

From Congruity to Contract: The Regulatory Design for Knowledge Protection under India's Biodiversity Law

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Biocultural Context in India

Biological diversity (or biodiversity) as understood in simple terms is the diversity of life and life forms including plants, animals and microorganisms. The complex web or flora and fauna present themselves through a variety of interactions and ecological configurations when they come together in one or another habitat type, be it forest, marine, desert, grassland and so on. While part of this interplay of species is devoid of human factors, there are many other ecological habitats that have evolved over time with the interference and interdependence of human beings. When such interactions take place, most often human beings have adapted and created knowledge systems to deal with the use and co-existence on one hand and adaptation and modifications on another. Over the years, the relationship between human beings and biodiversity have evolved both at the individual level as well as through application of collective wisdoms. For instance, rural communities living in different regions are dependent on either wild or cultivated ecosystems for forest, farm, riverine or marine livelihoods. This could be both at individual/family level for food security, sale in local markets or conservation of common spaces which are to be used by one or many community formations residing in a geographical region.

Through these wide variety of interactions several unique and dynamic biocultural contexts have emerged. One such example is of the Dongria Kondhs (or the Kondhs of the Hills) tribal community living in the Niyamgiri Hills in the eastern part of India. The Niyamraja is the creator and protector of the Dongria Kondhs.¹ For the Dongrias, the revered hill ranges symbolise the land of the Niyamraja.² The Dongria Kondh's association with the region emanate from their worldview that Niyamgiri is the source of the rivers, forests and food that sustains them.³ It also is a landscape where wild fauna and flora thrives which needs the respect and freedom to coexist.⁴ Being dwellers of the forests, their main source of livelihood is forest hill slope agriculture in settled farming and also shifting cultivation (locally known as podu).⁵ They mainly grow horticultural crops like pineapple, mango, jackfruit, turmeric, ginger, papaya and so on.⁶ They also depend extensively on the collection of non-timber forest produce (NTFP) from the patches of forests that surround their hamlets.⁷

For the biodiverse farmers of Deccan Andhra in the southern part of India, varieties of major and minor millets are what they consider crops of truth (*satyam pantalu*). They are grown with virtually

no external inputs at all, surviving on the available sub-soil moisture and on very small farms. In an area where there is annual drought, these crops are hardy. So, the poorest are able to get a yield that is at least enough to fill their stomachs. Moreover, when a combination of these crops are grown on even highly "unfertile" land, they are able to give a lot of nutrients back to the soil, while using some for cultivation. Many of these crops have nitrogen fixing and other properties. They don't require chemical inputs; organic manure prepared in a back yard with material available in village commons is all that is needed.⁸ The knowledge around seed saving, seed conservation and farming multiple crops in one single small farm not only has historical roots but also serves as an assertion of food sovereignty. They have also evolved cultural practices which coincide with the seasonality of these crops and would not continue if the future of these crops is threatened.

In the above context, an understanding the political economy of trade related research and development, commercial utilisation⁹ and intellectual property become important. At the same time, it needs to be borne in mind that policy responses are continuously also responding to the growing

concern around loss of biodiversity and knowledge systems associated with it. Climate-resilient crops, medicinal plants and foods are fast disappearing¹⁰ At the same time, the vast cultural diversity which has evolved around this biodiversity is also being lost rapidly.¹¹ With this loss also goes the related ancestral knowledge as well as the scope for its future evolution.¹²

Locating Knowledge

Envisioning “indigenous” and “traditional” knowledge in the Indian context leads one to some existing in-depth debates around these terms which are prevalent in India as well as the world over. First, is with respect to the use of the word “traditional”. Popular definitions of traditional knowledge refer to the longstanding wisdom, knowledge, teachings and its practice which are linked to specific indigenous and local communities.¹³ It is also acknowledged as being the intellectual heritage of these communities and therefore generated debates around the requirement of consents prior to this knowledge being accessed by anyone outside of this knowledge ethos. However, it also needs to be borne in mind that this knowledge is both contextualised as well as dynamic in nature. Communities, local healers, farmers, fisherfolk, forest dwellers and others who have been using and applying these knowledge forms are themselves constantly innovating and thereby becoming part of the overall evolution of this knowledge. This is why there have been some critiques around the use of the term traditional knowledge. In the author’s experience, during NGO and government-organised discussions and meetings in countries such as India it has been argued that referring to knowledge as traditional does not do justice to its dynamism and also tends to freeze that knowledge in a particular timeframe. While it is valuable to contrast the traditional with the modern in tracing the source of holistic approaches with the more material and utilitarian approaches to nature, it should be with the objective of limiting the growth of ancient wisdoms and its relevance to current time.

