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Institutional Framework for creating Biodiversity Commons through Biodiversity Management Committees in India

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Abstract: Biodiversity includes a diversity of life on planet earth. The Convention on Biological Diversity (CBD) was evolved for protection and sustainable use of bio-resources and ensures equitable sharing of biological resources. As a signatory to the Convention, India enacted the Biological Diversity Act and subsequently, the Biological Diversity rules came to being. The Act envisages a three tier system for executing the same with National Biodiversity Authority (NBA) at the top and each state with its State Biodiversity Board (SBB) under which Biodiversity Management Committee (BMC) can work. These three tiers together form the institutional framework for biodiversity legal regime in India vis-à-vis International compliance. These institutions work in co-ordination with each other under the BD Act to perform their roles & functions. India's national legislation combines the role of regulator (enforcing authorized access to bio-resources) with that of the promoter (promoting conservation and sustainable use of bio-resources, benefit sharing provisions and also creating public awareness), and the advisor (advising the Central and State governments on some key issues and national concerns). The paper discusses the salient features of BD Act 2002 and BD Rules 2004 and function and role of NBA, SBBs and BMCs. The institutional framework that provides to create biodiversity commons by constituting Biodiversity Management Committees to achieve the objectives of CBD in India by describing the constitution, function, responsibilities and mandate of BMCs. The main function of BMCs is to prepare People's Biodiversity Registers (PBRs) and describe its preparation process. India's experiences in implementing its national legislation may be of immense regional and international interests.

Keywords: Convention on Biological Diversity (CBD), Biological Diversity Act (BD Act), National Biodiversity Authority (NBA), State Biodiversity Board (SBB), Biodiversity Management Committee (BMC), People's Biodiversity Register (PBR), Access & Benefit Sharing (ABS)

1.0 Introduction

Biodiversity encompasses the variety of all life on earth including terrestrial, marine and aquatic ecosystems. It comprises diversity at three levels: genetic diversity (within species), species diversity (between species) and ecosystem diversity.

India is one of the 17 mega-biodiversity countries endowed with immense biological wealth and intellectual heritage with 2.4 per cent of the global land area and 4 per cent of water. It accounts for 7 to 8 per cent of the recorded species of the world. So far, 45,968 species of plants and 91,364 species of animals have been documented. Over 5,650 microbial species have been described. India is one of the eight primary centers of origin of cultivated plants with about 375 closely related wild species including rice, pulses, millets, vegetables, fruits and fiber plants. There are nearly 255 breeds of animals such as cattle, sheep, goat, camel, horse and poultry found in India.

The rich cultural diversity and the traditional knowledge available with tribal communities is visible across species and ecosystems, be it in agriculture, forestry, livestock and poultry sector or the marine, coastal and even desert and mountain landscapes. The long history of interaction of human beings with their bio diverse natural environment has also resulted in the vast informal knowledge of seed varieties, animal care, herbal cures and diagnostics skills in local systems of medicine.⁽⁶⁾

2.0 Convention on Biological Diversity

The Convention on Biological Diversity (CBD) 1992 is an international convention for conservation of biological diversity. The convention envisages three main objectives viz.

- Conservation of biodiversity
- Sustainable use of the Bio-resources, and
- Ensuring equitable sharing of benefits arising out of the use of the biological resources

CBD is the focal point for global discussions on access to biological material and related knowledge. The CBD emanated from the growing concern, worldwide, to protect biodiversity loss and check 'biopiracy'. The Convention insists that access to genetic resources and reciprocal transfer of technologies must be relevant to the purposes of conservation and sustainable use of biodiversity.

The Articles 15 & 16 of the CBD made a crucial change to the manner in which biodiversity would be owned, protected and governed. It has a bearing on how access & benefit sharing mechanism is located within legal framework and established whose consent would need to be taken prior to access. It was within the framework of the convention that it was clearly established and agreed upon by governments that the CBD recognizes the sovereign right of states (nation states, or countries) over their natural resources. Therefore, the authority to determine access to genetic resources also vests with the national governments and is subject to

national legislation. Accordingly, any related contractual agreement in the remotest part of a country, even with existing custodians or stewards of biodiversity and knowledge, would now need to be governed by the frameworks devised by national governments. The CBD text created space for fair and equitable sharing of the benefits arising out of the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding. The convention has been ratified by 193 countries including India. As a signatory to CBD, India was required to enact a compressive legislation to achieve its objectives⁽²⁾.

2.1 India and the Nagoya Protocol

India signed the Nagoya Protocol on May 11, 2011, and ratified it on October 09, 2012. The view of the Indian government as expressed by the MoEF is that (o)nce the Nagoya Protocol enters into force, the user country measures enshrined in it would oblige all parties to provide that users of genetic resources within their jurisdiction respect the domestic regulatory framework of Parties from where genetic resources have been accessed, thereby addressing the concerns of misappropriation (Ministry of Environment and Forests, 2012).

During the COP 10, held from October 18-29, 2010, in Nagoya, Aichi Prefecture, Japan, a revised and updated Strategic Plan for Biodiversity was also adopted which included, what is now popularly referred to as the Aichi Biodiversity targets for the period 2011-2020. The Aichi Target 16 requires that by 2015 *'the NP on Access to Genetic Resources and the Fair and Equitable Sharing of benefits Arising from their Utilization is in force and operational, consistent with national legislation'*⁽⁴⁾.

