

Biological Resources, Indigenous Rights, and Judicial Accountability: The Evolving Anti-Biopiracy Jurisprudence by Indian Courts

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Abstract

Biopiracy has emerged as a global topic attracting debates over unjust usage and infringement of traditional knowledge. India, being a rich ecological nation, has encountered the problem of biopiracy for many years. As per international mandates, the Biological Diversity Act 2002, Patent Act 1970 and TKDL work as the statutory framework to curb biopiracy. In addition, the Indian judiciary acts as the gatekeeper for the protection and preservation of our ecosystem. The present study adapts a thematic approach to interpret six of the latest landmark judgments to understand the systematic approach of Indian courts in recent times on biopiracy. The objective of the study is to move beyond landmark disputes of Neem, turmeric and basmati rice and gain insight into a new thread of anti-biopiracy approach adopted by Indian courts. The judiciary has given the widest interpretation to preserve traditional knowledge and ethnicity by expanding horizons of benefit sharing, state responsibility, expert opinions and clarity on domestic liability in matters of commercial utilisation of ethnic knowledge. The research is a base for future research to develop prudent theories and principles, as now the nation is heading towards a justice-based system in biopiracy norms, where preservation and commercialisation are taken together to decide the dispute.

1. Introduction

The concept of bio-piracy has come up as one of the most contemporary topics that correlates biodiversity, IPR and traditional knowledge. Bio-piracy has emerged as a global topic attracting debates over unjust usage and infringement of traditional knowledge. The persistent inequalities between nations have led to disparity between the global south and north, making

biological resources a tool of negotiation (D. F. Robinson, 2010). The basic meaning of bio-piracy includes an unauthorised removal of biological resources relating to plants or traditional knowledge of communities for converting them into patents or money without actual compensation to the indigenous people of that knowledge (D. Robinson, 2010).

Countries like India fall within the category of victims of bio-piracy due to a large ecological system of natural resources being undervalued and not preserved. The rich institution or individual, for profit-making, misappropriately converts resources into their names, further accusing underdeveloped nations of pirating their knowledge (Bhukta & Jana, 2022). The critique of Bio-piracy considers it as an IPR and science issue that challenges the fundamentals of both in terms of what falls within the domain area of intellectual property under innovations that can be patented, is old traditional knowledge known in the past or not (Hamilton, 2006). The nations of the southern hemisphere, though developing or underdeveloped, are rich in terms of ecology. These nations face the maximum cases of bio-piracy, the leading example being India and South Africa (Bhukta & Jana, 2022b). India, a diverse nation rich in natural resources, is home to some of the rarest species of flora and fauna in the world. The traditional

knowledge of India has successfully utilised the biodiversity for various purposes. Some of the most classic examples being “neem”, “Tulsi”, “turmeric” and “pudina” being efficaciously used to date for different medicinal purposes (“BIOPIRACY AND ITS GROWING THREAT TO BIODIVERSITY IN INDIA: A BIRD’S EYE VIEW,” 2021). But the sad part is that technological advancement, global outreach and a capitalist mindset have raised vulnerabilities to the Indian traditional knowledge system of usage of biodiversity, thereby creating some of the most famous legal controversies in the world.

The evolution of bio-piracy in the country is motivated by international instruments, namely the Convention on Biological Diversity Act and the Nagoya protocol, creating a blend of statutory regulations of IPR and the Biodiversity Act, along with a series of judicial pronouncements accounting for the protection of traditional

knowledge, medicinal plants and agricultural products. Through various decisions, Indian courts in landmark cases like *Divya Pharmacy v. Union of India, Patent and Neem patent dispute, Czech Scientists Case, 2008 and Basmati Rice* case have developed the jurisprudence attached to bio-piracy protection and prevention in India. The key concepts of ABS, traditional knowledge conceptualisation, value-added products, informed consent, mutually agreed terms, and equitable participation form the backbone of domestic legal safeguard measures of biopiracy (*Scopus - Document Details*, 2021). In the present review, a systematic analysis of the interpretation of different legal provisions from a judicial viewpoint, along with fragmented principles by judges at different times in various cases, will be conducted to understand how courts have broadened the concept of bio-piracy in the country, and to learn the evolving landscape of biopiracy in India. The research will also touch upon

challenges, struggles and hardships associated with bio-piracy as faced by the judicial system in the present system.

