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Admissibility of DNA Evidence in India: An Analysis of the Existing Legal Framework

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ABSTRACT

Crime has always been there in human life from very old times and never stops. Ways of doing crime change when new science and technology come. Criminals become smart, and sometimes no normal proof is left; then forensic science becomes very important to find out crime. So, solving crime needs biological proof, which can only be known by forensic methods. DNA, called deoxyribonucleic acid, is the main molecule of inheritance. DNA is in every cell of the human body. DNA is a natural material which gives each person their own special genetic code. It can be found in bone, blood, hair, spit, sperm and other body tissue. This paper looks at how DNA technology becomes important in making the criminal justice system fairer and correct. It gives a short introduction about DNA, how it is used, and why such evidence matters in Indian courts. The law is already there about accepting and using DNA evidence; also look briefly. Also, this study sees by some important case laws how Indian courts allow DNA evidence in their own way. It finishes by showing the urgent need for proper law to control DNA technology in India. Surely, DNA is very important in crime cases like murder, rape, paternity, and accidents made by people. But the laws in India, like the Evidence Act 1872 and the Criminal Procedure Code 1973, do not have clear rules for dealing with forensic science problems. So, it is very clear that the discovery of DNA has opened new avenues, and the advancement of DNA technology and its introduction in the courts of law have provided extensive aid in the resolution of civil and criminal disputes.

Keywords: Crime, Forensic Science, DNA, Criminal Justice System, Indian Evidence Act 1872, Criminal Procedure Code 1973, Murder

1. INTRODUCTION

Crime has always existed in some form or another since the dawn of human civilisation. With the growth of science and technology, crimes and criminals become more clever. Because of this, police work cannot only rely on old ways like asking questions, collecting information, or watching people to find crimes. Also, cruel ways to catch criminals are not allowed in good society. Forensic science, which is a science to help police in solving crimes, has now become very important in recent years.

In India, DNA proof now matters big in cases like killing, rape, paternity, and accidents from careless people. Laws like the Indian Evidence Act, 1872, and the Criminal Procedure Code, 1973, give common rules on proof, but they do not say much on DNA or science checks. So, courts make big rulings on how DNA gets used and how much weight it has in law.

This research paper wants to study how DNA evidence is handled in India law. It looks at how rules changed, safety in procedure, and constitutional matters. By looking at big court decisions, laws, and current practice, paper wants to show why DNA is important for justice, and why India needs special law to control how DNA is used.

2. RESEARCH QUESTION

“In the absence of a specialized legislative framework, how has judicial intervention defined the admissibility and evidentiary value of DNA evidence in India, and what challenges does this legislative silence create for the criminal justice system?”

3. HYPOTHESIS

- **Judicial**
Indian courts many times try to cover when law is not there by saying DNA proof is allowed and trusted, but still their way is not the same because no one clear law is made for all.
- **Legislative**
Because law is silent, and no special DNA law is there, it makes problems in the process and increases the chance of wrong use, which makes

DNA proof not used properly in criminal justice.

4. RESEARCH OBJECTIVES

- To examine the existing laws in the Indian Evidence Act, 1872, and the Code of Criminal Procedure, 1973, regarding the admissibility of DNA evidence.
- To examine how judges assess the value of DNA evidence in India through significant court cases.
- To identify the challenges and limitations created by the absence of specialized DNA legislation in India.

5. RESEARCH METHODOLOGY

- This study will use the doctrinal type of research. The main work will be to read books, law articles, journals, and court cases. The Indian Evidence Act, 1872, and the Code of Criminal Procedure, 1973, will be read in detail. Important Supreme Court and High Court judgments on DNA proof will be checked.
- Secondary sources like commentaries, research papers, law reports, and online law sites will also be used. No field work or interviews are done, only library- and online-based study.
- The comparative method will be used where needed to see how other countries deal with DNA proof. The ultimate objective is to identify the gaps between the act's procedural safeguards and its practical implementation and to provide informed recommendations for legal forms.

3. EVOLUTION OF DNA EVIDENCE IN INDIA

3.1 Early Time: Pre 1990s (Traditional Era)

- Before the DNA test introduction, Indian criminal justice used eyewitness, talking evidence, and surrounding proof under the Indian Evidence Act, 1872.
- This type of evidence many times is not sure and makes wrong convictions or acquittals due to lack of scientific backing because there is no scientific support.
- Courts are only using old forensics like fingerprint, blood group, and handwriting analysis.

