New Atlas Maps a Blueprint for Kenya's Green Development

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Nairobi, 13 February 2009 – Kenya's chances of realizing its 2030 vision will depend increasingly on the way the country manages its natural or nature-based assets, a new satellite-based atlas concludes.

Many of these economic assets are coming under rising pressure: from shrinking tea-growing areas to disappearing lakes, increasing loss of tree cover in water catchments and proliferating mosquito breeding grounds, environmental degradation is taking its toll on Kenya's present and future development opportunities.

Thus improved and more creative management is urgently needed to translate the aspiration, to the realizing of Vision 2030.

These are among the key conclusions of the new 168-page Atlas produced by the United Nations Environment Programme (UNEP) at the request of the Government of Kenya.

Kenya: Atlas of Our Changing Environment was launched today by Kenyan Environment Minister John Michuki and UN Under-Secretary-General and UNEP Executive Director Achim Steiner.

It is the first-ever publication of its kind to document environmental change in an individual country, through the use of dozens of satellite images spanning the last three decades.

The request for the Atlas, funded by Norway and supported by the United States Geological Survey, follows the launch last June in Johannesburg of *Africa: Atlas of Our Changing Environment* at a meeting of the African Ministerial Conference on the Environment.

Mr Steiner said: "The Kenya Atlas shows both the diversity and the fragility of the country's natural assets which are at the heart of the nation's socio-economic development. It highlights some success stories of environmental management around the country, but it also puts the spotlight on major environmental challenges including deforestation, soil erosion and coastal degradation."

"The Atlas makes a strong case that investments in green infrastructure within a Green Economy can bring it closer to achieving the Millennium Development Goals. The Atlas is for the government and for all Kenyans who want to see transformational change and a path out of poverty to prosperity by sustainably realizing this country's true development potential," he added.

Some of the key findings of the Kenya Atlas include:

- The nation has increased the proportion of land area protected for biological diversity from 12.1 percent in 1990 to 12.7 percent (about 75 238 km^2) in 2007.

- The land available per person in Kenya has dropped from 7.2 hectares per person in 1960 to just 1.7 ha per person in 2005 due to the rapid population growth of the last few decades. There are now 38 million inhabitants in Kenya, up from just eight million in 1960. The population is expected to keep rising, and land available per person is projected to drop to 0.3 ha per person by 2050.

- Five water towers - Mau Forest Complex, Aberdares Range, Mt. Elgon, Cherangani Hills and Kakamega Forest - are critical as water catchments, vital for tourism, and hence towards achieving Kenya's vision 2030

- The rivers flowing from the Mau Complex are the lifeline for major tourism destinations including the Maasai Mara Game Reserve and Lake Nakuru National Park. In 2007, revenues from entry fees alone amounted to Ksh. 650 million (US$ 8.2 million at today's exchange rate) and Ksh. 513 million (US$ 6.3 million at today's exchange rate) for the Maasai Mara and Lake Nakuru respectively.

- A temperature rise of just 2 degrees Celsius would make large areas of Kenya unsuitable for growing tea, which accounts for 22 percent of the country's total export earnings. Some 400,000 smallholder farmers grow 60 percent of Kenyan tea.

- Rapid population growth coupled with conversion of land cover within Lake Olbollosat's catchment is posing a huge threat to the lake which has periodically dried up and then come back to life in the past. There is concern that the increasing number of pressures may mean that if it dries up again, it could be the end of Lake Olbollosat.

- The value of soil lost due to erosion in Kenya each year is three to four times as high as the annual income from tourism. In 2007, earnings from tourism totaled 65.4 billion Kenyan Shillings (or more than US$ 824 million at today's exchange rate).

- Forest loss increases key health risks such as malaria. Research in the western district of Kisii shows that old natural habitats with a greater diversity of mosquito predators – such as dragonflies and beetles – have a lower density of mosquitoes. Intact forests also have less breeding sites for mosquitoes. Thus conserving forests has multiple economic benefits from soil stabilization, improved water supplies, more reliable hydro-power and tourism to health ones including reducing the risk of malaria epidemics.

- The Cherangani Hills have seen less forest loss than the other "water tower" forests in recent years and significant areas of indigenous forest remain. Monitoring and careful management are needed to preserve these valuable assets.

From Maasai Mara to Lake Turkana – Kenyan ecosystems under pressure

The Atlas's before-and-after satellite images in this Atlas vividly document the environmental change in 30 locations across Kenya since 1973 including:

- The Mau Forest Complex, a key water catchment is being deforested at an alarming rate due to charcoal production, logging, encroachment and settlements. One quarter of the Mau forest – some 100,000 hectares – has been destroyed since 2000.

- Large scale, uncontrolled, irregular, or illegal human activities like charcoal production, logging, settlements, and crop cultivation, among others, caused devastation within the Aberdares range. The construction of a fence around the Aberdare Range has reduced/stopped uncontrolled, irregular, or illegal human activities within the forest, as well as human wildlife conflicts

- The Atlas underlines the kinds of economic and environmental choices facing policy-makers. For example it notes that the vast ecotourism potential of the Aberdare National Park remains largely untapped, with just 50,000 visitors per year on average.