The second is linked with the issue about indigeneity tensions in India. The word ‘Indigenous’ relates to recognising the first settlers of a nation and distinguishing them from the colonisers who came after. In post-colonial scenarios in countries such as Canada, Australia and the US, where the colonisers came and did not leave, this distinction has been very critical in

the shaping the policy and rights based discourses in the country. It has also been important to acknowledge the massacres and violence that colonisers had unleashed against the original inhabitants of a landscape.¹⁴ Countries such as India are not settler colonies in the true sense and have seen many instances of colonisers plundering the country, ruling for different time periods and then being replaced by new colonisers. It has therefore been difficult to attribute the sharp contrast as in the case with the countries mentioned earlier. At one level, it is the adivasis (or tribal communities who are the closest contenders of indigenous identity) are considered to be first settlers and the Aryans (current day Hindus) the first colonisers. However, the Aryans and many other marginalised communities see themselves as being around for centuries before the next generation of colonisers such as the Mughals or various European conquerors that ruled over them. These epochs were not devoid of their own conflicts and tensions. At the same time, it is also important to bear in mind that the establishing of the *adivasi* identity (the Indigenous) is a part of a more recent expression of a counter political assertion against exploiters since the 1920s-1930s.¹⁵ While this was first set out against the British colonial government, it continues to be also directed at the manner in which India’s development policies are designed and implemented to date.¹⁶

For the purpose of this article, knowledge within the biodiversity regime is being referred to as local or people’s knowledge. This is also because other than the above-mentioned factors, this reference would also relate to the manner in which the biodiversity law itself refers to knowledge within the legal framework, to be discussed later.

Premise of the Current Knowledge-Use-Regulation Interface

Before analysing the regulatory design around how biological diversity and related knowledge systems are accessed and utilised in India for purposes of research, commercialisation, utilisation or intellectual property, it is important to state some presumptions and premises on which the laws for biodiversity have been designed in India.

The first of these relates to the fact that privatisation and commercial use of local or people’s knowledge is both desired and is also inevitable. Two decades ago, the conversations around the use of knowledge and biological resources for commercial and trade purposes was a much-debated issue in international

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negotiations and treaties. While the growing biopiracy needed to be checked, there was not an outright emphasis that use of knowledge in trade would need to be encouraged. Recent discussions and protocols with the Convention on Biological Diversity (CBD) do not refer to these fundamental debates but align themselves with the necessity of trade to encourage biodiversity conservation.¹⁷

The second issue draws on an understanding that reliance on databases, both digitised and codified would be a means to achieve conservation and continuation of knowledge. At the same time, they are important for making local knowledge relevant at a global scale so as to establish centres of origin and establish national records so that countries can respond to intellectual property claims. Such models primarily rely on validation of local knowledge through principles of western science, without which such knowledge might only be a lesser belief or know-how. The creation of the Traditional Knowledge Digital Library (TKDL) in India is based on the above logic which has been critiqued for encouraging biopiracy rather than being able to check it.¹⁸

It also becomes critical to distinguish database and book-keeping techniques related to people's knowledge from informed processes of documentation. The latter draws on conversations and participatory engagements with communities and encourages them to present, systematise and safe-keep the knowledge around both the resource and its use within the formats and language which is most comprehensible at the local level. Such documentation might be in written form or through oral messaging and has the central objective of community empowerment and building strong relationships with the existing bio-cultural ethos being alongside establishing protocols of future use.

