

ANALYSING GENETIC PRIVACY UNDER THE LENS OF INDIAN CRIMINAL JUSTICE SYSTEM

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ABSTRACT

This paper investigates the interplay between Indian criminal justice system and genetic privacy by analyzing the current legal structure in place pertaining to DNA data being collected during a criminal investigation. This research focuses on three primary issues: accessing legislation regulating genetic data collection during criminal investigation, accessing legal safeguards protecting the right to privacy in India and determining if the existing rules are adequate to prevent breaches of individuals' right to privacy within the criminal investigation set-up.

The paper discusses the current legislation, judicial pronouncements, and policy frameworks relevant to genetic data protection in India. The article highlights the possible ramifications of the DNA Technology (Use and Application) Regulation Bill in harmony with relevant outline under the Code of Criminal Procedure. It also compares international best practices and other legal strategies for genetic privacy in criminal justice.

Results present a complicated legal landscape and a substantial vacuum of regulation involving the use of genetic data for criminal investigations. Although, India has recognized the right to privacy as a fundamental right protection in terms of genetic data during the criminal justice process may still seem constrained. The research suggests the existing laws are inadequate to deal with these challenges set out by genetic data in criminal investigations, calling for a reassessment of how potential suspects' privacy rights can be protected.

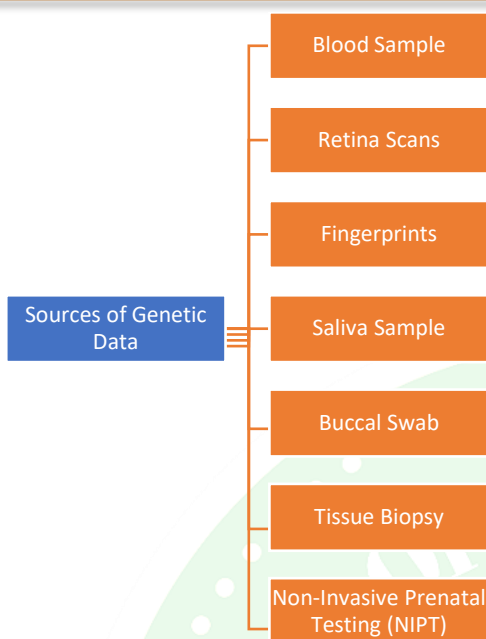
This research aims to contribute to the growing conversation about balancing public safety with individual privacy in an era of genetic technology by suggesting potential legal and policy reforms that would strengthen protection for genetic information within the Indian criminal justice system.

Keywords: Genetic data, right to privacy, and criminal justice system.

INTRODUCTION

The origin of genetic data can be linked to the middle of the 20th century. During this period scientists discovered the composition of DNA, they discovered that it is a DNA molecule which carries the genetic data of any living organism. Several decades of investment and research have led to the creation of revolutionary genetic technologies like DNA sequencing, PCR (polymerase chain reaction) etc. These developments have helped us improve our comprehension of human physiology.

Through the advancement of technology, there are multiple tests/sources through which genetic data can be obtained.



These methods have been adopted by several sectors like Health Care, Insurance, Medical Research and most importantly by law enforcement etc. Genetic data has greatly contributed not just to the medical field but also to the criminal justice system. The **R v. Pitchfork**¹⁰⁷¹ famously known as the Colin Pitchfork of 1987 was a watershed moment in criminal law because it was the first time that English courts accepted DNA profiling as evidence and utilised it as substantial proof for conviction.

As the availability of genetic testing increases, more individuals are providing their genetic data during criminal investigations. These include investigation for the pettiest offence, resulting in large and valuable databases. The growth of genetic data has led to significant privacy concerns due to the sensitivity and personal nature of genetic information. However, sharing this data can potentially lead to privacy violations, including genetic discrimination, breaches of confidentiality, and targeted marketing. Therefore, measures must be taken to ensure the privacy and protection of individuals' genetic information.

RESEARCH QUESTION

- Whether there exist any law regulating the genetic data of individuals involved in the criminal investigation process?
- What are the legal safeguards to protect the right to privacy in India?
- Whether the current laws regulating genetic data are adequate to safeguard individuals' right to privacy in the criminal investigation system?