3.2 Introduction Phase: 1990s (Emergence of DNA in India):

- In India, DNA use started in 1988 when Dr. Lalji Singh, known as the "Father of DNA Fingerprinting in India," led a team at the Centre for Cellular and Molecular Biology (CCMB) in Hyderabad to develop India's first DNA fingerprinting probes. This made India one of the first countries in the world with its native DNA technology. First, use it for forensic purposes. At first DNA profiling was used in paternity fights and some crime cases. But because of no special law, Indian courts depend on the Indian Evidence Act, 1872, and use their own choice for admitting such evidence.
- Later on, an institute named the Centre for Fingerprinting and Diagnostics (CDFD) was founded in 1998, especially for the purpose of forensic DNA testing for various civil and criminal cases.
- Additionally, central and state forensic science laboratories, also known as CDSL and SFSL, respectively, are providing DNA expertise to the court of law.

3.2.1 First Legal Use (1991):

The case of "Kunhiraman v Manoj"¹ occurred in 1991. The first time DNA proof was used in an Indian court was in a paternity dispute in Kerala. The court ordered a DNA test to know who the biological father of the child is. The test was done by Dr. Lalji Singh, and the court took the result, and also it became important for decision-making, the first example of DNA use in a civil case.

- **Case Law:** *Rajiv Gandhi Assassination Case (State v. Nalini & Others, 1991)* —DNA used to identify the accused and link evidence.

Development Phase: 2000s (Judicial Acceptance and Procedural Concerns):

- In the 2000s, courts started admitting DNA evidence more times but showed more care in how it was collected, the chain of custody, and

¹ Kunhiraman v. Manoj, 1991 Cri LJ 2432 (Ker).

expert reliability.

- DNA seen only as supporting proof, not alone proof. Courts say rules must be followed in a strict way
- **Case Law:** *I. Thogorani Alias K. Damayanti vs. State of Orissa (2004)*²

In this instance, it was elucidated that DNA evidence is permissible pursuant to Section 45 of the Indian Evidence Act.

2. Patangi Balarama Venkata Ganesh v. State of Andhra Pradesh (2009) —The court said that the DNA result could be used, but it stressed how important it was to keep the chain of custody.

3.4 Constitutional phase 2010s (balancing rights and technology)

- With tech and forensics getting better, DNA proof got used more in murder, rape, and accident ID cases. However, requiring individuals to provide DNA samples raised disputes regarding privacy rights and self-incrimination.
- Court Talk: Judges started saying DNA is real solid proof but kept balanced it with Article 20(3) (protection against self-incrimination) and Article 21 (privacy right).

3.5 Modern Phase: 2015 – Present (Judicial Standardisation and Legislative Attempts)

- DNA now plays a important role in police work and judicial system, mostly in rape cases, paternity disputes, missing persons, and dead body identification. Judges use it more; sometimes it decides the case.
- DNA Technology (Use and Application) Regulation Bill, 2019 – Introduced to start DNA data banks and control how it's taken and used, but still not passed.

4. The Relevant Legislations on DNA in India

The use of DNA or any other biological evidences is something which is not new in India. Although there is no proper legislation directly dealing with these biologically evidences, specifically DNA Profiling, but time and again we have found these evidences of much relevance in solving many crucial cases. DNA profiling is not only used in criminal investigation but it is also helpful in ascertaining parentage, legitimacy of child, missing persons and discovering unknown deceased bodies.

4.1 CONSTITUTION OF INDIA

- **Article-51A:** Fundamental Duties:
- According to Article 51A of the Constitution of India, Parliament has the legislative authority to create laws regarding Union Agencies and institutions that focus on professional, vocational, or technical training; promote special studies and research; provide scientific or technical assistance in crime investigation or detection; and coordinate and determine standards in higher education institutions as well as scientific and technical institutions.
- **Article- 20(3):** Right to Self-Incrimination
- **Article 20(3):** of the Indian Constitution provides that no person accused of any offense shall be compelled to be a witness against himself. Article 20(3) contemplates forcing testimony, thereby incriminating oneself in a crime.