The third premise relies on the philosophical base that once access to knowledge takes place, it needs to be made socially acceptable and beneficial. Many discourses which have critiqued the extractive nature of research or trade have also responded with solutions which create systems of benefit sharing for which one or a few benefit claimers would need to be identified.¹⁹ In such a regulatory framework, holders of knowledge, growers of food and custodians of biodiversity would be treated as those who would need to be compensated. Stretching this argument a bit further, terms such as "fair" and "equitable" have been prefaced to the

policy discourse. The ultimate form of such fair and equitable practice would be to take the full and free prior informed consent of the people or communities who are recognised by governments and users as being owners of the knowledge.

The fourth and final aspect which warrants discussion is the nature of rights and responsibilities which are created for all of the above to operate. The rights of Indigenous and local communities and their assertions are now accepted statements of intent not just by activists but also governments and international congregations. These rights of communities to hold and conserve their knowledge and the responsibilities of the nation states to ensure that these rights are protected, are most often than not within the frameworks of transaction. In the biodiversity law, rights and consents operate within the framework where access and benefit sharing are established as future acts. These rights and responsibilities cannot be used towards establishing ethical claims or questioning whether access should take place in the first instance.

India's Biodiversity Law and Regulatory Regime around Knowledge

Coming into Being of the Law

The process of drafting India's *Biological Diversity Act 2000* took 10 years from the country first signing the *Convention on Biological Diversity* in 1992 and then ratifying it in 1993. After a decade-long process it was expected that the outcome would be strong legislation for the conservation of wild and domesticated diversity as well as the knowledge associated with it. The same framework, it was thought, could check biopiracy which had increased with the growing importance of biological material in trade and commerce. This, in fact, was one of the foremost reasons why national level regulatory regimes had been argued for with the CBD framework.

However, the first draft of the *Biological Diversity Bill (1997)*, put together by a committee headed by Dr. M.S. Swaminathan, had a different design. It primarily sought to set up a framework to regulate access to biological resources and traditional knowledge, fundamentally accepting that these were indeed tradable commodities. By the time the Bill became law, some additional conservation and knowledge protection related provisions were included. This was primarily due to the intervention and responses of longstanding and

influential civil society actors who had pushed for the broad-basing of the biodiversity to be true to its first two objectives of conservation and sustainable use; with equitable benefit-sharing being the third. However, even as one reads the law and its corresponding 2004 Rules today it emerges that the primary emphasis has been towards detailing of the regulatory framework to govern the manner in which access to biological material and related knowledge would be determined and who would have the authority to both decide and lay out the terms for the same.²⁰

Legal Framework and Community Control

In order to achieve its objectives, the drafters of the *Biological Diversity Act 2000* have envisaged a three-tier institutional structure: a National Biodiversity Authority (NBA); State Biodiversity Boards (SBBs); and Biodiversity Management Committees (BMCs) at village and municipal levels.²¹ It presents clear procedures for access to biodiversity which are further elaborated through the 2004 Rules, and also has clauses related to conservation and knowledge protection. The Union Ministry of Environment and Forest (MoEF) is the nodal ministry.

Before this legislation came into being, access to biological resources for research, commercial utilisation and seeking intellectual property rights (IPRs) was an unregulated domain. Today, there is a system clearly centralised in design. If any foreign entity (defined in the Act)²² wants to access India's biodiversity (wild or cultivated) and/or associated traditional knowledge, approval of the NBA is mandatory.²³ The NBA needs to "consult" the relevant local BMCs before granting an approval.²⁴ In the case of an Indian entity, they need to only advise the SBB which, in turn, can put forward some conditions. If IPRs are involved, approval from the NBA needs to be sought.²⁵ Quite interestingly, collaborative research projects between a foreign and Indian entity involving transfer of plants, animals or germplasm outside India are exempted from seeking approval under this Act.