2. Material and Method

The present research is a doctrinal study that involves a thematic approach for understanding six different judgments pronounced at different intervals. The main reason behind the systematic analysis and standardisation of these six judgments is that these cases have directly set precedents on biopiracy in the country over the last five years. For all six judgments, issues, facts, ratio decidendi, rationality and directions are thoroughly researched for drawing a thread of new standards as set forth by courts. The merit of the case, along with the dissenting opinion, is read to draw the real sketch of the position and awareness of the Indian judiciary on biopiracy norms in the country.

The main objectives of the current research are as follows:

1. To understand the judicial viewpoint on biopiracy in India.
2. Assess the new principles and standards set by the Indian court in recent times.
3. To develop a systematic base for future research based on the court's interpretation of the legal framework.

3. Conceptual Framework

Biopiracy was coined out of anger due to over exploitation of plants, medicinal knowledge and their components by various Western nations in the name of cosmetics from various southern countries, as given by RAFI, a Canadian-based NGO which later became ETC and is related to activist Pat Mooney (D. Robinson, 2010b).

As provided by health scientists, biopiracy is called a disease that is non- detectable, spread by big corporations for commercialisation in the name of intellectual property rights of different medicinal plants, crops, and traditional knowledge (Imran et al., 2021). Biopiracy

is the purely illegal use of traditional knowledge of a specific region, as exploited by others in the name of a patent, restricting the home country from using it. A Series of legislative frameworks is made to protect the same, but the entities never apply the traditional knowledge as “they are” and modify the manner of application of these indigenous practices to gain novelty in a patent (Gulati, 2019).

3.1 Global Perspective: At the global forums, there have been continuous debates of injustice, identity crisis, and inequality over various stakeholders of traditional knowledge gathered through different generations by external entities of an outside region for capitalisation (D. F. Robinson, 2010b). The state entries of various developing countries use biopiracy interchangeably with biocolonialism to reflect oppression by developed states in trade and the abuse of developing nations' resources (Hamilton, 2006b). As scholars claim, biopiracy is a byproduct of globalisation, in which knowledge is

utilised without consent or benefit-sharing for commercial purposes. In today's world, biopiracy is present in medicine, food and the cosmetic field through abuse of the IPR regime. The party that manipulates gains without allowing the original creator to benefit claims control of resources through biopiracy. All this creates a heavy burden on natural flora and fauna. To keep a check on this, the UN has initiated a series of measures to which 170 nations have agreed for the sustainable use of natural resources (Satheeshkumar & Narayanan, 2017).

3.2 Indian stand: Traditional knowledge of plants, crops and seeds has been an intrinsic part of our cultural identity. The country has seen different matters of biopiracy where the traditional knowledge of India was transferred abroad. The biopiracy holds a direct impact on a nation's food security and consumers' choices. The country today has been vocal over the protection of plant varieties and crops, but various disputes over curcuma longa, ghumar, brinjal, rice, neem, etc., are well-known at global forums

(Bhattacharya, 2014). India's vast herbal knowledge, agricultural products, seed variety, traditional recipes and ayurvedic practice attract large players to extract profit incentives by overutilization of these methods.

