distribution of biodiversity, and assess the sensitivity of Kenya's key biomes and eco-climatic zones to projected changes in land use and climate.
 - Assess the impacts of land use and climate change on livelihoods dependant on biodiversity and natural resources.
 - Identify conservation and development strategies that mitigate environmental risk and impact.
 - The assessments of the impact of climate change on biodiversity, land use and livelihoods should be accessible to county, land owner and resource user groups for assessing adaptation options.
 - Establish a climate bond for investments in fragile ecosystems to store more carbon, improve biodiversity resilience and assist communities to adapt to climate change.

Sustainable Use and Diversification

- In line with Vision 2030, the conference recommends Kenya develop policies, technologies and practices for a post-oil economy, based on diversified carbon-neutral, renewal energy sources.
- Special emphasis should be given to alternative energy sources such as solar, wind, biomass and geothermal in the semi-arid lands where renewal energy sources predominate, communities stand to benefit most and extraction is compatible with sustainable natural resource uses.



- Develop strategies for diversifying Kenya’s tourism industry to reflect the diversity of natural and cultural amenities.
- Strengthen intellectual property policies and legislation to remunerate biodiversity custodians and curb bio-piracy.
- Government should coordinate and integrate the use of natural resources and ensure environmental health and sustainability through the aegis of the Environmental Management and Coordination Act, redrafted in line with the new constitutional mandate.
- The integration of conservation strategies and environmental and climate change abatement measures across public and private sectors calls for an overarching national environmental policy.



Towards a National Conservation Framework

Kenya has taken a number of significant steps towards the development of a national environmental framework. The Environmental Management and Coordination Act 1999 defines how coordination of national environmental policies, legislation and management should be carried out by the National Environmental Council (NEC) and the National Environmental Management Authority (NEMA). Other agencies addressing the national environmental challenges include the Directorate of the Environment, the National Environment Action Planning Committee and the Inter-ministerial Commission on the Environment (see the Ministry of the Environment and Mineral Resources website www.environment.go.ke and www.planning.go.ke).

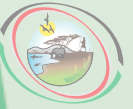
NEMA has made considerable progress in fulfilling its mandate to coordinate and guide environmental planning, regulation and monitoring. NEC has not, however, fulfilled its mandate to develop an integrated environmental policy that coordinates sectors and ministries.

The responsibility for biodiversity conservation is vested in, and cuts across a number of government agencies, ranging from departments and institutes to parastatals (see Table 1 below for indicative agencies and their roles).

Table 1. Some government department, institutes and parastatal bodies involved in biodiversity conservation

Government agencies	Focal biodiversity area
Ministry of Land	Bedrock to all biodiversity elements/land use
Ministry of Environment and Mineral Resources: <ul style="list-style-type: none"> National Environmental management Authority (NEMA) Department of Resource Surveys and Remote Sensing (DRSRS) 	Species, ecosystems and natural resources Cross-cutting: Ecosystem, habitats Research/ mapping of species and ecosystems
Ministry of Forest and Wildlife: <ul style="list-style-type: none"> Kenya Wildlife Service (KWS) Kenya Forest Service (KFS) Kenya forest Research institute (KEFRI) 	Species and ecosystems Management of wild species and ecosystems Management of species & Ecosystem Research on Floral species
Previously under The Ministry of Science & Technology: National Council for Science and Technology (NCST)	Coordination of Research on cross-cutting biodiversity
Ministry of Agriculture: <ul style="list-style-type: none"> Kenya Agricultural Research institute (KARI) Kenya Plant Health Inspectorate and Services (KEPHIS) 	Research on Agro biodiversity Plant health
Ministry of Water and Irrigation:	Water ecosystem
Ministry of Fisheries: Kenya Marine and Fisheries Research institute (KMFRI)	Genetic resources, population and species Research on Fish species
Ministry of Culture & Social Services: National Museums of Kenya(NMK)	Research & Management of genetic resources to ecosystems
Ministry of Livestock: <ul style="list-style-type: none"> Department of Veterinary Services Kenya Trypanosomiasis Research institute (KETRI) 	Livestock development, ranching, animal welfare Genes Species and Genes
Ministry of Local Government	Municipal and county councils, species and ecosystems.





The agencies have overlapping mandates and often conflicting policies (World Bank Report N40659-KE, 2005). The number and diversity of agencies underscores the multi-disciplinary and cross-sectional approach environmental conservation and management call for. The government has committed itself to Agenda 21 under the Convention of Biological Diversity, calling for an integration of social, economic and environmental goals into a national policy strategy. Agenda 21 has yet to be fully enacted by Kenya and can best be achieved through a national conservation framework.

In view of the sectoral fragmentation of biodiversity conservation, the rapid loss of biodiversity and the accelerated losses likely to arise from land fragmentation, degradation and climate change, the conference recommended the urgent need for the Ministry of Environment and Mineral Resources to set up a National Biodiversity Taskforce (NBTF).

