

## LEGAL CONNOTATIONS OF BIOLOGICAL RESOURCES AND ITS RIPPLE EFFECT ON CONSERVATION RESEARCH IN INDIA AND ABROAD

Md. Zafar Mahfooz NOMANI<sup>1\*</sup>, Rehana PARVEEN<sup>2</sup>

<sup>1</sup>Faculty of Law, Aligarh Muslim University, Aligarh-202001, India

<sup>2</sup>College of Law, Prince Sultan University, Riyadh, Saudi Arabia

---

### Abstract

*The legal connotation of biological resources has a potential bearing on conservation and scientific research. The Supreme Court, High Courts, and National Green Tribunal (NGT) in India called up on to the interpretation of biological resources, normally traded commodities (NTCs), and value-added products (VAPs). The conflicting judicial opinions often dampen the spirit of innovation and put a genuine scientist on trial for their sobering discoveries. The complex biodiversity disputes must resolve to an amicable resolution so that the faith of researchers, commercial entities, and indigenous communities can remain intact in the intellection and innovation. The research notes dwells on the ripple effect of a sanctioning regime of biodiversity laws which led many scientists supportive of biodiversity jurisprudence to slip in despair in India and abroad.*

**Keywords:** Biological resources; Connotation & interpretation; Intellection & innovation; Sanctioning regime; Biodiversity jurisprudence

---

### Introduction

India pivoted around the world's mega biodiversity regions, and that galvanise the attention of Indian and foreign biologists and conservationists. The *Convention on Biological Diversity*, 1992, is the framework law for sustainable utilisation and access and benefit-sharing (ABS) of biological resources in conformity to the principle of equity and environmental justice [1]. The goalpost of *Bonn Guideline*, 2001, and the *Nagoya Protocol*, 2010, augur commercial access, utilisation and intellectual property protection of biodiversity resources in the fair and equitable benefit sharing (FEBS) [2]. The Indian enactment on *Biological Diversity Act*, 2002; *Biological Diversity Rule*, 2003, and *Access and Benefit Sharing (ABS) Guidelines*, 2014 regulate the access of the biological resources for research and commercial utilisation under the avowed objectives of international biodiversity law in the Indian context [3]. Section 2(c) of the Indian *Biological Diversity Act*, 2002 defines 'biological resources' to mean as under:

*Plants, animals, and micro-organisms or parts thereof, their genetic material and by-products (excluding value-added products) with actual or potential use or value but does not include human genetic material.*

---

\* Corresponding author: zafarnomani@rediffmail.com

The analysis of the definition is inclusive of by-products. It excludes 'value-added product' that has potential value for biodiversity with possible applications for commercial purposes by foreign and Indian entities. The definition is of seminal significance in carving out the legal and technical import in new biological innovation and inventions in India.

## Materials & Methods

The research notes dwells on the discourse and diametric of biological resources and its promises and pitfalls in nurturing biodiversity and conservation research in India and abroad. R.Dalton's study of the bureaucratic impediments retarding the potential of biodiversity, rewards of biotechnology, and impeding conservation science offers an erudite explanation to this effect [4]. His viewpoint found support by R. Pethiyagoda's analysis of the unintended impacts of biodiversity laws in real-world implementation and enforcement [5]. The ripple effect of competing range of interests between biodiversity conservation laws and conservation research summarised in the Czech Entomologists Case in India by D. Kothamasi, Toby E. Kiers in their techno-legal study [6]. Many scientists supportive of biodiversity jurisprudence slipped in despair in terms of innovation and intellection in conservation sciences [7]. The sanctioning regime of biodiversity laws came slowly to the detriment of biological scientists as portrayed by K. Prathapan's analysis [8]. The research note used these materials and examined the case law development by applying the canons of statutory interpretation in the Robert L. Fischman framework [9]. It refers explicitly to R.B. Keiter's methods of eco-legal standards, and public land law discourse and diametric of biological resources [10].

