

# CRITICAL ANALYSIS OF DNA PROFILING IN INDIA: CONSTITUTIONAL CHALLENGES AND THE WAY AHEAD<sup>1</sup>

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## ABSTRACT

*Modern fast-progressing society has brought advancements in science and technology touching almost all aspects of our cultural and social lives. Law enforcement is not an exception to it with DNA Profiling being a giant leap in investigation procedure. Despite wide application in law enforcement in many countries of the world, India does not have a standalone law regulating the application of DNA as a method of identification yet. Further, admissibility and reliability of DNA evidence is a debated issue and a comprehensive study of legislative and judicial discourse is necessary to appreciate its value and bring reformation in the regulatory framework. This paper firstly discusses the meaning and concept of DNA profiling including its significance and application in criminal and civil investigations. Secondly, the present legal framework in India concerning DNA Profiling is discussed to analyze the shortcomings and insufficiency. Thirdly, the judicial approach towards evidentiary value of DNA Profiling is discussed. In the fourth part of the paper, the author has addressed the constitutional challenges to DNA profiling in India and provided suggestions and recommendations to make it more comprehensive and accountable. The paper concludes with the way forward in this legal reformative discourse around DNA profiling. The nature of research is doctrinal and both primary and secondary sources of data comprising of legislations, regulations, debates, research papers, journals, books, newspaper articles and judgments are relied upon by the author.*

**Keywords:** DNA, DNA profiling, right to privacy, right against self-incrimination, India

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## **I. Introduction**

Modern times have introduced us to a fast-progressing society that has brought with it advancements in science and technology which has touched almost all aspects of our cultural and social lives. Law enforcement is not an exception to it where we often find a profound shift from traditional subjectivism to more contemporary objectivism. One such technological leap is the DNA profiling, including fingerprinting. DNA stands for *deoxyribonucleic acid*<sup>3</sup>. DNA is acting as a very useful tool, not just in criminal and civil investigations, but also in identification of criminals, missing persons, victims of disaster and ascertaining parentage<sup>4</sup>. DNA is a unique identifier, as outside of identical twins, every individual has a unique DNA pattern which is the science behind forensic investigation. DNA profiling or fingerprinting is a forensic technique that is employed in criminal investigations, to compare the suspects. Since the discovery of its relevance in forensic science, DNA profiling has been widely applied in law enforcement by many developed countries of the world, like USA, UK, Canada, China, Scotland, among others.

On the other hand, India does not have a proper specific legal and procedural framework of using DNA fingerprinting in its investigation infrastructure. Efforts have been made since 2007 for formulating a regulating mechanism, but we have not succeeded yet because the proposed legislation faces a lot of challenges from the stakeholders. An understanding of its journey is quite pertinent in order to assess the efficiency and constitutionality of the provisions.

## **II. Discussion and analysis**

### **1. Meaning and Concept of DNA Profiling**

Human beings have 23 pairs of chromosomes in each nucleus of every cell of their body<sup>5</sup>. These chromosomes, in turn, carry linearly arranged genetic units that are materially referred to as "*Deoxyribonucleic Acid*" or "DNA". DNA, being the basic genetic material of human body cells, carries the genetic code. Its structure determines the human character, behaviour and body characteristics<sup>6</sup>. The DNA thus extracted is further processed in the laboratory to generate a pattern, known as DNA

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<sup>3</sup> Dr. B.R. Sharma, *Forensic Science in the Criminal Investigation and Trials* (5<sup>th</sup> Ed. Universal Publishing Company, 2014) 1298.

<sup>4</sup> Law Commission of India – 271<sup>st</sup> Report, Human DNA Profiling – A draft Bill for the Use and Regulation of DNA-Based Technology. Retrieved from <http://lawcommissionofindia.nic.in/reports/Report271.pdf>.

<sup>5</sup> What is a chromosome?, National Human Genome Research Institute. Retrieved from <https://www.genome.gov/about-genomics/fact-sheets/Chromosomes-Fact-Sheet>.

<sup>6</sup> Dr. B.R. Sharma, *Forensic science in the criminal investigation and trials*, 1298 (5<sup>th</sup> Ed. Universal Publishing Company, 2014).

profile, of that individual. Except for the identical twins, this DNA profile is unique for every individual on the planet<sup>7</sup>. This result is each individual's unique signature fingerprint or DNA profile<sup>8</sup>. Further, application of this technology involves creation of a database wherein the profiles of offenders, convicts or suspects is stored, to be referred in the future for identification in crimes. DNA profiling does not analyze every single difference between individuals but only those that are required for identification<sup>9</sup>.

