

# नमस्कार namaskaar

MARCH 2010

THE INFLIGHT MAGAZINE OF AIR INDIA



● NAIROBI: WILD HOLIDAY

● MIND OF RAJKUMAR HIRANI

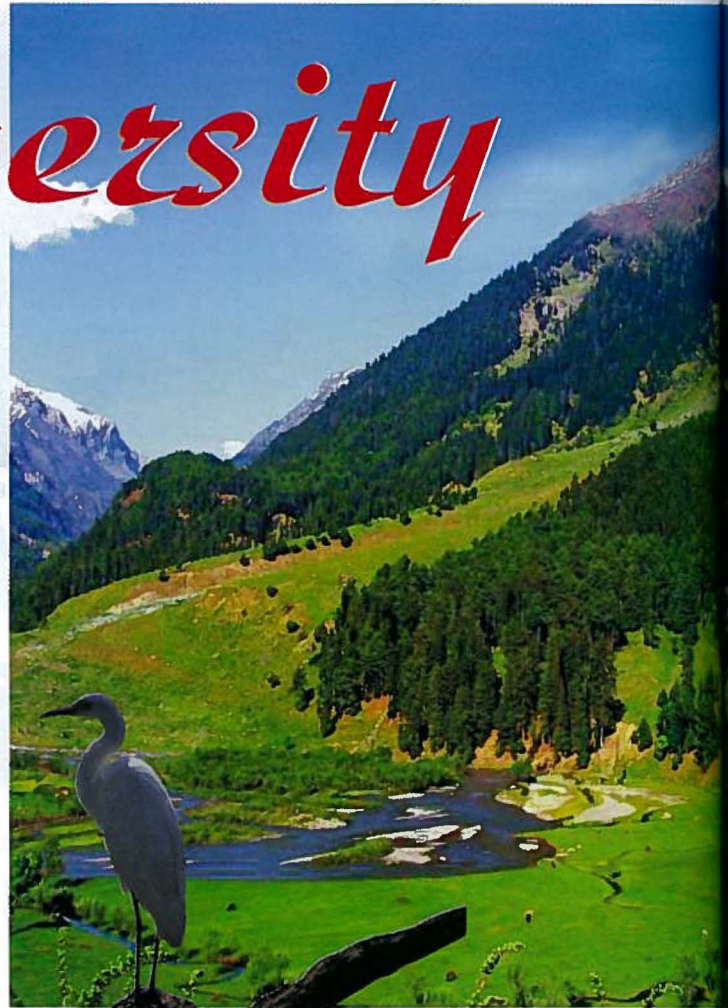
● MALL ROADS OF INDIA



# Biodiversity

## We cannot afford its loss

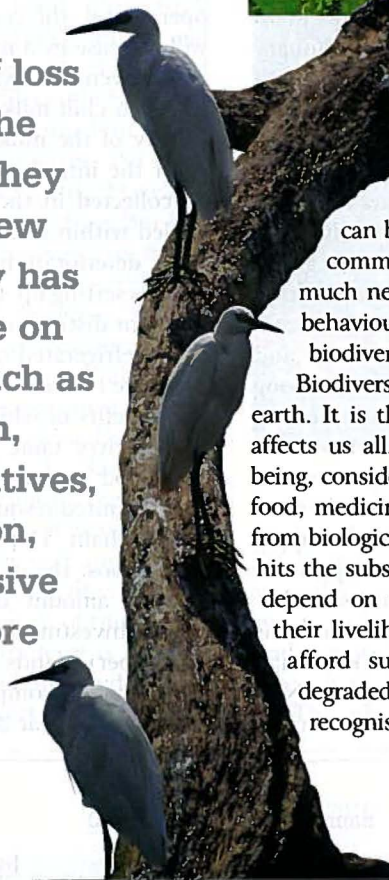
The rapid decline in biodiversity, that has been happening worldwide poses a serious threat to mankind. An analysis of the current trends and future scenarios shows that this loss is likely to continue in the foreseeable times. Human activities have enhanced the rate of loss of biodiversity and the ecosystem services they provide. In the last few decades, biodiversity has come under pressure on account of factors such as growth in population, development imperatives, habitat fragmentation, introduction of invasive alien species and more recently, global warming

