



POLICY *Papers*

People's Biodiversity Registers (PBRs)

India's Biological Diversity Act, 2002 promulgated to meet the objectives of Convention on Biological Diversity (CBD) mandates creation of Biodiversity Management Committees (BMCs) at the level of all the local bodies. The main responsibility of a BMC is to prepare a PBR which documents the availability of biological resources and associated knowledge. However, even after 14 years of promulgation of the Act, PBRs are left to be prepared at the level of more than 93% BMC. This brief looks at the status of preparation of PBRs in India.

The Biological Diversity Act, 2002 (BD Act, 2002) was promulgated by the Indian Parliament in response to its commitment to the Convention on Biological Diversity (CBD). The CBD is an internationally binding agreement built on three fold objectives: conservation of biological diversity, sustainable use of its components and equitable sharing of benefits arising out of the commercial utilization of genetic resources¹. The BD Act, 2002 builds a multi-tier institutional structure, namely: National Biodiversity Authority (NBA) at the federal level, State Biodiversity Boards (SBBs) at the state level and Biodiversity Management Committees (BMCs) at the local body level to achieve its objectives: conservation of biological diversity, sustainable use of its components and equitable sharing of benefits arising out of commercial utilization of biological resources, knowledge and matters connected therewith or incidental or thereto².

As per the BD Act, 2002 it is mandatory for every local self-governing institution in rural areas (wherein it takes the form of Panchayats at the village level, intermediate level and district level³) and urban areas (wherein it takes the form of Nagar Panchayats,

Municipal Council and Municipal Corporation⁴) to constitute a BMC within their area of jurisdiction for the promotion of conservation, sustainable use and documentation of biological diversity which includes preservation of habitats, conservation of landraces, folk varieties and cultivars, domesticated stocks and breeds of animals and microorganisms and the chronicling of knowledge relating to biological diversity⁵. The seven member committee comprising of a Chairperson and six members (of which one third should be women and not less than 18% should belong to Scheduled Castes/Scheduled Tribes) is elected following a general body meeting of the local body presided by the local body chairperson⁶. The tenure of the BMC is 5 years/co-terminus with the tenure of the local body however; the existing BMC will continue to operate, until a new committee is constituted⁷. The jurisdiction of a BMC, i.e. its legal authority is restricted to the territorial boundary of its local body.

The primary responsibility of the BMCs is to prepare 'People Biodiversity Registers' (PBR) in consultation with local people which will contain comprehensive information on availability and knowledge of local biological resources (those falling within the areas of territorial jurisdiction of the BMC, which is same as that of its local body's), their medicinal or any other use or any traditional knowledge associated with them⁸. According to **MadhavGadgil** (known for initiating the PBR programme in India before the promulgation of the statute), ***PBR is a way to record people's knowledge and perceptions of the status, uses, history, ongoing changes and forces driving these changes in the biological diversity resources of their own localities***⁹.

The documentation of people's knowledge about conditions and changes taking place in their surroundings and the drivers of these changes reveals issues of natural resource management. These issues are to be reflected in the management plan for the area, thereby acting as a basis for knowledge based system of resource management. Further, preparation of a PBR is likely to play an instrumental role by providing an information base for BD Act's proper implementation with the aim of conservation and sustainable utilization. Specifically, the Act proposes to have *heritage sites*¹⁰ to be selected for the purpose of conservation and management for which there is a need to have an information base. The *threatened species notification*¹¹ also requires information for the purpose of preservation and rehabilitation as mentioned in the Act¹².

Besides preparation of a PBR, the responsibilities of a BMC includes eco-restoration of the local biodiversity, management of sacred groves and sacred water bodies, heritage sites including heritage trees, conservation of traditional varieties/breeds of economically important plants and animals; sustainable utilization of biological resources within its area of territorial jurisdiction and regulation of access to the biological resources and/ or associated traditional knowledge, for commercial and research purposes¹³. In this context it is relevant to note that the statute empowers the BMCs to levy charges by way of collection fees from persons accessing or collecting biological resources for commercial purposes from areas falling within their territorial jurisdiction¹⁴.

Given that BMCs are responsible for carrying out the objectives of the Act at the ground level, this document looks at the status with respect to BMCs performing their primary responsibility of preparing a PBR. The brief first looks at the legal provisions governing PBR preparation followed with an explanation on what purpose PBR preparation solves. It highlights the potential of PBRs as an important conservation tool. Finally it analyses the status of PBR preparation in the country and across states and highlights issues emerging therein.