Not just criminal, but civil issues such as ascertaining parentage have found this technique very helpful. There are significant features of DNA profiling that make it reliable, scientific and unbiased, like: i) quantities of the DNA required for analysis are extremely small, in nanograms and picograms; ii) identification is possible from a variety of clue material like blood, semen, hair roots, hair shafts, body tissues, bones etc.; iii) DNA does not get deteriorated even if stored for very long periods of time; iv) The structure of DNA is unique to every individual which means that it varies from individual to individual; v) Storage of DNA profiles in a database helps in connecting more than one crime if committed by the same person and particularly provide a clue in unsolved crimes<sup>10</sup> and so on.

## **2. Present legal framework in India concerning DNA profiling**

Unlike most of the developed countries of the world, India does not have a specific legislation regulating the use and application of DNA testing in the justice delivery system yet. But the use of DNA as evidence nonetheless finds relevance in a few procedural and substantive statutes. These are:

- Under Part IV-A of the Constitution of India, duty has been cast upon citizens to develop spirit of scientific temperament, humanism and of inquiry and reform, under clause (h) of Article 51A and a duty *"to strive towards excellence in all spheres of individual and collective activity"*, under clause (j). Further, Parliament is empowered to legislate for encouraging various technological and scientific methods for detection of crimes and speeding up investigation process, under Entry 65 of the List I of Schedule VII.
- The 1973 Code of Criminal Procedure has provisions relating to medical examination by a registered medical practitioner (Section 53, 54)<sup>11</sup>. The Code was amended and an explanation was added to Section 53 including DNA Profiling as

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<sup>7</sup> *Harjinder Kaur v. State of Punjab and Others* 2013 (2) R.C.R. (Criminal) 146.

<sup>8</sup> Saad, Rana, Discovery, Development, and Current Applications of DNA Identity Testing, Proceedings, 18(2) Baylor University Medical Center 130-3 (2005). Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1200713>.

<sup>9</sup> Dr. Abhishek Yadav, DNA profiling: forensic evidence in civil and criminal trials (2018). Retrieved from [http://www.nja.nic.in/Concluded\\_Programmes/2017-18/SE-13\\_PPTs/4.DNA%20Profiling.pdf](http://www.nja.nic.in/Concluded_Programmes/2017-18/SE-13_PPTs/4.DNA%20Profiling.pdf).

<sup>10</sup> *Idem*.

<sup>11</sup> Code of Criminal Procedure, 1973, § 54.

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a modern and scientific technique for examination of blood, blood-stains, and other biological samples. Further, Sections 53A and 164A provide that medical practitioner has to prepare his report giving details of material collected from the body of the accused or the victim for DNA profiling<sup>12</sup>.

- Under Indian Evidence Act, 1872, Section 45 deals with expert opinion of persons who are especially skilled in either a foreign law, or science or identification of handwriting or finger impressions or any art and when there is an opinion to be formed by the Court on these points, the opinions of such experts are relevant facts<sup>13</sup>. In relation to Section 112, Reliability on DNA test has been placed in ascertaining the parentage in many civil cases like in the high-profile case of *Shri Rohit Shekhar v. Shri Narayan Dutt Tiwari*<sup>14</sup>.

What can be observed is that apart from the pending *The DNA Technology (Use and Application) Regulation Bill, 2019*, the current laws though acknowledging the application and utility of DNA as biological evidence, do not provide for detailed framework and guidelines for the same. We would also need clear guidelines on the criteria of entry, retention and removal of DNA profiles from the database.

### ***3. Judicial approach towards evidentiary value of DNA profiling***

DNA fingerprinting has been admitted by the judiciary in a large number of cases accepting it as a reliable and conclusive source of identification of individuals in civil as criminal cases. In these cases, the Courts have noted and highlighted the important role played by scientific evidence and its value in cases based on circumstantial evidence. Some of these case laws are discussed below:

- *Santhosh Kumar Singh v. State through CBI*<sup>15</sup>

Famously known as *Priyadarshini Mattoo* case, it was an instance when much of the deliberation and discussions about DNA profiling were carried on by the lower and upper judiciary. Upholding the conviction, it was emphasized by the Apex Court that court cannot substitute its own opinion for that of an expert, more particularly in respect to a science such as DNA profiling which is a recent development<sup>16</sup>. Further, the court held that there was no dispute regarding the reliability of the scientists carrying out the DNA test, who were persons of eminence<sup>17</sup>.

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<sup>12</sup> Code of Criminal Procedure, 1973, § 53A.

Code of Criminal Procedure, 1973, § 164A.

<sup>13</sup> Indian Evidence Act, 1872, § 45.

<sup>14</sup> *Shri Rohit Shekhar v. Shri Narayan Dutt Tiwari* (2012) 12 SCC 554.

<sup>15</sup> *Santhosh Kumar Singh v. State through CBI* (2010) 9 SCC 747.

<sup>16</sup> *Idem*, 65.

<sup>17</sup> *Idem*, 24.

- *Kamalananda and Others v. State of Tamil Nadu*<sup>18</sup>

This case relates to the rape of 13 orphan girls of ashram of Swami Premananda and murder of a disciple, Ravi who tried to expose the misdeeds. The DNA test concluded beyond any reasonable doubt that Swami Parmanand was responsible for the conception of aborted foetus. After the conviction in the Trial Court, an appeal was filed before the High Court which upheld the convictions.