## Results

The access and utilisation of natural resources governed by prior informed consent (PIC), mutually agreed terms (MAT), and FEBS. The biodiversity governance envisaged by the two-tier administrative structure of the National Biodiversity Authority (NBA) and State Biodiversity Boards (SBB) approves the access and utilisation of biological natural resources under *Biological Diversity Act, 2002* [11].

### *Purview of Biological Resources*

The purviews of the biological resources are subservient to two clauses, normally traded commodities (NTCS) and value-added products (VAPs). The constitutional and legal validity of these terms challenged in a public interest litigation (PIL) of *Environment Support Group v. National Biodiversity Authority* [writ petition No. 41532 of 2012]. The writ at large was the promulgation of the Ministry of Environment, Forest and Climate Change (MoEF&CC), Government of India's *Notification of Normally Traded Commodities, 2009* issued under Section 40 of the *Biodiversity Act, 2002* [12]. Here it is imperative to mention Section 40 of the *Biodiversity Act, 2002*, which empowers the Central Government to exempt specific kind of biological resources for commercial utilisation in consultation with the NBA. The impugned Notification allowed a total of 190 plants under endangered and threatened species 'traded as commodities' in derogation of Sections 3 and 7 of the *Biodiversity Act, 2002*. The petitioner argued that the impugned Notification is *ultra vires* to basic tenets of biodiversity of jurisprudence and prone to debilitating tendency of bio-piracy [13]. The division bench of the High Court of Karnataka instead of deciding the veracity of the impugned Notification referred the matter to the NGT. The High Court followed the directive issued by the Supreme Court of India that in matters of biodiversity dispute the NGT has the appropriate jurisdiction to decide [14].

Meanwhile, NBA in July 2015, issued the revised list of a list containing 385 plants listed fewer than 22 categories Normally Traded Commodities (NTCs) for exemption under *MoEF&CC Notification of Normally Traded Commodities, 2016* [15]. Instead of settling the

judicial exposition of biological resources *vis-à-vis* NTCs, the controversy sparked to NTCs, VAP and VAbY-P.' The *Ayurvedic Drug Manufacturing Association (ADMA)* sought clarification from the NBA regarding the legal status of the extraction of biological resources [16]. Their explanation related to herb powders, oils, oleoresins, extracts, and isolated phytochemicals. The ADMA questioned as to whether these resources fall into the category of VAPs? According to the ADMA, there is no doubt that these processed bioresources are VAPs [17]. The NBA clarified that VAPs implies products and extracts of plants and animals. The *MoEF&CC's Notification of Normally Traded Commodities*, 2016 includes an incognito and tangibly inextricable materials. The legal interpretation of biological resources treaded beyond NTCs, VAP and VAbY-P and constitutes significant breakthrough in fostering innovation and invention.

### ***Notional Extension of Biological Resources***

The interpretation of biological resources enlarged to the extent of its notional extension to coal rice husk and wheat straw as bioresources by Madhya Pradesh and Uttarakhand Biodiversity Board in India. In *Bio-Diversity Management Committee v. Western Coalfields Ltd.* [Original Application No. 28/2013, October 6 2015], the Biodiversity Management Committee (BMC) of Eklahara sought the intervention of NGT for the declaring of the coal as a bioresource. The mining and excavating of coal by their incorporation manoeuvred collection of medicinal plants. In the name coal extraction, these companies engaged surreptitiously in commercial utilisation of the biological resources in violation of biodiversity and intellectual property laws [18]. The NGT's Central Zone Bench did not appreciate the factual and legal connotation of natural resources. The Bench finally declared that coal is not a bioresource and the BMC could not invoke the FEBS and ABS provisions under *Access and Benefit Sharing (ABS) Guidelines*, 2014 of *Biological Diversity Act*, 2002.

In *Vishwanath Paper and Boards Ltd. v. State of Uttarakhand* [Writ Petition Nos. 1425, June 2 2016] the petitioner used rice husk, waste paper, bagasse, and wheat straw as raw materials for manufacturing papers. The Uttarakhand Biodiversity Board issued a show cause to the company for FEBS because the raw materials are biological resources within the meaning of section 2(c) of the *Biodiversity Act*, 2002. The Uttarakhand High Court instead delineating as to whether the waste paper is an organic resource disposed of the petitions at the admission stage and directed that no prosecution against the petitioner company.