RESEARCH OBSERVATION

- To understand the laws regulating the genetic data of individuals involved in the criminal investigation process.
- To understand legal safeguards to protect the right to privacy in India.
- To understand the if the current laws regulating genetic data are adequate to safeguard individuals' right to privacy in the criminal investigation system.

LEGAL ANALYSIS

LAWS REGULATING GENETIC DATA COLLECTION FOR LAW ENFORCEMENT

Initially, India had no specific law regulating the genetic data of individuals involved in the criminal investigation process. However, there were several other laws and regulations that provided some level of governance:

PROVISIONS UNDER THE CONSTITUTION OF INDIA

The Indian Constitution is the primary legal instrument in India, which ensures the protection of fundamental rights and freedoms of citizens through its provisions in Part III. Two significant provisions include **Article 20(3)**¹⁰⁷², which protects individuals from self-incrimination, and **Article 21**¹⁰⁷³, which prohibits unauthorized intrusion or interference with one's personal liberty. Therefore, any application of DNA profiling technology must meet the standards set forth by these constitutional

¹⁰⁷¹ R v. Pitchfork, [1988] 1 W.L.R 883.

¹⁰⁷² INDIA CONST. art. 20, § 3.

¹⁰⁷³ INDIA CONST. art. 21.

provisions and the golden triangle rule recognized under the *Maneka Gandhi*¹⁰⁷⁴ case.

PROVISIONS UNDER THE CODE OF CRIMINAL PROCEDURE

The legal basis for DNA profiling of individuals involved in criminal investigations is provided by the **Code of Criminal Procedure (CrPC)** through **Sections 53**¹⁰⁷⁵ and **53-A**¹⁰⁷⁶. According to Section 53(1), the police can request DNA profiling of the accused, while Section 53-A allows for DNA profiling of those accused of rape.

Although Indian laws recognise genetic data as legal evidence, they do not offer a suitable regulatory framework. This issue was discussed by the **Law Commission of India in its 271st Report**¹⁰⁷⁷. The commission recommended the institution of a specialised DNA framework to govern human genetic profiling and limit such profiling for situations permitted by law. The commission also predicted the potential misappropriation of genetic data which would be damaging to society. The commission concluded the report by emphasising the importance of legislation regulating the potential misuse of genetic data.

In light of the above-mentioned recommendations two bills were drafted namely, the **DNA Technology (Use and Regulation) Bill**¹⁰⁷⁸ and the **Criminal Procedure (Identification) Bill**. The Criminal Procedure (Identification) Bill now **Criminal Procedure (Identification) Act, 2022**¹⁰⁷⁹ got the approval of the parliament in April 2022.

¹⁰⁷⁴ Maneka Gandhi v. Union of India, AIR 1978 SC 597.

¹⁰⁷⁵ Criminal Procedure Code, 1973, § 53, No. 2, Act of Parliament, 1973 (India).

¹⁰⁷⁶ Criminal Procedure Code, 1973, § 53(A), No. 2, Act of Parliament, 1973 (India).

¹⁰⁷⁷ Law Commission of India, 271st Report: The Advocates Act, 1961 (Amendment) Bill, 2017, (Aug. 2017), available at <http://lawcommissionofindia.nic.in/reports/Report271.pdf>.

¹⁰⁷⁸ DNA Technology (Use and Regulation) Bill, 2019, Bill No. 256-C, 2019 (India).

¹⁰⁷⁹ Criminal Procedure (Identification) Act, 2022, No. 11, 2022 (India).

CURRENT LEGISLATIONS

The Criminal Procedure (Identification) Act, 2022

The law authorizes police or prison officers to obtain specific identifying information from convicted individuals or those who have been arrested for a crime. This information may include fingerprints, photographs, iris and retina scans, biological samples, and behavioural characteristics. The National Crime Records Bureau (NCRB) is authorized under the Act to gather, retain, process, share, distribute, and dispose of records of measurements in accordance with prescribed regulations. If an individual opposes or refuses to provide their measurements, it is a criminal offense under **Section 186 of the Indian Penal Code (IPC)**¹⁰⁸⁰.

Section 3 of the act authorises police officers or prison officers or an individual authorised by the NCBR to collect genetic data from offenders, accused, prisoners and others “if required”.

Section 5 states that a Magistrate can legally obligate “any individual” to submit their genetic data if it expedites the investigation process under CrPC or any other criminal legislation.

