

# Role of biodiversity act in the conservation of flora and fauna of India

Alok Kumar Mishra

Department Agricultural Sciences

Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, India

**ABSTRACT:** *This paper summarizes the key characteristics of the Biological Diversity Act 2002 (BD Act) of India and its role in the country's protection of biodiversity. In order to enact this Act, the National Biodiversity Authority (NBA) was established in 2003 in compliance with Section 8 of the Act. The BD Act provides for regulated access by bonafide end-users to biological resources for a variety of purposes, including scientific research, commercial activity and sustainable use of non-timber forest products. Three functional bodies, namely the NBA at national level, the State Biodiversity Boards (SBBs) in various states, and the Biodiversity Management Committees (BMCs) at local level, enact the Act. Culture (Panchayat). At national level, the NBA is responsible for Access and Benefit Sharing (ABS) decisions, approval of access to and transition to foreign nationals, corporations or non-resident Indians of biological capital, findings or technologies of scientific study and many other matters relating to the protection of Indian biodiversity. In mutually agreed terms related to access and access, the Act focuses on fair benefit sharing. For different reasons, the movement of biological capital or information that exists in or is acquired from India.*

**KEYWORDS:** *Biodiversity, Species, Conservation, Resources, Diversity, Benefits, Research.*

## INTRODUCTION

India is one of the world's 12 mega-biodiversity countries and one of 194 signatories to the Convention on Biological Diversity (CBD) at the 1992 Rio de Janeiro Earth Summit. India harbors different habitats ranging from tropical rain forests to high alpine cold deserts, grasslands, and high alpine cold deserts because of a wide range of physical and climatic environments Coasts and ponds[1]. Three main biological domains are adopted by India, viz. Indo-Malayan, Eurasian and Afro-tropical, with 10 biogeographical regions and 26 biotic provinces (Rodgers & Panwar 1990).

India accounts for 8% of the world's documented biodiversity, and includes millions of races, subspecies and local variations of species and the ecological processes and cycles that connect individuals to populations, cultures, and all various habitats, with just 2.5% of the earth's land area (Venkataraman 2006). Demographically, it is the world's second most inhabited nation and the bulk of its population depends directly on the livelihood of biological commodities [2]. India is known to have around 45,000 plant species, representing as many as 11% of the flora of the world (Mudgal&Hajra 1997). This comprises about 17500 species of flowering plants, 48

species of gymnosperms, 1200 species of pteridophytes, 845 species of moose, 6500 species of algae, 2050 species of lichens, 14500 species of fungi and 850 species of bacteria. A variety of organizations have been active in the systematic inventory and recording of floral diversity at the national level, including the Botanical Survey of India[2]. The income of the fauna is similarly or more diverse. The overall estimate of animal species in India is about 89,450, of which 59,353 species are insects alone.

Mammals (372 species), birds (1230 species), reptiles (428 species), over 300 species of amphibians and 5000 species of mollusks are other components of the fauna (Anonymous 1994). (Annelida) shows a very high degree of endemism among invertebrates, parasitic types and soil fauna[3]. Overall, 34.90 percent of entomofauna are native to the Indian area and endemism is also seen by more than 40 percent of Indian annelids, freshwater sponges and mollusks. In Amphibian, followed by Reptilian, Aves, Mammalia and Pisces, the greatest degree of endemism at species level is seen in vertebrates. India's fisheries play an important part in the socio-economic growth of local communities' collectivities. More than six million fishermen and fish farmers in India rely for their livelihoods on fisheries and aquaculture. In the Indian Exclusive Economic Zone, the harvesting capacity of aquatic fishery capital has been measured at approximately 3,9234 million tonnes[4]. At the end of 2007, total fish production amounted to 8.09 million tonnes (3.26 million tonnes from the marine sector and 4.83 million tonnes from the inland sector). India occupies a prominent role among the countries. Eight Vavilovian Centres of Origin of Cultivated Plants, a geographical area in which crops are the most varied in terms of number of breeds and botanical varieties (Vavilov 1926). Today, about 166 crop species are recognized and used for food production and well over 324 species of wild relatives of crop plants.