4.2 Bhartiya Nyaya Suraksha Sanhita (2023)

- In accordance with Section 51 of BNSS a police officer may request that a registered medical professional examine an accused individual if they have reason to believe that doing so may provide for the evidence of the conduct of a crime. Section 53 deals with the arrestee's request for a medical examination by a certified medical practitioner. In the event of an arrest made in compliance with Section 482 of BNSS even after the offender has been granted bail, Section 51 of the CrPC. may be used. On the request of the counsel or the police officer for an effective investigation, the Magistrate can order for the collection of blood samples for DNA testing.
- Previously in CrPC the Code of Criminal Procedure (Amendment) Act, 2005 revised Section 53 of the Act and introduced two new provisions, Section 53A, which allows for medical examination of a person who is accused of rape and Section 164A, which provides for medical examination of a victim of rape. This section gives more scope to the investigating officer for the purpose of investigation of crime. But this section relates to the investigation of criminal cases instituted by police only. This section does not

² Thogorani v. State of Orissa, 2004 Cri LJ 4003 (Ori).

apply to complaint based and does not specifically mention Whether it would be applicable to DNA test.

- With the assistance of a certified medical practitioner, the investigating authority can therefore get a DNA sample from the person suspected of rape as well as from the victim of rape. Furthermore, if the police officer believes that further inquiry is required after the end of the investigation, he may file an application with the Magistrate under Section 193(9) of BNSS. Under Section 329(4) of BNSS the report of certain Government Scientific Expert may be used as evidence in an enquiry, trial or other proceedings and the court may “summon and interview any such expert as to the subject-matter of his report” if it sees proper under Section 329(2) of BNSS.

4.3 *Bhartiya Sakshya Adhiniyam, 2023*

- **Section 3** stipulates that evidence may be adduced not only concerning the principal fact in dispute but also regarding facts that bear a direct relation to it. The expression “fact in issue” denotes a matter that is contested or forms the focal point of the investigation.
- **Section 4** delineates the relevance of facts that are inherently connected to the same transaction, encompassing those elements which constitute integral components of the originating transaction itself. Even where certain facts are not directly contested, they acquire significance if they maintain a close connection with a fact in issue within the same transaction, irrespective of whether they occurred contemporaneously or at a different time or place.
- **Section 7** stresses how important facts are as evidence to clarify, present, support, or dispute the issues at hand, as well as to demonstrate identity, time or place, or the relationships between parties. These facts include the names, dates, places, persons involved, the circumstance, and how they all fit together. In *Fakhrudin v. State of M.P.*, the Supreme Court confirmed that a witness's opinion can be accepted if it is based on specialised knowledge, especially where the subject matter entails intricacies that exceed the understanding of those without the requisite competence.
- It is firstly let to the discretion of judges whether DNA test under **Section 39** of BSA is to be accepted or not It is stated that when a court is required to form an opinion as to a matter of foreign law, science, art, or handwriting (or finger imprint) identification, the opinion of individuals who are exceptionally knowledgeable in such foreign law, science, art, or handwriting (or finger imprint) identification are relevant facts. Such an individual is known to be an expert.
- Secondly to determine child legitimacy, under **section 116** of BSA “any person born during the continuation of valid marriage between his or her mother and any man or within 280 days after dissolution of marriage, the mother remaining unmarried shall be conclusive proof that he is a legitimate child of man. Unless it can be shown that the parties have no access to each other at any time when the child could have been Begotten.

Case law: In case of *Krishnappa v. vennkatappa*³, the madras high court interpreted the phrase “No access”.

- In *Geeta v. State of Kerala*⁴, about a paternity fight, the blood of the petitioner and the child got tested by DNA, and the result said the petitioner was not the father. When the report's use was questioned, the court said under **Section 329** of BNSS that the DNA Finger Printing & Diagnostic Centre, Hyderabad, which is run by the Central Government, could give the report as proof without calling the expert in person. But the court also said DNA test in paternity matters should not be asked for every time. Courts have to go first by **Section 112** of the Indian Evidence Act, 1872, and only let DNA test when there is “big need,” where the truth cannot be known without the biological proof.

4.4 *Prevention of Terrorism act (2002)*

- **Section 27** of the Prevention of Terrorism Act, 2002, allows police to use DNA technology. If police doing an investigation send a written application to the Court of the Chief Judicial Magistrate or the Court of the Chief Metropolitan Magistrate to take a sample of the accused's voice, blood, saliva, sperm, hair, fingerprints, or photographs, the court can order the accused to give the sample to the police, either by doctor or another way the court thinks proper. But if the accused refuses to give a sample, the court can think against the accused.

4.5 *DNA TECHNOLOGY (USE AND APPLICATION) REGULATION BILL (2019) THE CRIMINAL PROCEDURE (IDENTIFICATION) ACT OF (2022)*

- In Indian criminal justice system, DNA evidence holds considerable importance, yet specific legislation governing the use and regulation of DNA profiling in criminal investigations is lacking. A DNA Profiling Bill 2006 is drafted by the DNA Profiling Advisory Committee in collaboration with Centre for DNA Fingerprinting and Diagnostics. Unfortunately, this bill never made

³ *Krishnappa v. Venkatappa*, 1981 Cri LJ 184 (Kant).

