

Regulation & Use of DNA Profiling in India

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Abstract *DNA profiling technology has brought about a paradigm shift in crime scene analysis. It has enabled criminal justice to exculpate the innocent and penalize the guilty successfully. However, to ensure the systematic use of DNA profiling technology, building an ecosystem regulating the use and application of DNA profiling is indispensable. It is therefore imperative to regulate human DNA profiling and limit its scope only for lawful purposes. The DNA Technology (Use and Application) Regulation Bill 2019 aims to regulate the use of DNA profiling technology in India. This article analyses the Bill and suggests proposals to reform the proposed legislation.*

1. Introduction

DNA-based fingerprinting technology has transformed the Indian criminal investigation framework and added new frontiers to forensic investigations benefiting both the police and judicial administration. Since the 1980s after the first successful use of DNA fingerprinting,¹ it has proved an invaluable tool to identify the guilty and absolve the innocent. The successful use of DNA technology has provided impetus to set up DNA databases in India,² and incorporate relevant regulations. While it is imperative to institute a legal apparatus superintending DNA profiling, it is equally crucial to protect DNA data from being misused (by the State or others) to protect individuals' right to privacy and personal liberty. Thus, the use of DNA profiling and the retention of DNA profiles must safeguard the privacy and liberty of the subject without jeopardising the privilege against self-incrimination.

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¹ Lady Justice Anne Rafferty DBE and Professor Niamh Nic Daeid FRSE, *Forensic DNA Analysis: A Primer for Courts* (1 edn, Royal Society of Edinburgh 2017) 7-19; Executive Office of the President's Council of Advisors on Science and Technology, 'Report to The President Forensic Science in Criminal Courts: Ensuring Scientific Validity of Feature-Comparison Methods' (President's Council of Advisors on Science and Technology 2016).

² Jacob Koshy, 'Andhra Pradesh Working on System to DNA-Tag Convicts' (*The Hindu*, 3 February 2017) <<https://www.thehindu.com/news/national/Andhra-Pradesh-working-on-system-to-DNA-tag-convicts/article17149088.ece>> accessed 24 January 2021; 'Maharashtra to Create DNA Databases of Offenders' (*The Times of India*, 16 September 2017) <<https://timesofindia.indiatimes.com/city/mumbai/maharashtra-to-create-dna-database-of-offenders/articleshow/60705938.cms>> accessed 24 January 2021; Maitri Porecha, 'AIIMS to DNA Profile Unidentified Bodies, Create a Database Accessible to Public' (*Business Line*, 19 July 2019) <<https://www.thehindubusinessline.com/news/aiims-to-dna-profile-unidentified-bodies-create-a-database-accessible-to-public/article28594242.ece>> accessed 24 January 2021.

2. DNA Fingerprinting

DNA fingerprinting³ is a forensic methodology to identify persons by analysing the unique patterns within their DNA.⁴ 99.9% of human DNA is the same⁵ while only 0.1% of DNA is distinctive to every individual, rendering it unique (with the exceptions of identical twins.⁶ These differences are caused by mutations occurring during evolution.⁷ By studying human genetic-blueprint, DNA fingerprinting analyses human variability at the most fundamental level and has multifaceted advantages in criminal-investigations.⁸ For instance, by comparing the DNA of suspects with DNA evidence collected from the crime-scene, police can exonerate persons wrongly accused or convicted for an offence.⁹ Further, the technology helps to identify dead

³ DNA Fingerprinting is referred to as DNA profiling, DNA typing or DNA testing, genetic fingerprinting, genotyping, or identity testing. Kara Rogers, 'DNA fingerprinting' (Britannica 2019) <<https://www.britannica.com/science/DNA-fingerprinting>> accessed 20 December 2020; E Giardina, 'DNA Fingerprinting' in Stanley Maloy, Kelly Hughes (eds), *Brenner's Encyclopedia of Genetics* (2nd, Academic Press, 2013) 356.

⁴ 'What Is a DNA Fingerprint?' (*yourgenome* June 2, 2016) <<https://www.yourgenome.org/facts/what-is-a-dna-fingerprint>> accessed June 13, 2020; Stephen M Patton, 'DNA Fingerprinting: The Castro Case' [1990] 3(1) *Harvard Journal of Law & Technology* 224.

⁵ See Roger Highfield, 'DNA Survey Finds All Humans Are 99.9pc the Same' *The Telegraph* (December 20, 2002) <www.telegraph.co.uk/news/worldnews/northamerica/usa/1416706/DNA-survey-finds-all-humans-are-99.9pc-the-same.html> accessed 24 January 2021. See also *Harjinder Kaur v. State of Punjab*, 2013(2) RCR (Criminal) 146 (P and H); Paul Brodwin, 'Genetics, Identity, and the Anthropology of Essentialism' [2002] 75(2) *Anthropological Quarterly* 323.

⁶ Dr. V Nageswara Rao, *The Indian Evidence Act, A Critical Commentary Covering Emerging Issues and International Development* (2nd edn, LexisNexis 2015) 462; Mary May, 'Next Generation Forensics: Changing the Role DNA Plays in the Justice System' (*Science in the News* November 9, 2018) <<http://sitn.hms.harvard.edu/flash/2018/next-generation-forensics-changing-role-dna-plays-justice-system/>> accessed 24 January 2021.

⁷ 'What Is DNA? - Genetics Home Reference – NIH' (*U.S. National Library of Medicine* May 26, 2020) <<https://ghr.nlm.nih.gov/primer/basics/dna>> accessed 24 January 2021.

⁸ Victor Walter Weedn and John W Hicks, 'The Unrealized Potential of DNA Testing' [1997] (234) *National Institute of Justice Journal* 16. See also Edna Selan Epstein, 'Is the DNA Fingerprint an Infallible Piece of Evidence?' [2004] 31(1) *Litigation* 25-28.

⁹ Read *Pantangi Balarama Venkata Ganesh v. State of Andhra Pradesh* (2009) 14 SCC 607[46]. Laurel Beeler and William R. Wiebe, 'DNA Identification Tests and the Courts' [1988] 63(4) *Washington Law Review* 903-955; 'DNA as an Exoneration Tool' (*Findlaw* February 20, 2019) <<https://criminal.findlaw.com/criminal-procedure/dna-as-an-exoneration-tool.html>> accessed 17 January, 2021; NIJ, *Understanding DNA Evidence: A Guide for Victim Service Providers* (Department of Justice, 2001) 4.

bodies,¹⁰ disaster victim identification (DVI),¹¹ and in solving biological parentage disputes,¹² agricultural-modernisation,¹³ analysing genetic-disorders;¹⁴ studying genetic-mutations,¹⁵ solving immigration issues¹⁶ and so on.¹⁷ This methodology has exemplified the persuasive influence of modern scientific evidence over criminal investigations. Its fidelity has thus catalysed the bid to store DNA data within the State and regulate human DNA fingerprinting.

3. DNA profiling and the law: Constitutional and Legal Provisions

The Indian Constitution is the fundamental legal document in India. It guarantees people's Fundamental Rights under Part III to secure their human rights and fundamental freedoms.¹⁸ Article 20(3) of the Constitution safeguards every individual from being a witness against himself.¹⁹ It epitomises the rule of protection against the compulsion of self-incrimination at the footing of the constitutional embargo. Further, Article 21 prohibits unauthorised intrusion or

¹⁰ ICRC, *Missing People, DNA Analysis and Identification of Human Remains: A Guide to Best Practice in Armed Conflicts and Other Situations of Armed Violence* (2nd edn, ICRC 2009) 15-25; Special Correspondent 'Indians Killed in Mosul: DNA Matching Done to Confirm Identity of Dead' (*The Hindu* March 20, 2018) <<https://www.thehindu.com/news/national/indians-killed-in-mosul-dna-matching-done-to-confirm-identity-of-dead/article23305451.ece>> accessed 24 January 2021.

¹¹ Disaster Victim Identification; Read Government of India, National Disaster Management Guidelines - Management of the Dead in the Aftermath of Disasters (National Disaster Management Authority 2010) 22, 75; Indian Law Commission, *Human DNA Profiling – A Draft Bill for The Use and Regulation Of DNA-Based Technology* (Report No.271, 2017) para 1.4.

¹² Lalji Singh, 'DNA Profiling and Its Applications' [1991] 60(9,10) *Current Science* 584; K. Albrecht and D. Schultheiss, 'Proof of paternity: Historical Reflections on an Andrological– Forensic Challenge' [2004] 36(1) *Andrologia* 35. E Donald Shapiro and others, 'The DNA Paternity Test: Legislating the Future Paternity Action' [1992-93] 7(1) *Journal of Law and Health*.

¹³ For further study see - "What Is Agricultural Biotechnology?" (*The State of Food and Agriculture 2003-2004*) <<http://www.fao.org/3/y5160e/y5160e07.htm>> accessed 24 January 2021; Jinggui Fang and others, "Applications of DNA Technologies in Agriculture" [2016] 17(4) *Current Genomics* 379.

¹⁴ Keith Miller, "17 Advantages and Disadvantages of DNA Fingerprinting" (*FutureofWorking.com* August 12, 2019) <<https://futureofworking.com/6-advantages-and-disadvantages-of-dna-fingerprinting/>> accessed December 20, 2020.

¹⁵ Michael H Crawford and Kristine G Beaty, 'DNA Fingerprinting in Anthropological Genetics: Past, Present, Future' [2013] 4(23) *Investigative Genetics*.

¹⁶ Robin M White and Jeremy J D Greenwood, 'DNA Fingerprinting and the Law' [1988] 51(2) *The Modern Law Review*; David H. Kaye, 'The Science of DNA Identification: From the Laboratory to the Courtroom (and Beyond)' [2007] 8(2) *Minnesota Journal of Law, Science & Technology* 410; AJ Jeffreys and others, 'Positive identification of an immigration test-case using human DNA fingerprints' [1985] 317(6040) *Nature* 818-819.

