

## DNA PROFILING BILL, 2007 – AN ANALYSIS

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### Introduction

The Deoxyribose Nucleic Acid (DNA) analysis of body substances is a powerful technology that makes it possible to determine whether the source of origin of one body substance is identical to that of another, and further to establish the biological relationship, if any, between two individuals, living or dead without any doubt. The DNA profiling bill, 2007 should be converted in to an Act because by making a law to regulate/ control the use of DNA profiles will be just for the lawful purposes of establishing identity in a criminal or civil proceeding and for other specific purposes. Its main objective is to protect the individuals of the society and provide them justice as analysis of DNA (that offers sensitive information, which can be misused to harm the individual and the society) found at the scene of the crime, of the victim or the offender has been used to establish the identity. In order to achieve this objective, it will be essential to establish standards for laboratories, staff qualifications, training, proficiency testing, collection of body substances, custody trail from collection to reporting and a Data Bank with policies of use and access to information therein, its retention and deletion. DNA Data Bank Manager will supervise, execute and maintain this system and a DNA Profiling Board of eminent scientists, administrators and Law enforcement officers will administer and carry out other functions assigned to it under this Act. THE ANALYSIS WILL MAINLY DEAL WITH THE FIVE CHAPTERS OF THE DNA PROFILING BILL, 2007. These five chapters are as follows: -

1. DNA Profiling Board, its constitution, Powers and Functions (chapter III).
2. Standards, Quality Control, Quality Assurance obligations of DNA Laboratory (chapter V).
3. DNA Data Bank (chapter VII).
4. Confidentiality, Access to DNA Profiles, Samples and Records (chapter VIII).
5. Offences and Penalties (chapter IX).

### What is DNA?

The deoxyribose nucleic acid of every human is unique. Furthermore, DNA is ubiquitous. It is commonly referred to as “THE BLUE PRINT OF LIFE”. These properties have made DNA an

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important tool for the identification of the individuals, both in the forensics and security applications.

DNA consists of two twisted strands of the polymers, made up of mononucleotide units. Each nucleotide is composed of a 2- deoxyribose sugar, a phosphate, and one of the four bases: adenine (A), guanine (G), cytosine (C), thymine (T). Phosphodiester bridges in such a way as to form an unbranched polynucleotide chain link the deoxyribose sugar and phosphate.

Within a cell, DNA is organized into long strands called chromosomes. Each chromosome contains many thousands of different genes. A gene is a functional segment of DNA that codes for a specific protein. The sequencing of the human genome established that there are only about 30,000 different types of genes (and so proteins) encoded by the human genome. These proteins either perform tasks directly or synthesize molecules required for the biological activity that sustains life. Humans contain two sets of chromosomes. One version of each chromosome is inherited from each parent, giving a total of 46 chromosomes. Twenty-two pairs of chromosomes are autosomes and the 23rd pair is the X and Y sex chromosomes. Females have two X chromosomes, whereas males have one X and one Y chromosome.

### **What is DNA PROFILING?**

DNA is the material within every cell of the body and represents the blueprint of the life. It allows physical traits to be passed on from one generation to the next. Although the majority of the human genome (the complete set of genes for an individual) is the same across all the ethnic populations, people differ in their genetic makeup by the minuscule amount, and thus have their own unique DNA pattern.

DNA profiling, also termed as DNA typing, is the molecular genetic analysis that identifies DNA pattern. In forensic science, DNA profiling is used to identify those who have committed a crime. It is estimated that roughly one percent of all criminal cases employ this technique; however, DNA profiling has been used to acquit several suspects involved in serious crimes such as rape and murder and it has been used to convict the unsolved case.

In 1968, a 14 year-old girl named Linda Harmon was raped and murdered in San Francisco while babysitting for a neighbor. A semen sample from autopsy was collected and stored by the San Francisco medical examiner. The case went unsolved, but in 2002 the sample was tested for DNA. It matched William Speer, a convicted rapist who had been confined to an Arizona mental hospital.

It is believed to be the oldest “cold” case solved by CODIS<sup>1</sup>. Speer was arrested and pled not guilty to Harmon’s murder. He was ultimately convicted for murder.

Aside from identifying an individual responsible for violent crimes, the judicial system also can use DNA profiling to determine family relationships in the case of the disputed paternity or for immigration cases.

In DNA profiling or DNA typing, parts of DNA are identified that are polymorphic, and all of the alleles are known and their population frequencies are measured. There are many more alleles in DNA than forms of enzymes and antigens, and the probability of having any one type of an allele is very low. Taken as a whole, DNA typing is now capable of putting a person’s type in a class of one; the probability of someone else having that DNA is extremely small. There are several ways that DNA can be typed.

### **What is DNA DATABANK?**

With the advent of significant biotechnological advances in molecular biology, particularly with the completion of the human genome sequence, a better understanding of the genetic material that we inherit (DNA) has allowed scientists to utilize this information in a variety of applications. One of these ways has been to initiate and establish large scale DNA databanks. A DNA databank is essentially a storage facility that maintains DNA extracted from a variety of sources from an individual including blood, saliva, hair, skin, or other kinds of tissue (muscle, liver, etc.). Since DNA in the proper storage conditions can be maintained indefinitely, creating DNA databank can serve a variety of purposes that include screening for disease genes, paternity testing, identity matching for criminal investigations, and research-related studies.