4. Legal Framework for Biopiracy in India

4.1 Biological Diversity Act, 2002

To comply with the regulations set by the United Nations Convention on Biological Diversity and the Nagoya Protocol, the country adopted the Act on 5th February 2003. The Act is the key legislation directly working for sustainable use, equitable sharing and conservation of India's rich biological heritage. The Act consists of eleven chapters, sixty-five sections and two-tier regulatory agencies for the efficacious functioning of the law. All commercial activities, research, IP rights filing, access to biological resources and traditional knowledge pass through approval of either a national or state board

constituted under an Act with perpetual succession and a common seal. Through Chapter IX of the Act, the duties of the central and state governments are enshrined under the Act for national and statewide program and policy formulation to ensure judicious usage of environmental resources. The best practise of the Act involves the local level and panchayat level committees, namely biodiversity management committees for documentation and preservation of plant varieties. Lastly, the Act establishes a dispute settlement mechanism through the High Court and NGT, being the judicial bodies for taking up matters of adjudication (India, 2003).

4.2 Traditional Knowledge Library (TKDL- CSIR)

Traditional knowledge, being an asset of ethnic groups, is protected by an open database with five lakh texts/practices from all misappropriation of patents through the government initiative of TKDL. The library has grouped the traditional medicinal systems of Ayurveda, Siddha, Unani, yoga

and Sowa Rigpa into five international languages, namely English, Japanese, French, German and Spanish for easy identification in patent examination. The Indigenous system has set an example for world TK with its acceptance by the Intergovernmental Committee on Traditional Knowledge of WIPO. Presently, TKDL is working towards the digitisation of traditional agricultural practises in the country. In a nutshell, the digital library is a successful initiative for preserving and protecting traditional knowledge from biopiracy (*Traditional Knowledge Digital Library Unit (TKDL) | Council of Scientific & Industrial Research*, 2026).

4.3 The Patents Act, 1970

By virtue of Section 3 (p) of the act, the traditional knowledge and any usage of known components are excluded from the ambit of invention as prescribed by the statute. Thus, lack of invention takes away the basic essence of patentability, making biopiracy a tough call for institutions unless they add an unexpected outcome to their

research (The Government of India, 2025).

Today, any granted patent on any obvious traditional knowledge without any original innovation is regarded as a concern and a menace to our system. (Nomani & Rahman, 2016)

5. Judicial Pronouncements

5.1 Divya Pharmacy Vs. Union of India¹

Corum: Hon'ble Sudhanshu Dhulia, J.

Brief Facts: Divya Pharmacy, an ayurvedic sole petitioner unit of Divya Yog Mandir, a trust of Baba Ramdev and Acharya Bal Krishna, registered under the Registration Act, 1908, challenged the order of the Uttarakhand Biological Board over the demand of Fair and Equitable Benefit Sharing with indigenous people under the purview of Section 2(g) of the Biological Diversity Act, 2002.

Issues: The three main issues raised under the matter were:

1. Whether the demands for “Fair and Equitable Benefit Sharing” can be made by state biodiversity boards.
2. Whether “FEBS” can be made applicable to individuals/ entities who do not possess foreign elements.
3. Whether the National Biodiversity Authority has the power to delegate its functions to state boards.

Decision: The court held “the State board under Section 7 read with Section 21 and Section 23 of the act has the power to demand Fair and Equitable Benefit Sharing for the benefit of the indigenous community. Further, through the ambit of international commitments made, the “FEBS” is applicable over local Indian entities with NBA, and through the ambit of regulatory power, the national board is entitled to transfer its functions to SBB.

Rationality: The court made a reliance on a purposive approach through a series of

¹ 2018 SCC Online Utt. 1035

judgments and international frameworks, namely the Rio Convention, Johannesburg Declaration and Nagoya Protocol for declaring the widest possible interpretation of “Fair and Equitable Benefit Sharing” to deviate from plain reading as to give maximum benefit to native individuals. The court made a clear stand over state board power to levy fees for commercial utilisation of biodiversity by both foreign and Indian entities, as biological resources are the fruits of the hard work of local communities, who should get rewards. The court mentioned that the benefit sharing is one of the three important pillars of our Biological Diversity Act, 2002, to which the indigenous communities should benefit from all entities, irrespective of nationality or origin.