¹⁷ Ronald J Trent, 'Forensic Science and Medicine' *Molecular Medicine: Genomics to Personalized Healthcare* (4th, Academic Press, China 2012) 288-91; Human Genome Program, 'Genomics and Its Impact on Science and Society' (2008) U.S. Department of Energy, Office of Science 7; Johanna K. Samuelsson and others, 'DNA Fingerprinting Techniques for the Analysis of Genetic and Epigenetic Alterations in Colorectal Cancer' [2010] 693(1-2) *Mutation Research* 61-76; Rana Saad, 'Discovery, Development, and Current Applications of DNA Identity Testing' [2005] 18(2) *Baylor University Medical Center Proceedings* 130-33.

¹⁸ Constitution of India, Part III (Article 12-35).

¹⁹ VN Shukla and M.P Singh, *VN Shukla's Constitution of India* (13th edn, Eastern Book Company 2018) 203.

interference with the life and personal liberty of each person.²⁰ In light of these provisions, the application of DNA profiling technology must pass the test and meet the standards provided under Article 20(3) and 21 of the Constitution besides the golden triangle rule recognised under the Maneka Gandhi case.²¹

Code of Criminal Procedure (CrPC) under section 53 and 53-A establishes the legal framework for DNA profiling of subjects in criminal investigations.²² Section 53(1) provides for DNA profiling of the accused at the request of the Police. Section 53A also provides for DNA profiling of those accused of rape.²³ The said section virtually re-enacts the legislative arrangement under S.53(1) explicitly for rape accused. DNA profiling of accused under CrPC does not contravene the Constitutional prohibition under Article 20(3) since it does not constitute compulsive self-incrimination.²⁴ The Indian Evidence Act 1872, under sections 45-51, provides for the admissibility of expert opinion as a relevant fact in courts. An expert is a person who possesses some special knowledge or skills, based on his studies, training, or experience.²⁵ The expert opinion rule enacts exceptional legislative sub-structure to evidentiary jurisprudence. Personal opinions or beliefs of the experts are irrelevant. The rationale behind the exception is based on the doctrine of necessity, involving questions surpassing the scope of common knowledge or necessitating special knowledge, study or experience.²⁶ Thus, where the subjected inquiry requires the application of science (like DNA testing) in such fashion that a person having no previous knowledge or experience is unable to form the correct opinion, Courts will consider expert opinions to form righteous judgement over the subjected inquiry.

However, though, the Criminal Procedure Code and Evidence Act grants statutory recognition and admissibility in courts to DNA profiling in India the two statutes fail to provide an adequate regulatory framework.

²⁰ The Constitution of India, Article 21, “No person shall be deprived of his life or personal liberty except according to procedure established by law”.

²¹ (1987) 1 SCC 248: AIR 1987 SC 597.

²² Code of Criminal Procedure 1973, s.53(2)(a).

²³ Code of Criminal Procedure 1973, s.53A(1) & (2).

²⁴ *Anil A. Lokhande v. State of Maharashtra*, 1981 Cri LJ 125, 130 (Bom); *Anath Kumar Naik v. State of A.P.*, 1977(AP); *Jamshed v. State of U.P.*, 1976 Cri LJ 1680(All.). See also RV Kelkar and KN Chandrasekharan Pillai, *RV Kelkar's Lectures on Criminal Procedure* (6th edn., Eastern Book Company 2017) 36.

²⁵ *State of Himachal Pradesh v. Jai Lal and Ors.* (1999) 7 SCC 280 [13].

²⁶ Chief Justice M Monir and Dr. Shakil Ahmad Khan, *Textbook on The Law of Evidence* (10th edn, Universal Law Publishing 2016) 233.

3.1 DNA Evidence: Admissibility

DNA Profiling is revered as an authoritative technique equipped to distinguish and identify people.²⁷ DNA evidence has attained an appropriate legal position in the operation of justice.²⁸ It is not simply a methodology for deduction, but an approach for clear discernment.²⁹ Its resultant analysis provides high thresholds of proof required by courts to free a factually innocent person.³⁰

The Indian Supreme Court judged DNA profiling as an extremely reliable technique to compare suspect DNA with specimens collected at the crime-scene.³¹ The Court in *Sharda v. Dharmpal*³² ruled that a matrimonial court has the power to order a person to undergo a medical test, which does not violate Article 21 of the Constitution. The court can draw adverse inferences against the respondent when he or she refuses to submit himself to medical examination under the direction of the court.³³ Further, in the case of *Surendra Koli v. State of Uttar Pradesh*,³⁴ while confirming the death sentence of the appellant, the Court showed reliance on DNA evidence. The Court in *Mukesh v. State (NCT of Delhi)*³⁵ ruled that:

²⁷ A. Raghunadha Reddy, 'From Jurisprudence to Jurimetrics: A Critical Evaluation of the Emerging Tools in the Judicial Process' [2009] 51 JILI 99; Michael Lynch, 'God's signature: DNA profiling, the new gold standard in forensic science' [2003] 27(2) Endeavour; Raghuvir Desai v. State 2007 Cri LJ 829; Turbak G, "Justice Through Genes" [1991] *The Rotarian* 23; V. Sithannan, *Police Investigation - Powers, Tactics and Techniques* (Jeywin Publishers 2014)151; David P. Clark and Nanette Jean Pazdernik, "Forensic Molecular Biology," *Biotechnology: Academic Cell Update* (2nd edn. Academic Cell Press 2016).

²⁸ David H. Kaye, 'DNA Evidence: Probability, Population Genetics, and the Courts' [1993] 7 *Harvard Journal of Law & Technology*; R. Granja, H. Machado, DNA Technologies in Criminal Investigation and Courts. in Helena Machado and Rafaela Granja (eds), *Forensic Genetics in the Governance of Crime* (Palgrave Pivot 2020).

²⁹ See *People v. Wesley* 73 N.Y. 2d 351 (1989) [308]; *Williams v. Illinois* 132 S. Ct. 2221: 183 L.Ed. 2d. 89 (2012) [3-4]. See also C Thomas Blair, 'Spencer v Commonwealth and Recent Developments in the Admissibility of DNA Fingerprint Evidence' [1990] 76(4) *Virginia Law Journal* 853; Dr. V Nageswara Rao, *The Indian Evidence Act-A Critical Commentary Covering Emerging Issues and International Development* (2nd edn, LexisNexis 2015) 463; Coleman Howard and Swenson Eric, *DNA in Court Room: A Trial Watcher's Guide* (1st edn, Gene Lex Press 1994) 5.

³⁰ Mukesh Kumar Malviya, 'DNA Fingerprinting as an Evidence and Role of Indian Supreme Court' [2017] 1(2) *IJCF* 40; Sheila Jasanoff, 'Just Evidence: The Limits of Science in the Legal Process' [2006] 34(2) *The Journal of Law, Medicine & Ethics* 332; National Research Council, *The Evaluation of Forensic DNA Evidence* (1st edn, National Academic Press 1996) 2; Ricardo Fontg, 'DNA Fingerprinting: A Guide to Admissibility and Use' [1992] 57(2) *Missouri Law Review* 507. See also Victor Walter Weedn and John W Hicks, 'The Unrealized Potential of DNA Testing' [1997] (234) *National Institute of Justice Journal*.

³¹ *Mukesh v. State (NCT of Delhi)* (2017) 2 SCC (Cri) 673 [85].

³² AIR 2003 SC 3450. See also *Rohit Shekhar v. Narayan Dutt Tiwari* MANU/DE/3701/2010:2011 (121) DRJ 563; *Shankar @ Palanisamy v. State by Inspector of Police* MANU/TN/1736/2009; *Veeran v. Veeravarmalle & Anr.* AIR 2009 Mad. 64.

³³ *ibid.* para 86.

³⁴ (2011) 4 SCC 80.

³⁵ (2017) 6 SCC 1: (2017) 2 SCC (Cri) 673.

“DNA evidence is being increasingly relied upon by courts. After the amendment in the Criminal Procedure Code by the insertion of Section 53A by Act 25 of 2005, DNA profiling has now become a part of the statutory scheme.³⁶ (...) DNA evidence is now a predominant forensic technique for identifying criminals (...).³⁷”

3.2 DNA Profiling Regulation: Law Commission Recommendations

The Indian Law Commission in its 271st report in 2017 recommended introducing specific legislation to regulate DNA Profiling in India.³⁸ It was titled, ‘Human DNA Profiling – A draft Bill for the Use and Regulation of DNA-Based Technology’.³⁹ The report recommended to institute a special DNA regulation to regulate human DNA profiling (including standards and quality controls) and restrict it only for purposes provided by law. It noted that a possible misuse of human DNA profiling is detrimental to society. Thus, it concluded that merely amending the Criminal Code would not be adequate and that special legislation to prevent such abuse was necessary.⁴⁰ Therefore, the report recommended the DNA Profiling Bill to ensure that modern DNA Profiling technology is regulated and restricted to the purposes enumerated in law.⁴¹

3.3 DNA Technology (Use and Regulation) Bill, 2019

The DNA Technology (Use and Regulation) Bill, 2019 (henceforth referred to as “the Bill”) was tabled before the Union Parliament following the Law Commission report.⁴² The Bill aims to regulate, control and limit DNA profiling for identification of individuals only to matters provided in law. It proposes to employ DNA fingerprinting for DVI, recognising unknown dead bodies and offenders of specific offences listed in the Bill.⁴³

3.3.1 DNA Regulatory Board

³⁶ *ibid.* para 213.

³⁷ Justice Bhanumati Judgment, *ibid.* para 87.

³⁸ Law Commission of India, *Human DNA Profiling – A Draft Bill for The Use and Regulation Of DNA-Based Technology* (Report No.271, 2017).

³⁹ *ibid.*

⁴⁰ *Law Commission Report* (n 39) Ch.1 para 1.9.

⁴¹ *ibid.*

⁴² Press release, ‘The DNA Technology (Use and Application) Regulation Bill – 2019 Introduced in Lok Sabha’ (*Press Information Bureau*, 8 July 2019) <<https://pib.gov.in/Pressreleaseshare.aspx?PRID=1577738>> accessed 27 January 2021.