A National Biodiversity Task Force

The task force should comprise the agencies steering the Biodiversity, Land Use and Climate Change Conference and draw its membership from key sectors of the public and private realm. The task force should complete the following goals within a two year period:

- Provide rapid biodiversity inputs to the various task forces gazetted by government to realign environmental policy with the new constitution, Vision 2030 and the draft National Land Use Policy.
- Provide recommendations for the inclusion of traditional and voluntary environmental management practices in national environmental policy and legislation. This recommendation is based on the recognition that most biodiversity is found on private and community lands and that its conservation and the sustainable use of natural resources depends primarily on landowner and resource-user groups. User rights and duties as defined in the constitution should be fully articulated and include provisions for incentive-driven and voluntary conservation practices.
- Outline the key provisions needed for conserving Kenya's biodiversity.
- Recommend appropriate mechanisms to integrate and coordinate biodiversity plans among government agencies, with counties, among landowner associations and between habitat and species conservation bodies.
- Make recommendations on the formation of a biodiversity information centre that builds on the on-going efforts of the inter-agency taskforce compiling a Minimum Viable Conservation Area framework for Kenya, the Ecological Gap Analysis under KWS which is a requirement under CBD's Programme of Work on Protected Areas (POWPA), the Centre for Biodiversity established under the National Museums of Kenya, the Kenya Environmental Information Network; the newly the newly established Kenya node of the Global Biodiversity Information Facility (GBIF)



together with the ongoing Biodiversity Informatics Project. The centre should set up an open-access database built on bioinformatics technology that is accessible to government agencies, Counties, landowners, businesses, NGOs and the public. The centre should compile a national environmental database, provide inventory and status reports, support Kenya's entire programme of work under CBD and the Country's biodiversity conservation strategies.

- Make recommendations on the establishment of a permanent Biodiversity Oversight Body, perhaps under EMCA.
- Suggest the best institutional and logistical basis for preparing an All-Species Inventory of Kenya.
- Oversee the production of a biodiversity atlas for Kenya, based on preliminary work of the steering committee of Biodiversity, Land Use and Climate Change Conference.
- Make recommendations for the establishment of a digital version of the atlas that is continuously updated in Wikipedia-like fashion.
- Recommend how a national framework for a Minimum Viable Conservation Area for Kenya can be established, based on the distribution of biodiversity, the threats it faces and the options for mitigating environmental and climate change threats.
- Review and recommend how a landscape approach to land use planning can improve the prospects of biodiversity conservation and improve the prospects for implementing a national MVCA framework.
- Recommend how an MVCA framework can guide MEMR and NEMA in national integrated environmental planning, taking into account watersheds, landscape, ecosystems and protected areas, as well as ecology, land use and climate change.
- Recommend how Kenya can contribute to regional biodiversity databases and planning through the East African Union.
- Recommend the convening of a national biodiversity convention built on a series of participatory county or regional forums.
- Evaluate the indicative financial costs of establishing a national biodiversity framework and recommend funding sources within both the public and private sectors. Recognition should be given to emerging opportunities such as Payment for Ecosystem Services, REDD and renewable energy sources.

The task force should consult lessons from countries that have an effective biodiversity policies and strategies, including South Africa, Angola, UK, Costa Rica, Japan and Australia.

Acknowledgements

Financial support for the conference was generously provided by the Ministry of Environment and Mineral Resources, the Royal Netherlands Embassy, JRS Biodiversity Foundation, African Conservation Centre, African Wildlife Foundation, East African Wildlife Society, Kenya Wildlife Service, USAID-Kenya, **World Wildlife Fund**, Japanese Society for Promotion of Science and the Kenya Tourist Board.



References

- AMNH-CBD 2003. American Museum of Natural History CBD report 2003. Washington
- Balmford, A., Moore, J.L., Brooks, T., Burgess, N., Hansen, L.A., Williams, P., Rahbek, C., 2001. Conservation conflicts across Africa. *Science* 291, 2616–2619.
- Burgess, ND., J. Fjeldsae & R. Botterweg 1998. Faunal Importance of the Eastern Arc Mountains of Kenya and Tanzania. *Journal of East African Natural history* 87: 37-58.
- Fourth National Report to the Conference of Parties to the Convention on Biological Diversity. First published 2009. © 2009 NEMA and UNDP.
- Government of the Republic of Kenya, 2006, National Tourism Policy, Ministry of Tourism and Wildlife.
- Government of the Republic of Kenya, 2010, Population and Housing Census Report 2009. Ministry of State for Planning, National Development and Vision 2030, Nairobi Kenya
- Government of the Republic of Kenya National Bureau of Statistics, Kenya Census 2009, www.knbs.or.ke
- Government of the Republic of Kenya 2007, Kenya Vision 2030 © , Ministry of Planning and National Development and the National Economic and Social Council (NESC), Office of the President.
- Groombridge B., 1992, Global Biodiversity: Status of the Earth's Living Resources. WMC, New York.

IUCN and UNEP 1986. Review of the Protected Areas System in the Afrotropical Realm, Gland Switzerland, IUCN.

Ottichilo, W. K., de Leeuw, J., Skidmore, A.K., Prins, H.H.T., Said, M.Y., 2000, Population trends of large non-migratory wild herbivores and livestock in the Masai Mara ecosystem, Kenya, between 1977 and 1997, African Journal of Ecology, 38:3, 202-216.

Rathbun G., 2009. Why is there discordant diversity in Sengi (Mammalia: Afrotheria: Macroscellidea) taxonomy and ecology? African Journal of Ecology 47: pp 1-13.

TEEB, 2009. The Economics of Ecosystem and Biodiversity for National and International Policy Makers. Welzel and Hardt, Wessling, Germany.

UNEP. 2001. A. Singh, H. Shi, Z. Zhu and T. Foresman. An Assessment of the Status of the World's Remaining Closed Forests. UNEP/DEWA/TR 01-2. Division of Early Warning and Assessment (DEWA). United Nations Environment Programme (UNEP). P.O. Box 30552, Nairobi, Kenya. Available from <http://www.na.unep.net/reports.php3>

Western D, Russell S, Cuthill I (2009) The Status of Wildlife in Protected Areas Compared to Non-Protected Areas of Kenya. PLoS ONE 4(7): e6140.doi:10.1371/journal.pone.0006140.

World Bank Report N40659-KE: 2007 Institutions-Centered Strategic Environmental Assessment of the Kenya Forests Act 2005. World Bank, Washington DC.

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