3.0 India's Biodiversity Regime: Enactment of Biological Diversity Act, 2002

India's Biological Diversity Act is a law enacted to set up a biodiversity regime to implement the CBD in the domestic context. The BD Act has prescribed an institutional framework to implement the three objectives of CBD- conservation, sustainable use and equitable sharing of benefits arising out of the use of biological resources and related knowledge. The Government of India enacted the Biological Diversity Act in 2002 and notified the Biological Diversity Rules in 2004. The Biological Diversity Act has 12 Chapters and 65 Sections and was published on 5 February, 2003. The Biodiversity Rules were notified on 15 April, 2004. The act extends to the whole of India and reaffirms the sovereign rights of the country over its biological resources. The Rule 22 states that 'every local body shall constitute a Biodiversity Management Committee (BMC's) within its area of jurisdiction'.

The Act is implemented at National, State and local levels, through a decentralized three tier system. At the national level, **National Biodiversity Authority** (NBA) was setup in 2003 by the Ministry of Environment and Forests (MoEF), under Section 8 of the Act.

At State level, **State Biodiversity Boards** (SBBs) have been established by the State Governments as per Section 22 of the Act in all the 28 states of India. The 11 member SBBs have representation from the concerned departments of the state government and biodiversity 'experts'. No local communities are represented here.

The **Biodiversity Management Committees** (BMCs) are constituted at local level by the Local Bodies as per Section 41 of the Act. The BD Act mandates seven member Biodiversity Management Committees (BMCs) to be set up by every local body.

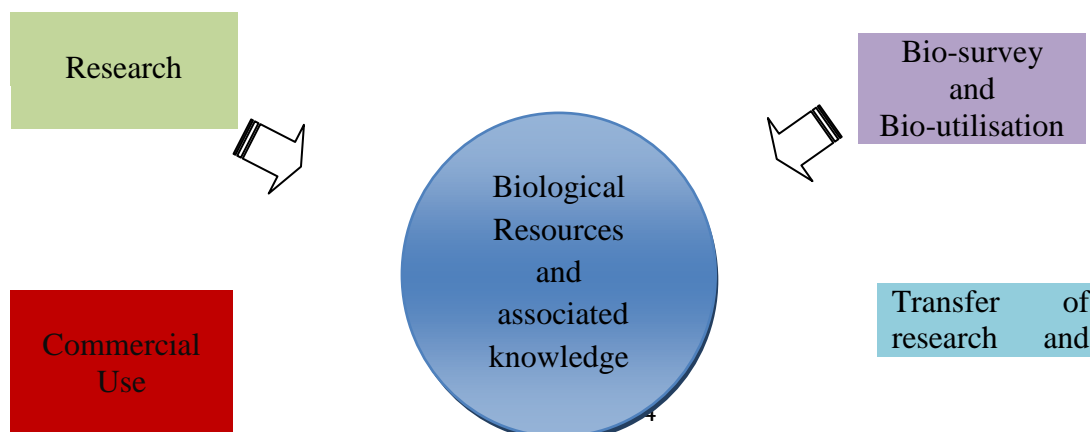
The **BMC** is the lowest rung of the institutional structure. The NBA and SBBs are required by law to mandatorily consult the BMCs while taking any decision relating to the use of biological resources and associated knowledge that are within the territory of the BMC. It is supposed to deliberate on access application routed to it by the NBA via the SBB. Even though there are no functioning BMCs in many states, yet the work of processing access applications has continued at the NBA level since 2004. The NBA is central to the process of screening and apprising access applications. An expert Committee on Access & Benefit Sharing (ABS), with 21 members, functions within the NBA as a standing committee to process access application. ⁽³⁾

3.1 Salient Features of Biological Diversity Act, 2002

- To regulate access to biological resources of the country equitable share in benefits arising out of the use of biological resources.
- To conserve and sustainable use of biological diversity.
- To respect and protect knowledge of local communities related to biodiversity.
- To secure sharing of benefits with local people as conservers of biological resources and holders of knowledge and information relating to the use of biological resources.
- Conservation and development of areas of importance from the standpoint of biological diversity by declaring them as biological diversity heritage sites.
- Protection and rehabilitation of threatened species.
- Involvement of institutions of State Government in the broad scheme of the implementation of the Biological Diversity Act through constitution of committees

3.2 What is covered by the Biological Diversity Act?

The Act covers conservation, use of biological resources and associated knowledge occurring in India for commercial or research purposes or for the purpose of bio-survey and bio-utilization. It provides a framework for access to biological resources and sharing the benefits arising out of such access and use. The Act also includes in its ambit the transfer of research results and application for intellectual property rights (IPRs) relating to Indian biological resources.





3.3 Biological Diversity Rules, 2004

To implement the Biological Diversity Act 2002, Rules have been notified in 2004. The salient features of the BD Rules 2004 are:

- Procedures for appointment of Chairperson and Members of the Authority, conduct of authority meetings, and general functions of the authority are described in the Rules 3-8, 10 and 12 respectively.
- The process to regulate activities for access to biological resources and associated traditional knowledge in accordance with the Sections 3 (Access to Biological Resources), 4 (Transfer of Research Results) and 6 (Seeking ‘No objection Certificate’ for obtaining patent) under the Biological Diversity Act, 2002, are given in Rule 14, 17 and 18 respectively.
- The Procedure to revoke written agreements, action in prohibiting access and recovery of damages (Rule 15)
- Restricting access of endangered, endemic and rare species, restricting access in case of adverse environmental impact, genetic erosion, ecosystem function and purposes contrary to national interest as well as international agreements (Rule 16)
- Imposing terms and conditions for ensuring equitable sharing of benefits on access, transfer of results of research, application for patent / IPR claims (Rules 20)
- Constitution of Biodiversity Management Committee (BMC) and Preparation, maintenance and validation of People’s Biodiversity Register (PBR) in consultation with the local people should be done as per Rules 22 (2) and 22(6) respectively.
- Appeals for settlement of disputes between NBA and SBB or between SBBs are dealt under Rules 23.

