

INTERNATIONAL BIODIVERSITY YEAR – 2010

SAVING BIODIVERSITY FOR POSTERITY

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Biodiversity is pivotal to life on Earth. Various life forms e.g. animals, plants, micro-organisms (such as bacteria and viruses) etc., are responsible for throbbing of life on our planet Earth. These various life forms may collectively be called biodiversity.

Walter G. Rosen was the first to use the term biodiversity in 1985 although some conservation scientists like Thomas Lovejoy had earlier advocated the use of the term 'biological diversity.' Much before that the term 'natural diversity' was also used. However, somehow the term biodiversity seems to have universal appeal and is, therefore, now widely accepted.

The importance of biodiversity

Biodiversity has direct or indirect role in fulfilling the needs and wants of life on Earth. It provides us with food, fibres, timber, energy, pharmaceuticals, raw materials and, of course, industrial chemicals.

Besides, it also plays a significant role in purification of water and air, pollination, the absorption of carbon by trees, renewed oxygen supply, natural pest control, flood and erosion control, and the absorption and detoxification of human and industrial wastes.

Biodiversity also acts as a great source of beauty, wonder, joy and entertainment for many people. Aquariums, zoos etc., not only have entertainment value but they also educate the people especially young children about the animal world. They also act as source of income to the states owning them. Bird watching, wild life observations, pet keeping, gardening etc., not only provide joy and recreational pleasure but these activities have many physical and psychological benefits as well. Forests, mountains, water falls etc., are sources of perennial natural beauty filling us with profound pleasure and bliss. Biodiversity has given birth to the concept of ecotourism too which is a rich source of revenue for the states involved with it. Besides, biodiversity has also

scientific importance for human survival. Every species can help scientists unravel as how life evolved and functioned on this planet and how it will continue to evolve in future.

Thus, it is apparent that biodiversity has not only ecological and environmental importance but has social and cultural importance as well. However, industrialisation and consumerism that is in-built in our modern life style has posed great threat to biodiversity. As a result, the danger of extinction is looming large on many species of wild animals and plants. The conservation of biodiversity on Earth is, therefore, an absolute necessity. With this primarily in view, the United Nations in its 83rd plenary meeting held on 20 December 2006 declared the present year (2010) as the International Year of Biodiversity (IYB). Many activities are being carried out the world over on the eve of IYB. The main aim behind these activities is to create awareness in people so that they may be able to understand the importance of biodiversity, thus motivating them towards conservation of biodiversity.

Underlining the importance of biodiversity, the United Nations has given the following slogan for the International Year of Biodiversity (2010):

"Biodiversity is life"

"Biodiversity is our life"

The central idea hidden in the slogan is that biodiversity is the basic foundation of life and biodiversity is pivotal to our i.e., human life on Earth.

Apart from this meaningful slogan, the logo released by the United Nations on the occasion of IYB has within boldly drawn digits 2010, sketches of iconographic elements symbolising biodiversity. These include fish, waves, a flamingo,

an adult and child and a tree. A host of symbolic iconographic elements are included within this design to depict the scope of biodiversity, which includes marine, flora and fauna aspects.

Together, they demonstrate how biodiversity is life and how we, as humans, are realising our place within this journey.

Identification of biological species

Thus, far about 1.8 million biological species have been identified on Earth. The insects outnumber all other species. So far we have been able to gather information about 0.8 million insects while it is estimated that there number may be between 10 million and 30 million insects on Earth. The scientists have estimated that the total number of all biological species on Earth may be about a hundred million.

The scientists are busy looking for new and hitherto unknown species of animals and plants. However, some of the present animal and plant species are getting extinct or rare, thus endangering biodiversity. The International Union for the Conservation of Nature and Natural Resources (IUCN) maintains a red data book in which the record of all endangered animal and plant species is kept.

