

DNA Technology and Right to Privacy: An Indian Perspective

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Abstract

DNA profiling is a scientific method of recording the almost unique characteristics that are present in every individual's DNA. DNA – Deoxyribonucleic Acid – is the building block of our basic genetic information that is stored in all the cells in our bodies. DNA profile is like a fingerprint, and hence the technique is also called DNA fingerprinting. Current technologies are able to read the sequences from even a very small fragment of a person's DNA. Using a technique called PCR (Polymerase Chain Reaction) the information in a small fragment of a DNA molecule can be amplified over a million times, making detection of the unique sequences much easier. The technique is used in criminal investigations and identification purposes. If a crime suspect's DNA is found to match with DNA present at the scene of a crime, then this is seen as evidence that the suspect was present at the crime scene. But at the same time, DNA profiling has raised many issues of privacy than does ordinary fingerprinting. In addition, potential privacy threats arise from the fact that the original DNA samples are generally retained as well as the DNA profiles held on the databases. Privacy implications are also raised through the retention of DNA samples and profiles. This paper is an attempt to highlight the importance of DNA Technology and how it goes in hand in hand with Right to Privacy.

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Introduction

The Deoxyribonucleic Acid (DNA) is a set of instructions found in a cell. These instructions are used for the growth and development of an organism. The DNA of a person is unique, and variation in the sequence of DNA can be used to match individuals and identify them¹. DNA technology, therefore allows for accurate establishment of an individual's identity. DNA-based technology can be used to aid criminal investigations. For example, the identity of a criminal offender may be determined by matching DNA found at the crime scene with the DNA of a suspect²³. In addition, DNA-based technology helps in identification of victims in the event of terrorist attacks or natural disasters such as earthquakes. For example, DNA technology has been used to identify victims of terrorist attacks on the World Trade Centre in 2001, and disasters such as the Asian tsunami in 2004⁴. Further, DNA profiling can be used in civil matters, such as parentage related disputes. Currently, the use of DNA technology for identification of individuals is not regulated. In the past, several expert groups including the Law Commission, have looked at the use and regulation of DNA technology⁵. The Commission submitted its report as well as a draft Bill in July 2017.² In this context, the DNA Technology (Use and Application) Regulation Bill, 2018 was introduced in Lok Sabha on August 9, 2018. The Bill regulates the use of DNA technology for the purpose of identification of persons in criminal and civil matters.

Position in India

The right to privacy is an element of various legal traditions to restrain governmental and private actions that threaten the privacy of individuals. Over 150 national constitutions mention the right to privacy⁶. There is now a question as whether the right to privacy Act can co-exist with the current capabilities of intelligence agencies to access and analyse virtually every detail of an individual's

¹ "DNA Technology in Forensic Science", Committee on DNA Technology in Forensic Science, United States of America, 1992.

² "Report No. 271: Human DNA Profiling- A draft Bill for the Use and Regulation of DNA-Based Technology", Law Commission of India, July

³, <http://lawcommissionofindia.nic.in/reports/Report271.pdf>

⁴ "Nothing to Hide, nothing to fear?", Human Genetics Commissions, United Kingdom, November 2009.

⁵ Statement of Objects and Reasons, DNA Technology (Use and Application) Regulation Bill, 2018.

⁶ Since the global surveillance disclosures of 2013, initiated by ex-NSA employee Edward Snowden, the inalienable human right to privacy has been a subject of international debate. In combating worldwide terrorism, government agencies, such as the NSA, CIA, R&AW and GCHQ, have engaged in mass, global surveillance.

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life. A major question is that whether or not the right to privacy needs to be forfeited as part of the social contract to bolster defence against criminality.

The right to privacy which was recognised as a fundamental right emerging primarily from Article 21 of the constitution of India, in *Justice K.S. Puttuswamy (Retd.) vs. Union of India*⁷. To make this right meaningful, it is the duty of the state to put in place a data protection framework which, while protecting citizens from dangers to informational privacy originating from state and non-state actors, serves the common good. It is the understanding of the state's duty that the Committee must work with while creating a data protection framework. The relationship between the individual and entities with whom the individual shares her personal data is one that is based on a fundamental expectation of trust. Notwithstanding any contractual relationship, an individual expects that her personal data will be used fairly, in a manner that fulfils her interest and is reasonably foreseeable. This is the hallmark of a fiduciary relationship. The proposed data protection framework is true to the ratio of the judgement of the Supreme Court of India in Puttuswami's case. The Supreme Court held that the right to privacy is a fundamental right flowing from the right to life and personal liberty as well as other fundamental rights securing individual liberty in the constitution. Privacy itself was held to have negative aspect, (the right to be let alone), and a positive aspect, (the right to selfdevelopment). The sphere of privacy includes a right to protect one's identity. The right recognises the fact that all information about a person is fundamentally her own, and she is free to communicate or retain it to herself. The core of informational privacy, thus, is a right to autonomy and self-determination in respect of one's personal data.