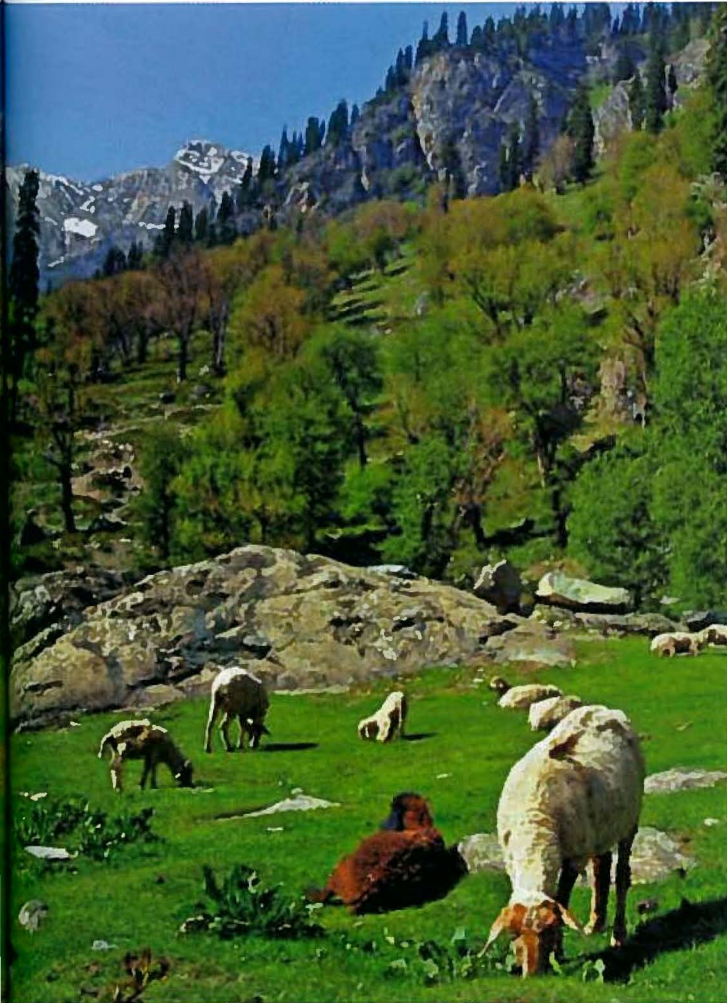


Can we afford this loss?  
Certainly NOT.

**B**ecause of the intrinsic and multidisciplinary nature of biodiversity, each one of us can be a catalyst in our own country, company, community and family, in bringing about the much needed change in our lifestyle, attitude and behaviour to contribute to the conservation of biodiversity.

Biodiversity encompasses the variety of all life on earth. It is the natural biotic capital of the earth and affects us all. Its loss poses a threat to our own well being, considering that humanity derives its supplies of food, medicines, energy and many industrial products from biological resources. The consequences of this loss hits the subsistence of the rural poor the hardest, who depend on the services provided by biodiversity for their livelihoods. They are often unable to access or afford substitutes when these services become degraded. There is, therefore, an urgent need to recognise and factor in the contribution made by





The Ministry of Environment and Forests has devised strategies and plans for conservation and sustainable use of biological resources based on local knowledge systems and practices

insurance for life itself. Conservation and sustainable use of biodiversity is, therefore, fundamental to ecologically sustainable development. Certain countries, lying wholly or partly within the tropics, are characterised by high species richness and more number of endemic species. These are known as megadiverse countries. India is one such megadiverse country. With only 2.4 per cent of the land area, India already accounts for seven to eight per cent of the recorded species of the world. Over 45,500 species of plants and 91,000 species of animals have been recorded so far.

In India, biodiversity conservation has a long history. The Government, through the Ministry of Environment and Forests ([www.envfor.nic.in](http://www.envfor.nic.in)), has devised strategies and plans for conservation and sustainable use of biological resources based on local knowledge systems and practices. These are engrained in Indian ethos and way of life. In India, environment protection is enshrined in the Constitution of India [Article 48A and Article 51A (g)]. Wide-ranging policies, programmes and projects are in place, which directly or indirectly serve to protect, conserve and sustainably use the country's biological resources. These include Forest (Conservation) Act, Wildlife (Protection) Act, Biological Diversity Act, National Forest Policy, National Wildlife Action Plan, National Forestry Action Programme and National Environment Policy.