When the Act was notified,²⁶ it produced mixed responses. To begin with, there were clear loopholes in the form of special privileges to Indian companies over foreign entities. In the case of such collaborations when Indian companies are in the forefront, the procedures to be followed are far milder. Another significant critique was the fact that the law accepted the existence and furthering of IPRs by virtue of including provisions where

applications related to IPRs would be considered and decided upon by the NBA.²⁷

But one of the most debated issues with the biodiversity law is with respect to community control, especially in the light of whether or not they are considered to be the real custodians of biodiversity and knowledge. Further, what role do local communities have in the national law to further the objectives of conservation, sustainable use and benefit sharing? The law defines roles of communities primarily through the formation of BMCs. The provisions of the Act give these BMCs broad roles of conservation, documentation and management of biodiversity with no specific decision making powers. These roles are further diluted as a result of the Biological Diversity Rules 2004 prescribing the main role for the BMCs to be that of preparing People's Biodiversity Registers (PBRs). Communities through these BMCs become data providers for the documentation carried out by those with "scientific" expertise to validate community knowledge.²⁸

In more recent times, the NBA has prepared databases and formats which are to be executed by SBBs and appointed technical expert groups.²⁹ Experience of the implementation of the law has indicated that this form of databasing has become the primary tool of the state boards and the national authority to chronicle biological resources and knowledge that is to be used to establish prior art in case of patent applications. They are also the baseline for establishing benefit-sharing arrangements. There is little evidence in the last 10 years of the existence of the biodiversity law, that the PBRs prepared through standardised or modified formats has led to conservation or has succeeded in checking biopiracy, both of which were to be foremost on the biodiversity law's stated agenda.³⁰

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Where is the Power? A Comparative Picture

Institution	Powers and Responsibilities			
	Regulation of access and IPRs	Conservation	Documentation	Benefit Sharing
NBA	Permission to be sought by foreign nationals before accessing biodiversity or traditional knowledge or seeking IPRs on the same. Indian nationals to seek permission for IPRs.	Advise the Central Government on matters relating to the conservation of biodiversity and sustainable use and protection of people's knowledge. Advise State Governments in selection of areas of biodiversity importance as Biodiversity Heritage Sites .	NBA's expert committee has designed the format based on which documentation to be carried out by BMCs (see section 4 for more details).	Ensure and determine equitable sharing of benefits arising out of the use of access between person applying for approval, local bodies concerned and the "benefit claimers" (defined in the Act).
SBB	To be intimated by Indian nationals before accessing biodiversity and/or traditional knowledge. Can suggest prohibitions and conditions.	Powers to restrict activities in the state which are likely to be detrimental to biodiversity.	Guide the BMCs to document information related to biodiversity and traditional knowledge in PBRs, with the help of a Technical Support Group.	No role prescribed.
BMC	To be consulted by NBA and SBB at the time of grant of permission or intimation.	Broad conservation role in the Act, not further defined.	Document resources and knowledge with the help of Thematic Support Group and guidance of SBB using the format prepared by NBA expert committee.	No role prescribed.

Source: Kohli et al, 2009

Knowledge Emphasis in the Act

The *Biological Diversity Act* 2002 clearly sets out that one of the duties of the central government would be to “endeavour to respect and protect the knowledge of local people relating to biological diversity”.³¹ In order to do this, the NBA needs to take measures which may (not shall) include registration of such knowledge at the local, state or national levels. But most importantly, it allows for the NBA to develop a *sui generis* system for the protection of the knowledge referred to above.

The above provisions have their own operational issues. When it comes to setting out the agenda for knowledge protection, the NBA has largely relied on the process of registration, even though the requirement of that was optional. While the term “registration” is not elaborated on in the main law, it is the Biological Diversity Rules of 2004 that introduce the idea of registers and databases as mechanisms to protect knowledge. In practice, this has been linked to the preparation of PBRs which has been discussed above.³²

There are impending and unresolved concerns related to the protection of the information recorded in the PBRs; copies of which are available at the village level as well as in digitised forms with the SBBs and NBA. There is currently no robust mechanism which would ensure that any theft or illegal access to the information gathered can be curbed.³³ Moreover, the processes related to challenging any cases of theft of the information in the PBRs are extremely tedious and give little space and authority to local communities whose knowledge has been recorded in the registers.³⁴

This also then links to the point about making an attempt to execute a strong and *sui generis* system for the protection of knowledge, despite the inherent loopholes and implementation concerns. Recommendations are still in the process of being formulated by the NBA. At meetings conducted by non-governmental organisations through 2008, the NBA was requested to initiate action on traditional knowledge protection. The text of the draft Protection, Conservation and Effective Management of Traditional Knowledge relating to Biological Diversity Rules, 2009 has not been publicly debated, revised or finalised.³⁵ Questions have also been raised that these draft Rules, which present an open conservation focus, do not shy away from knowledge registration as a method for protection. At the same time, critiques have emerged as to whether or not these proposed Rules are within the scope of the *Biological Diversity Act*

2002 even though they might present a better model³⁶ for regulation.