The court observed the following-:

“Formulation of a regime for data protection is a complex exercise which needs to be undertaken by the State after a careful balancing of the requirements of privacy coupled with other values which the protection of data sub-serves together with the legitimate concerns of the State.”

Privacy too can be restricted in well-defined circumstances.

1. There is a legitimate state interest in restricting the right.
2. The restriction is necessary and proportionate to achieve the interest.
3. The restriction is by law.

The use of scientific genetic-based evidence (DNA profiling) in legal case investigation processes brings into collaboration the disciplines of science and law, which have their own institutional needs, standards and imperatives. The

⁷ 2017 (10) SCALE 1

widespread use of DNA data to detect offenders and protect the rights of the innocent is one of the most notable examples of such advancements and revolutionary impact of DNA technology, which makes the justice delivery system more efficient and accurate. However, the use of this new technology is not completely risk free. DNA fingerprinting has mostly remained dicey, surviving among two opposite poles of attaining the truth or respecting individual privacy.

DNA profiling may reveal very sensitive information about an individual and their family which may affect them adversely if not properly guarded against potential misuse — accidental or deliberate. The most common form of such misuse resulting in serious violation of privacy and human rights could be unauthorised disclosure of sensitive information with regard to a person's predisposition to disease and their ancestry, for instance, which can be obtained from their DNA samples. Therefore, it is important to adopt a balanced approach in the use of DNA information, so the risk of the violation of privacy and human rights remain at an acceptable level. The identification of offenders and the protection of innocent suspects are two of the main goals for ensuring justice. DNA samples and profiles are very useful for identification purposes, for example, in identifying victims of disasters, as well as suspects (including rapists and murderers). It is also useful for conducting parentage testing and for resolving immigration cases, where a familial relationship (or identity) is in question. In many instances, suspects who are actually innocent are relatively quickly acquitted or excluded from legal proceedings. This technology is, in effect, upholding the principles of 'presumption of innocence', which requires that 'guilt must be proved beyond reasonable doubt', upon which each and every criminal justice system is based. Therefore, every accused person irrespective of his or her status has a right to a fair trial. This legal right even applies to those who have been convicted of similar offences committed in the past. The right of a 'fair trial' is derived from the principles of natural justice⁸.

The Constitution casts a duty on every citizen of India to develop the scientific temper, humanism and the spirit of inquiry and reform and to strive towards excellence in all spheres of individual and collective activity⁹.

Under the Union List, Parliament is competent to undertake legislations which encourage various technological and scientific methods to detect crimes speedup

⁸ During the mid-1980s, the potential application of DNA typing or profiling was initiated by laboratories in the United Kingdom (UK), the United States (US), and Canada. The modern forensic DNA typing invented by Professor Alec Jeffrey was first used in the *Colin Pitchfork case in 1985 in UK*.

⁹ Article 51A(h) and (j) of Constitution of India

DNA Technology and Right to Privacy: An Indian Perspective investigation and determine standards in institutions for higher education and development in technical institutions¹⁰.

The other relevant provisions of the Constitution guarantee a right against the self-incrimination¹¹ and guarantees protection of life and liberty of every person¹².

The Indian Evidence Act, 1872¹³ deals with facts necessary to explain or introduce a fact in issue or relevant fact. It also provides as to how the Court has to form an opinion upon a point of foreign law or of science or art, or identity of handwriting or finger impressions etc¹⁴.

The Act also refers to grounds when opinion becomes relevant¹⁵. And provides that birth during the continuance of a valid marriage is a conclusive proof of legitimacy with only exception that the parents had no access to each other during the period of conception¹⁶. Also, the Court may presume the existence of any fact which it thinks likely to have happened, regard being had to the common course of natural events human conduct and public and private business, in their relation to the facts of the particular case¹⁷.