⁴ *Geeta v. State of Kerala*, 2002 Cri LJ 2088 (Ker).

it to parliament. Subsequently, in 2019, Dr. Harsh Vardhan, the Minister for Science and Technology, introduced the DNA Technology (Use and Application) Regulation Bill, 2019 in Lower House, to provide specific laws governing use of DNA technology for identifying individuals, authorizing DNA examination only for specified purposes outlined within the legislation. The bill also establishes National and Regional DNA Data Banks responsible for maintaining various indices related to crime scenes, suspects, offenders, missing persons, and unidentified deceased persons.

- In addition to these, the board's responsibilities also include advising the government on the creation of DNA data banks and laboratories, recommending the accreditation of DNA laboratories, and establishing guidelines for such banks, laboratories, and experts to ensure the proper confidentiality of DNA profiles. The Bill says that anybody who break the law by utilising DNA samples without permission or breaking the privacy of DNA profiling could go to jail for up to three years and pay a fine of up to one lakh rupees. The Bill also lets the Bank delete DNA data, but it doesn't say anything about deleting DNA data from labs, which might be a big concern for DNA theft and privacy violations.
- **Current Status:** Even if Lok Sabha passed before, the DNA Technology (Use and Application) Regulation Bill, 2019, was withdrawn by Union Government in July 2023. The government took it back because a lot of people didn't like it, and the Parliamentary Standing Committee said there were privacy issues. Another reason to drop the bill is the Criminal Procedure (Identification) Act, 2022, which lets the police take and preserve "measurements" like DNA samples.

5. Judicial Intervention and Case Law Analysis

In the absence of specialized law for DNA in India, the Judiciary has played a major role by defining its admissibility and evidence value. Courts have gradually evolved standards through case laws, keeping in mind the constitutional rights and scientific advancement.

(A). DNA Admissibility in Criminal Cases

1. **Case Law: Tandoor Murder, (1995) Delhi,** Case⁵ This was the first criminal case in India solved by the help of forensics. In this case Shusil Sharma murdered his wife at home by firing three bullets to his wife Naina Sahni's body. He killed his wife believing that she had her love affair with her classmate and fellow congress worker Matloob Karim. After murdering his wife Sharma took her body in his car to the Bagiya restaurant, where he and restaurant manager Keshav Kumar attempted to burn her in a tandoor there. Police recovered Sharma's revolver and blood-stained clothes and sent them to Lodhi Road forensic laboratory. They also took blood sample of Sahni's parents, Harbhajan Singh and Jaswant Kaur and sent them to Hyderabad for a DNA test. According to the lab report, "Blood sample preserved by the doctor while conducting the post mortem and the blood stains on two leads recovered from the skull and the neck of the body of deceased Naina are of 'B' blood group." Confirming that the body was that of Sahni, the DNA report said, "The tests prove beyond any reasonable doubt that the charred body is that of Naina Sahni who is the biological offspring of Mr. Harbhajan Singh and Jaswant Kaur." And finally, Mr. Shusil Sharma was found guilty with the help of forensic evidences.
2. **Case Law:** The case which brought the DNA controversy to the fore was the rape and murder of and murder of **Priyadarshini Mattoo**. In the year (1996)⁶ At trial the prosecution case relied on the DNA test of the vaginal swab, which was positive whereas the defense challenged the validity of the test stating that it was not conducted according to prescribed rules. The defense alleged that because the crime scene, etc. was not suggestive of sexual intercourse, the presence of semen was not possible and had to have been planted. At the time of the post-mortem, the underwear of the deceased had earlier been returned with the assertion that there were no semen stains but subsequent analysis at the laboratory at Hyderabad revealed that there were in fact semen stains; the mix-up however led to the belief that the evidence had been tampered with.

In the course of the case, the judge proposed the following principals for the state:

- obtaining known/unknown biological samples in accordance with the law;
- maintaining the chain of custody of samples;
- monitoring laboratory procedure, protocol and quality control and; provision of a fair hearing to the accused by providing him with all evidence.

