



## Role of DNA Profiling in Criminal Investigation Based Leading Case Laws

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**Abstract:** Forensic science has a great contribution in crime prevention and criminal justice by fair investigation. Its applications in crime prevention and investigation is essential to know the best possible and nearest justice to put those criminals behind the bars whose tendency is to destroy all proofs and evidences. DNA Profiling/Typing is one of the techniques of forensic technology which is used to investigate and find justice in most of the trials. The present communication deals with the contribution of DNA-Profiling in criminal investigation in Indian criminal justice, its evidentiary value and also the features of DNA Bill 2017. Material (evidences) collected to process, identify and compare to know evidentiary value of evidences. Under forensic science inter se the linkage between occurrence of crime, the criminals, the victims, the weapons, place and time are established whether it may be absence or presence by forensic science. We can say that there is an urgent and silent need for the application of the forensic science in present indian justice system. Forensic science perform many functions like establishing corpus delicti (Body of crime), determines the modus operandi of the crime (Method of doing something) identifies the criminal and also identify the victims. DNA is a hereditary material of each living organism's passes from parents to their offspring through inheritance. In most of the criminal and civil investigations the fair identification of criminals/heirs, parentage and other identification of individuals has been one of the biggest problem. This paper is established on secondary data collected through different online/offline sources and their analysis, which include research papers by different researchers, articles, journals, conference proceedings, periodicals, text books and available digital data analyzed for relevant application of forensic science in law.

**Keywords:** Law & Science, DNA Profiling in Criminal Investigation, Evidentiary value of DNA, DNA Profiling Bill, 2017

### Introduction

Forensic science is combination of all branches of sciences which is applied for the purpose of law in administration of fair play in social, criminal, civil contexts (Katz and Halamek 2006). In Forensic science technology all the tools and techniques are borrowed from different scientific disciplines to provide justice under law. It is a blend of sciences which plays important role in crime detection and investigation (Tewari and Kumar 2000, Sharma 2020). Proper applications of forensic science

technology help in all sort of detection of crimes investigation. Today the present scenario of crime investigation and prosecution is very rare in India. A large number of trials in crimes are still waiting for evidences at High court and Supreme Court in India. But due to lack of DNA legislation, Forensic science is not providing exact purpose of investigation in Indian justice system and investigating agencies also face problems due to lack of any procedure in criminal investigation. Regular maintaining of DNA data of offenders helps in speedy and fair



trials. Collaboration of sciences and law brings easy scientific investigation through DNA profiling in many trials in India and also ensuring justice in various cases since judiciary sense the urgency of the same without affecting the main legislations.

DNA profiling technology is bringing dramatic evolution due to which entire forensic science is urging for rapid changes. The expressions like 'DNA Profiling' and 'DNA Testing' have, however, now entered the vocabulary of at least an average literate man primarily because of the dramatic impact that these techniques have had on crime detection (Evetts and Weir 1998, Lee and Ganessien 1990). DNA Profiling need and magnitude have been addressed even by International crime protection and Detention Organization New Investigating tools and procedures i.e. DNA Profiling are whole heartedly welcome the value of such investigations by Interpol and other big organizations into investigating and prevention of crime.

The first DNA Profiling technique was discovered by Mr. Alec Jeffreys in 1984 at the University of Leicester in Britain. In 1985, West Midlands police requested his help to solve a case of rape-murders of two girls. Using his DNA fingerprinting methods, Alec Jeffreys tested the evidence and the possible suspects. Ultimately, he identified the true perpetrator, and exonerated an innocent man who was falsely

accused of the crime. And so DNA testing become an invaluable forensic technique for identifying a person's DNA found on evidence, providing essential clues linking to the perpetrator of crimes. Many criminal and civil trials have been solved in the guidance of DNA testing. The use of DNA Profiling has not only revolutionized the entire forensic science but has also proved to be of immense use for those involved in the administration of justice. As a matter of fact, DNA evidence has tremendous potential – both for protection as well as defence. It is an ally to the search of truth in criminal cases. Its application has resulted in more arrests, convictions as well as exonerations the world over (Hagerman 1990).

#### **Objectives of the study**

- DNA in relation with criminal perspectives.
- To know about DNA profiling and Indian justice system.
- Evidentiary value of DNA with the help of leading judgments.
- DNA Profiling bill, 2017 and its features.

#### **DNA PROFILING: Meaning and its Concepts**

DNA is a hereditary material of every living being present in the nucleus of each cell. It carries information required for the development of an individual. The most common source of



DNA in an investigation process is usually a sample from blood, semen, hair roots and the epithelial lining inside the month. These are popular since they are easily available with little intrusion (Neelkanthan 1996).DNA can however, also be collected from nails, urine, bone marrow foetal and faecal matters etc.

It is considered as essential tool in biological detentions which allow comparing samples of substance collected. Being unique in nature, it is considered as valuable tool in genetic identification. Biological testing usually indetermination of biological parents is operated under DNA profiling which determine the dispute between parents and child. DNA Profiling is also used to identify the objects which is handled or belonged to a missing person.