⁴³ Department of Biotechnology, ‘DNA Profiling Bill’ (*Dbtindia.gov.in*, 2020) <<http://dbtindia.gov.in/regulations-guidelines/regulations/dna-profiling-bill>> accessed 21 February 2021.

The Bill proposes to constitute a DNA regulatory board, as a body corporate.⁴⁴ It grants the Board regulatory, advisory, and supervisory statutory powers to regulate DNA Profiling, DNA laboratories and other entities under the Bill.⁴⁵

3.3.2 DNA Data Bank

Chapter V of the Bill outlays the statutory framework for DNA data banks.⁴⁶ It prescribes to establish a national DNA data bank at the centre and regional data banks at the state level to store DNA profiles, which will be maintained by the governments of the respective jurisdictions.⁴⁷ These banks act as a repository for all collected DNA samples.⁴⁸ Regional data banks are mandated to share the information stored by them with National data bank.⁴⁹ The Bill also proposes to maintain indexes for different categories of data in DNA data banks.⁵⁰ Besides, it prescribes to remove the DNA profiles of undertrials pursuant to a court direction,⁵¹ those of accused upon the filing of a police report or court order and those of others upon their written request.⁵²

3.3.3 Use and Collection of DNA Data

The Bill limits the use of DNA data (stored in DNA banks and laboratories) for establishing the identity of the person and restricts its applicability only for matters listed in the Bill.⁵³ Chapter VI enumerates provisions to protect and maintain secrecy and security of DNA profiles. It provisions to collect bodily substances from the person and lists other sources for collection of DNA samples.⁵⁴ It stipulates written consent before collection of bodily substances from the arrested person, except for specified offences.⁵⁵

⁴⁴ DNA Technology (Use and Regulation) Bill, s 3

<https://rajyasabha.nic.in/rsnew/Committee_site/Committee_File/BillFile/Bill/14/126/DNAbill.pdf> accessed 26 January, 2021.

⁴⁵ *ibid.* s 12.

⁴⁶ Investigating agencies preserve DNA samples as DNA Profiles at designated places, called DNA Data banks. It acts as the library of DNA samples, extracted from people, or gathered from crime-sites. DNA Data banks are used for criminal-identification where crime-scene DNA evidence is traceable, but the suspect remains untraceable. The extracted DNA sample from crime-site is analyzed, with DNA Profiles stored in such banks.

⁴⁷ *DNA Bill* (n 44) s25(1).

⁴⁸ *ibid* s 25(2) and (3).

⁴⁹ *ibid.*

⁵⁰ *ibid.* s 26(1).

⁵¹ *ibid.* s 31(2).

⁵² *ibid.* s 31(2) and (3).

⁵³ *ibid.* s 2(viii), s33,34 and Schedule.

⁵⁴ *ibid.*s 2(1)(ii) and s23(1).

⁵⁵ *ibid.* s 21(1).

3.3.4 DNA Laboratories

The Bill provides for mandatory accreditation of DNA testing Laboratories.⁵⁶ It proposes to authorize the DNA Regulatory Board to grant and revoke accreditations of DNA labs.⁵⁷ It further institutes duty over DNA laboratories to meet specified standards of quality control, infrastructure for DNA testing, security, and maintenance of DNA data records.

4. DNA Technology (Use & Application) Bill: Analysis and Recommendations

India is a constitutional democracy where legislature exercises, its legislative powers within the demarcated constitutional framework. The constitution recognises certain fundamental and inalienable principles as fundamental rights, which act as a restraint over legislative powers of the legislature. These principles are inviolable and beyond the pale of legislative majorities.⁵⁸ Thus, it is a constitutional necessity that legislation must not violate the wide gamut of fundamental rights.

The DNA Technology Bill a proposed legislative instrument; to regulate the use of DNA Profiling Technology for limited purposes over restricted matters, aims to streamline DNA fingerprinting technology in India. It objectifies to facilitate the empowerment and advancement of effective administration of justice through optimum use of DNA profiling. However, the Bill lacks few fundamentally critical safeguards necessary to protect human rights and fundamental freedoms guaranteed under the Indian Constitution as fundamental rights.

4.1 DNA Profiling and Threat to Privacy

One of the most critical issues touching the Bill is the transgression into the privacy of people it can cause. Since, what is at stake, is the genetic privacy of people living in a constitutional democracy. DNA profiling or fingerprinting cannot be regarded as a mere modernised and advanced methodology of conventional fingerprinting.⁵⁹ Fingerprints and palmprints usage in forensics are limited to identification only.⁶⁰ While DNA profiling permits identification; it also

⁵⁶ *ibid.* s 15.

⁵⁷ *ibid.* s 14, 15.

⁵⁸ *Justice KS Puttaswamy (retired) v. Union of India* AIR 2017 SC 4161[153].

⁵⁹ Tania Simoncelli and Barry Steinhardt, 'California's Proposition 69: A Dangerous Precedent for Criminal DNA Databases' [2005] 33(2) *The Journal of Law, Medicine & Ethics* 288.

⁶⁰ Linda Bartusiak, 'Plea Bargaining For DNA: Implications on The Right to Privacy' [2011] 13(4) *Journal of Constitutional Law* 1121-1122.

provides sensitive information about a person's race;⁶¹ family history;⁶² predisposition to various diseases and allergies;⁶³ appearance; behavioural traits;⁶⁴ and legitimacy of birth.⁶⁵ Scientists claim that DNA may also be able to shed light on a person's aggression,⁶⁶ substance addiction; criminal tendency,⁶⁷ and sexual orientation.⁶⁸ In that sense, access to such intrusive genetic information may be abused by someone to attack people, including their families.⁶⁹ Furthermore, DNA analysis can lead to caste or religion-based profiling since specific caste or religious groups could be wrongly associated with criminal activities or subjected to other prejudices. Moreover, future technological advances in DNA profiling might enable scientists to mine greater and more specific information about a person.⁷⁰ To summarise, DNA testing technology has critical ramifications over the privacy of Indian citizens, since exploitation of the technology can yield an explosion of sensitive information about the person's genetic makeup which should remain discreet.⁷¹

⁶¹ UN High Commissioner for Refugees, *UNHCR Note on DNA Testing to Establish Family Relationships in the Refugee Context* (UNHCR 2008); Jonathan Kahn, 'Race, Genes, and Justice: A Call to Reform the Presentation of Forensic DNA Evidence in Criminal Trials' [2008] 74(2) *Brooklyn Law Review* 325-375.

⁶² Erica Haimes, 'Social and Ethical Issues in the Use of Familial Searching in Forensic Investigations: Insights from Family and Kinship Studies' [2006] 34(2) *The Journal of Law Medicine & Ethics*; Erin Murphy, 'Relative Doubt: Familial Searches of DNA Databases' [2010] 109(3) *Michigan Law Review* 321;

⁶³ Denise R Ferrier, *Biotechnology and Human Disease*. in Richard A Harvey (ed), *Lippincott's Illustrated Reviews: Biochemistry* (Lippincott Williams & Wilkins 2014).

⁶⁴ Pamela Sankar, 'The Proliferation and Risks of Government DNA Databases' [1997] 87(3) *American Journal of Public Health* 336; Paul S Appelbaum and Nicholas Scurich, 'Impact of Behavioral Genetic Evidence on the Adjudication of Criminal Behavior' [2014] 42(1) *The Journal of the American Academy of Psychiatry and the Law*.

⁶⁵ Tania Simoncelli, 'Dangerous Excursions: The Case Against Expanding Forensic DNA Databases to Innocent Persons' [2006] 34(2) *The Journal of Law Medicine & Ethics* 391-392; Patricia A Roche and George J Annas, 'Protecting Genetic Privacy' [2001] 2(5) *Nature Reviews Genetics*; Aziza Ahmed, 'Ethical Concerns of DNA Databases used for Crime Control' (*Bill of Health, Harvard Law School*, 14 January 2019) <<https://blog.petrieflom.law.harvard.edu/2019/01/14/ethical-concerns-of-dna-databases-used-for-crime-control/>> accessed 27 February 2021. See also RM Andrews and others, 'Reanalysis and revision of the Cambridge reference sequence for human mitochondrial DNA' [1999] 23(2) *Nature Genetics* 147.

⁶⁶ Mairi Levitt and Elisa Pieri, 'It Could Just Be an Additional Test Couldn't It?' Genetic testing for susceptibility to aggression and violence' [2009] 28(2) *New Genetics and Society*; Virginia Morell, 'Evidence Found for a Possible 'Aggression Gene'' [1993] 260(5115) *Science*.

⁶⁷ Christopher Lean Allan Mccay, 'Cousin took a DNA test? Courts Could Use It to Argue You are More Likely to Commit Crimes' (*The Conversation*, 21st January) <<https://theconversation.com/cousin-took-a-dna-test-courts-could-use-it-to-argue-you-are-more-likely-to-commit-crimes-129976#:~:text=Genealogy>> accessed 28 January 2021.

⁶⁸ Plea Bargaining (n 61); Andelka M Phillips, 'Take an Online DNA Test and You Could Be Revealing Far More Than You Realise' (*University of Oxford*, 16 January 2016) <<https://www.ox.ac.uk/research/take-online-dna-test-and-you-could-be-revealing-far-more-you-realise>> accessed 28 January 2021. See also Maya Sabatello and Paul S Appelbaum, 'Behavioral Genetics in Criminal and Civil Courts' [2017] 25(6) *Harvard Review of Psychiatry*.

⁶⁹ Read Samuel Hodge, 'Current Controversies in the Use of DNA in Forensic Investigations' [2018] 48(1) *University of Baltimore Law Review* 49.

⁷⁰ Nuffield Council on Bioethics, *The Forensic Use of Bioinformation: Ethical Issues* (Cambridge Publishers Ltd 2007).

⁷¹ Standing Committee on Law and Justice, *Review of the Crimes (Forensic Procedures) Act 2000, Report No.18* (Legislative Council of New South Wales, Parliamentary Paper No 1118, 2002) pg64; US National Research

Therefore, the intersection between the DNA Technology Bill and individual privacy warrants careful examination.