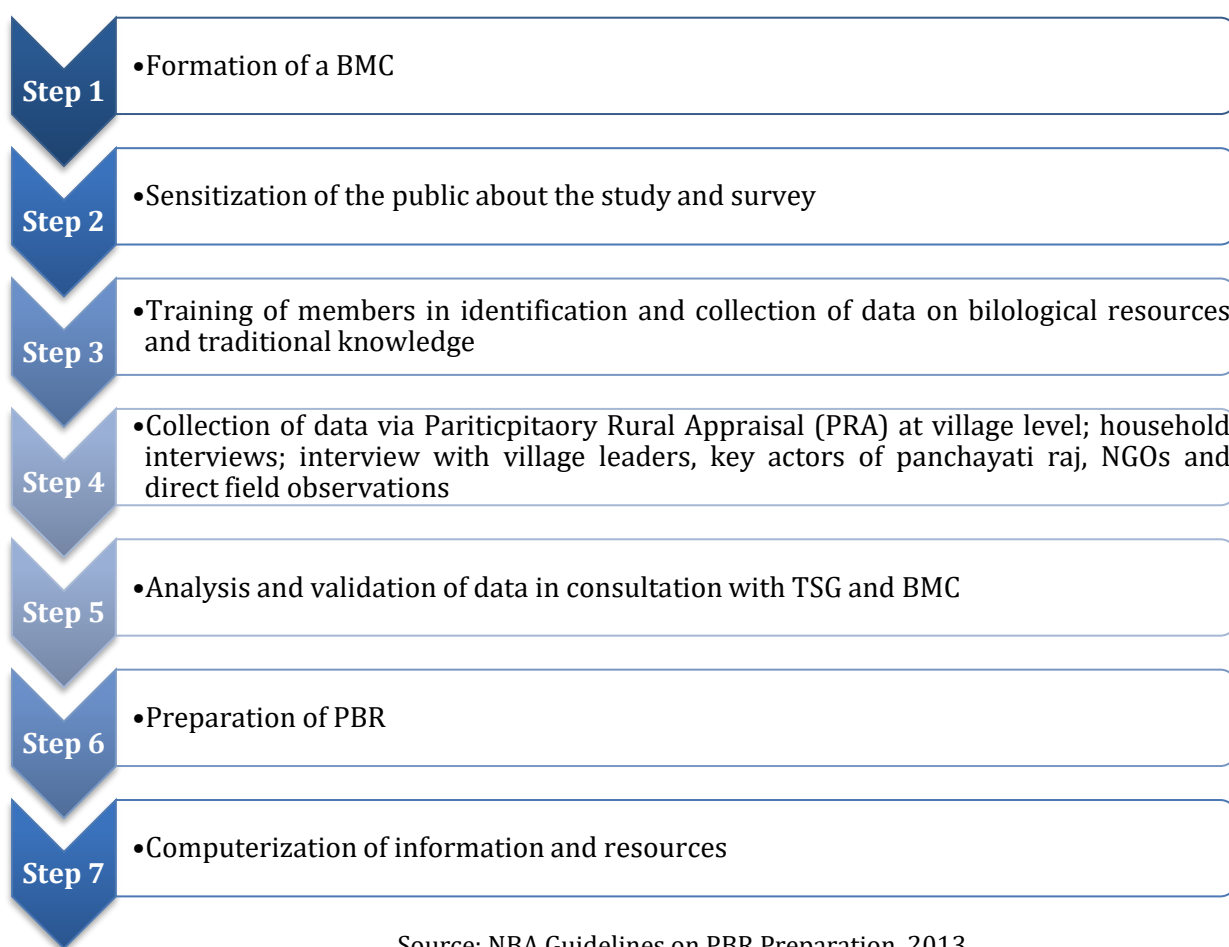
LEGAL PROVISIONS WITH RESPECT TO PBR PREPARATION

Given the technical nature of the PBR exercise, a Technical Support Group (TSG) is to be formed in every district consisting of experts from various disciplines and line departments, universities, research institutes, colleges and schools and non-governmental organizations. The main responsibility of the TSG is to assist the BMC in listing the local names of flora and fauna and current practices of communities regarding conservation and to validate/cross check the information before its documentation in the PBR. Further, before documenting the information as collected by the BMC and other local members, the same needs to be collated, analysed and cross-checked by the TSG¹⁵. Besides, the TOR for a TSG includes evaluation of the PBR exercise, examination of confidential information (traditional knowledge associated with use of local biological resources), advice on legal protection and maintenance of

database on local experts on biodiversity¹⁶.

The process of PBR preparation is participatory in nature, requiring extensive and intensive consultation with the large number of the people who need to share their common as well as specialized knowledge¹⁷. The various steps involved in PBR preparation are explained in the Chart below:

Stepwise Process of PBR Preparation



Source: NBA Guidelines on PBR Preparation, 2013

In the context of PBR preparation it needs to be noted that traditional knowledge (TK) of the local community with respect to biodiversity forms an important part of the PBR. Through centuries of co-existence, several communities living in the proximity of biodiversity-rich areas, have through their keen sense of observation, practice and

experimentation developed and established a body of invaluable traditional knowledge that is passed from generation to generation. This TK represents the common wealth of the communities, a heritage and continuation of intellectual property, collectively held by the villagers. The access to the same is governed by customary laws. Given the importance of documentation of TK as a part of the PBR exercise, it is critical to identify the persons with proven knowledge of local biodiversity; and special attention is to be given to identify the elderly persons who can also provide information on biodiversity which was available in the past but no longer seen at present. Further, it is important to note that the PBR prepared is to be periodically updated with additional and new information as and when generated.

The format for PBR preparation is mentioned in the NBA Guidelines on Preparation of People's Biodiversity Register (PBR)¹⁸.

WHAT PURPOSE DOES A PBR SOLVE?

1. Preservation of Traditional Knowledge¹⁹

The TK of the local/indigenous people developed through their close interaction with nature and historical continuity of resource-use practices is of great value for the conservation of ecological diversity and sustainable use of its components. This is primarily due to the fact that their continuous interaction with local ecology enables them to make adjustments on the basis of continuous monitoring of on-going changes. The ecological understanding among the locals enables them to carry out adaptive management i.e. a system of management which is flexible, knowledge based and appropriate to the new information age.

While the strength of traditional sciences (knowledge of barefoot ecologists and grass-root innovators) lies in their enormous store of information of complex natural ecosystems; a grave concern however is that its information is fuzzy, incomplete and fragmented. The nature of TK is such that it is often transmitted from one generation to

the other; is often oral rather than written, and its use is usually defined by customary law. Once the cultural tradition chain is interrupted, the knowledge at community level is lost as well. This weakness can be overcome through the preparation of PBRs which would not only create a machinery for monitoring the trends of a variety of bio-resources throughout the country leading to the very basis of a strategy for conservation of these resources; but also a well-defined stock of knowledge by barefoot ecologists and grass-root innovators.