Observation: The case is a landmark decision over Fair and Equitable Benefit Sharing, where the use of biological resources requires compulsory levy fees

from the utilizers for aiding and preserving the natural resources.

5.2 Sayeed Absar Bidi Works and Ors. Vs. State of U.P. and Ors²

Corum: Sunita Agarwal and Vikas Budhwar, JJ.

Brief Facts: The dispute under the present matter was between Sayeed Absar Bidi Works, a manufacturer of bidi registered under the Partnership Act, G.S.T. Act and U.P. Tendu Patta (Vyapar Viniyaman Adhiniyam) Adhiniyam, 1972, with the Secretary, U.P. State Biodiversity Board and Divisional Director, Social Forestry, Forest Division, Prayagraj, herein referred to as respondents. The area of dispute was two notices served by respondents on the petitioner for compliance with the Biodiversity Act, 2002, to pay the “access and benefit sharing” amount as duly prescribed by the act for the usage of tendu leaves as used in the manufacturing of bidis.

² Writ-C No. 28617 of 2021

Issues: The three main issues raised under the matter were:

1. Whether the Biodiversity Act, 2002, applies to entities registered under a specific business governed by Indian law.
2. Whether the usage of biological resources for “value addition purpose” to be further carried out for selling falls within commercial utilisation as prescribed by the 2002 statute.
3. Whether Indian entities fall within the ambit to pay “Access and Benefit Sharing” as prescribed by the Biodiversity Act, 2002.

Decision: The Hon’ble Court for the first issue, answered by making a strong statement that any business governing law applicable in the country must be read in consonance with the Biodiversity Act, 2002, as the scope and language of the statute make it a major Indian law on matters of biological resources. Any derogation to the impugned act cannot be

sustained unless expressly mentioned by any code. To the second matter, the court made a remark by including *tendu* leave within the ambit of “plant products” thereby making it a part of Section 2 (c) of the Biodiversity Act, 2002. On the last concern, the court interpreted access/usage of any biological resources even though procured from the state and utilizing it for value addition for further commercial utility is a part of the benefit-sharing principle.

Rationality: To make a fair decision, the court made a threat of various provisions of the Biodiversity Act, 2002 and Guidelines on Access to Biological Resources and Associated Knowledge and Benefits Sharing Regulations, 2014 (Regulation of 2014) to set a precedent that all mentioned regulations are for conservation, sustainability and benefit sharing purposes. The parliament has made the law for the sole purpose of preserving resources. Any access to biological resources forms a part of commercial utilisation by an entity/

individual, thereby pitching in the concept of benefit sharing. No specific law can overshadow the concerned act as mentioned under Section 59 of the Biodiversity Act, 2002, citing that the act is an addition to all other laws functioning in India. By Section 7, due permission for the usage of biological resources is required, for which benefit-sharing agreements can be created. Any non-creation of such agreements can be settled through Regulations 2, 3 and 4 of 2014.

Observation: The case has developed an affirmative mindset to read the Biodiversity Act, 2002, along with other statutes of the country. Any utilisation of biological resources in any form attracts benefit sharing by entities/individuals.

5.3 Chandra Bhal Singh Vs. Union of India and Ors³.

Corum: Adarsh Kumar Goel, J. (Chairperson), Sheo Kumar Singh, J.

(Member (J)), Dr Satyawan Singh Garbyal and Dr Nagin Nanda, Members (E)

Brief Facts: As a corrective action, the present matter was taken up to make the states liable for non-compliance with the order dated 12.04.2019 related to BMCs and PBRs. This first cause of action took place in 2019 based on a report of the Ministry of Environment, Forest and Climate, to which orders were issued to specific states with zero records of BMCs and PBRs. Further, the second report was submitted on 31.01.2020 by the National Biodiversity Authority on behalf of the Ministry related to the status of Biodiversity Management Committees and People's Biodiversity Registers post 2019 order as mandated by the Biological Diversity Act, 2002 and Rules 2004. Aggrieved by the report, the present matter was dealt with in the NGT.