4.1.1 *Right to Privacy*

The Supreme Court recognised the Right to Privacy as an inherent right under Article 21 of the Constitution⁷² in *Justice KS Puttaswamy (retired) v Union of India*⁷³ The infusion of the constitutional element to the Right to Privacy grants individual privacy with immunity from legislative majorities. Any intrusion to individual privacy would, thus infringe protection under Article 21 of the Constitution. Therefore, the State has a restricted sphere to abridge into the privacy of an individual, as sanctions legislative or otherwise sanctioning individual privacy infringement will be as per constitutional standards established under the *Maneka Gandhi*⁷⁴ case. The Court ruled that law depriving a person of his 'personal liberty' has not only to stand the test of Article 21 but, also Articles 14 and 19 of the Constitution.⁷⁵

To that sense, Therefore to ingress into the genetic privacy of an individual (i.e., to use DNA for fingerprinting or store DNA profiles) all tests put forth under Article 14, 19 and 21 of the constitution need to be satisfied. It is necessary to ensure that

- There is a procedure established by law for DNA profiling.
- The procedure established by law is just, fair, and reasonable.
- The legislative provisions imposed by the enactment must be proportionate to the objectives of the Act. Thus, there must be an intelligible differentia over the class created with a reasonable nexus for the purpose to achieve.

However, the proposed legislative formulation censoriously erodes the above proposition of Constitutional Jurisprudence, imperative to deprive anyone of his personal liberty amounting to

Council, DNA Technology in Forensic Science (The National Academies Press 1992) 18; Khaleda Parven, 'Forensic Use of DNA Information v. Human Rights and Privacy Challenges' [2013] 17(41) University of Western Sydney Law Review 50.

⁷² Fundamental Right to Life and Personal Liberty.

⁷³ [2017] 10. SCC 1 (SC): AIR 2017 SC 4161.

⁷⁴ *Maneka Gandhi v. Union of India* AIR 1978 SC 597.

⁷⁵ *ibid*; ML Upadhyaya, 'Role of the Supreme Court with regard to the Right to the Life and Personal Liberty' [1992] 34(4) JILI 606; Sujit Ghosh, 'Overview and Architecture of the Indian Constitutional Arrangement' (*National Judicial Academy*, 17 March 2018) <http://www.nja.nic.in/Concluded_Programmes/2017-18/SE-13_PPTs/1.Architecture%20of%20constitution.pdf> accessed 26 January 2021.

severe violation of the Right to Privacy. Such violations within the proposed statutory format, are discussed as below:

4.1.1.1 Retention of DNA Profiles in Civil Disputes

The Bill proposes to collect and retain DNA profiles of people for different offences including civil disputes and civil matters.⁷⁶ However, the state cannot collect and store DNA samples from such a large category of people under the DNA data banks after the recognition of the Right to Privacy as a fundamental right. Undoubtedly, retention of the DNA of an individual curtails his Right to Privacy. Thus, to implement the proposed legislative scheme and pass the test of Article 14, the Bill must create a reasonable classification of those, whose DNA is to be stored, through intelligible differentiation, with a rational nexus over the object it seeks to achieve.⁷⁷

Besides, the principal objective for retaining DNA profiles of offenders in DNA data banks is to accelerate crime detection and improve the administration of justice in India. Therefore, the scope of DNA retention (in cases of offenders) must be restricted to only those cases with high probability of re-offending. However, the Bill proposes to store DNA of a large category of people (civil offenders; parties in a paternity dispute; civil disputes etc). It would be unreasonable to envisage that a party in these cases would commit a criminal offence. Not even an iota of this probability arises in such instances. Stating that a party to a civil dispute or others may commit a criminal act in the future and thus that their DNA profile must be stored, would be against the fundamental policy of Indian law,⁷⁸ and defy the reasonable character of the Bill. It would seriously infringe the Right to Privacy of such people. To qualify the test of Article 14 a law must adopt proportionate means to accomplish a legitimate aim in the public interest. However, in the given instance, the Bill fails to create an intelligible differentia of such people whose privacy may be intruded upon, with reasonable nexus of achieving the objectives enumerated within the Bill.

⁷⁶ *ibid*, Schedule.

⁷⁷ *E.P. Royappa v. State of Tamil Nadu* (1974) 4 SCC 3; *R.D. Shetty v. International Airport Authority* (1979) 3 SCC 489; *Bachan Singh v. State of Punjab* (1982) 3 SCC 24.

⁷⁸ *Vijay Karia and Ors. v. Prysman Cavi E. Sistemi SRL and Ors* 2020 SCC Online SC 177, para 83; See *Cruz City 1 Mauritius Holdings v. Unitech Limited* (2017) 239 DLT 649, the court defined the expression Fundamental Policy of Indian Law as:

“The expression fundamental Policy of Indian law refers to the principles and the legislative policy on which Indian Statutes and laws are founded. The expression "fundamental policy" connotes the basic and substratal rationale, values and principles which form the bedrock of laws in our country.”

International instruments, to which India is a party like the UDHR,⁷⁹ ICCPR,⁸⁰ guarantee the Right to Privacy. Article 17 of the ICCPR guarantees the Right to Privacy of the citizens of member states. Therefore, to comply with the commitments of India ratified by the Union Parliament,⁸¹ the Bill should affirm the standards provided under the ICCPR for intrusion into genetic privacy. The proposed DNA legislation for DNA storage should limit the gathering and storage of information to 'authorised interferences' mandated under the covenant. The interference into the privacy of the person must be proportional to the interest of society. It must be reasonable and not violative of the ICCPR.⁸² The proposal of storing DNA of people involved in civil disputes and other such cases defies the scope of reasonable restrictions and authorised interferences over the Right to Privacy of people. Retention of profiles must have reasonable-nexus with intelligible differentia to intrude into the fundamental right to privacy. Thus, considering the gravity & nature of the crime and criminal while instituting the legislative policy over retention of DNA Profiles is imperative. DNA Profiles must be retained, only for those offences, where there is a high probability of the offence being committed again by the same person.

4.1.1.2 Unified DNA Databases for Civil and Criminal Offence

The Bill does not propose any separate index to preserve DNA profiles for civil offenders, consequently, profiles of civil offenders shall be retained abreast of those of the criminal offenders. Though, as already discussed, that retention of DNA profiles in civil cases is plainly unconstitutional, considering the Right to Privacy and golden triangle rule. However, irrespective of the above proposition, unified retention of DNA profiles censoriously outrages the personal autonomy of the civil offender. The Supreme Court ruled in *Selvi v. State of Karnataka*⁸³ that interferences with an individual's personal autonomy violates the right to privacy.⁸⁴ The unified

⁷⁹ Universal Declaration of Human Rights 1948, art 12.

⁸⁰ International Covenant on Civil and Political Rights 1966, art 17.

⁸¹ Read National Human Rights Commission, India, *A Handbook on International Human Rights Conventions* (1st edn, National Human Rights Commission 2012); Law Commission of India, *Wrongful Prosecution (Miscarriage of Justice): Legal Remedies* (Report No.277, 2018) Pg. 19, 81. See also Christopher Harland, 'The Status of the International Covenant on Civil and Political Rights (ICCPR) in the Domestic Law of State Parties: An Initial Global Survey Through UN Human Rights Committee Documents' [2000] 20(1) Human Rights Quarterly.

⁸² Human Rights Committee, 'General Comment No 16: Article 17 (Right to Privacy), The Right to Respect of Privacy, Family, Home and Correspondence, and Protection of Honour and Reputation' [1988] 1(9) Human Rights Instruments. Human Rights Committee Seventieth session, 'UN Human Rights Committee: Concluding Observations: Denmark' (CCPR/CO/70/DNK, HRC 2000).

⁸³ (2010) 7 SCC 263: AIR 2010 SC 1974.

⁸⁴ *ibid*, para 192.

database would obscure the fine difference between guilt and innocence. It would provide for cross-referencing of DNA profiles for civil and criminal cases even without the consent, knowledge and information of the person, which indisputably amounts to self-incrimination. DNA analysis of an individual is not less than the person's submission, since it provides most intrusive information about the person. Thus, extracting genetic information or cross-referencing the DNA profile of a person (whose genetic information was taken for a civil matter but their profile is later cross-matched for a criminal case) without their acquiescence, erodes the constitutional protection against self-incrimination under Article 20(3) of the Indian Constitution. Therefore, it is a constitutional necessity and obligation for the state to ensure that separate civil and criminal databases will be maintained.

4.1.1.3 Information Stored in DNA Profiles of Different Indices

The Bill fails to impose a restriction on the exact information to be extracted to create the DNA profile of different indices in DNA data banks.⁸⁵ For instance, the unidentified deceased person index will just require physical reconstruction of person, unlike the crime scene index, wherein two different DNA samples may have to be matched. By failing to limit the information a DNA profile may contain in different indices, many people can be susceptible to profiling, based on their skin colour, disabilities, medical conditions and so on. These profiles may be misused for surveillance as well as private purposes. Thus, it will additionally violate the fundamental right to privacy of such people. This concern is apparent in the schedule of the Bill, where the government wants to create DNA profiles for issues relating to pedigree, emigration and immigration.⁸⁶

Furthermore, the Bill must not include a crime scene index, suspect index and undertrial index. Rather, indices to be maintained must include offenders index consisting of DNA profiles of criminal offenders (subject to the nature and gravity of the crime and criminal). There appears to be no necessity of these indices in light of the existing jurisprudence on the Right to Privacy. The threat with a crime scene index remains that it will virtually encompass every DNA profile including DNA left at the crime site before or after the crime, of people having nothing to do with the crime. Further bodily material belonging to individuals absent from the crime site might be

⁸⁵ DNA Technology (Use and Regulation) Bill, s 26(1).

⁸⁶ Dr. Shashi Tharoor, Dr. Shashi Tharoor on the DNA Technology (Use and Application) Regulation Bill, 2018 <https://youtu.be/ifO2nly_2QY> accessed 9 August 2021.

moved to the crime location coincidentally in different forms. Many such profiles will be thus preserved in databanks, even without the knowledge of the individuals.

