

KENYA

Atlas of Our Changing Environment



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Preface

Kenyan's livelihoods are closely linked to their access to natural resources. As our population increases and environmental quality continues to decline, there is an increased risk of social and economic destabilization, which will have significant impacts on overall national security. Rural people are among the most vulnerable and insecure in terms of poverty, health, food security, economic losses, and conflicts resulting from competitive access to natural resources, among other factors.

The country is already witnessing an increased frequency of resource-use conflicts in the north-eastern and north-western regions. There are tensions among downstream and upstream communities in some river systems, for example. Extreme climatic events such as floods and drought are affecting an increasingly larger proportion of the rural population and introducing shocks into Kenya's macro-economy. The overall success of Vision 2030 therefore hinges on how well we manage the environment over the next 25 years.

Now is the time for strategic thinking and planning. To do this in a rapidly evolving situation demands the provision of credible and timely environmental information. This information should be easily understood and used by every Kenyan who makes daily decisions related to managing his or her environment. The Ministry of Environment and Mineral Resources is thus very pleased to launch *Kenya: Atlas of Our Changing Environment*, which gives every Kenyan and all our development partners a vivid picture of what is happening to our ecosystems, which are the basis of our very survival.

The government of Kenya is extremely indebted to UNEP for its support in preparing this Atlas. Indeed, it is honoured to host this very important global institution at a critical time when decisions about how we manage the global environment can determine humanity's continued existence. As a nation, we are determined to take full advantage of UNEP's presence in Kenya to fortify our capacity in environmental management and take full charge of our destiny.

I would like to congratulate all those experts, national and international, as well as development partners whose dedication and contribution has made this stunning publication possible in record time!

The value of the information in this publication is priceless, but can only be demonstrated through the actions we will take as individuals and as a nation to restore the integrity of our natural resources. It is my sincere hope that what we read and see in this report will inspire all of us into action. "Seeing is believing". I wish you a good reading.



MINISTRY OF ENVIRONMENT AND MINERAL RESOURCES

A handwritten signature in black ink, appearing to read 'John Michuki'.

Honorable John Michuki, EGH, MP
Minister for Environment and
Mineral Resources

Foreword



Achim Steiner
United Nations Under Secretary-General,
and Executive Director, United Nations
Environment Programme

Economic development in Kenya is largely underpinned by the quality and integrity of the country's rich natural resource base, which has also helped it maintain a strategic position in the region. The country is renowned for its nature-based tourism and has some of the world's best and most-visited national parks. The climate supports a vibrant agricultural sector and its forests and savannas are rich in biodiversity and impressive wildlife numbers, which support the profitable tourism sector. Environmental change in the form of degradation is threatening the natural resource base, however, and therefore affecting Kenyan livelihoods.