The Wild edible plants account for nearly 1000 species serving different purposes: 145 as roots/tubers, 526 as leafy vegetables/greens, 101 for buds/flower, 647 for fruits and 18 for seeds and nuts (Anonymous 1994) (Anonymous 1994). While India can boast of having an amazing range of biological diversity, complacency can hardly be coped with. The ever-increasing human population, the rapid growth of agriculture, industry, urbanization and large-scale construction projects such as dams, highways and mining have resulted in the destruction of habitats, fragmentation, degradation and overuse of biological resources. Combined with these factors, unsustainable and illegal resource use practices. A variety of species of flora and fauna have been seriously endangered by trade in high-value wildlife products. Agro-biodiversity has also suffered significantly because of implementation and promotion of a few high-yielding varieties. However, very little has been done to exploit the conventional inherited awareness of biodiversity. Given that India has a rich tradition of conserving nature and natural resources, it has a large number of local communities. Worship of trees, forests, rivers, wetlands, mountains and association of during the historical past, animals and birds with gods and goddesses contributed greatly to their conservation. This requires a concerted effort to support scientific

research, education and policy in order to preserve existing biodiversity while ensuring economic and environmental security.

Function and provisions of the Biodiversity Act 2002 Access and benefit-sharing process The BD Act (2002) primarily addresses issues relating to foreign nationals' access to genetic resources and related information, institutions or businesses, and equal distribution of benefits resulting from the use by the country and its citizens of these tools and associated expertise[5]. Entry and profit sharing (ABS) is regulated by the Act through a three-tier structure, i.e. the national NBA, the State Biodiversity Board (SBB) and local Biodiversity Management Committees (BMCs).

### **Function and provisions of the Biodiversity Act 2002 (Access and benefit-sharing process)**

The BD Act (2002) primarily addresses issues relating to foreign nationals' access to genetic resources and related information, Institutions or businesses, and equal distribution of benefits resulting from the use by the country and its citizens of these tools and associated expertise. Entry and profit sharing (ABS) is regulated by the Act through a three-tier structure, i.e. the national NBA, the State Biodiversity Board (SBB) and local Biodiversity Management Committees (BMCs). The NBA deals with requests by foreign nationals, organizations or companies for access to bio-resources and associated conventional expertise and all matters relating to the transfer of research findings to any foreign national, the imposition of terms and conditions to ensure the equal distribution of benefits, the establishment of sovereign rights over India's bio-resources and the acceptance of any request for benefits [8]. SBBs deal with matters relating to Indians' access to bio-resources for commercial purposes and restrict any activity which violates the objectives of conservation, sustainable use and equal sharing of benefits. In order to safeguard the interests of local people and to enable research by Indian citizens within the country, traditional physicians (Vaid and Haqims) have been given free access to biological resources for use within India for any reason other than commercial use for Indian people, and other BMC citizens have been given free access to conservation, sustainable use.

### **Criteria for the sharing of benefits**

According to Section 21 and Rule 20 of the Biodiversity Rules, the Act insists on the inclusion in the Access Agreement of appropriate benefit-sharing provisions and mutually agreed terms relating to access to and transfer of biological resources or knowledge produced in or acquired from India for commercial use, bio-survey, bio-use or any other monetary purpose. On a case-to-case basis, the BD Act and the same will be published in an official gazette with the precise details of the benefit-sharing formula. Although granting approvals for entry, NBA will enforce terms and conditions so as to secure equal sharing of benefits. Such advantages, among others, include:

(a) Grant to the NBA, or where benefit claimants are listed, shared ownership of intellectual property rights to such benefit claimants;

- 1373

- 
- [5] D. B. Lindenmayer, C. R. Margules, and D. B. Botkin, "Indicators of biodiversity for ecologically sustainable forest management," *Conservation Biology*. 2000, doi: 10.1046/j.1523-1739.2000.98533.x.