Endangered species and threat of extinction

In 2007, the IUCN after making survey of around 13,88,137 species belonging to eight main biodiversity groups (mammals, birds, reptiles, amphibians, fish, insects, mollusks and plants) found that around 15,790 biological species are endangered.

Some species of animals and plants have already suffered extinction from the world. The dodo of Mauritius, the passenger pigeon of America and cheetah, once found in India in large number, are but a few well-known examples of such extinct species.

While talking of the extinction of animals, the dinosaurs automatically come to our mind. About 65 million years ago, probably due to an asteroid hitting the Earth, the dinosaurs got completely wiped out from Earth. However, before that four episodes of natural extinction had occurred which were caused by climate change. The first of these episodes was in Ordovician period about 448 million years ago while the second occurred in the Devonian period around 365 million years ago. The third and fourth extinction episodes took place around 286 and 210 million years ago, in Permian and Triassic periods, respectively.

Causes of biodiversity degradation

In this context, it needs to be clearly understood that in all the five episodes of extinction mentioned above, human activities did not play any role. However, the degradation or extinction of biodiversity which is happening today is attributable mainly to human activities. Over-exploitation of natural resources, hunting and poaching, pollution and global warming have all contributed to dwindling biodiversity causing potential threat to it.

Pollution and global warming on Earth are also a result of anthropogenic or human factor. The human activities have, therefore, contributed in a big way in causing threat to biodiversity. In this scenario, it becomes our duty to conserve biodiversity.

India has an age-old tradition of giving protection to animals and plants. Showing benevolence to animals has been at the very roots of Indian culture and philosophy. India has also the tradition of maintaining sacred groves. These are generally preserved by local communities on religious grounds. Sacred groves are found in the states of Rajasthan, Maharashtra, Karnataka, Kerala and Assam. Also, there has been a tradition of maintaining sacred rivers in our country.

The biodiversity of India

India is a land of rich biodiversity. It finds place amongst 17 megadiverse nations of the world. The total geographical area of our country is 32,87,263 square kilometres which is only about 2.4 per cent of the total global land area. In spite of this, 7-8 per cent of the total world biodiversity is found in India.

The survey of about 70 per cent of our geographical area from the point of view of identification of biodiversity has been carried out. On the basis of this survey we have been able to identify some 45,500 plant species and 91,000 animal species. Included amongst the animal species are 59,353 species of insects, 2,546 species of fish, 1,232 species of birds, 460 species of reptiles, 397 species of mammals and 240 species of amphibians. Amongst these, some species are native to India. They are called endemic species.

There are two main centres of biodiversity in our country which are abundant in endemic species. They are called biodiversity hot spots. Twenty hot spots of the world have been reported so far. The Eastern Himalayas and Western Ghats are the two hot spots of biodiversity in India.

Need to create awareness for biodiversity conservation

On the occasion of International Biodiversity Year, we need to create awareness in people towards biodiversity conservation by reminding them of our strong cultural traditions of preserving animals and plants. We have to tell them that if today, sparrow is struggling for its existence it simply means that not all is well with our ecosystem. There is definitely something which is ailing it which, one never knows, might also affect us in future.

We are spending so much on Project Tiger and Project Elephant. After all, what is the necessity of preserving tigers and elephants? It has to be brought home to people that they are gorgeous animals and our country's pride. In this scenario,

can we allow the tiger or elephant to vanish? Visitors throng in large numbers just to have a glimpse of the majestic big cat-tiger which is so beautiful and attractive.

The tiger population has become abysmally low. It is estimated that there are barely 1,411 tigers left in the country. Is it not our sacred duty to save tiger which is also our national animal? Why tiger alone? It is our duty to save all animals and plants on Earth because without them life on the planet is unthinkable. The co-existence of human beings with animals can only give us true happiness, inner contentment and prosperity to live with grace on this planet.

Certainly, the vast resourcefulness of Earth and its beauty lies in biodiversity. It is, therefore, our sacred and moral duty to conserve it for posterity.