Issues: The three issues involved in the matter were:

³ Original Application No. 347/2016

1. Whether states must duly comply with the provisions of the Biodiversity Act, 2002.
2. Whether Record maintenance is an essential element under the Biodiversity Act, 2002.
3. Whether BMCs and PBRs hold an important role in effective biological resource management.

Decision: Dealing with all the issues the tribunal mandated through Chief Secretaries of states over strict compliance of the Biological Diversity Act, 2002 and Rules 2004 related to formation and preparation of BMCs and PBRs respectively. Various states took positive steps after 2019, but the whole national grid of BMCs and PBRs was still lacking. Emphasis was placed on access and benefit sharing, conservation and sustainable use of natural resources, which is only possible with adequate records. Instructions were given to the NBA, along with state bodies, to monitor the implementation.

Rationality: India has a rich heritage with biodiversity hotspots, species of animals and plants, along with a traditional knowledge repository. PBRs and BMCs aid in the maintenance of resources and knowledge, adding utility and economic benefits to the community at large. ABS is completely absent, with no records of available resources. Non-compliance can cause biopiracy, which the nation has already faced in past years. All states fall within the ambit of the act made as per the international document, the UN Convention on Biological Diversity for promoting fair and equitable use of resources.

Observation: Governments also fall within the ambit of the compliance mechanism of the Biodiversity Act, 2002, with no relaxation.

5.4 Monsanto Technology LLC Vs. Nuziveedu Seeds Ltd⁴.

Corum: Navin Sinha, J.

Brief Facts: In the present matter, the plaintiff and defendant agreed to the usage of the plaintiff's technology by the defendant in the production of GM hybrid cotton seeds. The agreement tendered the license in favour of the defendant for a period of ten years. In 2015, the agreement ended over a payment dispute resulting in a challenge by the defendant on the patent no. 214436 on the use of NAS- a human-made DNA construct in cotton seeds and trademark on "Bolgard" and "Bolgard-II", the exclusive cotton technology from all types of selling, distribution and usage till the disposal of the dispute. The matter came before the SC, being aggrieved by the orders of the single and division bench over the orders.

Issues: The three issues involved in the matter were:

1. The challenge was made to the patent under section 64 of patent law, being violative of section 3(j) barring seeds, plants, animals, varieties and species from within the aspect of invention.
2. The Protection of Plant Varieties and Farmers' Rights Act, 2001, does not apply to the plaintiff.
3. Can any matter of grave importance pass through summary procedures?

Decision: The Hon'ble SC set aside the orders of the division bench of the vanishing of patent and restored the decision of the single judge by quoting the matter to be a complex case of a mix of fact and law requiring expert opinion in the field. The court further contended that no summary procedure could fix a matter that requires detailed examination and technical assistance. The decision turned out to be a relief for agricultural businesses with the

⁴ AIR 2019 SUPREME COURT 559

apex court leaving all the questions open on patentability under Section 3(j).

Rationality: The court in the current matter dealt with a complex issue of patentability, making room for detailed evidence-based investigations in all such future disputes involving patentability concerns on genetically modified agricultural products. Further, the court made a significant remark on section 64 stating counter claims needs a support of evidence and not simple reading of textbooks while treating any revocation challenge.

Observation: The court made the lower court check errors in the grant of patent carefully through proper examination and due diligence to save agro- based companies from multiple disputes.

5.5 M/s. The Zero Brand Zone Pvt. Ltd Vs. The Controller of Patents & Designs⁵

Corum: Senthilkumar Ramamoorthy, J.