DNA Profiling is a new and a revolutionary technique that has been developed and implemented in forensic laboratories all over the world. It can be applied in criminal investigation to determine the evidentiary biological value found at crime scene which may bear not of suspect or victim. Thus it becomes the most dependable and conclusive tool to identify the truth in any investigation process.

### **DNA Profiling in criminal investigations and Indian Justice system**

Type of the crime committed is clearly indicated with the help of evidences and Forensic

evidences proves the location of the crime and circumstances i.e. when, who, where and how the crime has been committed. DNA Profiling basically handles the technological investigation of tangible evidences composed/collected and analyzed from the scene of crime.

Investigation is one of the main parts of case study which deal with formal or systematic examination of evidence. In course of an investigation, proof are collected from the crime scene, later those collected proofs are examined and analyzed in crime laboratories and whatever the result comes out are presented before learned court (Forensic Science 2019).

Each place of crime is Sui generis (unique) in nature and each case shows its own challenges. DNA Profiling plays an essential function in Indian Criminal justice system by justifying physical evidences scientifically examination and information collected like footprint, blood, stain, hair, fingerprinting, sperm etc though which culprit can be identified and innocent can be acquitted.

The investigating officer locates and collects the evidence himself directly or through the medical officer. In some cases, he takes the help a Forensic scientist. But overall responsibility to process the evidence lies on him.



### Case studies:

#### 1. In **State of Bombay v. Kathi Kalu Oghad**

(AIR- 1961 SC 1808) in 1961, Constitutional bench of SC consist of 11 judges held that: finger impression or signature of accused or writing specimen are not included within the expression of to be a witness, though all these may amount to furnished evidence. Court also includes that thumb impression or palm, finger or foot or any part of body by way of identification are not included in this expression to be a witness.

#### 2. In a landmark Judgement, **Smt. Selvi & Ors. v. State of Karnataka** (AIR- 2010 SC 1974),

2010, SC in 250 pages judgement, 3 judges bench headed by Justice K.G Balakrishnan which molded and administrated the usefulness of certain scientific tools such as Narco analysis, Brain electrical activation profile (BEAP) usually called as brain mapping and polygraph examination test and says that the outcome violate the right against self-incrimination under Article 20(3) of constitution. Article 20(3) relates to prevent the forcible conveyance of personal knowledge. Outcome of the test cannot be characterized on material evidence such as bodily substances and other physical objects.

3. In **Ritesh Sinha v. State of Uttar Pradesh, 2019**, SC, Ranjan Gogai, CJI held that conducting a voice Spectrographic test for investigation without the consent of person

would not violate the Article 20(3) Self-incrimination.

However, in response to another question raised before the Court regarding non-appearance of lawful provision or powers inherent under the provisions of Cr. P.C. regarding directing a person for such test, there were two divergent views. Hon'ble Justice Aftab Alam, on one hand held that "on the question of compelling the accused to give voice sample, the law must come from the legislature and not through the Court process." However, Hon'ble Justice Ranjana Desai, taking the instance of DNA profiling, observed thus:"In light of this attempted analogy, we must stress that the DNA profiling technique has been expressly included among the various forms of medical examination in the amended explanation to Sections 53, 53A and 54 of the Cr. P.C. It must also be clarified that a 'DNA profile' is different from a DNA sample which can be obtained from bodily substances. A DNA profile is a record created on the basis of DNA samples made available to forensic experts. Creating and maintaining DNA profiles of offenders and suspects are useful practices since newly obtained DNA samples can be readily matched with existing profiles that are already in the possession of law-enforcement agencies. The matching of DNA samples is emerging as a vital tool for linking suspects to specific criminal acts. It may also be recalled that as per the majority decision in **Kathi Kalu Orghad**,



**(State of Bombay v. Kathi Kalu Orghad & Ors. AIR 1961 SC 1808)** the use of material samples such as fingerprints for the purpose of comparison and identification does not amount to a testimonial act for the purpose of Article 20 (3). Hence, the taking and retention of DNA samples which are in the nature of physical evidence does not face constitutional hurdles in the Indian context. However, if the DNA profiling technique is further developed and used for testimonial purposes, then such uses in the future could face challenges in the judicial domain."

4. In **Kanti Devi v. Poshi Ram** (AIR-2001 SC 2296), dealing with the paternity issue of a child, the Apex Court held that:"The result of a genuine DNA test is said to be scientifically accurate. But even that is not enough to escape from the conclusiveness of section 112 of the Evidence Act, e.g. if both spouse were living together during the time of conception but the DNA test revealed that the child was not born to the husband, the conclusiveness in law would remain un rebuttable. This may look hard from the point of view of the husband who would be compelled to bear the fatherhood of a child of which he may be innocent. But even in such a case the law leans in favor of the innocent child from being bastardised if his mother and her spouse were living together during the time of conception"

5. However, in **Nalanda Basudev Badwaik v. Late Nalanda Badwick, 2014**, SC held that depending on the facts and circumstances of the case it would be permissible to direct courts for DNA examination to analyze veracity of the allegation made and can guide the investigation and further said that if these type of circumstances can be avoided, it should be avoided as its relate to persons self-incriminations.