Section 4 states that the data collected under Section 3 and Section 5 can be retained for future investigation. The provision further explains that the genetic data of acquitted persons are destroyed.

DNA Technology (Use and Regulation) Bill, 2019

The objective of the proposed legislation is to restrict, manage, and confine DNA profiling to only legally authorized purposes related to identifying individuals. The Bill suggests using DNA fingerprinting for the purpose of Disaster Victim Identification (DVI), identifying unidentified corpses, and for identifying perpetrators of particular offenses specified in the Bill.

i. DNA Regulatory Board

The proposed Bill suggests establishing a “DNA Regulatory Board” as a separate legal entity.

¹⁰⁸⁰ Indian Penal Code, 1860, § 186, Act No. 45, 1860 (India).

The Board will be authorized with statutory powers to oversee, counsel, and control DNA profiling, DNA laboratories, and other related entities specified in the Bill.

ii. DNA Data Bank

Chapter V of the proposed Bill provides the legal framework for DNA data banks. It suggests creating a “National DNA Data Bank” at the federal level and “Regional Data Banks” at the state level to preserve DNA profiles, which will be managed by the respective governments. These banks will function as a storage facility for all DNA samples gathered. The Bill also proposes to remove the genetic data of undertrials in accordance with court orders or upon their written request.

iii. Use and Collection of DNA Data

The proposed Bill restricts the utilization of DNA data, maintained in DNA banks and laboratories, solely to identify individuals and limits its application only to the purposes specified in the Bill. Chapter VI outlines measures to safeguard and maintain confidentiality and security of DNA profiles. It outlines procedures for gathering genetic samples from individuals and identifies other sources for acquiring genetic samples. The Bill requires written consent before collecting genetic samples from arrested individuals, except for specific offenses.

LEGAL SAFEGUARDS TO PROTECT THE RIGHT TO PRIVACY

In the case of *Justice KS Puttaswamy v. Union of India*¹⁰⁸¹, the Supreme Court acknowledged that the Right to Privacy is an inherent right under Article 21 of the Constitution. By incorporating this right into the Constitution, individuals are protected from any attempts by the legislative majority to infringe upon their privacy. This means that the State is limited in its ability to interfere with an individual's privacy, as any laws or actions that violate this right must meet the constitutional standards established in the *Maneka Gandhi case*. Additionally, the Court emphasized that any law

that restricts a person's “personal liberty” must not only satisfy **Article 21** but also **Articles 14**¹⁰⁸² and **19**¹⁰⁸³ of the Constitution.

The court in this landmark judgement stated that “personal and biometric data” fall within the ambit of informational privacy protected under Article 21. The court while making this observation relied on the *S and Marper v. United Kingdom*¹⁰⁸⁴, in this case, the English courts held that biometric data like fingerprints, palm-prints, foot-print, iris and retina scans and other genetic data contain unique information related to the identity of an individual, such data has the potential of adversely affecting his or her life, therefore such information should not be recorded without the consent of the individual.

India is a signatory to international treaties and conventions like the **Universal Declaration of Human Rights (UDHR)**¹⁰⁸⁵ and the **International Covenant on Civil and Political Rights (ICCPR)**, these conventions warrant the Right to Privacy. **Article 17 of the ICCPR**¹⁰⁸⁶ secures the Right to Privacy of all the residents of member states. Therefore, to comply with India's international legal obligation the parliament should adhere to the ICCPR standards while drafting and implementing any policy.

ANALYSIS OF THE INDIAN GENETIC DATA PROTECTION REGULATIONS IN LIGHT OF RIGHT TO PRIVACY

The **Puttaswami** decision clearly established that prolonged storage and collection of personal data threatens the Right to Privacy under Article 21. Such acts or legislation will not be considered ultra vires or unconstitutional if the “Three-Prong Test” formulated under the Puttamwami judgement is satisfied. The test states the following:

¹⁰⁸² INDIA CONST. art. 14.

¹⁰⁸³ INDIA CONST. art. 19.

¹⁰⁸⁴ S and Marper v. United Kingdom, [2008] ECHR 1581.

¹⁰⁸⁵ Universal Declaration of Human Rights, G.A. Res. 217A (III), U.N. Doc. A/810 (1948).

¹⁰⁸⁶ International Covenant on Civil and Political Rights, G.A. Res. 2200A (XXI), 21 U.N. GAOR Supp. (No. 16) at 52, U.N. Doc. A/6316 (1966), 999 U.N.T.S. 171, art. 17.