The other important provision related to knowledge in the legislation is that the regulatory provisions put forward in the Act do not apply to the local people and communities of the area, including growers and cultivators of biodiversity, and *vaid*s and *hakims*, who have been practising Indigenous medicine. The experience of the Madhya Pradesh State Biodiversity Board (in central India) is important to refer to here. According to interviews conducted with members of the Board by the author in 2012, it is extremely difficult to regulate the movement or transfer of resources with local healers being outside the purview of the Act. According to them, many local healers today often act as small traders who are linked to larger pharmaceutical or research institutions. Their attempt to seek information and compliance from accessors of this material and knowledge has also faced several challenges.³⁷

Operationalising Benefit-sharing

India's *Biological Diversity Act* has clear definitions of who constitutes “benefit claimers”, once access to biological material or knowledge takes place. They are conservers of biological resources and their by-products, creators and holders of knowledge and information relating to the use of such biological resources, innovations and practices associated with such use and application.³⁸ The Act also elaborates on what can comprise fair and equitable sharing of benefits once access is permitted and benefit claimers identified.³⁹ These include grant of joint ownership of IPR, transfer of technology, location of production, research and development units in the area of access, and creation of an association of Indian scientists, benefit claimers and the local people with research and development in biological resources and biosurvey and bioutilisation (also defined in the law).⁴⁰ There are also direct financial mechanisms that can be proposed as benefit sharing which include setting up of venture capital funds and payment of monetary compensation to the benefit claimers as the NBA may deem fit.⁴¹ The NBA also is mandated under the law to frame guidelines to effect benefit sharing which are currently in draft form and yet to be finalised.⁴²

Ten years after the Act, India has 100 ABS agreements to show. These were publicly announced by the Secretary, MoEF in July 2012 at a CBD meeting in New Delhi. It is yet to be seen if monetary collections from these 100 agreements go into the National Biodiversity Fund

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translate into real “benefits” for at least 100 local communities in India, though the experience so far indicates otherwise.⁴³ The challenge with respect to many of these agreements is to reach out to the legitimate local “benefit claimers” who are yet to be fully identified in most cases. Moreover, it raises the larger question around whether or not knowledge itself should or can be attributed to one or multiple sets of individuals in India's diverse bio-cultural context. Ironically, this will be important to do to create the necessary contractual arrangements which can be fitted within the global Access and Benefit-sharing (ABS) framework which India has both signed and ratified.⁴⁴

Making the Regulation Work

The earlier sections of this article set out the unique bio-cultural context in India within which biodiversity based knowledge is located and regulated. However, in order to frame and operationalise the legal contours of how these are to be managed, used and benefit- shared would require some methodological and bureaucratic prerequisites. Some of these would necessarily draw their emphasis on the premises elaborated on above, and also build upon the everyday challenges of implementing a law which is considered to be here to stay.

One of the first things that the biodiversity law has begun to do through the processes of registration and databasing is to *freeze* knowledge in such a way that they can be made relevant to private and commercial use agreements. Each plant will have a use and each use an owner with who could be consulted prior to an access taking place, and with whom a benefit-sharing contract can be created. In order for information or data to be made relevant to either IPR or material transfer agreements they need to be legible and understandable in globally accepted formats. The dynamic, evolving, fluid and widespread nature of biodiversity or knowledge will not be relevant. As James C. Scott points out, the state often tries to make a society legible and to arrange population in ways that simplified the classic state functions of taxation, conscription and prevention of rebellion.⁴⁵

The biodiversity regime also successfully manages to view custodians of knowledge through the narrow lens of being “benefit claimers”. For local communities to have a stake in the law and its implementation, they would need to establish themselves as those with whom benefits arising out of use of genetic material and knowledge would need to be shared. What this then sets into motion is a clear possibility of local conflict. Species-use

related knowledge most often than not does not lie only with one individual or village; it cuts across local, national and even international territorial boundaries. For one or each set of people with whom benefit-sharing agreements are concluded it would be necessary to establish exclusive ownership of that knowledge or resource. This is antithetical to a livelihood based and bio-cultural relationships which have and continue to exist even today. The *Biological Diversity Act* and the International Regime (IR) on ABS would need this to change, if it were to be implemented.