#### **Evidentiary Value of DNA Profiling is Controversial Issue**

Paternity disputes admitted DNA report are considered under sec.45 of The Indian Evidence Act 1872, by the courts and stated that DNA examination deals with the expert opinion report which is also admissible in the court of law in same sphere of sec.45.

But later the demand of DNA test for other cases also arise and 185<sup>th</sup> report of Law Commission in 2003 recommended the inclusion of DNA testing in India Evidence Act by amending sec.112, but so far DNA report is not conclusive over sec.112 of Evidence Act, held in **Lallu lal patil v. smt Anarkali (2011M.P). Rohit shekhar v. Narayan Dutt Tiwari & Anr., 2012**, After a long and bitter tussle between Mr. Narayan Dutt Tiwari and High Court of Delhi, he was finally compelled to a DNA examination which subsequently confirmed his father head.



## **D.N.A. PROFILLING BILL-2019**

Initial steps towards this concept of DNA Profiling/Typing was taken in year 2007 by central government at that time by introducing “Draft DNA Profiling Bill” whose highlights was DNA Diagnostics & Fingerprinting. Later other version of bill was introduced from time to time in 2012, 2015, 2016, 2017, 2018 and last by 2019. Standing committee with experts and deliberate on the bill raised every time in sessions the importance of the upcoming law but each & every time sent back for evolution on points made in sessions with improvements & suggestions. In 2017, propose bill contains number of suggestions for improvements (Elonnai 2017).

### **Some Important characteristics of the Bill (GOI, Report-271)**

- Constitution of a DNA Profiling Board, a statutory body to undertake functions such as laying down procedures and standards to establish DNA laboratories and granting accreditation to such laboratories; and advising the concerned Ministries/ Departments of the Central and State Governments on issues relating to DNA laboratories. The Board shall also be responsible to supervise, monitor, inspect and assess the laboratories. The Board will frame guidelines for training of the Police and other investigating agencies dealing

with DNA related matters. Advising on the ethical and rights related to human DNA Testing will be in light with relations to international guidelines would be big task.

- Another issues raised in this upcoming Bill that development activities related to DNA typing and branches are also concerned matter in coming years.
- DNA testing results extracted will be used exclusively for identification of lost identity and not for any other purposes.
- DNA Data Bank: Physical evidences collected from crime scene and sent to laboratories and data analyzed will be stored in this type of data collection bank. The bank will be established by central government and there will be regional based bank of the state and one national bank which will be responsible for maintaining and storing data. It includes maintenance of categories of data like crime scene index, suspect’s index, missing index, deceased index etc.
- Under this bill provision are made to identify missing person with proper sampling & substances.
- In bill one more point was uplifted the under trial may request the court for another DNA testing is so required by trail.
- The DNA experts may be specified as Government Scientific Experts and be notified as such under clause (g) of sub-section (4) of section 293 of Cr. P.C.



## Conclusion

DNA typing is a technology which is very useful and conclusive result in getting the lost identity of a person from DNA analysis which shows the relationship between individuals from their biological point of view. Collection of samples from crime scene weather hair, bloodstains from cloths, sperm, fingerprint, foot print etc is done and matched with suspects to have conclusive proof. Being the need of an hour, governments are not serious about it; DNA technology helps in investigation of crimes and also guaranties the conclusiveness of result, only the problem is that DNA analysis not only reviles the colour of eyes or skin, looks or genetic relations but sometime data collected is misused to defame the identity of that individual. That is why more care is needed while collecting, analyzing and storing of individuals genetic data.

The draft DNA Profiling Bill, 2017 is required to address basic apprehensions of common citizens like privacy which is now a fundamental right. Comprehensive law on data protection which is of utmost importance in the light of data theft occurring here and there now is the need of the hour. The upkeep of data is also very challenging. At present, this is a grey area which needs the support of latest technological advancements. Moreover, the sampling of DNA must be resorted to strictly for criminal investigation purpose, identification of natural calamity victims and the like. It should not be

used for other purposes with ulterior motives. Until and unless, these areas are not covered and proper safeguards be enumerated, the Bill is not going to serve its purpose to its full extent. Like any other law for that matter. It has also to be ensured that DNA Profiling is a very useful technology for which detailed and well-defined Standard Operating Procedures is absolutely necessary. It would be better if the draft Bill is revised in the light or the recent Privacy Judgment of the Apex Court and the impending Data Protection Law on the recommendation of Justice B.N. Srikishna Committee Report. DNA Profiling is capable of changing the course of criminal justice system by saving the lives of innocent persons. State must realize it while making a law to regulate its functioning.

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