## **Discussion**

Here it will not out of place, to mention two leading cases, one dealing with biodiversity and others deal with biotechnology research and consequent piracy and judicial actions by Indian courts [19]. The techno-legal study of the Czech Entomologists Case in India by D.Kothamasi and Toby E. Kiers forms an essential constituent of our discussion to examine the ripple effect on biodiversity researches.

### ***A Tale of Two Cases***

In the *Czech Scientists Case*, 2008, two Czech nationals collected rare insects in Singhalila National Park of West Bengal state of India. They squeezed more than 1500 species of butterflies and most of them endangered species in violation of the Sections 27 and 29 of the *Wildlife (Protection) Act*, 1972 [20]. These scientists confessed about the illegal collection but advanced the argument of bona fide research purposes. They also averred that the assemblage meant entomological experimentation and never intended them for any commercial use. They have not sought any PIC and approval from the NBA and SBB required under Sections 3 and 7 of the *Biodiversity Act*, 2002. The other case has a significant bearing on access to biological resources and the promotion of biotechnological research. Two Japanese nationals collected reptiles from the Athirappally forest in Kerala's Western Ghats biodiversity reserve in violation of Sections 3 and 19 of the *Biodiversity Act*, 2002. The Kerala Forest Department filed a case in

July 2015 against the two Japanese nationals under Sections 27 and 29 of the *Wildlife (Protection) Act, 1972* to establish the guilt of the biopiracy [21]. The case also deals with the potential of biodiversity law in matters related to the regulation of biotechnology laws and living modified organism laws and policies in terms of Section 36(4) (ii) of the *Biodiversity Act, 2002* [22].

### ***Indian & Foreign Dichotomy***

Despite the clarity of biodiversity jurisprudence, there is a widespread perception among Indian companies that PIC, MAT, and FEBS provisions apply only to foreign companies. In *R. Muralidharan v. The Secretary* [Writ Petition No. 15663 of 2014; Decided on March 11 2015] the Madras High Court called up on to examine the applicability of the *Biodiversity Act, 2002*, on Indian and foreign companies. The petitioner challenged the constitutional validity of intellectual property dimensions of biodiversity laid down in Section 19 of the *Biodiversity Act, 2002*. The moot question relates whether an Indian resident or a foreign national, to comply with certain obligations as stipulated under Sections 6 and 19(2) of the *Biodiversity Act, 2002* to PIC for research purposes and patent application. Section 19(1) of the *Biodiversity Act, 2002* imposes an obligation on Indian national to take permission before transferring findings of research relating to biological material. Section 20 of the *Biodiversity Act, 2002*, obligates for PIC before the actual transfer of natural material. The failure of compliance of Sections 19 and 20 attracts fines and imprisonment under Section 55 of the *Biodiversity Act, 2002*.

The Madras High Court examined the interrelationship between the *Convention on Biological Diversity, 1992*, *Bonn Guideline, 2001*, and the *Nagoya Protocol, 2010* in the one hand and Indian *Biological Diversity Act, 2002* *Biological Diversity Rule, 2003*, and *Access and Benefit Sharing (ABS) Guidelines, 2014* on the other side. The Court, in its penultimate analysis, reached to the conclusion that international and national biodiversity laws tilt towards monistic legal order [23]. In *AYUSH (Ayurveda, Yoga, Unani, Siddha, and Homeopathy) Drugs Manufacturers Association v. State of Maharashtra* [MANU/MH/1923/2016] Maharashtra State Biodiversity Board demanded FEBS from the AYUSH companies for exploiting biological resources. The AYUSH companies challenged the constitutional validity of the *ABS Guidelines, 2014*, and Section 7 of the *Biodiversity Act, 2002*, stating that it does not apply to Indian entities for accessing biological resources. In *Divya Pharmacy v. Union of India* [2018 SCC Online Utt. 1035] the petitioner claimed exemption from ABS on the ground of Indian company. The Uttarakhand High Court held that native companies extracting biological resources also subjected to the compliance of liability clauses of PIC, MAT, and FEBS. The incentive and reward of traditional knowledge of local communities necessarily shared by Indian companies at par with the foreign companies [24]. These judgments set at rest that the ABS and FEBS quintessential of Indian as well as international biodiversity laws.