- Large mechanized wheat farms in the area surrounding the Maasai Mara have expanded by 1,000 percent between 1975 and 1995, most of them on the Loita Plains, significantly reducing the available natural grasslands in this important habitat for wildebeest—a key economic species in terms of tourism.

- Between 1973 and 2006, almost half of the natural vegetation cover around Lake Nakuru, another big tourism attraction not least for its pink

flamingoes, was lost. The satellite pictures show a clear degradation of forest cover west of the lake, partly due to the excision of 350 square kilometers of forest in 2001.

- Lakes across the country are under intensified pressure, with Lake Naivasha struggling to cope with the expansion of settlements and flower farms in the towns of Naivasha and Karagita; Lake Turkana losing water through a combination of decreased rainfall, increased upstream diversion and increased evaporation due to higher temperatures.

- Prosopis - a terrestrial shrub- has blocked pathways, altered river courses, taken over farmlands, and suppressed other fodder species in the areas around Lake Baringo since the 1980s.

- Some estimates suggest that about half of the mangroves on Kenya's coast have been lost over the past 50 years due to the overexploitation of wood products and conversion to salt-panning, agriculture and other uses.

Towards achieving the Millennium Development Goals and Vision 2030

According to the data presented in the Atlas, Kenya has made some important strides towards achieving some of the Millennium Development Goals (MDGs) – with notable headway in the fight against poverty, the provision of universal education and the fight against HIV/AIDS, malaria and other diseases.

Yet challenges remain for Kenya on the road to achieving environmental sustainability, notably limited government capacity for environmental management and insufficient institutional and legal frameworks for enforcement and coordination.

The Atlas notes that deforestation, land degradation and water pollution are some of the challenges Kenya needs to address to achieve MDG7, 'Ensure Environmental Sustainability'.

One key finding of the Atlas is that achieving environmental sustainability is fundamental to achieving all the MDGs. Environmental resources and conditions have a significant impact on many aspects of poverty and development.

"One of the most powerful ways to help achieve the first MDG – eradicate extreme poverty and hunger – is to ensure that environmental quality and quantity is maintained in the long term," the authors say.

For instance, poor people often depend on natural resources and ecosystems for income; time spent collecting water and fuelwood by children can reduce the time

at school; and environment-related diseases such as diarrhoea, acute respiratory infection, leukemia and childhood cancer are primary causes of child mortality.

“Vision 2030, with its ambitious development blueprint, is a key opportunity for the Kenyan Government to address environmental challenges as a key element underpinning the country’s sustainability and development,” concludes the Atlas.

Notes to Editors

Kenya: Atlas of Our Changing Environment features numerous satellite images taken around Kenya, along with 65 maps, 26 graphs and 229 ground photographs illustrating the environmental issues faced by the country.

The Atlas provides compelling visual evidence of the changes taking place in 30 locations across the country’s critical ecosystems due to pressures from human activities.

The before-and-after display of satellite images spanning three decades highlights forest loss, wetland drainage, shrinking lakes and coastal degradation, as well as examples of good management and successful environmental strategies.

The Atlas analyzes the linkages between the country’s major socio-economic activities and its key natural resources – illustrating, for example, the link between agricultural productivity and forests, which regulate the micro-climates that make farming possible.

The Kenya Atlas follows on from UNEP’s *Africa: Atlas of Our Changing Environment*, published in June 2008, which gave an overview of environmental change across the continent.

All the materials in the Atlas are non-copyrighted and available for free use.

Individual satellite images, maps, graphs and photographs, can be downloaded from http://na.unep.net/

or http://www.unep.org/dewa/Africa/KenyaAtlas

The Atlas can also be purchased at www.earthprint.com

The digital version of the Atlas will also be released on Google Earth and other websites.

The book is the fruit of collaborative work between UNEP and partners including the Government of Kenya, the Regional Center for Mapping of Resources for

Development, the United States Geological Survey, and the Government of Norway.

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For More Information Please Contact

UNEP:
Nick Nuttall, UNEP Spokesperson, Office of the Executive Director, on Tel: +254 20 762 3084; Mobile: 254 733 632 755 or when traveling +41 795 965 737; E-mail: nick.nuttall@unep.org

Or Anne-France White, Associate Information Officer, on Tel: +254 20 762 3088, Mobile: + 254 728600494; E-mail: anne-france.white@unep.org

Or Xenya Scanlon on Tel: +254 20 762 4387, Mobile: + 254 721847563; E-mail: xenya.scanlon@unep.org

Government of Kenya:
The Permanent Secretary, Ministry of Environment and Mineral Resources, NHIF Building,12th floor, Ragati road, Upperhill, P.O Box 30126-00100, Nairobi, Kenya Tel: +254 20 2730808/9; Fax +254 20 2725707; E-mail: psoffice@environment.go.ke