If the evidence of an expert is relevant under section 45, the ground on which such opinion is derived is also relevant under Section 51.

Section 46 deals with facts bearing upon opinions of experts. The opinion of an expert based on the DNA profiling is also relevant on the same analogy. However, whether a DNA test can be directed or not has always been a debatable issue.

The Criminal Procedure Code, 1973, provides that an accused of rape can be examined by a medical practitioner, which will include taking of bodily substances from the accused for DNA profiling. It is noteworthy that, the said Amendment substituted the Explanation to sections 53 and 54, and made it applicable to section 53A as well to clarify the scope of „examination“, especially with regard to the use of modern and scientific techniques including DNA profiling¹⁸. Section 53 authorises the police officials to get medical examination of an arrested person done during the course of an investigation by registered medical practitioner.

¹⁰ Entry 65 & 66

¹¹ Article 20(3)

¹² Article 21

¹³ Section 9

¹⁴ Section 45

¹⁵ Section 51

¹⁶ Section 112

¹⁷ Section 114

¹⁸ Section 53-A was added vide the Code of Criminal Procedure (Amendment) Act, 2005 w.e.f 23-6-2006

The Explanation provides that “Examination shall include the examination of blood, blood-stains, semen, swabs in case of sexual offences, sputum and sweat, hairsamples and finger nail clippings by the use of modern and scientific techniques including DNA profiling and such other tests which the registered medical practitioner thinks necessary in a particular case. A provision was also added to empower the Magistrate to order a person to give specimen signatures or handwriting¹⁹.

Judicial Response

A judgment rendered by an eleven-Judges Bench of the Supreme Court in *State of Bombay v. Kathi Kalu Oghad & Ors*²⁰, dealt with the issue of self-incrimination and held Self-incrimination must mean conveying information based upon the personal knowledge of the person giving the information and cannot include merely the mechanical process of producing documents in court which may throw a light on any of the points in controversy, but which do not contain any statement of the accused based on his personal knowledge. Example was cited of an accused who may be in possession of a document which is in his writing or which contains his signature or his thumb impression. It was observed that production of such document with a view to comparison of the writing or the signature or the impression of the accused is not the statement of an accused person, which can be said to be of the nature of a personal testimony.

In *Smt. Selvi & Ors. v. State of Karnataka*²¹, three-Judge Bench of the Supreme Court considered whether involuntary administration of certain scientific techniques like narco-analysis, polygraph examination and Brain Electrical Activation Profile (BEAP) tests and the results thereof are of a 'testimonial character' attracting the bar of Article 20(3) of the Constitution. The Court held; it was observed that the scope of 'testimonial compulsion' is made clear by two premises. The first is that ordinarily it is the oral or written statements which convey the personal knowledge of a person in respect of relevant facts that amount to 'personal testimony' thereby coming within the prohibition contemplated by Article 20(3) of the Constitution of India.

In *Ritesh Sinha v. State of U. P*²², the questions arose as to whether a Voice Spectrographic Test without the consent of a person offends Article 20(3) of the Constitution and in case the said provision is not violated, whether a magistrate, in absence of any statutory provision or inherent power under the provisions of the

¹⁹ Section 311-A of CRPC

²⁰ AIR 1961 SC 1808; 91962) 3 SCR 10

²¹ AIR 2010 SC 1974; (2010) 7 SCC 263

²² (2019) 8 SCC 1 para 27

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Criminal Procedure Code 1973 (Cr. P.C.) has competence to direct a person to be subjected to such a test without his consent. The Court held that taking such test would not violate the mandate of Article 20(3) of the Constitution as has been held by the Supreme Court in Selvi.

The Supreme Court in *Bhabani Prasad Jena v. Convenor Secretary, Orissa State Commission for women*²³ whilst pressing upon the significance of DNA testing in the process of administration of justice held when there is apparent conflict between the right to privacy of a person not to submit himself forcibly to medical examination and duty of the court to reach the truth, the court must exercise its discretion only after balancing the interests of the parties and on due consideration whether for a just decision in the matter DNA test is eminently needed.