Apart from its use towards a system of knowledge based system of resource management, TK is a vital source of information for identifying uses of biological resources with actual or potential value. This knowledge is particularly valuable for bio-prospectors, or users of biological resources, who use it to guide them to plants, animals and microbes that are already known to have useful properties²⁰. Without this knowledge many species currently used in research and commercialized products may never have been identified. However, much of this information collected and subsequently published is often shown as an original discovery and patented via intellectual property rights. Additionally, when use value emerging from such TK is commercially utilised, benefits are not shared with the communities or the traditional practitioners. In this context, the PBR which contains comprehensive documentation in the form of availability and knowledge of local biological resources, their medicinal or other uses, and traditional knowledge associated with them, then acts a legal basis for proving prior art to protect traditional knowledge against inappropriate or unauthorised use by others. It legally establishes the claims of the local community over their local biological resources and the associated information so documented, and helps to demand a share in the benefits derived from the commercial use of these resources.

Given the above discussions, it is relevant to note the provisions of CBD which link traditional knowledge with conservation of biological diversity and sustainable use. The CBD requires country parties to

“respect, preserve and maintain the knowledge innovations and practices of indigenous and local communities embodying traditional lifestyles” (Article 8 (j)).

and

“protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements” (Article 10 (c)).

Given the provisions under CBD, the Strategic Plan for Biodiversity (SP) 2011-2020 and Aichi Biodiversity Targets were adopted by the CoP to the CBD in 2010 at Nagoya, Aichi Prefecture, Japan. The SP 2011-2020 outlines broad based actions in support of biodiversity to be carried out over the next decade by all countries and stakeholders. Particularly, as per Target 18 of the Aichi Biodiversity Targets²¹,

“By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels”

The PBR document could also serve a very useful function in implementing the above provisions of the CBD and the actions plans made thereunder.

2. PBR: A Counter to False EIA Reports²²

Apart from the above, another important use of the PBR emerges given India’s development narrative which pushes for ecologically destructive projects such as mining and hydropower power plants. Given their ecologically disastrous nature, they call for a mandatory Environment Impact Assessment (EIA), irrespective of the nature and scale of the project. EIA is used as a tool to completely and comprehensively highlight the social and ecological costs to be weighed against the economic benefits so ‘promised’.

However, India has constantly seen fraudulent EIA which undermine the ecological value of areas that are proposed to be dammed, mined or diverted. The following

examples highlight the same.

The barrage for the 780 MW NayamjangChhu hydropower project was proposed to be located near the Zemithang village in Tawang district of Arunachal Pradesh. The location of the barrage coincided with the nesting site of Black Neck Crane (*Grusnigricollis*) which migrate from Tibet during the winter and lay eggs on the riverbed. They are classified as vulnerable in the list of endangered species of the International Union for Conservation of Nature and figure in India's schedule I list under the Wildlife (Protection) Act of India of 1972. Further, the species is held sacred by the Monpa tribe of Tawang. However, the EIA for the project made no mention of the fact the project location is an important habitat for the black neck crane. The Monpa community in 2012 had challenged the environmental clearance granted to the project in the National Green Tribunal on the grounds of the erroneous EIA. However, it was only with the arrival of the bird in December 2015 at Zemithang, when the community could submit incontrovertible photographic evidence to the Tribunal that the site where the dam has been planned is a wintering habitat for the birds²³.

In another case, the tribals from Kinnaur are struggling to save the last remaining pine nuts (*Pinusgeradiana*) locally known as Chilgoza. The chilgoza species endemic to the area are under the threat from the proposed Kashan Integrated Hydropower project. Close to 530 chilgoza trees will be felled in the 0.63 sq. Km of forest land to be cleared for the Kashang project²⁴. The livelihoods of the locals depend on these trees; where every household manages at least 200 kg of Chilgoza every year. The market value of Chilgoza is of the order `1,000–1,200 per kg, which can bring 2–2.5 lakh of annual earning per household. The villagers fear that HEP development activities could severely hamper their Chilgoza crops, endangering their healthy channel of livelihood²⁵. However, neither the EIA nor the Forest Department document the significant role these species play in providing livelihood security to the locals.

In this context, PBRs could be an effective tool to counter false and misleading statements given in EIA reports. Unlike an EIA, PBR comprehensively documents the following information: floral and faunal species²⁶ (both wild and domesticated), their local status, associated TK, the Peoplescape of the area²⁷ (which covers the type of community and population, families and major and sub occupation, landscapes which

support these occupations, resources accessed, landscape and resource management practices) Type of landscapes²⁸ (such as forests, plantations, cultivated lands or other elements), Waterscape element type²⁹ (such as Ponds, Streams, Rivers, Lake, Canal, Tubewell Dug well etc.,). They could therefore, help a community present the facts before the decision maker in order to highlight the “real value” of the ecological entity proposed to be “sacrificed”. They could save areas from being “valued” based on rapid assessment done by institutions and methodologies of questionable integrity, buoyed by project proponents, whose only goals are to take projects through.

In essence, the preparation of PBRs would enable presentation of complete and comprehensive ecological burdens which the project entails, thereby resulting in a more even balancing of ecological costs and economic benefits which are the very basis for decision making in such developmental projects.

3. Better local understanding of the ecology

Detailed documentation through PBRs can play an instrumental role in bringing out useful understandings of ecological processes. The examples below show how PBR exercise revealed the conservation challenges being faced by the local communities and the resultant actions taken by them to tackle the same.