The Judge thus concluded that despite the match in the DNA profiles, the guilt of the accused could not be proved beyond reasonable doubt. In fact, the Judge actually pronounced, "Thought I know (Santosh Singh) is the man who committed the crime, I acquit him giving him the benefit of doubt". The dilemma that the trial Judge faces while dealing with DNA evidence is not if the burden of proof on the prosecution has been discharged but whether the evidence meets the standard of proof required to convict beyond reasonable doubt. Indian Courts are fast realizing the value of DNA evidence and there are cases where it has been admitted as reliable.

⁵ Shusil Sharma v. State (NCT of Delhi), (1996) 11 SCC 605.

⁶ Santosh Kumar Singh v. State through CBI, (2010) 9 SCC 747.

3. **Case Law: “State of Karnataka v. M.V Mahesh (2003)”⁷**, Where the wife has disappeared and an investigation launched and this case centred murder charge that relied heavily on circumstantial evidence and DNA analysis. In this some human bones were recovered which were subject to DNA analysis and showed great similarity with the DNA of her close relatives. Indicating that they may have belonged to her.
4. **Case Law: In Patingi Balaram Venkata Ganesh v. State of Andhra Pradesh (2009)**⁸, It was alleged that the accused and the co-accused had fired at the deceased. Witnesses identified the accused as wearing a pink shirt and testified that the accused had been injured during the firing. The pistol used and the blood-stained pink shirt, were recovered and the blood found on the shirt was found to be a match with the blood of the accused as per the DNA test. Further as the accused admitted to having been at the crime scene, the Court, relying on all the available evidences including the DNA evidence, found him guilty.
5. **Case Law: Chandra Devi v. State of Tamil Nadu (2002)**⁹, One instance of the application of DNA profiling evidence being used to convict the accused can be seen in the case of Chandradevi v. State of Tamil Nadu. 92 This sensational case involved the rape and murder of seven teenage girls in the Ashram of a god-man Premanand alias Ravi, by the god man and his accomplices. In a lengthy judgment the Madras High Court considered four important questions.
 - Whether the DNA evidence is generally accepted by the scientific community?
 - Whether the testing procedure used in case is generally reliable, if performed properly?
 - Whether the tests were properly performed in this case?
 - Whether the conclusion reached in this case is acceptable?

In answering the first question the Court relied on the extent to which Courts in United States had relied on evidence of DNA analysis. The second, third and fourth questions were all answered in the affirmative and the accused persons were convicted on various counts on the basis of the evidence of experts on DNA profiling and other evidence.

(B) DNA Admissibility in Civil Cases

Another area where the application of DNA has a tremendous potential is parenting testing. Conventional blood test can only exclude a man from being the father of a child but DNA technology can conclusively prove that the man is the father of the child or not. Therefore, in determining the parentage, homicide, rape and other cases which require identification, DNA plays an important role.

Although the DNA testing has been accepted in many countries, in India it has not been included in the Bhartiya Sakshya Adhiniyam. It is therefore left to the discretion of the judges whether the DNA test under section 39 of Bhartiya Sakshya Adhiniyam 2023 is to be accepted or not.

The first paternity dispute in India 100 which was solved by DNA fingerprinting test, was the case No. M.C. 17 of 1988 in the Court of Chief Judicial Magistrate of Telicheery¹⁰. The Chief Judicial Magistrate held that: "the evidence of expert is admissible under section 45 of the Indian Evidence Act, 1872. So also, the grounds on which the opinion is arrived at are also relevant under S. 51 of the Indian Evidence Act. PW4 is an expert in the matter of molecular biology and the evidence tendered by him is quite convincing and I have no reason why it should not be accepted. Just like the opinion of a chemical analyst, or like the opinion of fingerprint expert, the opinion of PW4 who is also expert in the matter of cellular and molecular biology, is also acceptable. The verdict was challenged in the High Court but the High Court upheld the verdict of the Telicheery Court stating that the results of DNA test by itself could be deciding paternity.

- **Case Law: Goutam Kundu v. State of West Bengal (1993)**¹¹: There was a question of disputed paternity. The Supreme Court addressed the issue of whether a DNA test could be compelled in a paternity dispute. The Court ruled that while DNA evidence is scientifically reliable, it should not be ordered automatically or as a matter of course. The Court emphasised that DNA testing could violate the privacy and marital sanctity of individuals, particularly in cases where the legitimacy of a child was in question. It also held that the right to privacy, particularly in marital relationships, must be balanced against the need for biological truth. The judgment placed restrictions on compelling DNA tests, stating they could only be ordered when it was in the interests of justice and not to harm familial relationships. The Court said that nobody can be forced to give a blood sample for testing if they do not want to, and no adverse opinion can be taken against him or her for this refusal.
- **Case Law: In the case of Sadashiv Malikarjun Kheradkar v. Smt Nandini Sadashiv Kheradkar, 1995**¹², it was held that the Court has the power to direct blood examination but it should not be done as a matter of course or to have a roving enquiry. The Bombay High Court even felt that there should be a suitable amendment by the Legislature and after noting that nobody can be compelled to give blood sample, it was held that the Court can give a direction but cannot compel giving of blood sample.