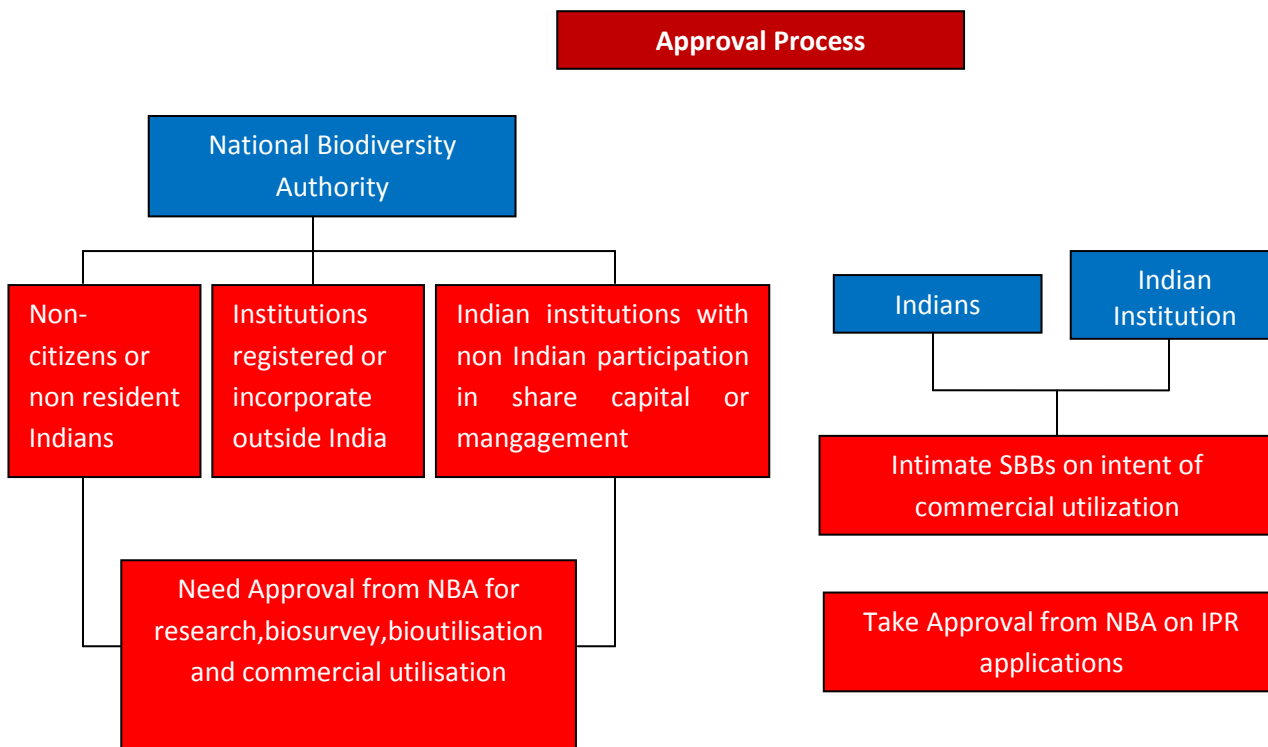
The Rules also have prescribed formats *viz.*, Form-I (Access to Biological resources and associated traditional knowledge), Form-II (Transfer of Research results), Form-III (Seeking ‘No objection Certificate’ for obtaining patent) and Form-IV (Seeking approval for Third Party Transfer) ⁽⁶⁾.

3.4 Who is covered by the Biological Diversity Act and what do they require?

The Act covers foreigners, non-resident Indians, body corporate, association or organization that is either not incorporated in India or incorporated in India with non-Indian participation in its share capital or management. These individuals or entities require the

approval of the National Biodiversity Authority when they access/use biological resources and associated knowledge occurring in India for commercial or research purposes or for the purpose of bio-survey or bio-utilization.

Indians and Indian institution do not require the approval of the National Biodiversity Authority when they engage in the above mentioned activities. However, they would need to inform the State Biodiversity Boards prior to undertaking any research with the intent of commercialization. Any application for IPR based on biological resources should be approved by NBA.



3.5 Biodiversity Fund

National, State and Local level biodiversity funds are established under sections 27, 32 and 43 of the Act respectively. The funds are intended for channeling benefits to bonafide claimers and for conservation and promotion of biological resources and / or the associated knowledge and socio-economic development of these areas.