While, suspect, undertrial and crime scene DNA profiles can be used in investigation and trial, they should not be stored in databanks and must be destroyed pursuant to the conclusion of the case with the acquittal. In case of the conviction, only the DNA profile of the convict should be preserved in the databank. There appears to be the risk of indexing DNA profiles of non-convicts (in form of suspects, undertrials and crime scene) in databanks. Retention of such profiles with the state has the potential to cause irreparable damage to the privacy of Indian citizens. Thus, the Bill must provide for an offender index, (instead of the other three indices) where the DNA profiles of only the offenders would be retained.

4.1.1.4 Preserving DNA Profiles

DNA Profiling use under the Bill is not limited to crime-identification, as it includes identifying DVIs, unknown dead bodies and so on. However, the issue involves storing DNA profiles of people, amounting to infringement of their Right to Privacy. Though DNA profiling is advantageous in establishing people's identity, the advantage of DNA data banks in cases other than criminal and missing person identification is not efficacious. Thus, retaining DNA profiles in DNA banks of a large category of people (civil offender, parties in a paternity dispute, non-convicts, suspects, undertrials, voluntary submissions) can make sensitive genetic information of innocents vulnerable to surveillance. Further, the possible threat of state invasion into genetic privacy of people and the damage to democratic fabrics of the country through fear of genetic-surveillance outweighs the merits of the Bill. Therefore, retention of DNA profiles in DNA data banks must remain restricted to limited cases of criminal offences (retention of profile pursuant to conviction) and in cases of missing of a person. However, in other instances, DNA profiling could be used for identification only, as a matter of legislative policy, but their retention would be violative of right to privacy and not in the public interest.

4.1.1.5 Absence of Data Protection Bill

The DNA Technology Bill is nearly identical to the Bill drafted by the law commission in its 271st report. However, the report came before the Supreme court judgment in the *Puttaswamy*

case.⁸⁷ Hence, the Bill was not drafted through the lens of ‘right to privacy’. Thus, it becomes necessary to bring the proposed legislation in alignment with the standards laid down in the *Puttaswamy* judgment. In this context, it is appropriate to reiterate the notion of common legal jurisprudence that laws supplement fundamental rights through statutory frameworks. Statutory regulations act as an extended arm of the constitutional safeguards accorded to people. Under this circumstance, to bring the privacy judgment into operation it is necessary to enact a robust Data Protection Law. It would establish a foundational statutory framework to protect individual privacy, mandating other laws to align with that framework.

Further, the right to forget is also a recognised facet of the right to privacy (the Karnataka High court recognised the limited application of this right).⁸⁸ However, the Bill fails to guarantee this facet of the privacy right. Whereas, the Data Protection Bill (a proposed Bill) proposes to grant ‘right to be forgotten’.⁸⁹ Thus, laws that have any bearing over the right to privacy must be enacted only after a robust Data Protection Law has been enacted. The latter would provide a mechanism for enforcement of privacy rights, grievance redressal and independent oversight (through data protection authority proposed under the Bill). Sanctioning the state to store DNA profiles of people in the absence of any overarching statutory protection on individual privacy and data security would have critical ramifications over the privacy and personal liberty of the people of India. Therefore, the Bill must be enacted only after a robust Data Protection Law.

4.1.1.6 Elucidate Responsibility

The Bill must incorporate express legal provisions, reflecting the obligations of the DNA laboratories necessary to preserve the secrecy and security of DNA profiles. It must prohibit DNA laboratories from storing a copy of DNA profiles. Further, the Bill prohibits to initiate legal proceedings against the Union government or member of Board and Banks for actions done in good faith.⁹⁰ However, the Bill does not define the meaning and scope of good faith, even though it seems critical to define contours of good faith to ensure the provision is not misused.

⁸⁷ *Law Commission Report* (n 39) Ch.7, Para 4 stated, “Whether in Indian context privacy is an integral part of Article 21 of the Constitution is a matter of academic debate. The issue is pending consideration before the larger bench of the Supreme Court”.

⁸⁸ *Sri Vasunathan v. The Registrar General* [2017] SCC OnLine 424 (Kar).

⁸⁹ The Personnel Data Protection Bill 2018, s 27. available at <https://www.meity.gov.in/writereaddata/files/Personal_Data_Protection_Bill,2018.pdf>.

⁹⁰ DNA Technology (Use and Regulation) Bill 2019, s 53.

4.1.1.7 DNA Data Storage in Cases of Premature Release of the Convict

The Supreme Court in *Life Convict Laxman Naskar v. State of Bengal*⁹¹ listed the following questions and guidelines with respect to the premature release of convicts:⁹²

- Whether the offence is an individual act of crime without affecting society at large.
- Whether there is any fruitful purpose of confining this convict anymore.
- Whether there is any chance of reoffending.
- Whether the convict has lost his potentiality in committing a crime.
- The socio-economic condition of the convict's family.

These guidelines were later incorporated into rules to prescribe the premature release of convicts. The Supreme Court judgment-based Delhi Prisons Rules, provides for early release of prisoners upon consideration of their becoming harmless to society.⁹³ Rule 1251(a) provides for the release of the life term convict when convict loses the potential to commit a crime.⁹⁴ Furthermore, the Supreme Court directives, resulting in the genesis of these rules, provide as essential 'whether there is any chance of future reoccurrence of committing a crime'. Thus, when the state certifies a prisoner to be harmless to society, it accredits that they have lost the potential to commit a crime by virtue of authorising the premature release. Then, why should the genetic data of such persons be stored in DNA data banks? Does the loss of potential to commit a crime and transformation of the criminal to being harmless to society not obliterate the criminal potential of the person? The reformatory theory of punishment aims to reform the criminal and metamorphose the criminal into a law-abiding citizen.⁹⁵ The foundational roots of Indian criminal jurisprudence embody that pursuant to the release of a convict (including premature release) he must be treated as an innocent person like every other individual in society. The DNA profile of

⁹¹ Writ Petition (Crl.) no. 000110-000110 / 2000.

⁹² *ibid*, page 5.

⁹³ Delhi Prison Rules 2018, Rule 1244.

⁹⁴ *ibid*, Rule 1251 (a).

⁹⁵ *Dhanraj Saini v. State of Rajasthan* 2012 (4) WLN 144; Santosh Kumar Satishbhusan Bariyar v. *Maharashtra* [(2009) 6 SCC 498]. James Seth, 'The Theory of Punishment' [1892] 2(2) International Journal of Ethics; Arnold S. Kaufman, 'The Reform Theory of Punishment' [1960] 71(1) Ethics. Michael Tonry, Punishment. in Michael Tonry (ed), The Oxford Handbook of Crime and Criminal Justice (Oxford University Press 2011); RA Duff, Punishment. in Hugh LaFollette (ed), The Oxford Handbook of Practical Ethics (Oxford University Press 2003); Emmanuel Melissaris, Theories of Crime and Punishment. in Markus D. Dubber and Tatjana Hornle (eds), The Oxford Handbook of Criminal Law (Oxford University Press 2014).

such people must be removed automatically from DNA data banks, since their potential to commit crimes has already been invigorated as provided in the law. The European Human Rights Court of Appeal ruled in *S and Marper v. United Kingdom*,⁹⁶ that storage of DNA profile of a person against whom the criminal proceedings have ended violates Article 8 of the European Convention on Human Rights.⁹⁷ In the context of the DNA Bill, retaining the DNA profile of criminals granted premature release under the law would correspond to gross violation of their fundamental right to life and personal liberty.

Further, even from a practical point of view, only those DNA profiles should be stored, which will benefit the agencies in future investigations. Retaining DNA profiles in cases where there is satisfactory reasoning or evidence before the police administration that the offender shall not be committing any offence, will be a futile exercise and will be of no use for the system. Such measures would only burden the public exchequer. Thus, the state must retain DNA profiles, only after considering the nature of the crime and of the criminal and the other factors considered relevant by the legislation.

4.2 Protection to Person's Consent for Extraction of DNA Sample

The Bill does not define consent and fails to guarantee free and informed consent for the collection of bodily samples for DNA extraction. It stipulates a scheme where individual consent to provide bodily substances to extract the DNA is documented in absence of the magistrate. The person's consent under such a framework can be obtained through force or other coercive forms and may harm individual liberty. Thus, it is necessary to safeguard the voluntary and well-informed nature of the provision of consent.

The Supreme Court established, in *Selvi v. State of Tamil Nadu*,⁹⁸ the requirement of safeguards that secure the free and informed consent of the person and the administering of forensic techniques.⁹⁹ The Bill, therefore, must define the term 'consent' to establish appropriate standards for the provision of effective free and informed consent. It must incorporate provisions

⁹⁶ [2008] ECHR 1581, The court held:

“The Court refers to its conclusion above that the retention of the applicants' fingerprints, cellular samples and DNA profiles was in violation of Article 8 of the Convention.”

See also *Justice K.S. Puttaswamy v. Union of India* AIR 2017 SC 4161[143]; See also Schatz GS, “The European Court of Human Rights: *S. & Marper v. U.K.*” [2009] 48(2) International Legal Materials 308.

⁹⁷ European Convention on Human Rights, Article 8 *Right to respect for private and family life*.

⁹⁸ (2010) 7 SCC 263: AIR 2010 SC 1974.

⁹⁹ *ibid*, 156 and 227. (?)

to ensure that a person's consent for sample collection is recorded before the magistrate. Moreover, it must provide for a notice to be sent to the subject before its DNA sample collection and give time to the subject to seek for judicial protection against the notice. The Bill must impose responsibility on the magistrate to inform the person about the possible usage of his DNA profile while recording his consent for bodily sample extraction.

Further, the Bill grants wide discretionary power to the magistrate to override the individual's refusal to consent under the Act.¹⁰⁰ It must enlist guiding factors based on which the magistrate would exercise its power to override the refusal. The legislature must provide for all possible steps to ensure no room for uninformed or ambiguous consent under the Bill. The current scheme of obtaining assent for sample collection fails to protect the fundamentals of protection necessary to ensure free, fair, voluntary, and informed consent. It fails to provide minimum essential rights to guarantee free, fair, voluntary, and informed consent. Such a procedure could be easily misused to intrude over the rights and privacy interests of individuals.