⁷ State of Karnataka v. M.V. Mahesh, 2003 Cri LJ 4725 (Kant).

⁸ Patangi Balaram Venkata Ganesh v. State of Andhra Pradesh, 2009 Cri LJ 1989 (AP).

⁹ Chandra Devi v. State of Tamil Nadu, 2002 Cri LJ 157 (Mad).

¹⁰ In Re: Case No. M.C. 17 of 1988, Court of Chief Judicial Magistrate of Tellicherry.

¹¹ Goutam Kundu v. State of West Bengal, (1993) 3 SCC 418.

¹² Sadashiv Malikarjun Kheradkar v. Nandini Sadashiv Kheradkar, 1995 Cri LJ 4090 (Bom).

- **Case Law:** In the recent case of **Kanchan Bedi v. Sri Gurpreet Singh Bedi, AIR 2003 Delhi 446**¹³, where the parentage of the infant was in question, and the application filed by the mother for conducting DNA test was vehemently opposed by the father contending that it would violate his rights. Hon'ble that the violation Vikramjit Sen, J. held that: " it appears to me to be difficult to resist law, as it presently stands, does not contemplate any impediment or of rights in directing persons to submit themselves for DNA test, especially where the parentage of a child is in controversy for the grant of maintenance".
- **Case Law: Geeta Saha vs NCT Delhi (1997)** It was further held that where the parentage of a child is in controversy for the grant of maintenance, parties submitting themselves for the DNA test is not violation of rights. He relied on the decision of the Hon'ble Supreme Court in the case of Geeta Saha v. NCT of Delhi (DB), 1997 (1) JCC 101¹⁴, where a Division Bench of Hon'ble Supreme Court had ordered that a DNA test be conducted on a foetus of a rape victim. Hon'ble Vikramjit Sen, J. distinguished this case from the case of Goutam Kundu v. State of West Bengal, 1993 Cr. L.J 3233 where it was held that "wife cannot be forced to give blood sample and no adverse inference against her for this refusal". In M/S X v. Mr. Y, AIR 2002 Del 217¹⁵, a single Judge of Delhi High Court had allowed a similar application and had directed that at the cost of husband, the Pathology Department of All India Institute of Medical Sciences should conduct the DNA test. The DNA test was to be conducted of a foetus.
- **Case Law: Sharda vs Dharmapala (2003)**¹⁶ In a very important judgment delivered by the Hon'ble Supreme Court of India in the case of Sharda v. Dharampal 2003 AIR SCW 1950, where the core question was, whether a party to a divorce proceeding can be compelled. to a medical examination. In this case an order for DNA test was opposed by the Respondent on the ground that such an order violates his right of privacy. The three Judge Bench of the Hon'ble Supreme Court held that:" if for arriving at the satisfaction of the Court and to protect the right of a party to the lis who may otherwise be found to be incapable of protecting his own interest, the Court passes an appropriate order, the question of such action being violative of Art. 21 of the Constitution would not arise. The Court having regard to Art. 21 of the Constitution of India must also see to it that the right of a person to defend himself must be adequately protected". It further held that if respondent avoids such medical examination on the ground that it violates his/her right of privacy or for a matter right to personal liberty as enshrined under Art. 21 of the Constitution of India, then it may in most of such cases becomes impossible to arrive at a conclusion. It was also said that if despite an order passed by the court, a person refuses to submit himself to such medical examination, a strong case for drawing an adverse inference would be made out. Section 114 of Indian Evidence Act enables a Court to draw adverse inference if the party does not provide the relevant evidences in his power and possession.
- **Case Law: Kishan Lal @ Champa Yadav v State of Chhattisgarh**¹⁷: the accused was convicted under section 376(3) of the Indian Penal Code for the rape of a minor aged between 16 and 17, which resulted in the birth of a female child. Despite the victim and her father turning hostile during the trial, the DNA report (Exhibit P/23 confirmed the accused as the biological father. The court, referring to sections 53A and 164A of the Criminal Procedure Code regarding medical and forensic procedures in sexual assault cases, held that DNA evidence alone was sufficient to establish guilt beyond reasonable doubt. The High Court held that the trial court's decision, undervaluing the evidentiary value of scientific proof in the absence of direct witness support.
- **Case Law: Nandlal Wasudeo Badwaik v. Lata Badwaik (2014)**¹⁸: The SC held that "when there is a conflict between a conclusive proof envisaged under the law and a proof based on scientific advancement accepted by the world community to be correct the latter must prevail over the former". The origin of the paternity action was the illegitimacy²⁹ under Section 112 of the Indian Evidence Act. The burden of proving paternity is always upon the person who takes up the action unless there is a prima facie case where the burden shifts to the other party.
- **Case Law: Mukesh and Anr v State (NCT of Delhi) (2017) 6 SCC 1 (SC)**¹⁹: In this case, the Supreme Court of India upheld the death penalty for the convicts involved in the brutal gang rape and murder of a 23-year-old woman in December 2012, widely referred to as the "Nirbhaya case³³." The Court emphasized the "rarest of rare" doctrine and recognised the grievous impact of the crime on societal conscience. The judgment talked about many things like the proof from forensics, the last words of the victim, and the rights of the accused, showing that rules were followed in the investigation and trial.