3.5.1 National Biodiversity Fund (NBF)

As per the section of 27(1) of the Act any grants and loans, all charges, royalties received by the NBA may be called National Biodiversity Fund. The fund shall be applied for channeling benefits to the benefit claimers, conservation and promotion of biological resources and development of areas from where such biological resources or knowledge associated there to has

been accessed and for socio-economic development of areas in consultation with the local bodies.⁽²⁾

3.5.2 State Biodiversity Fund (SBF)

The State Biodiversity Fund created as per Section 32(1) of the Act receives any grants and loans made to the SBB/any grants or loans made by the NBA/all sums received by the SBB from other sources may be decided upon State Government as State Biodiversity Fund. The SGF shall be used for the management and conservation of heritage sites, compensating or rehabilitating any section of the people economically affected by notification, conservation and promotion of biological resources and socioeconomic development of areas from where such biological resources or knowledge associated thereto has been accessed.

3.5.3 Local Biodiversity Fund (LBF)

The Local Biodiversity Fund is created at every area notified by the State Governments where any institution of self-Government is functioning and there shall be credited thereto, any grants or loans made by NBA, fees/levy charges by way of collection fees from any person for accessing or collecting any biological resources for commercial purposes. The LBF shall be used for conservation and promotion of biodiversity in the areas falling within the jurisdiction of the concerned local body and for the benefit of the community.

4.0 National Biodiversity Authority (NBA)

The NBA is an autonomous and statutory body with its headquarters at Chennai performing enabling / facilitative, regulatory and advisory role to relevant agencies and Ministries of Government of India on issues of conservation o biodiversity, its sustainable use and ensuring fair and equitable sharing of benefits arising out of such use. The NBA operates through consultative process involving expert committees and stakeholders ⁽⁶⁾.

4.1 Functions of National Biodiversity Authority (NBA):

- Creating an enabling environment, as appropriate, to promote conservation and sustainable use of biodiversity.
- Advising the Government of India on matters relating to conservation of biodiversity sustainable use of its components and equitable sharing of benefits arising out of utilization of biological resources.
- Regulation activities and issue guidelines for access to biological resources and for fair and equitable benefit sharing in accordance with the Sections 3, 4 and 6 of the Biological Diversity Act, 2002. Certain individuals/ Nationals / Organizations require

- prior approval of NBA for obtaining biological resources and / or associated knowledge for use.
- Taking necessary measures to oppose the grant of intellectual property rights in any country outside India on any biological resource obtained from India or knowledge associated with such biological resource derived from India illegally.
 - Advising the State Governments in the selection of areas of biodiversity importance to be notified as heritage sites and suggest measures for their management⁽⁸⁾.

5.0 State Biodiversity Boards (SBBs)

The SBBs are established by the State Governments by official gazette notification in accordance with Section 22 of the Act. For the seven Union Territories, NBA or its authorized body exercises the powers and functions of SBB. The SBBs are established by the State Governments with a Chairperson, five ex officio members representing the concerned departments and five members appointed from experts in matters relating to conservation of biological diversity, sustainable use of biological resources and equitable sharing of benefits arising out of the use of biological resources.

5.1 The Functions of SBBs include:

In particular and without prejudice to the generality of other provisions the Board may perform the following functions:-

- i. Lay down the procedure and guidelines to govern the activities provided under Section 23 of the Act.
- ii. Advise the State Government on any matter concerning conservation of biodiversity, sustainable use of its components and fair and equitable sharing of benefits arising out of the use of biological resource and knowledge.
- iii. Provide technical assistance and guidance to the departments of the state Government and Biodiversity Management Committees for co-ordination of the activities.
- iv. Regulate by granting of approvals or otherwise requests for commercial utilization or bio-survey and bio-utilization of any biological resource by Indian Nationals.
- v. Facilitate updating and implementation of State & Sub-State Biodiversity Strategy and Action Plans.
- vi. Commission studies and sponsor investigations and research.
- vii. Engage consultant for a specific period, not exceeding three years, for providing technical assistance to the Board in the effective discharge of its functions. Provided that if it is necessary and expedient to engage any consultant beyond the period of three years, the Board shall seek prior approval of the State Government for such an engagement.
- viii. Collect, compile and publish technical and statistical data, manuals, codes or guides relating to conservation of Biological biodiversity, sustainable use of its components and fair and equitable sharing of benefits arising out of the use of biological resource and knowledge.

- ix. Organize through mass media a comprehensive programme regarding conservation of biological bio-diversity, sustainable use of its components and fair and equitable sharing of benefits arising out of the use of biological resource and knowledge.
- x. Plan and organize training of personnel engaged or likely to be engaged in programmes for the conservation of biological biodiversity and sustainable use of its components.
- xi. Take steps to build up database and to create information and documentation system for biological resources and associated traditional knowledge through biodiversity registers and electronics database, to ensure effective management, promotion and sustainable uses.
- xii. Give directions to the local bodies/ Biodiversity Management Committees in writing and through appropriate oral means, for effective implementation of the Act, and to facilitate their meaningful participation in all measures relating to conservation, sustainable use, and equitable benefit-sharing.
- xiii. Report to the State Government about the functioning of the Board and implementation of the Act and the Rules made there under.
- xiv. Recommend, prescribe, modify, collect fee of biological resources from time to time.
- xv. To devise methods to ensure protection of rights including intellectual property rights over biological resources and associated knowledge including systems of maintaining confidentiality of such information as appropriate, including the protection of the information recorded in People's Biodiversity Registers.
- xvi. Sanction grants-in-aid and grants to fund projects/ Biodiversity Management Committee for specific purposes.
- xvii. Undertake physical inspection of any area in connection with the implementation of the Act.
- xviii. Ensure that biodiversity and biodiversity dependent livelihoods are integrated into all sectors of planning and management, and at all levels of planning from local to state, to enable such sectors and administrative levels to contribute effectively for conservation and sustainable use.
- xix. Prepare the annual Budget of the Board incorporating its own receipts as also the devaluation from the State and Central Government provided that the allocation by the Central Government shall be operated in accordance with the budget provisions approved by the Central Government.
- xx. Board shall have full powers for granting administrative and technical sanctions to all the estimates; if any however delegate such administrative and technical sanction powers to the Member Secretary of the Board, as may be deemed necessary.
- xxi. Recommend creation of posts to State Government, for effective discharge of the functions by the Board and to create such posts, provided that no such post whether permanent/ temporary or of any nature, would be created without prior approval of the State Government.
- xxii. Perform such other functions, as may be necessary to carry out the provisions of the Act or as may be prescribed by the State Government from time to time.
- xxiii. Shall have power to acquire, hold and dispose of property, both movable and immovable and enter into contract for the same.
- xxiv. Prohibit or restrict any activity which is detrimental or contrary to the objectives of conservation and sustainable use biodiversity or equitable sharing of benefits arising out of such activities.
- xxv. Do such other functions as may be assigned or directed by the National Biodiversity Authority and State Government from time to time.