4.2.1 Constitutionality of the Procedure for Recording Consent under the Act

The Supreme Court in *Francis Coralie Mullin v. The Administrator, Union Territory of Delhi*,¹⁰¹ ruled that the right to life and personal liberty also includes the right to human dignity:

“We think that the right to life includes the right to live with human dignity (...) Every act which offends against or impairs human dignity would constitute deprivation pro tanto of this right to live (...). Now obviously, any form of torture or cruel, inhuman or degrading treatment would be offensive to human dignity and (...) be prohibited by Article 21 unless it is in accordance with procedure prescribed by law, but no law which authorises and no procedure which leads to such torture or cruel, inhuman or degrading treatment can ever stand the test of reasonableness and non-arbitrariness: it would plainly be unconstitutional and void as being violative of Articles 14 and 21.”¹⁰²

After studying the above directive of the Supreme Court in the *Selvi* case, it becomes obligatory for the Bill to establish adequate safeguards ensuring voluntary, free, fair, and informed

¹⁰⁰ DNA Technology (Use and Regulation) Bill 2019, s 21(3) and 22(2).

¹⁰¹ 1981 AIR 746, 1981 SCR (2) 516.

¹⁰² *ibid*; *Bandhua Mukti Morcha v. Union of India* AIR 1984 SCC 802 pg.36 para 103; *Vikram Deo Singh Tomar v. State of Bihar*, 1987 AIR 1782, 1988 SCR Supl. (1) 755 pg.3.

consent of the person to use his DNA fingerprint. Absence of adequate legislative safeguards violates the reasonable, fair, and just character of the procedure required by law. Consequently, failing the test Articles 14, 19 and 21 of the Indian Constitution amounts to gross erosion of the right to human dignity and the constitutional-proscription against self-incrimination. In a constitutionally democratic fraternity-like India, the procedure established by law cannot sanction collection and retention (including profiling) of the DNA of people (their genetic identity) without safeguarding individual-consent effectively. A procedure established by law, establishing such an open-ended statutory framework, where the fear of obtaining anyone's consent for DNA extraction through coercive means clearly reflects on statutory provisions, evidently fails the test of reasonableness and non-arbitrariness, amounting to the violation of fundamental rights. It would additionally amount to self-incrimination which would violate the Indian Constitution.

Right to privacy acknowledges freedom from intrusion, surveillance, and interference with matters which an individual would not like others to know.¹⁰³ Thus, in a constitutionally safeguarded country like India, every individual protectorsee of the fundamental right to human dignity and privacy has an inherent right to secure a free; fair, and informed consent for extraction of bodily substances for DNA profiling. Obtaining persons' assent for extracting their genetic blueprint through coercive means patently amounts to flagrant intrusion into the genetic privacy of the people and erodes the fundamental right to human dignity (since it amounts to degrading treatment) and personal liberty as well as the right against self-incrimination. Moreover, the extraction of DNA evidence without procedural fairness infringes the Rule of Law, thereby rendering the evidence illegal and inadmissible in court.

Furthermore, the *Puttaswamy* judgment acknowledges the right of a person to control the use and propagation or dissemination of his personal information.¹⁰⁴ There is absolute clarity over the fact that the DNA sample of a person constitutes personal information. Thus, if an individual gives consent for DNA profiling of his DNA, his DNA profile cannot be used for purposes other than for those for which the consent was given. Any attempt of using the personal information of an individual without his permission would contravene the right to privacy and the right against

¹⁰³ Australian Law Reform Commission, *Privacy* (ALRC 22, 1983).

¹⁰⁴ *Justice K. S. Puttaswamy (Retd) v. Union of India* [2017] 10. SCC 1 (SC): AIR 2017 SC 4161, para 81(d), pg.203, 449, 523.

self-incrimination of such individual.¹⁰⁵ It is highly unpredictable and unreasonable to expect from an ordinary person submitting bodily samples to know the future implications and usage of his consent. The Bill must provide a mechanism whereby an individual has the right to know how, when and where his DNA profile will be used.

Further, there must be an express legislative embargo over the usage of an individual's DNA profile by any authority without his consent, which could only be revoked following a court order. The legislature is constitutionally obligated to ensure that the procedure established by law for collecting bodily samples conforms to the Supreme Court ruling in the *Selvi* case. Thus, without the person's consent, the state must not extract their DNA and use their DNA profiles for analysis or in any manner, without due authorisation each time.

Obtaining consent and collection of bodily samples must conform to the standards of the right to human dignity. Absence of legislative safeguards ensuring free, fair, voluntary and well-informed consent would amount to gross violation of the right to human dignity and personal liberty guaranteed under the Constitution. The Bill, therefore, must incorporate necessary provisions to mandate the enforcement agencies to inform the subject about the details of the collection and usage of his DNA. Every person must have both an effective right to refrain from giving his bodily sample and an entitlement to challenge the order for bodily sample collection before a court of law.

4.2.1.1 Constitutional Permissibility of Consent for DNA Sample Collection

Though, the legislative instruments and courts in India validate the collection of DNA evidence from the subject in specific cases. However, such authorisations were commanded before recognition of the right to privacy, as a fundamental right by the Supreme Court of India.

Recognition of the right to privacy has changed the parameters concerning the admissibility of DNA evidence and extraction of DNA samples from an individual. Whenever any person gives his DNA (through bodily sample or otherwise) to another person, he virtually submits his genetic code at the receiver's disposal. Submission of one's genetic blueprint to another person plainly amounts to infringement of right to privacy. The state can deprive the right to privacy of any person

¹⁰⁵ *ibid*, para 125 (Justice Chandrachud's Judgment).

by following the procedure established by law;¹⁰⁶ such procedure established by law must be in consonance with the constitutional scheme of India.

The Bill proposes to collect DNA from the person pursuant to his consent.¹⁰⁷ However, under the Indian constitutional scheme fundamental rights are inviolable and cannot be relinquished or waived by any individual.¹⁰⁸ Inviolability of fundamental rights is a non-negotiable facet of the Indian Constitution. Thus, the State cannot set a procedure established by law according to which an individual's consent may form the basis for ingress into the genetic privacy of the people. In other words, the legislature cannot legislate such law whereby, merely through individual consent a person can be authorised to forgo or relinquish his right to privacy, as well as allowing the collection of his bodily sample and the retention of his DNA (an individual's biological makeup consisting his most sensitive and private information). Such a procedure established by law violates the Indian constitutional scheme, since individual consent cannot be the basis for the relinquishment of fundamental rights. Legislation of such procedure would destroy the fundamental scheme of the constitution and inviolability of fundamental rights. The Parliament being the creature of the Constitution is the recipient of limited amending power over fundamental rights from the Constituent assembly, which cannot enact such a procedure that changes the fundamental and core scheme for maintenance of inviolability of fundamental rights. The proposed legislative provisions concerning bodily samples collection from an individual pursuant to his consent thus appear to violate the Indian Constitution.

4.3 Jurisdiction of Courts

The Bill does not provide an effective and functional remedy to appeal against collection, retention and use of DNA Profile of a person. Further, it prohibits courts from dealing with matters over which the DNA Regulatory Board is empowered to take decisions.¹⁰⁹ The right to life and personal liberty confers the right to defend genetic privacy against any intrusion, when read with the Right to human dignity and the Right to privacy,¹¹⁰ Moreover, recognition of the Right to

¹⁰⁶ Constitutional of India 1949, art.21.

¹⁰⁷ DNA Technology (Use and Application) Regulation Bill, s 21 and 22.

¹⁰⁸ *Behram Khurshed Pesikaka v. The State of Bombay* AIR 1955 SC 123, (1955) 57 BOMLR 575, 1955 CriLJ 215, 1955 1 SCR 613; *Basheshar Nath v. CIT* 1959 AIR 149, 1959 SCR Supl (1) 528; *S. Padmavathy v. The Registrar General* W.P.No.12346 of 2016

¹⁰⁹ DNA Technology (Use and Regulation) Bill 2019, s 57.

¹¹⁰ Grant or recognition of a right automatically authorises the grant or recognition of the right to effectively defend the right. Any procedure of law violating this notion of jurisprudence is deemed to be unconstitutional. Thus, the

privacy as a fundamental right under Article 21, automatically entitles individuals to approach the High Court and Supreme Court under Articles 32 and 226 of the constitution in case of any proscribed collection, retention or use of DNA Profile. The doctrine of judicial review is the basic structure of the Indian Constitution and cannot be restricted over breaches of fundamental rights.¹¹¹

Though, the Bill grants several rights to people but fails to provide necessary means to enforce those rights. Thus, it must enable courts to empower people to-

- File appeal for the removal of DNA record or breach of any right;
- Enforce or redress their legal rights, in case of their violation or non-compliance by the Board or other authority;
- Challenge unauthorised collection, retention and use of DNA sample from their body or any other place (like DNA extraction from hairs collected from a barbershop), etc.

Justice A.P. Shah's committee report recommended for the right to redressal and appeal against the retention of DNA records.¹¹² Right to redressal against the extraction of genetic information constitutes the fundamentally irreducible contingency necessary for the exercise of the Right to privacy guaranteed to the people. Following the recognition of the right to privacy, the state is constitutionally bound to ensure that a procedure established by law depriving anyone's privacy must provide adequate and effective means to defend, redress and fight against any form of deprivation of privacy, including collection of DNA sample. The procedure established by law sanctioning human DNA collection but, deficient in guaranteeing people, effectual means and Right to defend against the collection of DNA is not reasonable and non-arbitrary. Thus, failing to pass the test of arbitrariness and reasonableness, it is deemed to be unconstitutional.

4.4 Excessive Delegation of Power

courts have the power to declare a law as unconstitutional if such regulation curtails a fundamental right and does not provide remedy, effective to defend curtailment of such right.

¹¹¹ *Minerva Mills v. Union of India* (AIR 1980 SC 1789; *Indira Nehru Gandhi v. Raj Narain*, 1975 Supp SCC 1: AIR 1975 SC 2299; *State of West Bengal v. Committee for Protection of Democratic Rights*, (2010) 3 SCC 571: AIR 2010 SC 1476.