### **Conclusions**

The bureaucratic impediments in national biodiversity laws and policies result in excessive delays in FEBS, often retarding the potential of biodiversity, rewards of biotechnology, and impeding conservation science. The biodiversity values and commercial implications of biodiversity need balanced dovetailing in legal policy for sustainability and intergenerational equity. The judicial interpretation of the biological resources under Section 2 (c) of the *Biodiversity Act, 2002*, is having a cascading effect on the biodiversity and biotechnological advances and invention. The legal principles leave no room for confusion, but the real-world implementation demonstrates the stark realities of significant concerns for biodiversity and biotechnology experts and research. The courts in India will offer a teleological interpretation of biological resources and come out of the myopic perspective of command and control. The biodiversity jurisprudence heralds liberation to researchers and users of natural resources. It also curbs the sanctioning regime, which is not conducive to the innovation

ecosystem of the scientific breakthrough. The judicial doctrines should act as a balancer and equaliser of competing interests of commercial, research, and community's legitimate use and expectation.

### Acknowledgements

The corresponding author would like to acknowledge the *Indian Council of Social Science Research, New Delhi*, for its funding of Minor Research Projects on *Role of International Biodiversity Law in Developing Legal Framework for Access and Benefit Sharing (ABS) Regime in India 2019-20*.

### References

- [1] M.Z.M. Nomani, *The access and benefit-sharing regime: an environmental justice perspective*, **Environmental Policy and Law**, **49**(4-5), 2019, pp. 259-263; DOI 10.3233/EPL-190172
- [2] K. Kohli, S. Bhutani, *Ten years of the biological diversity act*, **Economic and Political Weekly**, **47**(39), 2012, pp. 15-18.
- [3] M.Z.M. Nomani, *Biological diversity, IPR & sustainable development: a critical appraisal of access & benefit sharing models of U.S., Australia & India*, **International Journal of Environmental Consumerism**, **6**(1-2), 2010, pp. 40-55.
- [4] R. Dalton, *Bioprospectors hunt for fair share of profits*, **Nature**, **427**(6975), 2004, pp. 576-576. <https://doi.org/10.1038/427576a>.
- [5] R. Pethiyagoda, *Biodiversity law has had some unintended effects*, **Nature**, **429**(6988), 2004, pp. 129-129. <https://doi.org/10.1038/429129a>
- [6] D. Kothamasi, Toby E. Kiers, *Emerging conflicts between biodiversity conservation laws and scientific research: the case of the Czech Entomologists in India*, **Conservation Biology**, **23**(5), 2009, pp. 1328-1330. DOI:10.1111/j.1523-1739.2009.01252.
- [7] M.Z.M. Nomani, A.R.Osmani, G.Salahuddin, M.Tahreem, S.A.Khan, A.H.Jasim, *Environmental impact of rat-hole coal mines on the biodiversity of Meghalaya, India*, **Asian Journal Water Environment & Pollution**, **18**(1), 2021, pp. 77-84, DOI: 10.3233/AJW210010
- [8] K.D. Prathapan, R. Pethiyagoda, K.S. Bawa, P.H. Raven, P.D. Rajan, L.E. Acosta, B. Adams, S. Adl, S.T. Ah Yong, R. Anderson, *When the cure kills—CBD limits biodiversity research National laws fearing biopiracy squelch taxonomy studies*, **Science**, **360**(6396), 2018, pp. 1405-1406. DOI: 10.1126/science.aat9844.
- [9] R.L. Fischman, *The meanings of biological integrity, diversity, and environmental health*, **Natural Resources Journal**, **44**(4), 2004, pp. 989-1026.
- [10] R.B. Keiter, *Ecological concepts, legal standards, and public land law: An analysis and assessment*, **Natural Resources Journal**, **44**, 2004, pp. 943-988.
- [11] M.Z.M. Nomani, M. Rauf, *Legal policy for bio prospecting of natural resources in India*, **Indian Journal of Environmental Protection**, **39**(11), 2019, pp. 1009-1015.
- [12] \* \* \*, Ministry of Environment Forest & Climate Change, Notification for taking forward the process of the list of 190 Normally Traded Commodities, vide S.O. 2726 (E) dated October 26, **2009**. See also: Brainstorming Session and National Consultation on Issues related to Normally Traded Commodities, On April 13 and 14, 2012, Available at: [National\\_Consultation\\_on\\_NTCs.pdf](#).
- [13] M.Z.M. Nomani, R. Parveen. *Prevention of chronic diseases in climate change scenario in India*, **Environmental Justice**, **13**(4), 2020, pp. 97-100.