- xxvi. To prepare in such form and at such time each financial year as may be prescribed its annual report, giving full account of the activities during the previous financial year and furnish to the State Govt. before such date as may be prescribed its audited copy of accounts together with auditor's report therein.

6.0 Biodiversity Management Committees (BMCs)

Biodiversity Management Committees are to be constituted as per Biological Diversity Act, 2002 (Section 41). Rule 22 states that every local body shall constitute a Biodiversity Management Committee (BMC's) within its area of jurisdiction for the purpose of promoting conservation, sustainable use and documentation of biological diversity including preservation of habitats, conservation of land races, folk varieties and cultivars, domesticated stocks and breeds of animals and microorganism and chronicling of knowledge relating to biological diversity. National Biodiversity Authority and the State Biodiversity Boards shall consult the Biodiversity Management Committees while taking any decision relating to the use of biological resources and knowledge associated with such resources occurring within the territorial jurisdiction of the Biodiversity Management Committee⁽⁸⁾. For the purposes of this subsection

- “*cultivar*” means a variety of plants that has originated and persisted under cultivator or was specifically bred for the purpose of cultivation;
- “*folk variety*” means a cultivated variety of plant that was developed, grown and exchanged informally among farmers;
- “*landrace*” means primitive cultivar that was grown by ancient farmers and their successors.

6.1 Constitution of Biodiversity Management Committees:

- i. Every local body shall constitute a Biodiversity Management Committees within its area of jurisdiction. Accordingly, Biodiversity Management Committees are to be constituted at *Zila Parishad, Block Samiti* and *Gram Panchayat* as well as at Notified Area Committee/ Municipality and Municipal Corporation level.
- ii. If the local body is satisfied that the function of the BMC can be discharged by the general assembly of the local body, or by one of its existing committees, the same should be recorded as resolution passed by such local body, following due procedure.
- iii. The Biodiversity Management Committees constituted under sub-rule (I) shall have seven persons nominated by the local body, of whom not less than one third shall be women. Seven local knowledgeable persons being so nominated should be drawn from amongst the herbalists, agriculturist, Non Timber Forest Produce collectors/ traders, fisher-folk, representatives of user associations, community workers, and academicians and any person/ representative of organization, on whom the local body trusts that he can significantly contribute to the mandate of the Biodiversity Management Committee. The proportion of members belonging to the Scheduled Caste and the Scheduled Tribe should not be less than Scheduled Caste/ Scheduled Tribe percentage of the District, where such a committee is set up. All the above should be residents within the said local body limits and be in the voters list.

- iv. The local body shall nominate special invitees from Forest, Agriculture, Horticulture, Irrigation and Public Health, Animal Husbandry, Health, Fisheries and Education Department.
- v. The Chairperson of the Biodiversity Management Committee shall be elected from amongst the members of the committee in a meeting to be presided over by the Chairperson of the local body. The Chairperson of the local body shall have the right of vote in case of a tie.
- vi. The chairperson of the Biodiversity Management Committee shall have tenure of five years.
- vii. The local Member of the Legislative Assembly and Member of Parliament would be special invitees to the meetings of the Biodiversity Management Committees at different levels.
- viii. A technical support group comprising of experts in the field of biodiversity drawn from Government agencies, non Government Organizations, academic field, community and individuals shall be established by State Biodiversity Board. The expert group shall lend support to Biodiversity Management Committees.
- ix. The key mandate of the Biodiversity Management Committees will be to ensure conservation, sustainable utilization and equitable sharing of benefits from the biodiversity. The Biodiversity Management Committees shall facilitate preparation of People's Biodiversity Registers. The Register shall contain comprehensive information on availability and knowledge of local biological resources, their medicinal or any other use or any other traditional knowledge associated with them. The *Zila Parishad* Biodiversity Management Committee shall be responsible for developing a district wide network of People's Biodiversity Registers database. The People's Biodiversity Registers (PBRs) will be prepared at the Block /*Gram Panchayat*/ Notified Area Committee/ Municipality/ Municipal Corporation Biodiversity Management Committee level by using the process and the format prepared by the Board. The Biodiversity Management Committees and local bodies will be responsible for ensuring the protection of the knowledge recorded in the People's Biodiversity Registers, especially to regulate its access to outside agencies and individuals.
- x. The other functions of the Biodiversity Management Committees are to advice on any matter referred to it by the State Biodiversity Board or National Biodiversity Authority for granting approval, to maintain data about the local *vaids* and practitioners using the biological resources.
- xi. The *Zila Parishad, Block Samiti, Panchayat/* Municipal Biodiversity Management Committees shall strive to mainstream biodiversity conservation concerns in the developmental planning at the local level.
- xii. The Board shall provide guidance and technical support to the Biodiversity Management Committees for preparing People's Biodiversity Registers, and shall ensure that all information recorded in such Registers receive legal protection against misuse and misappropriation by outside agencies and individuals.