In the Chambal Valley of Morena district, the PBR prepared for the BMC Piprai (with technical support from TSG, SujagritiSamajSeviSanstha, Morena) revealed that 800 hectares of cultivable land is being transformed into ravines every year leading landlessness among the local farmers. Ravines are a result of accelerated surface erosion as the alluvial soil in the valley is loose, has high sand content of up to 95% and extremely low organic content. The PBR also revealed that *Commiphora wightii* (Guggal) a wild plant species being pushed towards extinction. The resin extracted from Guggal has wide application in the treatment of numerous physical disorders and diseases like inflammation, obesity, cardiovascular disease, fracture of bones and lipid disorders and is used by pharmaceutical companies, vaidas and other local villagers. However, due to unscientific tapping of the Guggal gum the plant, termite infestation and ravine formation, the plant population is under decline. Giving the findings from the PBR, the

issues of loss of land and livelihoods to ravines were tackled through the following: (i) Improvement of soil strength by re-introducing thorny shrub, Guggal and (ii) Construction of water conservation and erosion control structures (like Dorbandi, Stopdams, Jalnikasnalis and check dams). The BMC had systematically planted 10, 000 Guggal plants and also levies fees on companies such as Dabur which commercially utilise the resin of the Guggal plant for commercial purposes³⁰.

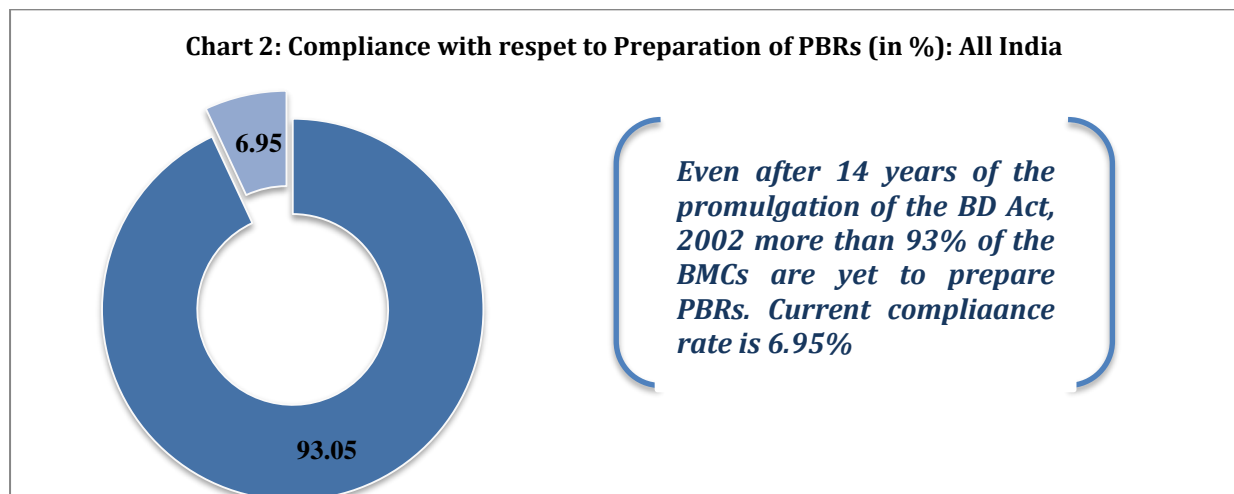
In another example, the villages in the wooded tracts of the Seoni district, Madhya Pradesh used to gather fruits such as *Buchnanialazana* (chironji) from the natural forests, which was of good economic value to the harvesters. However, these resources were harvested without any mutual/common understanding among the harvesters. Lack of trust among them led to every villager getting a size smaller than the mature size which is able to fetch better market prices. This continued until when a cluster of 13 villages while their PBR preparation realised that the traditional convention was to wait until May when the fruit was ripe. Further, as a part of the Joint Forest Management initiative they were given exclusive rights to collect the fruit from the forest patch and they agreed among themselves to wait till May before plucking it. The result was that their total collection went up by 33% in terms of weight and value because the properly matured fruit commanded a higher price per kilogram. In addition to community regulation of access to biological resources which may lead to sustainable harvests, PBR exercise may also promote better knowledge based sustainable management of living organisms as well as ecosystems.