- [14] K. Kohli, S. Bhutani. *The legal meaning of biodiversity*, **Economic and Political Weekly**, **48**(33), 2013, pp. 15-17. See also: M.Z.M. Nomani, *Laws & flaws relating to biological diversity in India: a kaleidoscopic view*, **Company Law Journal**, II-J, 2000, pp. 17-22.
- [15] \* \* \*, Ministry of Environment Forest & Climate Change, Notification S.O. 1352 (E) dated April 7, 2016. See also: <http://nbaindia.org/content/19/16/1/faq.html> 40For the full list of members and their TOR please see: [http://nbaindia.org/uploaded/pdf/OFFICEORDER/Oo\\_EC\\_on\\_NTC\\_9sep2016.pdf](http://nbaindia.org/uploaded/pdf/OFFICEORDER/Oo_EC_on_NTC_9sep2016.pdf)
- [16] M.Z.M. Nomani, *Application of trade secret law in plant variety protection in India*, **Manupatra Intellectual Property Reports**, II(1), 2018, pp. 141-156.
- [17] Ayurvedic Drug Manufacturing Association, The full text of ADMA's letter to NBA can be downloaded from here: [http://admaindia.com/downloads/subissue\\_ADMA%2043%20dt%2030-3-2015%20to%20Secretary,NBA.pdf](http://admaindia.com/downloads/subissue_ADMA%2043%20dt%2030-3-2015%20to%20Secretary,NBA.pdf).
- [18] M.Z.M. Nomani, *Legal dynamics of India's science technology & innovation policy 2013 & intellectual property policy 2016*, **Manupatra Intellectual Property Reports**, **3**(2): 2017, pp. 19-25.
- [19] M.Z.M. Nomani, *Environment agriculture and challenges of bio-piracy: a blue print of indian sui generis legal order*, **Indian Journal of Environmental Law**, **1**(2), 2000, pp. 3-22.
- [20] M.Z.M. Nomani, F.Rahman, Z.Ahmed, T.Faiyaz, S.A.Khan, A.J. Hussein, *Prevention of transnational environmental crime under convention on protection of environment through criminal law: agenda and implementation*, **International Journal of Advanced Science and Technology**, **29**(5s), 2020, pp. 606-612.
- [21] M.Z.M. Nomani, *The human right to environment in India: legal precepts and judicial doctrines in critical perspective*, **Asia and Pacific Journal of Environmental Law**, **5**(2), 2000, pp. 113-34.
- [22] M.Z.M. Nomani, J.Allail, M.Rauf, *Environment impact assessment draft notification 2020: An eco-legal assessment*, **Annals of Romanian Society for Cell Biology**, **25**(4), 2021, pp. 2900-2905.
- [23] M.Z.M. Nomani, *Enviro-constitutional ethos in right-duty discourse: towards creation of sustainable socio-legal order*, **Journal of Indian Law Institute: Special Volume on Constitutional Law**, **42**(22), 2000, pp. 432-42
- [24] M.Z.M. Nomani, **Case Comment: Divya Pharmacy v. Union of India**, **Biotechnology Law Report**, **39**(2), 2020, pp. 122-128; <https://doi.org/10.1089/blr.2020.29161.zmn>

---

Received: July 18, 2020

Accepted: April 23, 2021