6. Challenges and Limitations

1. **PRIVACY, CONSENT, AND ETHICAL CONSIDERATIONS:** Right to Privacy and Bodily security. The right to privacy, now a fundamental right under Justice K.S. Puttaswamy v. Union of India (2017)²⁰, raises significant concerns in DNA-related litigation. The Supreme Court unanimously ruled that Article 21 of the Constitution guarantees the right to privacy to each person. Part III also recognizes

¹³ Kanchan Bedi v. Gurpreet Singh Bedi, AIR 2003 Del 446.

¹⁴ Geeta Saha v. NCT of Delhi, 1999 Cri LJ 201 (Del).

¹⁵ M/s X v. Mr. Y, AIR 2002 Del 217.

¹⁶ Sharda v. Dharmpal, (2003) 4 SCC 493.

¹⁷ Kishan Lal v. State of Chhattisgarh, 2007 Cri LJ 1352 (Chh).

¹⁸ Nandlal Wasudeo Badwaik v. Lata Badwaik, (2014) 2 SCC 576.

¹⁹ Mukesh v. State (NCT of Delhi), (2017) 6 SCC 1.

²⁰ Justice K.S. Puttaswamy v. Union of India, (2017) 10 SCC 1.

and guarantees various forms of freedom and dignity, including privacy, in various ways. As a result, privacy has been elevated to the same place as these other rights. DNA sampling, which is largely used in crime detection and in identifying victims after natural disasters, is prone to violating individuals' privacy.

