Biological Biodiversity Act and Conservation

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Abstract

This paper summarizes the main features of India's Biological Diversity Act 2002 (BD Act) and its role in biodiversity conservation in the country. In order to implement this Act, in accordance with its section 8, a National Biodiversity Authority (NBA) was established in the year 2003. India's biodiversity is severely threatened; wildlife populations, traditional cultures, geological cycles, and a range of other attributes are being destroyed. There are a variety of reasons for this, including increasing exploitation of biological resources for trade both at national and international levels. The BD Act provides provisions for regulated access to biological
resources by bonafide end-users for various purposes including scientific research, commercial activities and sustainable use of non-timber forest produce. The Act is implemented through three functional bodies viz., NBA at the national level, State Biodiversity Boards (SBBs) in different states, and Biodiversity Management Committees (BMCs) at the level of local community (Panchayat). At the national level, NBA is responsible for decisions pertaining to access and benefit sharing (ABS), approval for access to and transfer of biological resources, results or technology of scientific research to foreign citizens, companies or non-resident Indians and several other matters related to conservation of India's biodiversity. The Act insists upon appropriate benefit sharing under mutually agreed terms related to access and transfer of biological resources or knowledge occurring in or obtained from India for various purposes.

Key words: Access and benefit sharing, biodiversity act, convention on biodiversity,

Introduction

India is one of the 12 mega biodiversity countries of the world and one among the 194 signatories to the Convention on Biological
Diversity (CBD) at Earth Summit in Rio de Janeiro in 1992. By virtue of a wide variety of physical and climatic conditions, India harbours varied ecosystems ranging from the tropical rain forests to high alpine cold deserts, grasslands, wetlands and coasts. India embraces three major biological realms, viz. Indo-Malayan, Eurasian and Afro-tropical and is adorned with 10 biogeographic zones and 26 biotic provinces[1]. With only 2.5% of the earth's land area, India accounts for 8% of the recorded species of the world which includes millions of races, subspecies and local variants of species and the ecological processes and cycles that link organisms into population, communities, and all different ecosystems[2]. Demographically, it is the second largest populated country in the world and a majority of its population directly depends on biological resources for livelihood.

THE BIOLOGICAL DIVERSITY ACT 2002

The Biological Diversity Act 2002 is a law meant to achieve three main objectives:

- the conservation of biodiversity;
- the sustainable use of biological resources;
- equity in sharing benefits from such use of resources.

Its key provisions aimed at achieving the above are:

1. Prohibition on transfer of Indian genetic material outside the country, without specific approval of the Indian Government;
2. Prohibition on anyone claiming an Intellectual Property Right (IPR), such as a patent, over biodiversity or related knowledge, without permission of the Indian Government;
3. Regulation of collection and use of biodiversity by Indian nationals, while exempting local communities from such restrictions;
4. Measures for sharing of benefits from the use of biodiversity, including transfer of technology, monetary returns, joint Research & Development, joint IPR ownership, etc.;
5. Measures to conserve and sustainably use biological resources, including habitat and species protection, environmental impact assessments (EIAs) of projects, integration of biodiversity into the plans, programmes, and policies of various departments/sectors;
6. Provisions for local communities to have a say in the use of their resources and knowledge, and to charge fees for this;
7. Protection of indigenous or traditional knowledge, through appropriate laws or other measures such as registration of such knowledge;
8. Regulation of the use of genetically modified organisms;
9. Setting up of National, State, and Local Biodiversity Funds, to be used to support conservation and benefit-sharing;
10. Setting up of Biodiversity Management Committees (BMC) at local village level, State Biodiversity Boards (SBB) at state level, and a National Biodiversity Authority (NBA).

While some of the above provisions are progressive, there remain important weaknesses, including the following:

1. It exempts those plants that are registered under the Protection of Plant Varieties and Farmers' Rights (PVPFR) Act, 2001. This Act provides corporations and scientists who are breeding new varieties of crops, to gain intellectual property rights (see more on the relationship between the Biodiversity and Plant Varieties laws, below). Such an exemption means that the progressive provisions listed above, many of which are absent from the PVPFR Act, would not apply to plant varieties registered under PVPFR Act.
2. It does not provide citizens the power to directly approach the courts; such power is restricted to an appeal in the High Court against any order by the NBA or the SBB.
3. It is unnecessarily soft on Indian corporate and other entities, requiring only "prior *intimation*" to a SBB for the commercial use of bioresources, rather than *permission* from the NBA as in the case of foreigners. This is unjustified, given that Indians (especially industrial corporations) are not necessarily any more responsible towards the environment or towards local communities, also some Indian companies could just be local fronts for foreign enterprises.
4. It does not fully empower local communities, to protect their resources and knowledge from being misused, or to generate benefits (except charging collection fees). It has very weak or no

representation of local community members on the State Biodiversity Boards or National Biodiversity Authority.