Brief Facts: The case revolves around a patent application of an eco-friendly one-time use lamp prepared from a composition of panchagavya along with Azadirachta Indica, Citrus Limon and Ficus religiosa prepared at 900 -1100 psi pressure and 80-100°C temperature on passing the novelty test under patent law. The patent application was denied, and the matter was presented before the court for review of the grant of a patent.

Issues: The only issue involved in the matter was whether a combination of traditional knowledge at specific proportions to derive a new substance passes the test of Section 3(p) of patent law.

Decision: The court referred to the use of cow products, namely cow dung, butter, milk, curd, and urine, by admixing leaves of neem and lemon is a traditional knowledge of insect repellent which can be easily accessed through a simple Google search, making the patent application negative. The

⁵ CMA (PT) No. 146 of 2023
[OA/32/2020/PT/CHN]

court concluded by commenting that the substance falls within the ambit of Section 3 (p) with no invention recorded in the product. The court made a remark that no technical advancement was carried out in the present case, which could fetch an invention. Any skilled artist having knowledge of the usage of cow products could easily develop a product of such nature. Thus, the rejection of the patent was sustained by the court.

Rationality: The court placed heavily upon the usage of traditional knowledge and known substance as falling outside the purview of Section 3 (k). The panchagavya and mixture of cow dung, butter and urine, along with leaves, are well-known manure and insect repellents, respectively, used for ages. Thus, the product completely lacks the invention. Any unexpected outcome derived from the mixing of known products attracts a new novelty. Anything which is prior known to people forms part of

traditional knowledge and is excluded from Section 3 (k), making it unfit for patent.

Observation: The case is a classic example of the protection of traditional knowledge by the employment of known substances in the formulation of a new substance. Any technical advancement or newly obtained outcome falls within the ambit of a patent, but a lack of novelty has no support for a patent.

5.6 Gene Campaign & Another Vs. Union of India⁶

Corum: Hon'ble Nagarathna, J. and Hon'ble Sanjay Karol, J.

Brief Facts: In the present matter series of writ petitions were filed by the petitioner over the demand for changes in Genetically Engineered Organisms or Cells, 1989 rules, as per the constitutional provisions for better storage, import, manufacturing and usage of hazardous micro-organisms. The controversy involves transgenic mustard hybrid DMH-11 being an HT crop, which

⁶ 2024 INSC 545

remained outside the purview of the same due to the inability to check or lab test the same. The second problem was the release of DMH-11 into the environment as per the recommendations of GEAC of 2022.

Issues: The sole issue of the matter remained demands for direction to the state to implement the recommendations of the technical expert committee (TEC), the committee of the SC on GMO. The release was contended to violation of Article 21 and the precautionary principle.

Decision: The two-judge SC bench in a unanimous view made strict directions for the Union to formulate a national policy on GM with inclusion of experts, stakeholders and state governments (Editor & Editor, 2024). On the issue of quashing of orders of GEAC, the two-judge bench had different opinions. But the judgment made some observations, namely:

1. Allowing judicial review of matters involving genetically modified foods/organisms.

2. GM foods are within the domain of FSSA.

Rationality: The whole judgment places reliance on the right to safety and a healthy environment, the public trust doctrine and precautionary principles. The court held state, being the trustee of natural resources, is duty-bound to look towards its protection. The decision to release by the Union without consultation with the state parties is a serious matter of transparency regarding the action of the Union. The public trust cannot be overshadowed in any order of government. The lack of study of the impact of release on health is a failure of the union in obeying its duty.

Observation: The court has already given a new dimension to GM foods/organisms through the decision. Although the implementation of the order in the form of national policy is a distant dream, the awareness of the topic has already reached a large portion of the population in the country. Also, the case has made the state

accountable for all its prospective decisions.