Conclusion

Finally, for the biodiversity regime to work, it would require filtering out the intangible from policy and law. Ethical arguments and cultural associations would have little space as they cannot be measured. The Ex-Minister of State for the Environment, Jairam Ramesh, remarked during a lecture in May 2011: “What we cannot measure, we cannot monitor and what we cannot monitor we cannot manage”.⁴⁶ The NBA and SBBs are convinced that the only way to make the *Biological Diversity Act 2002* relevant to communities today is to convince them of the “benefits” (mostly monetary) that it would accrue to them,⁴⁷ and that would be the only way to also ensure conservation.

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2 *ibid.*

3 *ibid.*

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5 Wildlife Institute of India, Studies on Impact of Proposed Lanjigarh Bauxite Mining on Biodiversity including Wildlife and its Habitat (Wildlife Institute of India, 2006-2007, Dehradun-India).

6 *ibid.*

7 *ibid.*

8 P. V. Sathesh, *The Crops of Truth Farmers' Perception of Agrobiodiversity in the Deccan region of South India*, (Deccan Development Society, Andhra Pradesh, India)

9 India's *Biological Diversity Act 2000* defines commercial utilisation as “end uses of biological resources for commercial utilisation such as drugs, industrial enzymes, food flavours, fragrance, cosmetics, emulsifiers, oleoresins, colours, extracts and genes used for improving crops and livestock through genetic intervention, but does not include conventional breeding or traditional practices in use in any agriculture, horticulture, poultry, dairy farming, animal husbandry or bee keeping”.

10 Secretariat of the Convention on Biological Diversity, *Global Biodiversity Outlook 3* (Secretariat of the Convention on Biological Diversity). Montréal