¹¹² Justice A P Shah, *Report of the Group of Experts on Privacy* (Planning Commission, 2012) 36; MeitY, *White Paper of The Committee of Experts on a Data Protection Framework for India* (2017) 22.

The Bill grants extensive powers and delegates significant procedural and substantive functions to the board which ideally lie with the legislature or judicial institutions.¹¹³ The Supreme Court in *Subramaniam Swamy v. Director, CBI*¹¹⁴ ruled that excessive delegation of powers conferring unguided powers on the executive would violate Article 14 of the Constitution resulting, the law susceptible to being struck down.¹¹⁵ Furthermore, the Bill does not provide for any effective mechanism to ensure accountability or oversight over the functioning of a DNA Regulatory Board. However, any statute that seeks to establish a regulatory mechanism must explicate limits within which such regulation is carried out.¹¹⁶ If a statute seeks to empower the executive, it must necessarily define restraints of such power.

Thus, it is imperative to incorporate provisions to ensure effective accountability and oversight of the DNA Regulatory Board towards the Parliament. Absence of accountability, transparency, and oversight over the functioning of the regulatory institution, regulating the affairs of genetic privacy (DNA profiling, including collecting, indexing, accessing, and storing DNA profiles) amounts to arbitrariness and unreasonableness, which violate Article 14 of the Constitution.

4.5 Sharing of DNA Profiles with Foreign States

The Bill permits the Union Government to share DNA profiles with other countries.¹¹⁷ The flourishing transnational mobility in today's world enables criminal activities to surpass national boundaries. Modern technologies for the fast flow of information and sharing of data can facilitate criminals expanding the scope of their criminal activities. Therefore, it is peremptory to establish and encourage international cooperation in crime detection, enabling easy exchange of scientific & technical knowledge and expertise to deal with new forms of crime in the modern genetic age. However, it is necessary to ensure the constitutional permissibility for the sharing of DNA profiles concerning the right to privacy of people. The State cannot share DNA profiles of any individuals with another state through any legislative prescription or otherwise. The Bill must reflect a

¹¹³ *ibid*, s 59.

¹¹⁴ (2014) 8 SCC 682.

¹¹⁵ *ibid*, para 48.

¹¹⁶ Read Parliament of India, Rajya Sabha, 'Three Hundred Fortieth Report on The DNA Technology (Use and Application) Regulation Bill, 2019' (Rajya Sabha Secretariat 2021) 38.

¹¹⁷ DNA Technology (Use and Regulation) Bill 2019, s 30.

legislative proscription over sharing of DNA profiles. The scope of sharing must be limited, only to the extent of informing the result of DNA comparison.

4.6 Standardization of DNA Testing

Standardisation of DNA Testing is indispensable to assure courts and general masses over the quality and credibility of DNA tests.¹¹⁸ It is necessary to establish a universal standard for DNA testing and devising a universal testing protocol (including standard operating procedure) for all DNA testing labs. Human DNA consists of two regions, a coding and a non-coding region.¹¹⁹

The coding region is the minor part (10%) and consists of genes which provide details concerning physical traits, susceptibility to disease, allergies and other intricate details of a person.¹²⁰ While the functions of the non-coding region (90%) are not known further, it does not contain such genetic details.¹²¹ However, it has higher variability in its structure than the coding region between two individuals.¹²² To this sense, in order to protect the privacy of DNA profiles, international standards in DNA profiling is restricted to the non-coding region of DNA only.¹²³ However, the Bill does not propose any such legislative restriction over the procedure for DNA profiling. Thus, legislative embargo to limit DNA profiling over the non-coding region is fundamentally indispensable.

4.7 Sources for DNA Profile Collection

¹¹⁸ SWGDAM, *Quality Assurance Standards for Forensic DNA Testing Laboratories* (FBI, 2020); SWGDAM, *Addendum to Quality Assurance Standards to Address Rapid DNA Analysis and Modified Rapid DNA Analysis* (FBI, 2014).

¹¹⁹ S Panneerchelvam and Mohd Nor Norazmi, 'Forensic DNA Profiling and Database' [2003] 10(2) *Malaysian Journal of Medical Sciences* 20-21.

¹²⁰ *ibid*; Hans Eiberg and Jan Mohr, 'Assignment of Genes Coding for Brown Eye Colour (BEY2) and Brown Hair Colour (HCL3) on Chromosome 15q' [1996] 4 *European Journal of Human Genetics*.

¹²¹ Gregor Urbas and Jeremy Gans, 'DNA Identification in the Criminal Justice System' [2002] *Australian Institute of Criminology: Trends & Issues in Crime and Criminal Justice* 2; Varsha, 'DNA Fingerprinting in the Criminal Justice System: An Overview' [2006] 25(3) *DNA and Cell Biology* 181; RJ Trent, 'DNA and the Courts' [2000] 12(7) *Judicial Officers Bulletin, Judicial Commission of New South Wales* 52-56.

¹²² Khaleda Praven, 'Forensic Use of DNA Information: Human Rights, Privacy and Other Challenges' (Doctoral thesis, University of Wollongong 2012); Mark A Jobling and Peter Gill, 'Encoded Evidence: DNA in Forensic Analysis' [2004] 5(10) *Nature Reviews Genetics* 747; Office of Technology Assessment, *Genetic Witness: Forensic Uses of DNA Tests* (U.S. Congress OTA-BA-438, 1990) 38-136.

¹²³ *R. v. Fitzherber* [2000] QCA 255 at [7]; Interpol, *Interpol Handbook on DNA Data Exchange and Practice: Recommendations from The Interpol DNA Monitoring Expert Group* (2nd edn, Interpol 2009) 48-49; Dr. Shashi Tharoor, 'Dr. Shashi Tharoor on the DNA Technology (Use and Application) Regulation Bill, 2018' <https://youtu.be/ifO2nlY_2QY> accessed 28 January 2021.

DNA evidence is a mighty tool to exculpate the innocent and trace the guilty. Only until recently did DNA fingerprinting necessitate either blood or semen from some form of a tissue, which is not required anymore.¹²⁴ Just as it is probable, with a little innovation, to extract suspects' fingerprints, without voluntary submission by the subject, so too is it straightforward for investigators to obtain DNA samples from hair, skin brushings or saliva (e.g., from cigarette butts or spoons and forks).¹²⁵ This ability to secure access to a person's genetic description arguably advances the necessity to protect individual privacy rights and restrict its access from others. Therefore, the exercise of DNA sample extraction for DNA profiling warrants a modernistic reconceptualisation of rights and liberties.

The Bill must set an explicit legislative proscription to collect DNA from sources other than those provided within the Bill. Even though, it lists sources for collection of DNA samples,¹²⁶ yet, it allows additions to the list through regulations and not legislative amendments. An individual's privacy cannot be contingent upon future regulations, especially when it concerns something as sensitive as DNA. Since the nature of the information collected is so intrinsically connected to individual identity, absence of legislative proscription against sources for sample collection can make the law susceptible to future misuse and abuse. Thus, the legislature must not delegate such significantly critical power to safeguard liberty and genetic privacy of people. Additions to the sources for DNA sample collection must happen, only through the legislative sanction of Union Parliament each time. It would enable in restraining the possible misuse of DNA evidence in criminal cases by the State. Since it would not let the State expand sources for collection of DNA sample as per its discretion.

4.8 Time Frame for Storage of DNA Data

The Bill does not delineate a time frame for the removal of DNA Profiles from DNA data banks. It entails storing DNA data recovered from the crime scene in perpetuity, since its removal is *sine qua non* to police reports and court order.¹²⁷ The materialities of Indian criminal

¹²⁴ Prof Ian Freckelton, *DNA Profiling: Collection, Use and Effectiveness: An Issues Paper* (Parliament of Victoria: Submissions and Expert Papers, 2010) 32.

¹²⁵ *ibid.*

¹²⁶ DNA Technology (Use and Regulation) Bill, s 23.

¹²⁷ *ibid.*, s 31.

administration unveil wide incongruities in arrest and consequent convictions.¹²⁸ Therefore, removal of DNA profiles conditional to the court order or police report would virtually amount to indefinite retention of DNA profiles. Thus, databanks are likely to be lopsided and encompass profiles of people who are presumed innocent before the law for an indefinite period. Such retention of DNA profile censoriously violates Right to privacy and Right of control over personal information. No constitutional justification exists to satisfy the inclusion of DNA profiles in databanks in such cases.

Most DNA data regulation laws globally provide a time frame for storage of DNA data. The Canadian Supreme Court in *R. v. R.C.*¹²⁹ ruled the retention of DNA data as grossly disproportionate.¹³⁰ It should be born in mind that when the liberty and genetic privacy of the person is at stake the answer of the legislature cannot be ‘*as specified by regulation*’.¹³¹ Therefore, the Bill must set a definite time frame for removal of DNA profiles from DNA data banks and not leave it to the future regulations by executive or discretion of the DNA Regulatory Board.

4.9 Religion and Caste Based Profiling

As discussed earlier, DNA usage is not limited to crime detection. It is an individual's unique identifier, which may leak critically sensitive and most secret information about the person without limitations or protections.¹³² For instance, access to such intrusive information could be abused to attack people based on their caste and religion, since specific caste or religious group could be wrongly associated with criminal or such other activities.

Analysing the oppressive history of various social groups, the Bill must consider the socio-political realities of Indian society. The crime data illustrates that vulnerable groups and gender & religious minorities have been disproportionately immured in criminal cases. While conviction rates have remained low, the majority of those arrested belonged to just three communities: Dalits,

¹²⁸ National Crime Records Bureau, Ministry of Home Affairs, Government of India, ‘Prison Statistics India 2019’ (NCRB 2019); National Crime Records Bureau, Ministry of Home Affairs, Government of India, ‘Prison Statistics India 2020’ (NCRB 2020).

¹²⁹ [2005] 3 SCR 99, 2005 SCC 61.

¹³⁰ Fish J. observed, “taking and retention of a DNA sample is not a trivial matter and, absent a compelling public interest, would inherently constitute a grave intrusion on the subject’s right to personal and informational privacy”.