6. Discussion

Earlier research on bio-piracy centred around disputes related to Neem, turmeric and basmati rice being key illustrations for preservation of traditional knowledge and IP rights (Nomani & Rahman, 2016b). Through the current work, a further jurisprudential angle is given through a structured understanding of the court's viewpoint on biopiracy in the present times. The analysis of six landmark recent judgments gives a new thread of the attached anti-biopiracy approach adopted by Indian courts. Further, a new scope of research is also the fruit of the study of judgment. The current study presents the merits of each case, but some unanswered questions by courts are also highlighted, which are a new domain area of research in the field of bio-piracy. Each judgment in past years has tried to firm the country's stand on protection and preservation of our

ecosystem. A synthesis of all the judgments develops the following principles:

1. Divya Pharmacy: The Indian entities fall within the ambit of equitable and fair benefit sharing.
2. Sayeed Absar Bidi Works: The Indian law on businesses needs a group reading with the Biodiversity Act, 2002, in case of business employees' natural resources. The court further set a new rule that value addition to natural resources falls within commercial utility, attracting the benefit-sharing concept.
3. Chandra Bhal Singh: The Constitution of Biodiversity Management Committees and PRB's is an essential state function which cannot be overseen by states.
4. Monsanto Technology LLC: The court strongly neglected summary procedures in matters of patent of agriculture produces where expert

scientific investigations and strong evidence are required.

5. M/s. The Zero Brand Zone Pvt. Ltd:

The court's view sets a classical theory of lack of unexpected output and technical advancement on traditional knowledge or known substance is no ground for a patent.

6. Gene Campaign: The Court

commented over state, being the keeper of resources, is duty-bound to preserve and protect the same. National policy as per future needs is the need of the hour for GMOs in India, to which state should take the onus for speedy actions.

A reading of judgments develops the sequence that deviates from earlier known facts of foreign firms being under scrutiny of biopiracy to developing a new angle of Indian firms' liability and government onus to boost the protection norms. The Court widely interpreted the Biodiversity Act, 2002, to make the act applicable to businesses applying natural resources with

a consecutive reading of the statute, with affirmative bonding with commercial and business laws. Special attention needs to be made over the court's approach to learn and understand the importance of scientific, systematic and evidence-based expert advice on matters of biopiracy to gain a real sense of the problem. Courts admitted that easy summary disposing of matters is hampering the very essence of the Biodiversity Act, 2002. Cases saw reference to international document, constitutional interpretation and foreign jurisprudence to give the largest possible room to preserve our biological resources. Lastly, courts have recognised that traditional knowledge is a legacy that cannot be commercially exploited without any advancement. This viewpoint of the courts is setting new standards for biopiracy laws in the country. The current research on all these case laws is a basis for future research to develop prudent theories and principles on biopiracy. We are now heading towards a justice-based system in

biopiracy norms where preservation, utilisation, and commercialisation are all looked upon before any patent is granted. Benefit sharing can now be said to be the essence of our system for giving credits to ethnic communities who are the keepers of our traditional knowledge.

7. Conclusion

A combined review of legal provisions and major judicial decisions in the past five years has produced a new systematic standardized jurisprudential angle to increased awareness and interest of Indian courts. Courts have given the widest interpretation to preserve traditional knowledge and ethnicity by expanding horizons of benefit sharing, state responsibility and clarity on domestic liability. The promising nature of courts has boosted India's commitment to international documents on natural resources. The evolving biopiracy landscape demands mandatory acceptance of the Biodiversity Act, 2002. The apex court, along with the high court and NGT,

works in a combined way to promote sustainable use of ecological resources to cater to future needs. Nevertheless, these positives also have some contrasting opinions with enormous open-ended questions being left by courts for settlement. The future of India's rich culture lies in further research by experts and academicians, along with speedy judicial decisions to create a robust room for India's viable knowledge legacy in agriculture, medicine and metals.

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Abbreviations

TKDL- Traditional Knowledge Digital Library

TK- Traditional Knowledge

GMOs- Genetically Modified Organisms

SC- Supreme Court

GM- Genetically Modified

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