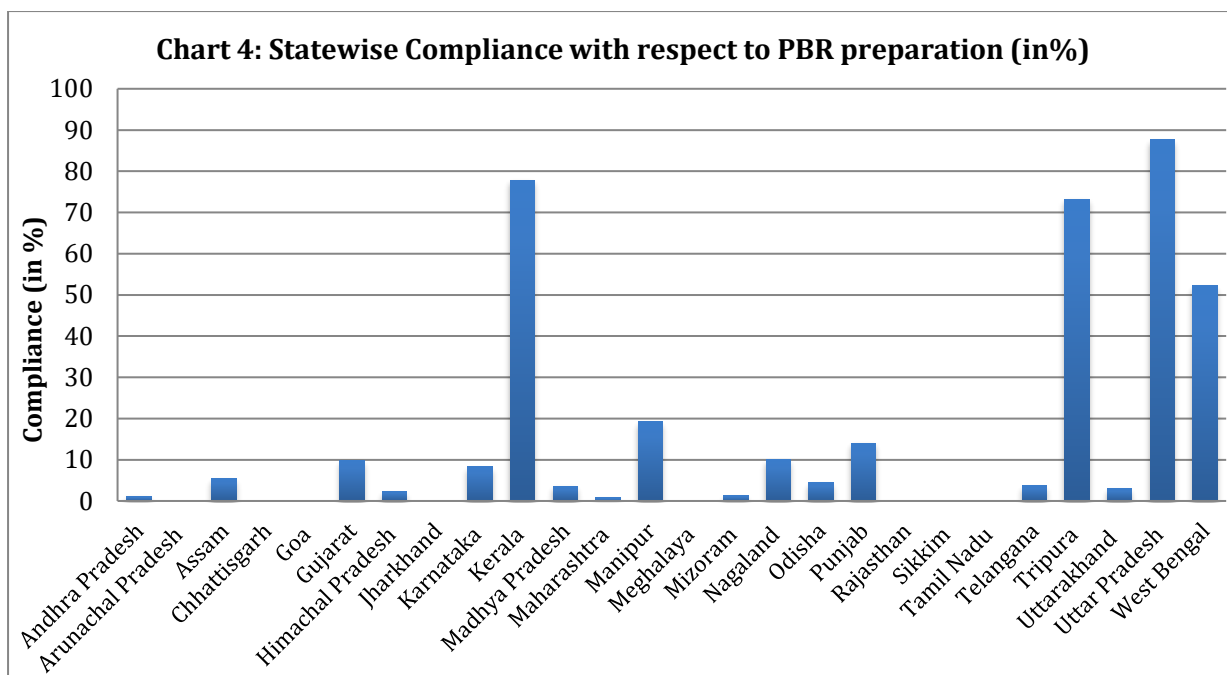
In addition to community regulation of access to biological resources which may lead to sustainable harvests, PBR exercise may also promote better knowledge based sustainable management of living organisms as well as ecosystems. Consider the experience from PBR preparation in the Teligram panchayat of the Hooghly district in the state of West Bengal. The villagers realised that excessive use of chemical; pesticide in paddy fields was having an adverse impact on fish (cultured in ponds) as well as on domesticated ducks. Given the learning from PBR, it was decided by the local body to undertake a scientific exercise on the introduction of integrated pest management techniques and to lower use of chemical pesticides. Therefore, along with academics, students and farmers, potential biological control agents for significant pests of major

locally cultivated crops were identified. The selected agents were then released on the farmer fields and their efficacy was monitored as a part of the PBR exercise³¹

STATUS OF PBR PREPARATION IN INDIA³²

Given that PBR preparation is a mandatory requirement and the primary responsibility for every BMC, Graph 3 below indicates the all India status with respect to preparation of a PBR, by highlighting the percentage of BMCs that have prepared a PBR and BMCs that are yet to prepare a PBR. This is followed by the state wise extent of compliance with respect to PBR preparation by highlighting the percentage of BMCs in the state that have prepared a PBR. Graph 2 doesn't take into account the states of Bihar, Jammu and Kashmir and Haryana as no BMCs have ben constituted in these states.





Source: Compilation of Replies received in the matter of C.B. Singh Vs. Union of India &Ors. (NGT, 2016)

From the figures it is clear that while no PBRs have been prepared in the states of Arunachal Pradesh, Chhattisgarh, Goa, Jharkhand, Meghalaya, Rajasthan, Sikkim and Tamil Nadu; less than 5% of BMCs in the states of Andhra Pradesh, Himachal Pradesh, Madhya Pradesh, Maharashtra, Mizoram, Odisha, Telangana and Uttarakhand have performed their mandatory responsibility of comprehensively document the biological resources and associated knowledge in the areas falling within their territorial jurisdiction.

Given their low level of compliance with respect to PBR preparation; the SBBs of biodiversity rich states of Andhra Pradesh, Arunachal Pradesh, Himachal Pradesh, Manipur and Uttarakhand have termed PBR as a *time consuming, exhaustive, and lengthy and time taking exercise which cannot be rushed through and for which no short cut is available*³³. However, given that BD Act, was promulgated in 2003 and BD Rules were promulgated in 2004, these submissions seem unwarranted. In the state of Jharkhand the State Forest Department itself has raised concerns over zero preparation of PBRs in their states. In the state of Jharkhand, the department has expressed need for a comprehensive floristic study of the state. According to them while floral diversity of the state has since long been explored and scholars from Universities and BSI have

carried out taxonomic and ethno botanical studies; the task is far from over. Documentation assumes importance as biodiversity in the state is under constant threat owing to un-sustainable or illegal harvests of living resources, and habitat destruction and fragmentation³⁴. Further, while both Kerala and Madhya Pradesh have BMCs constituted at all local body levels, PBRs haven't kept pace with Madhya Pradesh where though BMC constitution was complete by 2006, PBR preparation had begun only in 2014³⁵. Therefore, while BMC constitution is 100%, only 4% of the 23,743 BMCs³⁶ have been able to perform their mandatory function of comprehensive documentation of bio-resources and associated traditional knowledge falling in the areas within its territorial jurisdiction. Another irregularity emerges from Uttar Pradesh which shows more than 87% compliance with respect to PBR preparation. Uttar Pradesh has prepared 86 PBRs in different agro-climatic zones of the State which represents that PBRs of all the Gram sabhas are complete (as the flora and fauna diversity of each climatic zone is similar to a great extent) and only the rest of the Gram Sabhas have to formally accept the PBR after constitution of BMCs, which is currently in process³⁷. This indicates that while PBR preparation is complete in the state, BMCs are still to be constituted which is a complete reversal of provisions of the BD Rules, 2004 which clearly state that every local body is legally mandated to constitute a BMC such that the primary legal responsibility of the BMC is to prepare a PBR. Moreover, it needs to be checked that whether *the great extent of similarity in the flora and fauna diversity of each climatic zone* indicates absolute similarity between any two climatic zones, thereby ensuring comprehensive documentation of biodiversity as mandated by the law. A seemingly similar approach is being followed in Mizoram where it has been decided to prepare and maintain the People's Biodiversity Registers at the Block Level to cover one or more villages.