¹⁰⁸¹ Justice KS Puttaswamy v. Union of India, (2017) 10 SCC 1.

- i. The legislation should be legal.
- ii. The legislation should have a legitimate state aim
- iii. The legislation should adhere to the principle of proportionality.

The DNA Technology (Use and Regulation) Bill and Criminal Procedure (Identification) Act, 2022 (herein referred to as “Legislations”) satisfies the test of legality and the test of legitimate State Aim, however, they fail to satisfy the test of proportionality. The introduction of both legislations follows the procedure established by law. Further, both pieces of legislation have a legitimate state aim of improving the criminal investigation system and regulating and restricting the use of DNA profiling to instances approved by law.

The two legislations fail to pass the test of proportionality. The courts in *Modern Dental College Research Centre v. State of Madhya Pradesh*¹⁰⁸⁷ observed that proportionality ensures a rational nexus between the objects and the means adopted to achieve them.

Section 3 and Section 5 of the Criminal Procedure (Identification) Act, 2022 (herein addressed as the “Act”) authorise investigative agencies and magistrates to order any individual to submit his/her biometric data /to expedite or aid a criminal investigation system. However, the provisions do not indicate any specific instances in which individuals not primarily connected to the scene of a crime can aid the investigation process. Such a loosely drafted provision provides excessive discretionary power to the authorities. Further, there is no rational nexus between the power to order “any individual” and the legitimate aim of aiding/expediting the criminal investigation.

PERIOD OF RETENTION OF DATA

Both the legislation clearly states that the genetic data and genetic samples collected during the investigation can be retained for an indefinite period for convicted individuals. Section 4(2) of the Act states that data

collected will be preserved for 75 years, this efficiently amounts to “indefinite” retention. In *Aycaguer v. France*¹⁰⁸⁸, the duration of 40 years was construed as “indefinite retention. In *Gaughran v. UK*¹⁰⁸⁹, the English courts examined a legal framework which permitted the indefinite retention of genetic data and other information of individuals sentenced for lesser crimes. The court dismissed the argument that retention of data related to petty offenders is necessary for the prevention of crimes in future.

Further, the act does not specify any timeline for the erasure of genetic data or samples collected from individuals acquitted, discharged or ordered under **Section 5**. Therefore, the indefinite retention of genetic data is not proportional to the legitimate aim of assisting future investigations.

AMBIGUOUS PROCEDURE FOR ELIMINATION OF DATA

Section 4(2) states that an individual who has been acquitted or discharged can apply for the removal of his/her data. However, the legislation does not mention any clear process to request the removal of data. Therefore, it is unclear how such a provision will be implemented.

CLASSIFICATION OF DATA

Both legislations fail to classify the genetic data collected which exposes several individuals to potential privacy threats. The Act fails to classify different types of data collected during the criminal investigation process. Also, the Data of criminals is also not classified based on guilt, degree of criminality, and the nature of the offence. Further, the DNA Technology (Use and Regulation) Bill, of 2019 also does not create any classification between the data collected during civil and criminal proceedings.

LACK OF PROCEDURAL SAFEGUARDS TO MINIMISE PRIVACY INFRINGEMENT

Both legislations fail to provide guidelines to limit the infringement of privacy. There are no

¹⁰⁸⁷ Modern Dental College Research Centre v. State of Madhya Pradesh, (2016) 7 SCC 353.

¹⁰⁸⁸ Aycaguer v. France, App. No. 8806/12, Eur. Ct. H.R. (2018).

¹⁰⁸⁹ Gaughran v. United Kingdom, App. No. 45245/15, Eur. Ct. H.R. (2021).

rules which regulate the future use and dissemination of the retained genetic data.

Through the provisions analysed above we can conclude that the two legislations do not pass the test of proportionality as there is no reasonable nexus between the provisions and the objective of the act. The two legislations failed to satisfy the three-pronged test enumerated under the Puttaswami Judgement since they fail to create a fair balance between public welfare and private interests. Therefore, the two legislations namely the Criminal Procedure (Identification) Act, 2022 and the DNA Technology (Use and Regulation) Bill, 2019 violate the right to privacy given under Article 21.