DNA Technology (Use & Application) Regulation Bill, 2019

- The Bill regulates the use of DNA technology for establishing the identity of persons. These include criminal matters (such as offences under the Indian Penal Code, 1860), and civil matters such as parentage disputes, emigration or immigration, and transplantation of human organs.
- The Bill establishes a National DNA Data Bank and Regional DNA Data Banks. Every Data Bank will maintain the following indices: (i) crime scene index, (ii) suspects' or undertrials' index, (iii) offenders' index, (iv) missing persons' index, and (v) unknown deceased persons' index.
- The Bill establishes a DNA Regulatory Board. Every DNA laboratory that analyses a DNA sample to establish the identity of an individual, has to be accredited by the Board.
- Written consent by individuals is required to collect DNA samples from them. Consent is not required for offences with punishment of more than seven years of imprisonment or death.
- The Bill provides for the removal of DNA profiles of suspects on filing of a police report or court order, and of undertrials on the basis of a court order. Profiles in the crime scene and missing persons' index will be removed on a written request.

Conclusion and Suggestions

The Bill necessitates the consent of the individual for DNA profiling in criminal investigation and for identifying missing persons. However, the Bill is

²³ Air 2010

silent on the requirement for consent in all civil matters that have been brought under the scope of the Bill.

The omission of civil matters in the provisions of the Bill that are crucial for privacy is just one of the ways the Bill fails to ensure privacy safeguards. The civil matters listed in the Bill are highly sensitive (such as paternity/maternity, use of assisted reproductive technology, organ transplants, etc.) and can have a far-reaching impact on a number of sections of society. For example, the civil matters listed in the Bill affect women not just in the case of paternity disputes but in a number of matters concerning women including the Domestic Violence Act and the Prenatal Diagnostic Techniques Act. Other matters such as pedigree, immigration and emigration can disproportionately impact vulnerable groups and communities, raising concerns of discrimination and abuse.

Another issue with respect to collection with consent is the absence of safeguards to ensure that consent is given freely, especially when under police custody.

Apart from the collection, the Bill fails to ensure the privacy and security of the samples. One such example of this failure is Section 35(b), which allows access to the information contained in the DNA Data Banks for the purpose of training. The use of these highly sensitive data—that carry the risk of contamination—for training poses risks to the privacy of the people who have deposited their DNA both with and without consent. The Bill needs to be revised to reduce all ambiguity with respect to the civil cases, and also to ensure that it is in line with the data protection regime in India. Following Suggestions are made in this regard

- There are still studies and cases that show that DNA testing can be fallible. The Indian government needs to ensure that there is proper sensitisation and training on the collection, storage and use of DNA profiles as well as the recognition and awareness of the fact that the DNA tests are not infallible amongst key stakeholders, including law enforcement and the judiciary. And the need is to have better draft legislation where right to privacy is not violated unnecessarily.
- Processing (collection, recording, analysis, disclosure, etc) of personal data should be done only for “clear, specific and lawful” purposes. Only that data which is necessary for such processing is to be collected from anyone.
- The personal data may be processed by the government if it considered necessary for any function of Parliament or State Legislature. It includes provision of services, issuing of licenses, etc. On the face of it, it looks extremely vague and could lead to misuse.
- In criminal matters “data principles” (persons whose personal data is being processed) the ‘right to be forgotten’ is applied. This means they will be able to restrict or prevent any display of their personal data once the purpose of

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disclosing the data has ended, or when the data principal withdraws consent from disclosure of their personal data. And it should be extended in civil matters also.

- Explicit Consent is necessary in criminal matters and that “sensitive” personal data should not be processed unless someone gives explicit consent in civil matters also.

- Authority which is supposed to “protect the interest of data principals”, prevent misuse of personal data and ensure compliance with the safeguards and obligations under the data protection.

- The Authority shall have the power to inquire into any violations of the data protection regime, and can take action against any data fiduciaries responsible for the same.

- The amendment of Section 8(1)(j) of the RTI Act that pertains to the disclosure of personal information in the larger public interest. The old Section 8(1)(j) said there would be no obligation to reveal personal information which was not related to “public authority or interest”, or would be an invasion of privacy. The new 8(1)(j) looks at a balancing act between the public interest in accessing the information on one hand, and the harm that could be caused to the data principal on the other.

- Private Laboratories should be also given the authority for DNA testing for the purpose of cross checking the DNA test Reports.

- There should be the requirement for presenting an application in DNA laboratories for removing DNA profiles from it.

- It should also provide mechanism for redressal of grievances in cases where the DNA profile is not removed from the data banks by the Director of the National DNA Data Bank.

- And most important a comprehensive privacy legislation should be enacted prior to the passing of this Bill.