PRACTICAL EXPERIENCES WHILE PREPARING PBRs

The process of PBR preparation has been termed as a **participatory process which requires intensive and extensive consultation with the people**. To ensure the same, the process calls for explaining the objectives and purpose of the study to all sections,

people in the Panchayat and BMC members for undertaking **Participatory Rural Appraisal (PRA) at the village level** among other ways of data collection such as literature reviews and household interviews, individual interviews with village leaders and knowledgeable individuals³⁸. **(PRA)** is a family of approaches and methods to enable rural people to share, enhance, and analyse their knowledge of life and conditions to plan and act³⁹. PRA requires researchers / field workers (in this context, TSGs) to act as facilitators to enable local people conduct to their own analysis, come out with their own conclusions and accordingly design their own developmental programmes⁴⁰. Given its heavy reliance on participation by the communities, PRA allows locals to present their own perceptions and priorities and then incorporate them into plans. In this context, how closely a PBR documents the local perceptions and knowledge about their biological diversity would then depend on to what extent the above methods are implemented in the field. In this context the process of PBR making in the few areas in the states of Himachal Pradesh and Uttarakhand may be relevant. In HP the 'contract' for making the PBRs have been given to research universities of the State such as Himachal Pradesh University, Shimla (for PBRs of Shimla); CSK Himachal Pradesh Agricultural University, GP Pant University, Himalayan Forest Research University is making PBR of Palampur, Kullu, Chamba; each university has been given the contract of 30-40 villages, wherein these PBRs are prepared after signing a tripartite MoU among the HP SBB, concerned BMC and the University⁴¹. Interactions with a few of the BMCs (BMC Baloug, Baloug Gram Panchayat, Mandi district; BMC Jana Gram Panchayat, Kullu district, BMC of Shimla Municipal Corporation, Shimla district)⁴² reveal that after the contract is given to the University, public participation on lines as highlighted in the PBR Guidelines remains low. For example, in case of BMC Jana, while the BMC president had received PBR training from Bangalore, given the inability and lack of technical knowledge among villagers in general, the task of PBR preparation was subsequently handed over to the Himachal Pradesh University, Summer Hill Shimla. The PhD Students from the university had divided the biodiversity of the Jana Gram Panchayat into three parts: food and fodder crops, herbs, shrubs and trees and given the BMC presidents knowledge on medicinal herbs, a part of the documentation was carried out based on discussions and interviews with him. For those species unknown to him, the university students were put in touch (by the BMC President) with other villagers

especially, hakims/voids. In another example from Baloug BMC, the only knowledge that the Panchayat Pradhan (also the BMC Chairperson) had with respect to PBR was “*yes some researchers are collecting data in our village, but we are not involved in the same*”. In this context, it is also relevant to note the experience of Shimla Municipal Corporation BMC, wherein the Himalayan Forest Research Institute (HFRI) had been given the contract to prepare a PBR via which the BMC will be informed which species and certain sites demand urgent conservation and how the same has to be implemented. Specifically, a management plan enlisting steps to be taken will be given to the BMC which can implement them using their resources, contacts and legal backing. According to the Member Secretary of the BMC “*BMC is simply an implementing agency—it has the legal resources to implement what is necessary, however it doesn't have the technical expertise required to take the decision what is to be done with respect to conservation*” Therefore it is dependent on the Board and the TSG's to tell them what to do. The Member Secretary (a veterinarian by training) attributes this to the absence of technical support (such as a Botanist/ Zoologist/Agriculturalist) within the BMC.

While in the state of Himachal Pradesh, the role of TSGs has been assumed by research universities, in Uttarakhand, the task of PBR preparation has been given to the local NGOs. Interaction with few BMCs in the state (BMC Champa Gram Panchayat, Hawalbagh block, Almora district; BMC Kothera Gram Panchayat, BMC Simalkot Gram Panchayat, BMC Jajut Gram Panchayat and BMC KuntolaGangolihat Block, Pithoragarh district) reveals that PBR preparation was carried out based on household interviews, secondary research (review of available literature such as results by BSI/ZSI taxonomist, analysis of forest working plans) where the only role of BMC was to guide the researcher (sent by the NGO for data collection) through the village, share their knowledge regarding local biodiversity (primarily, the traditional knowledge with respect to medicinal properties of plants) and connect the researchers to others individuals in the village having knowledge on local biodiversity⁴³. Similar experiences were shared from Dehradun as well, where according to the their TSG (Society for Action in Mountainous Village Ecological Development and Initiatives (SAMVEDI), *during PBR preparation carried by the team, the villagers have no idea of what is going on*⁴⁴.

Given the above examples of some BMCs, it seems that 'task' of PBR preparation is being outsourced to organisations having the desired expertise in preparing one, while the role of local people is simply restricted to aid in data collection for the researcher sent to the field by the TSG by providing relevant local knowledge; this doesn't seem to be in sync with need for a conducting a PRA (as defined above) as provided for in the NBA Guidelines for PBR preparation.

The NBA Guidelines on the Operationalization of Biodiversity Management Committees (BMCs) mention that "*each BMC shall prepare an Action Plan, drawing information validated in the People's Biodiversity Register (PBR).*" The Guidelines further mention that the Action Plan prepared with the support of the TSG will outline the steps for conservation of biological resources and training needs identified for the BMC personnel. In this context, given the extensive documentation of the biological resources that fall within the jurisdiction of the BMC, the local status of these biological resources, the uses to which they are put to and the associated traditional knowledge, PBR serves as the basis of knowledge based system of resource management, only when the information/concerns highlighted in the PBR are analysed and an Action Plan post the analysis is prepared and implemented. As of date, there are more than 3000 PBRs prepared⁴⁵; however, the critical question is whether the corresponding number of Action Plans have been prepared or not, and in what manner the PBRs represent primary data and current status of biodiversity.