¹³¹ See DNA Technology (Use and Regulation) Bill, s12(k)(iv), 31.

¹³² Read Dr Abhishek Yadav, ‘DNA Profiling: Forensic evidence in Civil and Criminal Trials’ (*National Judicial Academy*, 2017) <http://www.nja.nic.in/Concluded_Programmes/2017-18/SE-13_PPTs/4.DNA%20Profiling.pdf> accessed 25 February 2021

Muslims and Adivasis.¹³³ Thus, the proposed Bill may impact on marginalised communities (like Dalits, Adivasis) including, gender and religious minorities could be intensely oppressive and gruesome. The Bill can facilitate targeted prejudice and discrimination against such groups, which will have detrimental impact over the fundamental fabrics of communal harmony; social justice; fraternity, and human dignity. The legislature cannot legislate laws which attempt to alter the fundamental character and founding pillars of Indian society. Therefore, the State must adopt stringent safeguards to ensure that implicit predispositions of the criminal-administration do not influence the integrity of databanks.

4.10 Security Infrastructure for DNA Profiles

DNA testing technology has critical ramifications over the privacy of Indian Citizens. IT Rules 2011 classifies DNA data as sensitive data.¹³⁴ The number of those arrested in India is gigantic.¹³⁵ Consequently, the size of DNA databanks will be a voluminous consolidated collation of citizen's biological information, thus, establishing a massive genetic intelligence database. Even a small breach in information could render many people vulnerable. The Bill, therefore, must be legislated only after considering the security of DNA profiles storage. Stringent security arrangements including stern oversight mechanism for databanks is indispensable for securing individual emancipation, national security from external attacks and internal sabotage. Inadequate safeguards and security arrangements for DNA profiles from possible data breaches would not only increase data breach incidents from DNA databanks (violating Right to privacy of people) but, censoriously affect India's sovereign and security interests. Thus, the adequacy of security infrastructure to secure the most sensitive genetic data of an individual is fundamentally indispensable before the enactment of the proposed DNA legislation.

¹³³ Deeptiman Tiwary, 'NCRB Data: Higher Share Of Dalits, Tribals, Muslims In Prison Than Numbers Outside' (*The Indian Express* (2020)) <<https://indianexpress.com/article/india/ncrb-data-higher-share-of-dalits-tribals-muslims-in-prison-than-numbers-outside-6575446/>> accessed 21 February 2021; Anmol Saxena, 'India: More than half of undertrials are Dalits, Muslims and tribals' (*Aljazeera* (2016)) <<https://www.aljazeera.com/features/2016/11/1/india-more-than-half-of-undertrials-are-dalits-muslims-and-tribals>> accessed 25 February 2021; *Rajya Sabha* (n 117) 46; India spend, 'India's Jail Stats: 7 In 10 Undertrials, 1 In 3 Dalit/Adivasi' (*BloombergQuint* (2020)) <<https://www.bloombergquint.com/politics/indias-jail-stats-7-in-10-undertrials-1-in-3-dalitadivasi>> accessed 25 February 2021.

¹³⁴ Information Technology (Reasonable Security Practices and Procedures and Sensitive Personal Data or Information) Rules 2011, Rule 3 r/w Rule 2(1)(b).

¹³⁵ Read Asaduddin Owaisi to Mr. Jairam Ramesh, "Revised Dissent Note for the Committee's Report on DNA Technology (Use and Application) Regulation, 2019" (February 1, 2021) 48.

5. Conclusion

The DNA Technology Bill poses a direct threat to the Right to life and personal liberty of the people if enacted in the current form. Though there are no in-principal differences over the notion of regulating DNA profiling technology, the prevailing manifestations of the Bill attempt to disparagingly aggress the rights and liberties of the people. Besides, the retention of DNA profiles by the State involves critical concerns over privacy, liberty and freedom of the people. Therefore, one must consider the exploitative vulnerability of DNA profiles and the privacy of people. Additionally, the advantageous exploitation of technology must not be at the cost of the privacy of Indian citizens. It is exigent to ensure that the proposed legislation does not create a surveillance state which would oppose the democratic constitutional ecosystem of our country. The State cannot privilege institutional reforms over fundamental rights.

The Bill causes precarious risks over unbridled ingress into the critically sensitive genetic information of people. The scope of DNA profiling shall be limited only to criminal cases before the enactment of the proposed DNA legislation. While there appears to be a convincing argument in favour of DNA databases for convicts, who, as recurrent wrongdoers, will be traceable quickly, there is no legal or moral ground for retaining DNA in other categories of the population, given the extraordinary potential for abuse. Moreover, the necessity for preserving DNA profiles for civil matters without a clear and separate index is ambiguous, as it evidently outrages the fundamental right to privacy and does not serve any public purpose. Access to intrusive genetic information through DNA profiling of such a large category of people can lead to caste and religion-based profiling which can erode the fundamental character of religious tolerance and communal harmony enrooted in the Indian society. The Parliament has an implied restriction and prohibition to legislate such laws, the implementation of which can alter the fundamental character of the Indian society.

The proposed DNA Bill is premature in the absence of a data protection law. The legislature must pass a robust data protection legislation before the enactment of the proposed DNA Bill. Such legislation would be instrumental in protecting the genetic privacy of people. The Bill alludes consent in different provisions, yet in all of these, the magistrate can readily override such assent, thereby making consent perfunctory. Furthermore, the Bill does not provide any legislative guidance to the magistrate while exercising such power. It does not enlist grounds and reasons

when the magistrate should abrogate consent, which could turn into a fatal flaw. Additionally, the Bill fails to provide necessary protection to ensure free, fair, voluntary and well-informed consent. Absence of legislative safeguards makes the Bill deficient in terms of reasonability, fairness and constitutionality. Extraction of one's DNA sample (or consent thereto) through coercive means would indisputably violate the Right to privacy and Right against self-incrimination of an individual. The legislature is duty-bound to ensure that while abridging an individual's fundamental right, it provides effective legislative means to such individual in order to defend and protect such abridgement of his fundamental right. Though the Bill proposes the legislative scheme to extract DNA following the person's consent, it outrages the primary rule of inviolability of fundamental rights enrooted in the Indian Constitution. Extraction of an individual's DNA for DNA profiling unquestionably amounts to infringement of the fundamental right to privacy. Therefore, such abridgement must be inconsonance with the Constitution of India. Inviolability of fundamental rights is the fundamental scheme of the India Constitution. Hence, the Bill violates the fundamental principles of the Indian Constitution.

The Bill would establish an ecosystem for constructive use and application of DNA profiling when forensic investigators in India are proficient at using such technology. The government must focus on the capacity building measures to implement the proposed legislation with utmost effectiveness. It must train forensic investigators and raise resilient mechanism to protect and prevent data breaches from DNA data banks and laboratories. Law enforcement agencies and others must be trained to use DNA evidence credibly. This will enable the agencies and courts to determine the limitations and to identify the appropriate usage of DNA in each case, thereby minimising possible errors. Further, the agencies must be trained to protect against DNA data breaches. Additionally, they must be proficient in expeditiously solving incidents of DNA data breaches. It is quite possible that in this information age, complex technological methods may be employed to execute the data breaches from DNA storage. Thus, agencies must be equipped to handle such cases and trace wrongdoer expeditiously and not allow cases to go into cold storage. Moreover, with the introduction of institutional DNA profiling in criminal cases, frequent instances of planting fabricated DNA at crime scenes may occur.¹³⁶ Thus, investigation agencies

¹³⁶ Read Andrew Pollack, 'DNA Evidence Can Be Fabricated, Scientists Show' (*The New York Times*, 17 March 2009) <<https://www.nytimes.com/2009/08/18/science/18dna.html>> accessed 19 January 2021.

must train themselves to solve such cases, while ensuring due protection of the innocent whose DNA may be implanted fraudulently at the crime scene.

The Bill delegates extensive legislative and administrative powers to the DNA Regulatory Board. It proposes to create a statutory institution armed with wide critical powers without assuring institutional independence from the government. Delegation of extensive powers to any authority is inconsistent to the Constitutional scheme of India. The Bill authorises the Board to establish critical DNA profiling regulations through regulations and not legislative amendments. It is important to understand that, when the fundamentals of freedom, liberty and privacy of the people are at stake the legislative enactments of the parliament cannot say “*as specified by regulations*”. Thus, the legislature cannot delegate critical legislative functions which directly impact freedom and liberty of the people to any authority.

The successful implementation of DNA fingerprinting with a firm security mechanism protecting the DNA data storage could facilitate the judicial system and effectuate crime control in India. However, we must assess the technology’s advantages against threats over privacy. While the use of DNA profiling technology in a particular case with due limitations is acceptable, the retention of DNA profiles of a large category of people is the core issue making their privacy vulnerable to exploitation.

The Indian Constitution represents the Charter of power granted by liberty not the Charter of liberty granted by power.¹³⁷ DNA is a convincing testimony, particularly in criminal forensics, however, ingress into a person’s genetic information can be devilishly intrusive and threatening. The State cannot implement reforms at the detriment of the fundamental rights of the people. The Bill causes a risk to the right to privacy of people¹³⁸ and appears to violate the fundamental character of the Constitution. It threatens to fundamentally erode the fabrics of fraternity and democracy in India through the fear of genetic surveillance and state invasion into genetic privacy. The State is constitutionally bound to protect and preserve the fundamental rights guaranteed under the Constitution. To that sense, the Bill presently violates fundamental rights and the basic structure of the Indian Constitution. It has the potential to cause irreparable damage to the liberty

¹³⁷ Nani Palkhivala; See Justice Swatanter Kumar, “The Role of Courts in Development of Law” (December 21, 2011) <https://highcourtchd.gov.in/sub_pages/top_menu/about/events_files/SKSpeech.pdf> accessed January 11, 2021.

¹³⁸ The State is constitutionally bound to ensure adequate protection to the Right to Privacy after its recognition as a fundamental right.

and privacy of the citizens. Therefore, it must be reviewed while considering the fundamentals of constitutional principles and values, discipline, morality and ethos in India.