- xiii. The Committee shall also maintain a Register giving information about the details of the access to biological resources and traditional knowledge granted, details of the collection fee imposed and details of the benefits derived and the mode of their sharing.
- xiv. The Biodiversity Management Committee at Zila Parishad/ Block Samiti/ Gram *Panchayat*/ Notified Area/ Municipality/ Municipal Corporation level may decide the terms on which it would permit access to biodiversity resources and associated knowledge to different parties for various purposes within their jurisdiction and levy charges by way of collection fees from any person for accessing or collecting any biological resource for commercial purpose from the area falling within its jurisdiction. The major share of levy charged for the material collected and cultivated from private land should be given to the owner/cultivator of the land/ knowledge holders and the balance should be deposited in the Local Biodiversity Fund of Biodiversity Management Committee. The levy charged for the material collected/ cultivated from Government land should be totally deposited in Local Biodiversity Fund of Biodiversity Management Committee.
- xv. The Board shall provide guidelines for terms of access and fee collection by the Biodiversity Management Committees.
- xvi. The Zila Parishad/ Block Samiti/ Gram *Panchayat*/ Municipality/ Municipal Corporation level Management Committees shall prepare a Biodiversity Management Plan using output from People's Biodiversity Register and will be responsible for or participate in its implementation.
- xvii. The local bodies shall ensure that the Biodiversity Management Committees are integrated with the functioning of existing local institutions by cross-membership, regular co-ordination meetings and other such measures as determined by the local bodies or as specified by the Board⁽⁸⁾.

6.2 Functions and Duties of BMCs:

- The mandate of the BMC will be to ensure conservation, sustainable utilization and equitable sharing of benefits from the use of biodiversity.
- The BMC shall prepare, maintain and validate People's Biodiversity Registers. The Register shall contain comprehensive information on availability and knowledge of local biological resources, their medicinal or any other use or any other traditional knowledge associated with them and shall be updated from time to time.
- The People's Biodiversity Register's shall be prepared at the *Zilla Parishad/ Block Level/Gram Sabha/ Panchayat/ Municipality/Municipal Corporation* level by the respective BMCs using the process and the format set by the board and / or the National Biodiversity Authority.
- The BMCs local and District Administration, local bodies shall be responsible for ensuring the protection of the knowledge recorded in the People's Biodiversity Register's, especially to regulate its access to outside agencies and individuals. The level BMC/

Technical Supporting Group shall be responsible for developing district – wide network of People’s Biodiversity Register’s, especially to regulate its access to outside agencies and individuals. The District level BMC/ Technical Supporting Group shall be responsible for developing district –wide network of People’s Biodiversity Register’s database.

- The BMC at Gram Sabha/ Panchayat/ District/ Municipality/ Municipal Corporation Level, if required in consultation with State biodiversity Board, may decide the terms on which it would permit access to biodiversity resources and associated knowledge to different parties for various purposes within their jurisdiction and levy charges by way of collection fees from any person for accessing or collecting any biological resources for commercial purposes from the area falling within its jurisdiction. The major share of fee charged for the material collected/ cultivated from private land should be given to the owner/ cultivator of the land/ knowledge holders and the balance should be deposited in the Local Biodiversity Fund.
- The BMC shall also maintain a Register giving information about the details of the access to biological resources and traditional knowledge granted, details of the collection fee imposed and details of the benefits derived and the mode of their sharing. The register shall be maintained by the Chairman or any person authorized by him/ her.
- The BMC shall take initiative to generate awareness regarding biological resources available in the locality, their ecological and economic importance and the need to conserve them and prepare an action plan regarding the same. It will take the support of TSG’s for the activity and will strive to mainstream biodiversity conservation concern in the developmental planning at the local level.
- The BMC shall take action for stopping illegal and irregular harvesting of biological resources within its jurisdiction to ensure sustainable use.
- The BMC shall determine and periodically update the status of regeneration of all important species and the quantum available with its area, by making inventory under the guidance of the Board/Technical support Group.
- The BMC in consultation with NGOs and community institutions, can also initiate proposals for declaring Biodiversity Heritage Sites (BHS) and take care of management of such sites declared under its jurisdiction.
- The BMC will advise on matters referred to it by the State Biodiversity Board or the National Biodiversity Authority for granting approval within a specified time and will maintain data about local vaidas and practitioners using biological resources.
- In the long run the BMCs also have responsibility to prepare and implement a management plan for biodiversity conservation and use for a period of 5 to 10 years using output from People’s Biodiversity Registers in consultation with State Biodiversity Boards and with the support of Technical Support Group constituted by the District Administration.