5. The power of declaring a Biodiversity Heritage Sites lies with the state government (Article 37 of the Act): It is important that the heritage sites should be designated only after consultation and moreover consents of the affected communities. Further, these should be in the control/management of local communities, and the provision for compensation made in the State Biodiversity Fund (see Section 32) be applied only where there is a mutually agreed to dislocation/curbing of rights. Else we will have the people-parks conflict recurring in another form, as decisions for which areas need to be conserved would be top-down.

Several organisations and people feel that the basic framework of the Act is problematic, since it accepts intellectual property rights on biodiversity, could be used to further commercialise biodiversity, and does not truly empower communities. Others feel that the Act provides some potential for checking biopiracy, achieving conservation, and facilitating community action. They stress that a combination of strong rules, and amendments related to the above points, would help strengthen this potential.

Constitution of the Biodiversity Management Committees (BMC)

1. The definition of local body is problematic, as it leaves out gram sabha or other village assemblies. Since the local body has to appoint/select the BMC, the political affiliation and relationship between a village and the panchayat body will play an important role in the constitution and functioning of the BMC.
2. The process of local body constituting BMC, is by nomination. Rules 22(2) & (3) expressly mention that the members will be NOMINATED by the local body & the Chairperson will be ELECTED by the committee, then the BMC could become another power center and might not actually function to conserve biodiversity or protect community rights.

It is estimated that India has approximately 45,000 species of plants representing as much as 11% of the world's flora (Mudgal & Hajra 1997). This includes about 17500 species of flowering plants, 48 species of gymonsperms, 1200 species of pteridophytes, 1980 species of mosses, 845 species of liverworts, 6500 species of algae, 2050 species of lichens, 14,500 species of fungi and 850 species of bacteria. At the national level a number of organizations including the Botanical Survey of India have been engaged in systematic inventory and documentation of floral diversity. The faunal wealth is equally or more diverse. The total estimate of animal species in India is about 89,450, of which insects alone include 59,353 species. Other faunal components include mammals (372 species), birds (1230 species), reptiles (428 species), over 300 species of amphibians, and 5000 species of molluscs (Anonymous 1994). Amongst invertebrates, parasitic forms and soil fauna, (Annelida) exhibit a very high degree of endemism. Overall, 34.90% of entomofauna are endemic to the Indian region and more than 40% of Indian annelids, freshwater sponges and molluscs also show endemism. Among vertebrates, highest degree of endemism at species level is seen in Amphibia followed by Reptilia, Aves, Mammalia and Pisces. Fisheries in India play an important role in socio-economic development of local communities. More than six million fishermen and fish farmers in India depend on

fisheries and aquaculture for their livelihood. The harvestable potential of marine fishery resources in the Indian Exclusive Economic Zone has been estimated at about 3.9234 million tonnes.

India holds a prominent position among the eight Vavilovian Centres of origin of cultivated plants, which is the geographic region where crops exhibit maximum diversity in terms of number of races and botanical varieties[3]. Today, about 166 crop species and well over 324 species of wild relatives of crop plants are recognized and utilized for food production. Wild edible plants account for nearly 1000 species serving various purposes: 145 as roots/tubers, 526 as leafy vegetables/greens, 101 for buds/flower, 647 for fruits and 18 for seeds and nuts[4].

Access to biological resources

The Act stipulates norms for access to biological resources in three ways:

(i) Access to biological resources and traditional knowledge to foreign citizens, companies and non-resident Indians (NRIs) based on 'prior approval of NBA' (Section 3, 4, 6 of the Act and Rule 14-20).

(ii)Access permits to Indian citizens, companies, associations and other organizations registered in India on the basis of 'prior intimation to the State Biodiversity Board' concerned (Section 7 of the Act).

(iii) Exemption of prior approval or intimation for local people and communities, including growers and cultivators of biodiversity, and Vaids and Haqims, practicing indigenous medicines (Section 7 of the Act).

The key procedures to be followed for access to biological resources and traditional knowledge are dealt with under Rule 14 of the Biodiversity Rules 2004. These provisions are laid down to ensure effective, efficient and transparent access procedures through written agreements and applications in prescribed formats. Applicants seeking access to biological resources and traditional knowledge are required to submit an application in Form[5] along with an application fee of INR 10,000/-[6]. Once the application is approved for access, an agreement has to be signed by the applicant for access of bio-resources.

Restrictions for access to biological resources

The Act imposes certain restrictions on request related to access to biological resources and traditional knowledge if the request is on: (i) endangered taxa (ii) endemic and rare taxa (iii) likely adverse effects on the livelihood of the local people (iv) adverse and irrecoverable environmental impact (v) cause genetic erosion or affect ecosystem function (vi) purpose contrary to national interests and other related international agreements to which India is party (Rule 16, Sub rule 1) (http://www.nbaindia.org/rules.htm).