CONCLUSIONS

The creation of PBRs in India is far from satisfactory. Further, as discussed in this brief, the question is not just of having numbers in PBR creation but also following sound methodologies which involve local participation. We are witnessing short-cuts with respect to preparing PBRs. Finally, one of the most important steps in taking PBRs to their logical conclusion is creating action plans post preparation of PBRs. This is woefully lacking. In conclusion, work is needed on all fronts to make PBRs the robust

and effective monitoring and documentation tool they were envisaged to be. The Biological Diversity Act needs to be followed in both letter and spirit to ensure both democratisation, as well as conservation, of biological resources.

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Endnotes

¹ See Preamble of the Convention on Biological Diversity

² See Preamble of the Biological Diversity Act, 2002

³ Clause 1 of Article 243 B of the Indian Constitution

⁴ Clause 1 of the Article 243 Q of the Indian Constitution Section

⁵ Section 41 (3) of the BD Act, 2002

⁶ Sub-rule 2 and Sub rule 3 of Rule 22 of the Biological Diversity Rules, 2004

⁷ Section 1.2: Tenure of the BMC: Guidelines on Operationalization of Biodiversity Management Committees issued by National Biodiversity Authority 2013

⁸ Sub-Rule 6 of Rule 22 of the BD Rules, 2004

⁹ Gadgil, M., 2000. People's Biodiversity Registers: Lessons Learnt. *Environment, Development and Sustainability*, Volume 2, pp. 323-332.

¹⁰ See Section 37 of the BD Act, 2002 which gives State Government the power to notify areas of biodiversity importance as Biodiversity Heritage Sites (BHS)

¹¹ See Section 38 of the BD Act, 2002 as per which the Central Government in consultation with the State Government may notify any species which is in the verge of extinction or likely to become extinct in the near future as a threatened species and prohibit or regulate collection thereof for any purpose and take appropriate steps to rehabilitate and preserve these species

¹²Gokhale, Y. et al., 2005. *People's Biodiversity Register: Documenting biodiversity for natural resource management*. New Delhi, Ministry of Environment and Forests, Government of India.

¹³ Section 1.7: Roles and Functions of BMCs: Guidelines for Operationalization of Biodiversity Management Committees: Published by National Biodiversity Authority: January 2013: http://nbaindia.org/uploaded/pdf/Guidelines_BMC_1.pdf

¹⁴ Sub-Section 3 of Section 41 of the BD Act, 2002

¹⁵ Section 4: Peoples Biodiversity Register in Guidelines on Preparation on People's Biodiversity Registers: Published by National Biodiversity Authority: 2013: <http://nbaindia.org/uploaded/pdf/PBR%20Format%202013.pdf>

¹⁶ Section 3: People's Biodiversity Registers and Role of the Technical Support Group (TSG) in Guidelines on Preparation on People's Biodiversity Registers: Published by National Biodiversity Authority: 2013: <http://nbaindia.org/uploaded/pdf/PBR%20Format%202013.pdf>

¹⁷ Section 4: Peoples Biodiversity Register in Guidelines on Preparation on People's Biodiversity Registers: Published by National Biodiversity Authority: 2013: <http://nbaindia.org/uploaded/pdf/PBR%20Format%202013.pdf>

¹⁸ PBR preparation Part 1 and Part 2: Peoples Biodiversity Register in Guidelines on Preparation on People's Biodiversity Registers: Published by National Biodiversity Authority: 2013: <http://nbaindia.org/uploaded/pdf/PBR%20Format%202013.pdf>

¹⁹ This Section is developed from an earlier draft written on the basis of the reading of the following:

1. GRAIN, and Kalpavriksh. *Traditional Knowledge of Biodiversity in Asia Pacific: Problems of Piracy and Protection*. GRAIN; Kalpavriksh, 2000.
2. GRAIN, and Kalpavriksh. *Six Years of the Biological Diversity Act in India*. Delhi/Pune : GRAIN; Kalpavriksh, 2009.
3. Gadgil, Madhav, Fijret Berkes, and Carl Folke. "Indigenous Knowledge for Biodiversity Conservation." *AMBIO*, 1993: 151-156.
4. Rautaray, Om Prakash, Rudra Narayan Pradhan Pradhan, Prasanna Behera, and Hemanta Kumar Sahu. "People's Biodiversity Register [PBR]: A Community Based New Venture in Odisha to Document Natural Resources by ." *Environment and Ecological Reserch* , 2014: 285-290.
5. Gadgil, Madhav. "Ecology is for the People:A Methodology Manual for People's Biodiversity Register." *National Workshop on People's Biodiversity Register*. Chennai: Centre for Ecological Sciences, 2006.
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²⁰ Convention on Biological Diversity: Fact Sheets in ABS series: Produced by the Secretariat of the Convention on Biological Diversity: <https://www.cbd.int/abs/infokit/revised/web/all-files-en.pdf>

²¹ Aichi Biodiversity Targets: <https://www.cbd.int/sp/targets/default.shtml>

²² This section primarily draws from Dutta, Ritwick. "A Green Rap on the Knuckles." *The Hindu*, September 2016.

²³ The black neck crane case has been taken from:

Khandekar, Nivedita. "Arunachal hydropower project halted to save black-necked cranes." *The Third Pole Network*, 09 May 2016.

Mitrai, Naresh. "Buddhist Monpas welcomes arrival black-necked cranes arrives at Arunachal Pradesh's Zemithang." *Times News Network*, 11 January 2016.

²⁴Bhandari, Prakash, and Sumit Mahar. "Photos: The people of Himachal Pradesh may again have a say in hydropower projects." *Scroll.In*, 24 October 2016.