The Convention on Biological Diversity (CBD), one of the key international agreements adopted during the Earth Summit held in Rio de Janeiro in 1992, is the first comprehensive global agreement that addresses all aspects relating to biodiversity. ([www.cbd.int](http://www.cbd.int))

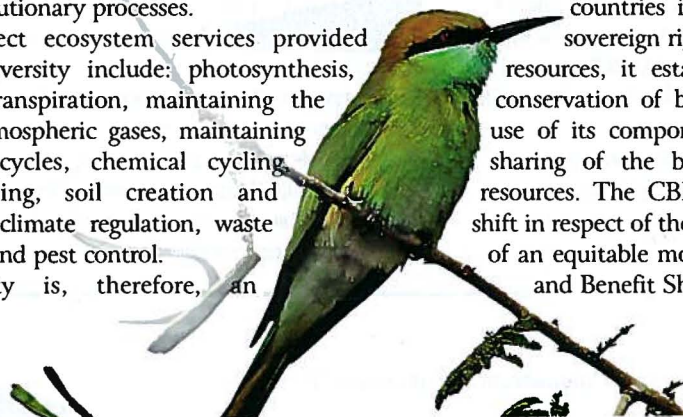
The CBD has near universal membership of 193 countries including India. While reaffirming sovereign rights of nations over their biological resources, it establishes three main goals — the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits from the use of genetic resources. The CBD has brought about a paradigm shift in respect of the use of biological resources, by way of an equitable model of sovereign rights and Access and Benefit Sharing (ABS) regime.

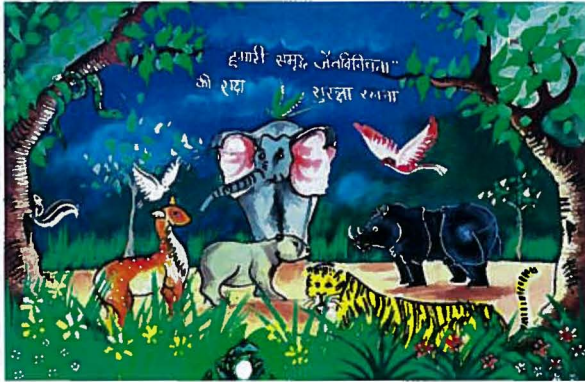
biodiversity services to poverty alleviation efforts specifically, and to national economic growth more generally.

Approximately 80,000 edible plants have been used at one time or another in human history, of which only about 150 have been cultivated on a large scale. Today a mere 10 to 20 species provide 80-90 per cent of food requirements of the world. As much as 67-70 per cent of modern medicines are derived from natural products. Some other products, without which life would be difficult, include wood, fuel, bamboo, thatch, fodder, paper, cosmetics, material for clothing and housing. Biodiversity also maintains the ecological balance and continues evolutionary processes.

The indirect ecosystem services provided through biodiversity include: photosynthesis, pollination, transpiration, maintaining the balance of atmospheric gases, maintaining hydrological cycles, chemical cycling, nutrient cycling, soil creation and maintenance, climate regulation, waste management and pest control.

Biodiversity is, therefore, an

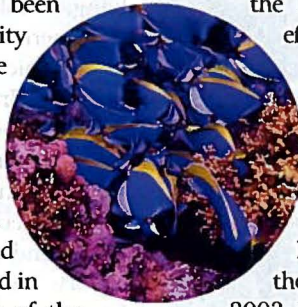




A child's preception of biodiversity



In 1999, India developed a National Policy and Macrolevel Action Strategy on Biodiversity, after a consultative process. This document has been revised in 2008 as the National Biodiversity Action Plan (NBAP), which is based on the evaluation of existing legislations, sectoral policies, regulatory systems, implementation mechanisms, existing strategies, plans and programmes. It proposes to design actions based on the assessment of current and future needs of conservation and sustainable utilisation. The actions identified in the NBAP are aimed towards integration of the three objectives of the CBD into relevant sectoral or cross-sectoral plans, programmes and policies.



After extensive and intensive consultations with all stakeholders, over a period of eight years, India enacted the Biological Diversity Act in 2002 to give effect to the provisions of the CBD included those relating to ABS. The Act is to be implemented through a three-tiered institutional structure: National Biodiversity Authority (NBA), State Biodiversity Boards (SBBs) and Biodiversity Management Committees (BMCs) at the local level. NBA established under Section 8 of the Biological Diversity Act on October 1, 2003, has been functioning at Chennai.

The three objectives of the CBD will be achieved only when the value of biodiversity, including its

## India's immense contribution towards achieving 2010 biodiversity target

The 2010 biodiversity target was adopted by the sixth Conference of the Parties (COP) to the Convention on Biological Diversity (CBD) in 1992. All the 193 countries party to CBD committed themselves to a more effective and coherent implementation of the three objectives of the Convention to be achieved by 2010. The strategic plan for the Convention says: "Parties commit themselves to a more effective and coherent implementation of the three objectives of the Convention, to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on earth."

The seventh COP adopted a framework to facilitate the assessment of progress towards achieving the target. This was further refined in the eighth COP.

The 2010 biodiversity target was also endorsed by the World Summit on Sustainable Development and the United Nations General Assembly at the 2005 World Summit.