- 11 Secretariat of the Convention on Biological Diversity, . *Global Biodiversity Outlook 3* (Secretariat of the Convention on Biological Diversity). Montréal; and TPCG and Kalpavriksh, *Securing India's Future: Final Technical Report of the National Biodiversity Strategy and Action Plan* (Prepared by the NBSAP Technical and Policy Core Group. Kalpavriksh, Delhi/Pune, 2005).
- 12 IIED (ed), Biodiversity and culture: exploring community protocols, rights and consent, Participatory Learning and Action (PLA) No. 65, (International Institute for Environment and Development (IIED), United Kingdom)
- 13 The *Convention on Biological Diversity* (CBD) defines traditional knowledge as "the knowledge, innovations and practices of indigenous and local communities around the world. Developed from experience gained over the centuries and adapted to the local culture and environment, traditional knowledge is transmitted orally from generation to generation. It tends to be collectively owned and takes the form of stories, songs, folklore, proverbs, cultural values, beliefs, rituals, community laws, local language, and agricultural practices, including the development of plant species and animal breeds. Sometimes it is referred to as an oral traditional for it is practiced, sung, danced, painted, carved, chanted and performed down through millennia. Traditional knowledge is mainly of a practical nature, particularly in such fields as agriculture, fisheries, health, horticulture, forestry and environmental management in general."
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- 15 Ghosh 2010, n5.
- 16 Heather Goodall, *International Indigenous Community Study: Adivasi Indigenous People in India and Economic Independence* In Nelson Aboriginal Studies. (Nelson Cengage Learning, 2012 Australia)
- 17 K. Kohli and S. Bhutani, *CHASING 'BENEFITS': Issues on Access to Genetic Resources and Traditional Knowledge with reference to India's Biodiversity Regime*, (Kalparviksh and WWF-India, New Delhi), p 28
- 18 See S. Bhutani, *Traditional knowledge, modern issues*, www.mylaw.net, 5th October 2011, and A, Kothari, *Knowledge documentation: Kiss of death, or new lease of life?*, InfoChange News & Features, May 2008
- 19 s. 21 (1) to s. 21 (4) of the *Biological Diversity Act*, 2002
- 20 See K. Kohli (ed), *Understanding the Biological Diversity Act: A Dossier*, (Kalpavriksh, GRAIN, IIED, Pune/Delhi), p 159, and K, Kohli, M, Fareedi and S, Bhutani, *6 Years of the Biological Diversity Act* (Kalpavriksh and GRAIN), p 63
- 21 Chapter X (Section s.41 (1) to s.41 (3) of the *Biological Diversity Act*, 2002 and s.22 of the *Biological Diversity Rules*, 2002
- 22 Under the law, permission will need to be sought from the NBA by all those people who are not citizens of India; a citizen of India, who is a non-resident as defined in clause (30) of section 2 of the *Income Tax Act 196 1*; a body corporate, association or organisation which is a) not incorporated or registered in India or b) incorporated or registered in India under any law for the time being in force which has any non-Indian participation in its share capital or management.
- 23 Chapter V (s.19, s.20. s.21) of the *Biological Diversity Act*, 2002
- 24 s. 41 (2) of the *Biological Diversity Act*, 2002
- 25 s. 6 (1) to s.6 (4) of the *Biological Diversity Act*, 2002
- 26 India's Biological Diversity Act was passed in Lok Sabha (House of People or Lower House of the Parliament) on 2nd December 2002 and Rajya Sabha (Council of States or Upper House of the Parliament) on 11th December 2002. It was gazetted in New Delhi on 5th February 2003 (New Delhi, the 5th February, 2003/Magha 16, 1924 (Saka))
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- 29 See National Biodiversity Authority , *People's Biodiversity Register*, (National Biodiversity Authority, September 2009, Chennai), and
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- 38 Chapter I, s. 2 of the *Biological Diversity Act*, 2002
- 39 s.21 (2) of the *Biological Diversity Act*, 2002
- 40 Chapter I, s. 2 of the *Biological Diversity Act*, 2002
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- 42 K. Kohli and S. Bhutani , *CHASING 'BENEFITS': Issues on Access to Genetic Resources and Traditional Knowledge with reference to India's Biodiversity Regime*, (Kalparviksh and WWF-India, New Delhi, 2011). p28.
- 43 S. Bhutani and K. Kohli, *Ten Years of the Biological Diversity Act*, (Economic and Political Weekly, September 29, 2012 Vol XLVII No. 39, pp 15-18), and L. Jishnu, , *Curious case of seaweed*, Down to Earth, 15th October 2012.
- 44 See S, Ramdas, *Whose access and whose benefit? The Nagoya Protocol and customary rights in India*, In Biodiversity and culture: exploring community protocols, rights and consent, Participatory Learning and Action (PLA) No. 65, (International Institute for Environment and Development (IIED) eds)., United Kingdom. The main outcome of the CBD COP10 in the city of Nagoya, Japan is the Nagoya ABS Protocol. It is here that an IR on ABS was agreed upon by 193 countries. The IR contained in the Protocol lays down a text by which "benefits" arising out of any kind of use of biological material and associated traditional knowledge when accessed need to be followed through. But the question is whether it makes things any better for providers countries, and in doing so does it guarantee "benefits" to local communities or further conservation? India has ratified the Nagoya Protocol in October 2012 during the COP 11 deliberations in Hyderabad where India was the host country. However, the Protocol is yet to be operationalised.
- 45 James, C. Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed*. (Yale University Press, New Haven, CT, USA 1998).
- 46 J. Ramesh, J. *The Hedgehog and the Fox Revisited: Some Other Reflections on the Growth-Environment Debate in India*. (Text of the Lawrence Dana Pinkham Memorial Lecture delivered on the occasion of World Press Freedom Day and Convocation of the Asian College of Journalism, Chennai, May 3rd, 2011)
- 47 K. Kohli, and S. Bhutani. *Common Concerns: An Analysis of the role and functioning of Biodiversity Management Committees under India's Biodiversity Law*, (Kalpavriksh and Foundation for Ecological Security, 2012) pp 60. See also Anon, *Notices under Biodiversity Act*, Times of India, 10th November 2012.