- *Rohit Shekhar v. Narayan Dutt Tiwari*<sup>19</sup>

In this high-profile case, the application of DNA in paternity suit was aptly discussed by the judges of the Delhi High Court. The petitioner produced appropriate DNA evidence to establish the *prima facie* case that excluded the possibility of his legal father being his biological father. In addition, he also produced photographic and testimonial evidence that clearly suggested the Court that the respondent, N.D. Tiwari could be the biological father of Rohit Shekhar. The Delhi High Court ordered the respondent to undertake a DNA test for matching with that of the petitioner. This ruling of the High Court was upheld in an appeal to the Supreme Court.

- *Nandlal Wasudeo Badwaik v. Lata Nandlal Wasudeo Badwaik & Anr.*<sup>20</sup>

In this maintenance suit, the Supreme Court overruled the presumption rule under Section 112 of the 1872 Indian Evidence Act justifying the admissibility of DNA test report. The Apex Court held that the man was not the father of the girl child and he cannot be forced to maintain the child if the scientific tests prove to the contrary. With respect to the rule of presumption under Section 112, the Court argued that when there is availability of best scientific methods, the Court should not bank upon presumptions. If science has answers, it must be resorted to<sup>21</sup>.

#### **4. Constitutional Challenges To DNA Profiling In India**

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<sup>18</sup> *Kamalananda and Others v. State of Tamil Nadu* 2005 (5) SCC 194.

<sup>19</sup> *Rohit Shekhar v. Narayan Dutt Tiwari* (2012) 12 SCC 554.

<sup>20</sup> *Nandlal Wasudeo Badwaik v. Lata Nandlal Wasudeo Badwaik & Anr.* (2014) 2 SCC 576.

<sup>21</sup> *Idem*, 17.

<sup>22</sup> *Idem*, 17.

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- Experts have raised concerns that the 2019 version of the DNA Bill does not fully guarantee appropriate safeguards to uphold privacy and dignity of an individual even post the *Puttaswamy* judgment<sup>23</sup>. As the DNA does not contain just the data required for identification of an individual, but also all the genetic information about the individual, including his descent, physical characteristics and even the genetic diseases that he may be carrying. There are not enough provisions in the 2019 DNA Bill to ensure adequate measures for privacy and security of the samples collected. The Schedule of the DNA Bill includes certain civil matters under its purview, meaning the objective and scope of DNA legislation is aimed to cover civil matters too. But we cannot find provisions about the procedure that is to be followed for these civil matters<sup>24</sup>. Thus, the taking of bodily sample for DNA profiling can be questioned if the procedure for collection and its use is not standardized and regulated or if the data is misused or mishandled.
- The second challenge that the anticipated legislation on DNA Profiling faces is the rule against self-incrimination. In every case where taking of DNA samples is demanded by the prosecution for the purpose of investigation, it is challenged on the ground that such a demand is not in compliance with Article 20(3) of the Constitution of India<sup>25</sup>. However, the judiciary in India has aimed to increase the scope of this right but in a way that does not hamper the rights of the victim<sup>26</sup>.

### **III. Conclusion and suggestions**

In light of the promising enhancement in the justice delivery system, the DNA profiling technology has to be incorporated in a regulated and structured manner after balancing the constitutional rights of individuals and interests of the society at large. There is a need of a comprehensive standalone law to regulate and augment the use and application of DNA profiling in civil and criminal cases in India. There is necessary to assess the law enforcement mechanism in India (Police and other enforcement agencies) if they are well equipped to handle this evidence. The cost-benefit effectiveness in India needs to be assessed to prepare a financial plan and

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<sup>23</sup> The DNA Bill has a Sequence of Problems That Need to Be Resolved, Newslandry (2019). Retrieved from <https://www.newslandry.com/2019/01/14/the-dna-bill-has-a-sequence-of-problems-that-need-to-be-resolved>.

<sup>24</sup> *Idem*.

<sup>25</sup> Constitution of India Article 20(3) – “No person accused of an offence shall be compelled to be a witness against himself”.

<sup>26</sup> M.S. Kalon, S. Sharma, *Role of Forensic Science in Administration of Justice in the Indian Legal System*, XVI National Capital Law Journal 65 (2017).

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allocation of funds. The Bill envisages broad delegation of powers and expansion of provisions through regulations. These broad powers should have corresponding mechanisms of checks and balances and these should in fact be covered in the text of the main legislation itself. A regulatory board should be set up and the composition of the Board must include an expert for privacy related issues.

Science and law are two distinct disciplines which often come together to ensure a fair process and reach the truth. Keeping in view the sensitive nature of biological material, relating to human genomics, the relevant policies should be reasoned with inter-disciplinary and multi-disciplinary considerations balancing the approach of law and the human right concern.