India's contribution for achieving the 2010 biodiversity target corresponding to the 11 goals set out by the COP is significant.

1. Promote conservation of biological diversity of ecosystems, habitats and biomes — India has been implementing several programmes such as



Protected Areas (PAs) and Biosphere Reserves Programme. Scientific programmes are also being undertaken for scientific management and wise use of fragile ecosystems such as wetlands, mangroves and coral reef ecosystems. The Ministry of Environment and Forests is also implementing the National Lake Conservation Plan and a River Conservation Plan.

2. Promote conservation of species diversity — Several species specific

## You too can contribute to conservation and sustainable use of biodiversity by

- Protecting the plants and animals around you
- Making community aware of the value of and the services provided by biodiversity
- Planting trees and making community a partner in expansion of green cover
- Using vital resources such as water and energy economically, and reducing your ecological footprint
- Adopting the policy of reduce, recycle and reuse of resources with minimum waste generation and low carbon production
- Using public transport and car pools
- Maximising the use of natural light, switching off appliances when not in use
- Harvesting and conserving rainwater and recycling kitchen and bathroom water for watering of plants
- Preventing wastage of paper
- Reducing the use of plastics, synthetic fibres and foams which degrade environment
- Keeping rivers, ponds and streams clean and preventing pollution

non-monetary components and the ecosystem services generated, is not only well understood by the public at large, but also fully integrated into decision making at all scales and in all economic and social sectors. The environmental issue has to be elevated to the top of the national as well as global political and economic agenda. In view of the fact that ecosystems are being degraded at an unprecedented rate in human history, a great deal of interest is presently being focused on the need for a market mechanism to conserve the ecosystem goods and services, which so far have been considered as free.



Further, while on one hand, climate change is an important driver of biodiversity loss, on the other, biodiversity loss and deterioration of natural habitats contribute to climate change. Moreover, ecosystems with rich species and genetic diversity are likely to be in a much better position to withstand the impact of climate change. The meltdown should serve as a wake up call to rethink about a new economic system that incorporates the full costs of ecosystem services provided by biodiversity.

*With inputs from Dr Sujata Arora, Director, Ministry of Environment & Forests, Govt of India*

project are being implemented such as Project Tiger, besides an All India Coordinated Project on Taxonomy (AICOPTAX) is under implementation to build capacity in taxonomy especially for lesser studied groups of plants and animals.

3. Promote conservation of genetic diversity — Several off-site conservation measures have been taken to conserve genetic diversity such as establishment of gene banks, botanical gardens, zoos, deer parks, safari parks, aquaria, etc.
4. Promote sustainable use and consumption — Emphasised through various legislative measures and policy statements. Other initiatives also include bringing additional areas under green cover by diverting resources, promoting energy efficient devices, creating awareness.
5. Pressure from habitat loss, degradation reduced — Initiatives taken to minimise adverse impact of developmental activities as well as restoration of degraded areas.
6. Control threats from invasive alien species — Working on a multi-agency and multi-programme approach involving various Ministries and agencies is being followed for regulating introductions and managing IAS (Invasive Alien Species). IAS are those that whose introduction or spread outside their natural habitats threaten biological diversity.
7. Address challenges to biodiversity from climate change and pollution — Through the involvement of various Ministries, renewal energy and energy efficiency programmes are being promoted. Several initiatives like Development of

National Action Plan on Climate Change, National Mission on Sustaining Himalayan Ecosystems, National Mission on Sustainable Agriculture and National Mission on Green India are being taken.

8. Maintain capacity of ecosystems to deliver goods and services and support livelihoods — Holistic programmes like Joint Forest Management (JFM), National Afforestation Programme, management of Non-timber Forest Products (NTFPs) and so on are being implemented.
9. Protect traditional knowledge, innovation and practices — Traditional Knowledge Digital Library (TKDL) is a value added digital database developed by the Government for the preservation of traditional knowledge, prevention of misappropriation of traditional knowledge by breaking the language barrier, creation of linkages with modern science to initiate active research.
10. Ensure the fair and equitable sharing of benefits arising out of the use of genetic resources — Has undertaken several legislative measures which reflect into programmes and policies like the Biological Diversity Act, 2002, the Plant Varieties Protection and Farmers' Rights Act, 2001, the Patents Act, 1970, and the Geographical Indications of Goods Act, 1999.
11. Parties have improved financial, human, scientific, technical and technological capacity to implement the Convention — Being implemented through various policies, plans and programmes involving several relevant departments like forest, agriculture, horticulture, irrigation, science and technology, and various specialised national and state level institutions.