Procedure for prior approval of transfer of research results

Guidelines on collaborative research projects (under Section 5 of the BD Act) involving transfer or exchange of biological resources or information relating thereto between institutions, including government sponsored institutions of India and such institutions in other countries has been prepared and notified[8]. Establishment of Designated National Repository (DNR) (Section 39) is an essential part of the infrastructure for biodiversity conservation. DNR consists of service providers and repositories of preserved specimen consisting of all fauna, herbarium (dried plant material for research), the living cells, genomes of organism, and information relating to heredity and the functions of biological systems. DNRs also contain collections of culturable organisms (e.g. micro-organisms, plant, animal and human cells), replicable parts of

these (e.g. genomes, plasmids, viruses, cDNAs), viable but not yet culturable organisms, cells and tissues, as well as databases containing molecular, physiological and structural information relevant to these collections and related bioinformatics."[9] The NBA has prepared guidelines on DNR and it is in the process of notification. The other guidelines such as access to bio-resources or associated knowledge for research or for commercial purpose by foreigners (Section 3 of the BD Act) and determination of equitable benefit sharing arising out of the use of accessed biological resources, their by-products, innovations and practices associated with their use and applications and knowledge (Section 21 of the BD Act)[10], transfer of results of any research relating to any biological resources occurring in or obtained from India for further research or for commercialization (Section 4 of BD Act), intellectual property rights of invention based on any research or information on a biological resources obtained from India (Section 6 of the BD Act), biological resources normally traded as commodities (Section 40 of the BD Act), and areas of importance as Biodiversity Heritage sites (Section 37) are in the process of notification under the Act[11].

Criteria for benefit sharing

The Act, according to Section 21 and Rule 20 of the Biodiversity Rules,[7,12] insists upon including appropriate benefit sharing provisions in the access agreement and mutually agreed terms related to access and transfer of biological resources or knowledge occurring in or obtained from India for commercial use, bio-survey, bio-utilization or any other monetary purposes. The NBA is in the process of developing a guideline based on the provision of the BD Act and the same will be notified with the specific details of benefit sharing formula in an official gazette on a case-to-case basis. While granting approvals for access, NBA will impose terms and conditions so as to secure equitable sharing of benefits[14]. These benefits, inter alia include:

a) grant of joint ownership of intellectual property rights to the NBA, or where benefit claimers are identified, to such benefit claimers;
b) transfer of technology;
c) location of production, research and development units in such areas which will facilitate better living standards to the benefit claimers;[15]
d) association of Indian scientists, benefit claimers and the local people with research and development in biological resources and bio-survey and bio-utilization;
e) setting up of venture capital fund for aiding the cause of benefit claimers;
f) payment of monetary compensation and other non-monetary benefits to the benefit claimers as the NBA may deem fit.[16]

The BD Act provides for setting up of biodiversity funds at national, state and local levels. Benefits will be given directly to individuals or group of individuals only in cases where biological resources or associated knowledge are accessed directly through them. In all other cases, monetary benefits will be deposited in the Biodiversity Fund which in turn is used for the conservation and development of biological resources and socio-economic development of areas from where resources have been accessed[17]. The time frame and quantum of benefits to be shared shall be decided on case-to-case based on mutually agreed terms between the applicant, authority, local bodies, and other relevant stakeholders, including local and indigenous

communities. One of the suggested mechanisms for benefit sharing includes direct payment to persons or group of individuals through district administration, if the biological material or knowledge is accessed from specific individuals or organizations[18]. In cases where such individuals or organizations could not be identified, the monetary benefits shall be paid to the National Biodiversity Fund. Five percent of the benefits shall be earmarked for the Authority or State Biodiversity Board towards the administrative service charges[19].

RECOMMENDED ACTIONS

There is space and time for people to lobby for better rules and Act**,** for the two following reasons:

a) Every rule made under the Biodiversity Act is to be placed in the Parliament for a period of thirty days and the houses can make changes in the rules (sec 62(3)). This gives the space to make suitable changes in rules, by asking members of Parliament to raise issues in the Parliament[20].

b) Section 65 of the Biodiversity act gives the "Power to remove difficulties" "(1) If any difficulty arises in giving effect to the provisions of this act, the Central government, may, by order, not inconsistent with the provisions of this Act, remove the difficulty: provided that no such order shall be made after the expiry of a period of two years from the commencement of this Act"[21]

We can use this section to ask for requisite changes in the Act.

This can be done in various ways:

1. Interaction with members of the National Biodiveristy Authority, raising concerns and critical issues with them.
2. Educate and lobby with MLAs/MPs, by a series of discussion workshops
3. Pass Resolutions/memorandums at district, state and national level.
4. Immediate protest during next winter session of Parliament – Delhi Action; demand MPs meet with protestors (to be a part of National Coordination of Farmer's Movement)
5. Mobilisation of panchayats and gram sabhas to oppose setting up of Biodiversity Management Committees under current Rules
6. Spreading awareness regarding these issues amongst communities, NGOs and govt. officials
7. The local, regional and national media can be tapped to raise awareness of these issues, stressing on the gravity of the situation.

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