- Depending on available expertise, the BMC will setup and maintain germplasm bank and seed centre's of similar nature for promoting cultivars and landraces under the technical guidance of the Board, whenever possible.
- Every BMC shall prepare its annual report and audited copy of Accounts and submit the same together with auditor's report to the concerned District Magistrate (or to officer as decided by State Biodiversity Board), with a copy to the Board a copy to the general assembly of the local body.
- In order to execute the above functions the BMC will work in cooperation with other BMCs, the TSG and the SSB. It will function from an office premises to be provided by the local body.
- The BMC shall perform any other function as assigned by Central/State government or NBA/State Biodiversity Board.

6.2.1 Functions of the Local Body: The local body shall provide guidance to BMC for its effective function from time to time. It will keep a record of the Annual Report and accounts of the Board and ensure safe custody to the local people's Biodiversity Register. It shall ensure that the BMCs are integrated with the functioning of existing local institutions by cross membership, coordination meetings, and other such measures, as determined by the local bodies or as specified by the Board.

6.2.2 Time period for Operationalization: Once a BMC is formed, its operation should commence immediately and a set of tasks completed in a period of 12 months.

6.2.3 Office of the BMC: The BMC will function from the office premises to be provided by the local body.

6.2.4 Tenure: The tenure of the BMC will be five years/ co-terminus with the tenure of the local body however; the existing BMC will continue to operate, until a new committee is constituted.

6.2.5 Meeting of BMC:

- BMC shall hold a minimum of 4 meetings in a year, and meet once at least in every 3months.
- The meetings shall be chaired by the Chairperson of the BMC, and in his/her absence, by any other member elected by the members present.
- The quorum at every meeting shall be three including the chairperson and excluding official members.
- Minutes/proceedings of the BMC Meetings will be drawn and submitted to the Local Body /District Nodal Officer.

6.2.6 Power of BMCs

- The BMC has the right within its jurisdiction to take decisions relating to use of Biological resources and associated traditional knowledge. According to Section 41(2) of the Biological Diversity Act 2002, the National Biodiversity Authority and

the State Biodiversity Boards are bound to consult the respective BMC's whenever the situation arises regarding the use of biological resources and associated traditional knowledge.

- The BMC has the right to restrict access to biological resources within its territorial jurisdiction by mean of reporting to the Board.
- The BMCs may levy charges by way of collection fees from any person for accessing or collecting any biological resources for commercial purposes from areas falling within its natural jurisdiction.
- The BMC can also decide on access and benefit sharing of biological resources within its jurisdiction or seek the help of NBA or SSB.

6.3 Technical Support Groups (TSG) for Strengthening BMCs

- The SBB shall formulate District level technical support groups (TSGs) comprising of officials/institutions /people of excellence and expertise in the biodiversity issues at local level, including representative from the departments of Forests, Agriculture, Horticulture, Veterinary and Fishery, Local Educational and Research Institutions, Autonomous District Councils, Non Governmental Organizations', Herbal Practitioner etc. based on the local conditions.
- The People's Biodiversity Registers shall be maintained, authenticated and validated by the BMCs with the assistance/guidance of the Local Technical Support Committee.
- The TSGs established at the appropriate level (State/Regional/ District) shall assist BMCs with regard to collection fee, benefit sharing and management of heritage sites, sacred groves and water bodies.
- The Technical support group shall assist the BMC in listing local names of flora, fauna, and traditional knowledge relating to flora and fauna, and current practices of communities regarding conservation within its territorial jurisdiction, to be included in the PBR.

6.4 The Roles of the Central and State Governments:

As per Section 36 of the Act the important duties of the Central and State Governments are to develop national strategies, plans, programmes for the conservation, promotion and sustainable use of biological diversity.

- Issuing directives to the concerned State Governments to take immediate ameliorative measures for protection of biodiversity rich habitats, threatened by overuse, abuse or neglect.
- Integrating of the conservation, promotion and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans, programmes and policies. Endeavour to

respect and protect the knowledge of local people relating to biological diversity, as recommended by the NBA.

- Assessing the impact of projects on environment and biodiversity, and regulate, manage or control the risks or adverse impact of use and release of living modified organisms on conservation; and sustainable use of biological diversity and human health.

6.4.1 The Central Government may, in consultation with NBA:

- (a) Notify threatened species and prohibit or regulate their collection, rehabilitation and conservation;
- (b) Designate institutions as repositories for different categories of biological resources; and
- (c) Exempt certain biological resources as normally traded as commodities.

The State Governments, in consultation with the local bodies, may notify biodiversity heritage sites, and frame Rules for management and conservation of the entire heritage sites (in consultation with Central Government) and launch schemes for compensation / rehabilitation of affected people.

7.0 People's Biodiversity Registers (PBRs)

India is land of biological and cultural diversity and is home to large number of tribal groups, pursuing different kinds of nature based livelihoods. In addition, a large number of farming and fishing communities and nomadic groups possess traditional knowledge of varying degrees. The development of modern science and technologies notably biotechnology and information technologies have increased the value of biodiversity and associated knowledge including traditional knowledge (TK). The growing importance of biodiversity, bio-resources and associated knowledge is fairly well understood. The first step towards conservation is sustainable utilization of biodiversity and its documentation. Biodiversity and associated knowledge is found in different ecosystems, under different legal management regimes and hence the results and manner of documentation will also differ. Preparation of "*People's Biodiversity Registers (PBR)*" is an activity that is very much appropriate to biodiversity rich country, and very much timely in the current era of rapid technological developments.