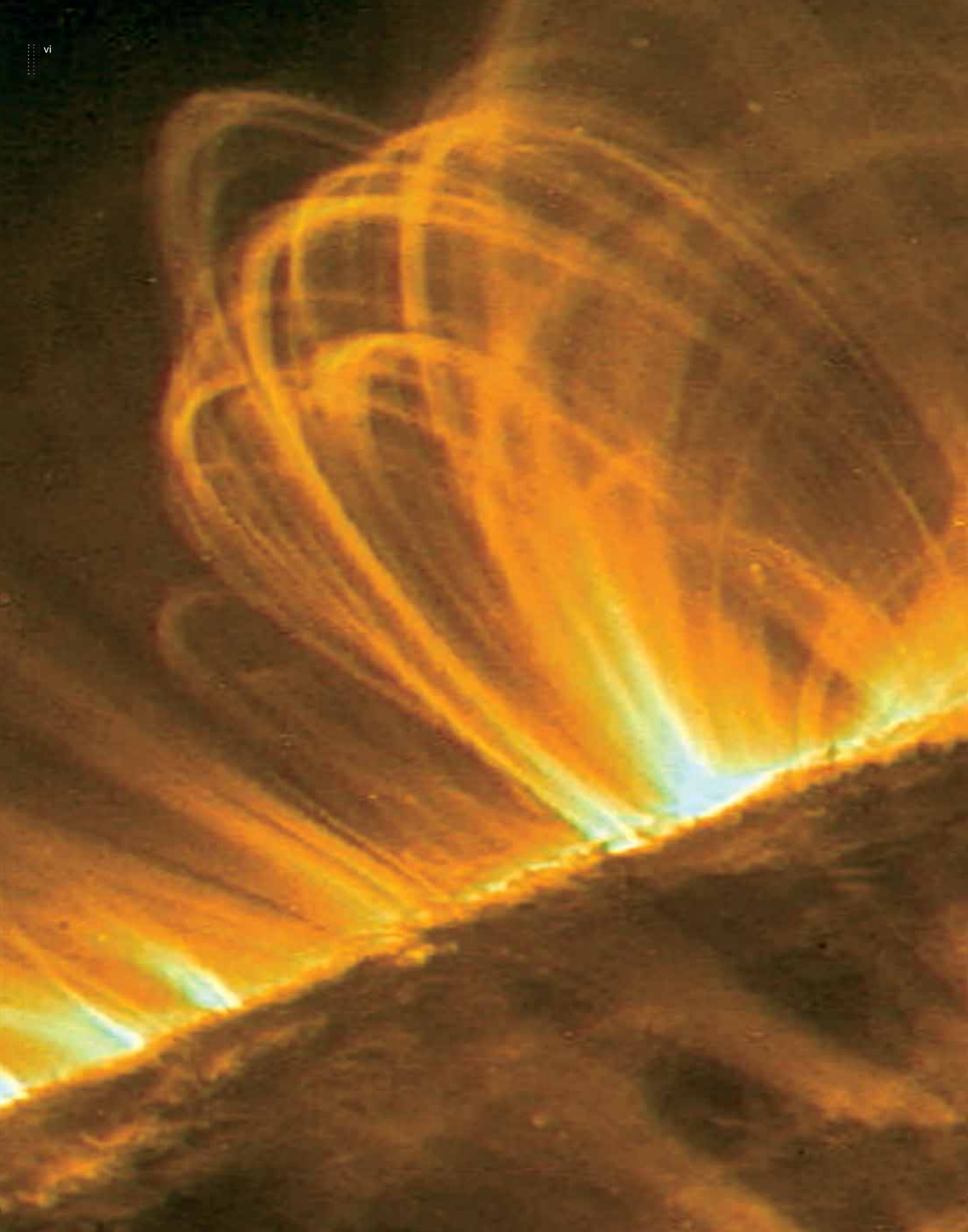
Kenya: Atlas of Our Changing Environment, produced at the request of the Kenya Government, provides visual and compelling evidence of the rapid changes taking place in the country's critical ecosystems due to pressures from human activities. The side-by-side display of historical and current remote-sensing images highlight forest degradation, wetland drainage, and shrinking lakes to the impacts of refugees on fragile ecosystems and signs of coastal degradation. The Atlas provides a good evidence base for strategic intervention by the government and communities.

The Atlas is thus an important resource for setting the context and establishing a baseline for the realization of Kenya's Vision 2030. Among the ways it does this are the following:

- Discussing the contribution of key natural resources to the achievement of Vision 2030 by describing the interlinkages between major socio-economic activities in the country to the environment. Examples include the link between energy supplies, which underpin industrial development including tourism, and forest ecosystems that collect and store water in Kenya's five "water towers," and the link between agricultural productivity and forests, which regulate the micro-climates that make farming possible.
- By focusing on Kenya's progress towards achieving Millennium Development Goal 7, which aims to ensure environmental sustainability, it provides an opportunity for the country to re-examine practical strategies for making rapid progress towards achieving this goal. It can do this by addressing salient environmental challenges explored in the Atlas, such as protecting water sources from point-source pollution and conserving water catchments, among others.

The Kenya government's request for support to produce this Atlas, which came immediately after the launch of *Africa: Atlas of Our Changing Environment*, demonstrates the government's desire to bring scientific evidence of environmental change derived from Earth observation science to the fore of Kenya's natural resources management to help make decisions that will stand the test of time. This national Atlas for Kenya is the latest in a series of UNEP Atlases of environmental change, following the aforementioned Africa atlas and the highly successful global atlas, *One Planet Many People*.

UNEP would like to thank the government of Kenya for taking the initiative, the government of Norway for its generous financial contribution, our United Nations partners in Kenya, as well as the United States government whose support through agencies made the satellite data analysis possible.



The Sun

The Sun drives most of the processes that make life on Earth possible. In fact, the Sun helped create our planet. The Earth is composed of matter collected around the Sun over billions of years due to the Sun's gravity. Even from some 149 million kilometres away, the sun warms the Earth's surface by 250°C. It drives our weather, ocean currents, and photosynthesis. Its no wonder many ancient societies revered it.

The Sun's effect on Earth varies with location. For example, at the poles, the Sun's rays hit the Earth at an indirect angle. The Sun disappears for weeks during the winter but shines 24 hours a day during the summer. Kenya, on the other hand, straddles the equator, where the sun's rays strike at an angle of nearly 90°. It drives the rainy season and makes plant life possible, including Kenya's forests and crops.