²⁵CRGGS (2015). Climate Resilient Green Growth Strategies for Himachal Pradesh. Implemented by The Energy and Resources Institute in collaboration with the Global Green Growth Institute and nodal support from Department of Environment, Science & Technology, Government of Himachal Pradesh.

²⁶ See PBR formats 1, 2, 3, 11-14, 18-30 in the NBA Guidelines on People's Biodiversity Register

²⁷ See PBR Format 7 in the NBA Guidelines on People's Biodiversity Register

²⁸ See PBR Format 8 in the NBA Guidelines on People's Biodiversity Register

²⁹ See PBR Format 9 in the NBA Guidelines on People's Biodiversity Register

³⁰ The Guggal Case Study was shared by Mr. Zakhir Hussain, Managing Director, Sujagriti Samaj Sevi Sanstha (Technical Support Group for Morena district, Madhya Pradesh) during the field visit taken by LIFE in August 2017

³¹ The last two examples have been taken from Gadgil, Madhav. "Ecology is for the People: A Methodology Manual for People's Biodiversity Register." National Workshop on People's Biodiversity Register. Chennai: Centre for Ecological Sciences, 2006.

³² Data used in this Section draws from the Analysis conducted by LIFE of the Replies received by State Biodiversity Boards (SBBs) in the matter of C.B. Singh Vs. Union of India and Ors. filed in the National Green Tribunal, Principal Bench, New Delhi (Original Application O.A. No. 347 of 2016);

The petition was filed to highlight the "gross non-implementation of the provisions of the Biological Diversity Act, 2002 and Biological Diversity Rules, 2004". The Petition made the Ministry of Environment and Forests and Climate Change, Government of India (MOEF&CC), National Biodiversity Authority (NBA) and respective State Biodiversity Boards (SBBs). In order to highlight the status of implementation of the Act in the petition information was obtained from the respective SBBs under Right to Information Act (RTI) with respect to compliance of certain important provisions which are of mandatory nature under the Act and Rules specifically, number of Biodiversity Management Committees (BMCs) constituted, number of People's Biodiversity Registers (PBRs) prepared by BMCs, amount of fees collected by BMCs and grants and loans made to the Local Biodiversity Fund (LBF) of the BMC. Given the *shocking and surprising facts about the non-compliance of the provisions of the Biological Diversity Act, 2002 and Rules*, from the replies received from the 15 SBBs the applicant had prayed the Tribunal to direct the authorities to take steps to ensure that the provisions of the Act are implemented.

³³ See Reply Affidavits filed by the State Biodiversity Board (SBBs) of Andhra Pradesh, Himachal Pradesh, Uttarakhand, Manipur *C.B. Singh Vs. Union of India and Ors. Original Application (O.A.) No. 347 of 2016; National Green Tribunal, Principal Bench, New Delhi*

³⁴ Forest, Environment and Climate Change Department, Government of Jharkhand. *Biodiversity*. n.d. <http://forest.jharkhand.gov.in/Biodiversity/Biodiversity.aspx> (accessed December 12, 2017).

³⁵ The fact that PBR preparation had begun only in 2014 has been taken from Reply affidavit submitted by Madhya Pradesh State Biodiversity Board in *C.B. Singh Vs. Union of India and Ors. Original Application (O.A.) No. 347 of 2016; National Green Tribunal, Principal Bench, New Delhi*

³⁶ Number of BMCs in Madhya Pradesh: Reply affidavit submitted by Madhya Pradesh State Biodiversity Board in *C.B. Singh Vs. Union of India and Ors. Original Application (O.A.) No. 347 of 2016; National Green Tribunal, Principal Bench, New Delhi*

³⁷ Reply Affidavit filed by the Uttar Pradesh State Biodiversity Board in *C.B. Singh Vs. Union of India and Ors. Original Application (O.A.) No. 347 of 2016; National Green Tribunal, Principal Bench, New Delhi*

³⁸ Section 4: Peoples Biodiversity Register in Guidelines on Preparation on People's Biodiversity Registers: Published by National Biodiversity Authority: 2013: <http://nbaindia.org/uploaded/pdf/PBR%20Format%202013.pdf>

³⁹Chambers, Robert. "Rural Appraisal: Rapid, Relaxed and Participatory." *IDS Discussion Paper 311*, 1992.

⁴⁰Cavestro, Luigi. *P.R.A. - Participatory Rural Appraisal Concepts Methodologies and Techniques*. Itlay: University of Padua, Itlay, 2003.

⁴¹KunalSatyarthi, Member Secretary, Himachal Pradesh State Biodiversity Board, interview by LIFE. *PBR Experience in Himachal Pradesh* (May 2017).

⁴² A field visit was taken by Legal Initiative for Forest and Environment (LIFE) to Himachal Pradesh consisting of discussions with HP SBB Member Secretary and few BMCs: BMC Baloug (Baloug Village, Mandi district, BMC Jana (Jana Gram Panchayat, Kullu district) and BMC of Shimla Municipal Corporation, Shimla district,

⁴³ A field visit was taken by (LIFE) to Uttarakhand consisting of discussions with JoginderBhisht, President LokChetanManch, RanikhetAlmora, Uttarakhand and YogeshPathak, President, Education for Theatre in Mass Society, Pithoragarh (TSGs for Uttarakhand) and discussion with the BMC members of the mentioned villages

⁴⁴Nautiyal, Dr. Kishore, interview by LIFE. *PBR Preparation Experience in Dehradun, Uttarakhand* (June 2017).

⁴⁵ LIFE's Analysis of the Replies received by State Biodiversity Boards (SBBs) in the matter of *C.B. Singh Vs. Union of India and Ors. (Original Application O.A. No. 347 of 2016); National Green Tribunal, Principal Bench, New Delhi*