The main function of BMC is to prepare *People's Biodiversity Register (PBR)* in consultation with local people. The Register shall contain comprehensive information on the availability and knowledge of local biological resources, their medicinal or any other use or any other traditional knowledge associated with them.

The PBRs focus on participatory documentation of local biodiversity, traditional knowledge and practices. They are seen as key legal documents in ascertaining the rights of local people over the biological resources and associated traditional knowledge.

So far, 1122 PBRs are developed in India in 10 states with the participation of range of stakeholders. National Biodiversity Authority has issued guidelines on PBRs in 2009 ⁽⁷⁾.

7.1 PBR Methodology

The PBR is participatory process requiring intensive and extensive consultation with the people. Documentation of Traditional Knowledge (TK) related to biodiversity of individuals with regard to biodiversity and its uses is an important part of PBR. The objective and purpose is to be explained in a group meeting in the presence of all sections of people in the *Panchayat*, members of the BMC, students, knowledgeable individuals and all those interested in the effort. Documentation includes photographs (including digital images), drawings, audio and video recordings and other records like printed material. Every effort should be made to identify the persons with proven knowledge of local biodiversity; special attention should be given to the elderly persons who can also provide information on the biodiversity which was available in the past but no longer seen at present. In some cases focus group discussion may be held for the purpose of documentation. Therefore,

- PBR is to be undertaken in a Participatory mode involving varying sections of village society.
- Knowledge/views of both genders are to be recorded.
- Information need to be collated, analyzed and crosschecked by the members of the Technical Support Group (TSG)
- Careful documentation
- The document should be endorsed by the BMC and later publicized in the *Gram Sabha/Gram Panchayat/Panchayat Samiti*.
- Useful tool in the management and sustainable use of bio-resources.
- Periodically updated with additional and new information as and when generated.

7.2 Process in PBR Preparation

Step 1: Formation of Biodiversity Management committee (BMC)

Step 2: Sensitization of the public about the study, survey and possible management

Step 3: Training of members in identification and collection of data on biological resources and traditional knowledge

Step 4: Collection of data. Data collection includes review of literature on the natural resources of the districts, Participatory Rural Appraisal (PRA) at village level, household interviews, individual interviews with village leaders and knowledgeable individuals, household heads, key actors of the *Panchayati Raj* institutions and NGOs and direct field observations.

Step 5: Analysis and validation of data in consultation with support group and BMC.

Step 6: Preparation of People's Biodiversity Register (PBR).

Step 7: Computerization of information and resources.

8.0 Conclusion:

In view of above discussion it can be said that the challenge for a biodiversity-rich country like India is not only to preserve its biological wealth alone, but to also ensure that its conservation and use translates into the well-being of its peoples. The management of biodiversity is a complex matter that needs the involvement of many different partners ranging from governmental organizations to private companies, NGO's and volunteers. This aside, national and international commitment, legislation and enforcement offer an essential framework for promoting and maintaining biodiversity. In India all the states (28) in India have constituted the State Biodiversity Boards and the Biodiversity Management Committees constituted till March 2013 are 32,918. Fifteen states have notified their state wise rules. The Peoples Biodiversity Registers documented till March 2013 are 1122. Current list of normally traded commodities is 190 and 105 benefit sharing agreements has been signed. Further it can be said that traditional societies have accumulated a wealth of local knowledge, transmitted from generation to generation. Experience has taught them how the water, trees, and other natural resources should be used and managed to last a long time. Equity of knowledge can also enhance the security in its broadest sense. By capitalizing on the collective wisdom of formal and traditional sciences, we shall be able to help people to manage the risks they face because of the destruction of the local resources.

Literature Cited

1. Basha *et al.* 2012. Conserving Biodiversity of Yerramalais of Kurnool District, Andhra Pradesh, India, through People's Biodiversity Registers Program, Biodiversity Journal, 2012, 3 (2): 111-118
2. CBD Technical Series 2011. Incentive measures for the conservation and sustainable use of biological diversity: Case studies and lessons learned, CBD Technical Series No. 56, ISBN 92-9225-303-4.
3. Kohli, K. & Bhutani, S. 2013. The 'Balancing' Act: Experiences with Access and Benefit Sharing Under India's Biodiversity Regime. Kalpavriksh and Swissaid, India, ISBN 978-81-87945-33-8.
4. Kanchi Kohli & Shalini Bhutani n.d. Chasing 'Benefits': Issues on Access to Genetic Resources and Traditional Knowledge with reference to India's Biodiversity Regime. Kalpavriksh. *Campaign for Conservation and Community Control over Biodiversity.*
5. NBA. 2012. Strengthening the Implementation of the Biological Diversity Act and Rules with focus on its Access and Benefit Sharing Provisions, National Biodiversity Authority, India.
6. NBA 2004. The Biological Diversity Act, 2002 and Biological Diversity Rules, 2004, National Biodiversity Authority (2004), 74 PP.
7. NBA 2012. Century in ABS, Access & Benefit Sharing: Experiences from India, XI Conference of Parties, Convention on Biological diversity, National Biodiversity Authority, India.
8. NBA 2013. Guidelines for Operationalization of Biodiversity Management Committees (BMCs), National Biodiversity Authority, India, 2013.