2. **Impact on Child and Family:** DNA tests for non-paternity can have serious impact on family relationships and the psychological well-being of the child. Courts have to think about truth but also must care for child's interest and mother's respect. Supreme Court of India said in important case that forcing child to give DNA test in family fight, especially about cheating, goes against child's right to privacy under Article 21. Court said child's genetic identity is sensitive matter and must not be disclosed, unless there is an absolute necessity. It further held that such tests should only be allowed in rare circumstances, and prime focus should be the child's welfare and dignity.
3. **The Conflict Between Truth and Presumption:** The serious difficulty in India lies in resolving Section 112's presumption of legitimacy with the absolute nature of DNA results. This problem shows that the law is old and gives more importance to social acceptance than scientific truth. Family law works on rules made to keep social order and protect family ties. According to Section 112 of the Indian Evidence Act 1872, a child born to a married couple is regarded the husband's kid. But contemporary science, notably DNA testing, has called this rule into question by proving biological facts that are almost exact.
4. **This Makes Problem:** should court go for biological truth or keep family together. In case of *Dipanwita Roy v Ronobroto Roy* (2015)²¹ it is important in India family law. Supreme Court said if husband question child paternity from marriage, and wife no want do DNA test, court can take against her under Section 114(h) of Indian Evidence Act, 1872. This shows how court now try balance law presumption and scientific proof. The case is about can husband force wife and child do DNA test in marriage problem with adultery and paternity issue. It brings big legal and moral question about privacy and child legitimacy in marriage.
5. **Lack of One Law:** Even if court accept more DNA now, no full law on DNA collection, testing, keeping, use in civil case. So sometimes court decision not same, procedure problem, and rights risk. Use of DNA in family law India no one law. Section 116 of *Bhartiya Sakshaya Adhiniyam* 2023 say child born in marriage is husband's, but no clear rule on DNA test. Court decision different. *Kamti Devi v Poshi Ram* (2001)²² said Section 116 presumption only break with strong evidence. These problem show need clear law for same rule, balance law presumption, science proof, and rights.
6. **Section 53, Cr. P.C 1973:** does not apply to complaint cases: Section 53, Cr. P.C 1973: does not apply to complaint cases. Purpose of investigation of crime. But this section relates to investigation of criminal cases instituted by police only. This section does not enable a complainant to collect blood sample, semen etc. this section does not apply to complainant cases. This section does not specifically say whether it would be applicable to DNA test. It relates to examination of the accused by medical practitioner. This section never says that police officer in charge shall be entitled to collect semen, blood, saliva, hair root, urine, vaginal swab etc for the purpose of investigation personally by himself. For the purpose of crime investigation, section 53 of Cr.P.C should be more specific, more clear, more unambiguous, more meaningful, more purposeful so that an investigating officer may not face any difficulty for the purpose of crime investigation.
7. **No laws for collecting sample blood for DNA analysis in civil disputes or Quasi-civil disputes:** For the purpose of adjudication of civil disputes regarding paternity of child, taking of sample blood for the purpose of DNA analysis is of paramount importance. The supreme need of DNA analysis arises when the question of paternity arises in criminal cases, civil suits and in maintenance proceeding in criminal courts under section 125 of Cr.P.C. 1973. The maintenance proceeding under this section though governed by the Court of criminal proceeding is not an offence and so definitely and not so a police case, where for the purpose of investigation benefit of Section 53 Cr.P.C. would have been applied had it been a State case relating to criminal offence. The recent decision of Hon'ble Apex Court in *Goutam Kundu v. State of West Bengal* AIR 1993 SC 2295²³ throws some light regarding blood grouping test for ascertainment of disputed paternity. The Hon'ble Supreme Court laid down certain guidelines:
 - The Courts in India cannot order blood test as a matter of course.
 - Wherever applications are made for such prayers in order to have a roving inquiry, the prayer of blood test cannot be entertained.
 - There must be a strong prima facie case and the husband must establish non-access in order to dispel the presumption arising *lasiem* under Section 112 of the Evidence Act.
 - The Court must carefully examine as what would be the *Lestar* consequence of ordering the blood test, whether it would have the ebanon effect of branding a child and mother as an unchaste woman.

Suggestions and Reforms

1. Limits of Changes in BNSS (Section 52 and Section 184)

²¹ *Dipanwita Roy v. Ronobroto Roy*, (2015) 1 SCC 365.

²² *Kamti Devi v. Poshi Ram*, (2001) 5 SCC 311.

²³ *Goutam Kundu v. State of West Bengal*, AIR 1993 SC 2295.

- The changes in the Bharatiya Nagarik Suraksha Sanhita, 2023 (BNSS), are very narrow.
- They mostly deal with rape cases and don't cover DNA use in other crimes, like property fights, parentage issues, or other criminal matters.
- Because of this, DNA cannot be used widely as a general forensic tool in India's courts.

2. Experts Left Out under Section 329, BNSS

- Section 329 of BNSS doesn't clearly include scientists from top labs like CCMB or CDFD.
- Without being officially recognized, their reports can have trouble being accepted in court.
- Including them is needed so DNA reports from India's best labs are fully trusted by judges.

3. There are no rules for maternity disputes in BNSS and BSA.

- Neither the BNSS nor the Bharatiya Sakshya Adhiniyam, 2023 (BSA), empowers courts to obtain blood samples of a minor and/or major in maternity disputes.
- In Bhoopala Subramaniam, the court held that it can not order a DNA test when someone refuses to give a sample.
- This clarifies, the law has not yet fully approved DNA for solutions to maternity or paternity matters.

4. Courts on Forcing Samples and Rights

- In Swati Lodha v. State of Rajasthan, the court said taking blood for DNA does not break Article 20(3) (protection against self-incrimination).
- This made it clear that forcing a biological sample is different from forcing someone to speak, so limited compulsion is allowed for forensic tests.

5. Supreme Court's Decision in 'Sharda vs Dharmpal'

- The Supreme Court said DNA tests are must to figure out important stuff like who the parents are.
- It said privacy is not an absolute. When rights clash, the one that better serves public morals and justice gotta win.
- This perspective is consonant with the updated criminal statutes and with the demand for clear rules to guide courts in weighing privacy against truth in both BNSS and BSA.