COMPARATIVE ANALYSIS

United States of America has several sector specific laws to protect genetic privacy and prohibits genetic discrimination. One of these laws is the **Genetic Information Non-Discrimination Act (GINA)**¹⁰⁹⁰ which prohibits employers and health insurance companies from discriminating against individuals based on their genetic information. GINA also prohibits employers from requesting or disclosing genetic testing results. Another federal law, the **Health Insurance Portability and Accountability Act (HIPAA)**¹⁰⁹¹, offers some protections for genetic information as a type of protected health information. HIPAA sets rules for safeguarding the confidentiality and security of medical records, which includes genetic information.

On the other hand, has unified laws which apply to all sectors. The **Data Protection Act 2018**¹⁰⁹² is a legal framework that outlines guidelines for handling personal data, including genetic data, in a manner that is lawful, fair, and transparent. It also ensures that individuals have the ability to access and control their personal data. In addition, the **General Data Protection**

Regulation (GDPR)¹⁰⁹³ is a component of European Union law that pertains to the processing of personal data, including genetic data. It grants individuals rights to manage their personal data, such as the right to object, the right to access, and the right to erasure.

PROBLEMS OF GENETIC PRIVACY IN INDIA

Genetic privacy is the protection of an individual's genetic information from unauthorized access, use, or disclosure. In India, there are several concerns regarding genetic privacy, despite the existence of legislation such as the Criminal Procedure (Identification) Act, 2022 and the DNA Technology (Use and Application) Regulation Bill, 2019. One major issue is the lack of awareness and understanding of genetic privacy among the public, healthcare providers, and policymakers¹⁰⁹⁴. Many people in India are unaware of the potential risks associated with sharing their genetic information. Another issue is the security of genetic databases and the potential for unauthorized access or misuse of the data¹⁰⁹⁵. There are also concerns about the potential misuse of genetic information by law enforcement agencies. While the DNA Technology (Use and Application) Regulation Bill, 2019, includes provisions for informed consent, data protection, and confidentiality, there are concerns about the implementation and enforcement of these provisions. Therefore, there is a need for greater awareness, education, and regulation around genetic privacy in India to protect individuals' rights and ensure the responsible use of genetic information.

¹⁰⁹⁰ Genetic Information Non-Discrimination Act of 2008, Pub. L. No. 110-233, 122 Stat. 881.

¹⁰⁹¹ Health Insurance Portability and Accountability Act of 1996, Pub. L. No. 104-191, 110 Stat. 1936.

¹⁰⁹² Data Protection Act 2018, c. 12 (U.K.).

¹⁰⁹³ Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC, 2016 O.J. (L 119) 1.

¹⁰⁹⁴ P.S. Jaswal & Stellina Jolly, *Genetic Privacy and Legislative Response - A Critical Analysis*, 1, NALSAR L. REV. 7, 8-10, (2020).

¹⁰⁹⁵ Ankit Srivastava et al., *Impact Of DNA Evidence In Criminal Justice System: Indian Legislative Perspectives*, 12 EGYPTIAN J. FORENSIC SCI. 1 (2022),

RECOMMENDATIONS

The legislature should include the following modifications to make the legal framework more effective:

1. Mention the specific tests or situations which have to be satisfied to allow the magistrate and investigation officials to exercise their power under Section 3 and Section 5 of the Act and obligate “any individual” to submit his genetic data.
2. The two legislations should include a clear application procedure for the elimination of genetic data of acquitted individuals.
3. The data retention period in both the legislations should be reduced for lesser offences.
4. The period of retention of genetic data of convicts should be decided on the basis of the gravity of the offence committed.
5. A specific period of genetic data retention should be decided after which data of acquitted individuals will be discarded without an application process.
6. The data collected during criminal investigation should be classified into different categories.

CONCLUSION

The use of DNA evidence in the Indian criminal justice system raises significant concerns about genetic privacy. While the technology can be a powerful tool in solving crimes, there is a need to ensure that the collection, retention, and analysis of DNA samples and profiles are conducted in a manner that protects individual rights. The legal framework for DNA collection and analysis must be amended to include provisions for the destruction of DNA samples and profiles after a case is closed and the protection against the misuse of DNA samples and profiles. The practical implementation of DNA collection and analysis must also be improved to ensure that individuals provide samples voluntarily and that samples and profiles are stored and managed safely and accurately. Overall, the protection of genetic

privacy is essential to ensure the fair and just administration of criminal justice in India.

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