The initial incentive for creating DNA databanks was to have a repository to send out samples for molecular genetics testing to screen for genetic predispositions to disease or inheriting disease genes. An essential method to better understanding disease as it relates to human genome has been to link DNA databanks to clinical information so that researchers can elucidate the mechanisms of heritable disease, susceptibility to diseases, and identify ways to use the genome for therapeutic application.

### **What is DNA DATABASE?**

Database is a structured collection of records or data that is stored. When scenes of crime officers find and recover biological evidence form a scene of crime (SOC), it can be submitted for DNA

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<sup>1</sup> CODIS: The Combined DNA Index System

analysis. If a good quality profile is obtained then it is searched against the profiles that are present on the database, and any positive hits are reported. The SOC are then compared with the loaded profiles of from the individuals. In addition to matching scene of crime evidence directly to criminal justice profiles, it is also possible to search for people who may be in the database and are related to an individual that has left evidential material at the scene of the crime; it is called familial searching.

### **WHAT IS DNA LABORATORY?**

“DNA laboratory” means any laboratory or facility established by the government or any agency and authorized by the Central or State Government to perform the DNA analysis.

### **QUALITY CONTROL**

Quality control includes maintain records for the chemicals, reagents, commercial kits, and other supplies that are purchased by a laboratory for use in testing. Such products are tested to see if they provide reliable results with the other reagents prior to their use in casework. They are stored appropriately (dry, frozen, refrigerated, etc.) and any expiration date is noted in a log. All equipment in a laboratory that is used to maintain or provide changing temperatures is calibrated and monitored. Such equipments would include refrigerators, freezers, water baths, and thermal cyclers (used for DNA work), and the like. All equipments used for weighing must be calibrated on a regular basis and all records maintained on the file. All equipments used for calibrated on a regular basis and all records maintained on file. All equipments used for centrifugation must also be calibrated and records kept for inspection. Laboratory procedures are maintained in a protocol manual that is available for inspection.

### **QUALITY ASSURANCE**

Quality assurance includes continuing education, proficiency testing, analyst certification, and laboratory accreditation. Quality assurance is a way of demonstrating that the analyses are valid and that the results of testing are reliable. One aspect of quality assurance is the documentation of a laboratory’s quality control program and procedures. For example, the FBI issued Quality Assurance Standards for Convicted Offender DNA Data basing Laboratories.

Because the technology has become so powerful, quality control and quality assurance are vital since a scientific determination can result in a conviction and lengthy sentence or, in cases, even a sentence of death. On the other hand, it can be used to exonerate those who have been convicted of violent crimes.

## **PROFICIENCY TESTING**

PROFICIENCY TESTING is an important component of quality control and quality assurance. It is an outgrowth of the DNA revolution in the forensic science. Forensic laboratories employ commercial labs that offer mock casework test trials. The casework is assigned to an analyst who handles it like any other item of evidence. A report is prepared, and the laboratory director can then determine if the results are correct or not. The purpose of proficiency testing is to verify that individual analysts are performing quality work according to the laboratory protocol, reaching the correct conclusion, and reporting it accurately. Failure to do so would result in more training for the analyst. Such testing can be done in an open or blind fashion. In the former case, the analyst is aware that the casework is not authentic and is being used to test skills and adherence to protocol. In the latter, the analyst is not told the true nature of the casework, and that the results will be used as part of a proficiency examination. Blind proficiency testing is not required presently for the forensic laboratories.

## **DNA PROFILING BOARD, ITS CONSTITUTION, POWERS AND FUNCTIONS**

Chapter 3 under sections 3 to 13 deals with the DNA profiling board, its constitution, powers and functions. The explanations according to the article are as follows:

**Section 3** talks about the constitution of the DNA profiling board, which is to be constituted by the central government to discharge the functions, and perform the duties, assigned to it by or under this Act. The head office shall be at the Centre for DNA Fingerprinting and Diagnostics, Hyderabad but DNA profiling board may establish offices at any other places too.

**Section 4** talks about the composition of the DNA profiling board that shall consist of the members appointed by the Central Government from amongst persons of ability, integrity and standing who have knowledge or experience in DNA profiling including molecular biology, human genetics, population biology, bioethics, social sciences, law and criminal justice or any other discipline which would, in the opinion of the Central Government, be useful to DNA Profiling.

**Section 5 and Section 6** deals with the tenure of the DNA profiling bill (Chairman's term should not extend more than 5 yrs) and the salaries/honorarium and allowances of Chairperson and members respectively.

**Section 7** talks about the meetings, which will be conducted under the DNA profiling Bill. The Chairperson will preside the meeting and in his absence the meetings will be presided by the other member chosen from the board. The question which come up in the meeting will be decided on the basis of the majority votes of the members and in case of tie, the Chairperson will be cast the

votes. All the orders, decisions and instructions given by the DNA profiling Board will be signed by the Member Secretary of the Board.

**Section 8** talks about the exceptional cases when the particular members of DNA profiling Board do not participate in the meetings. If any member has any direct or indirect monetary interest in any matter, which is going to be entertained by the Board in the meeting, then the member should disclose about the interest in front of the board and thus should deliberately not attend the meeting and be the part of the decisions of the meeting.

**Section 9** talks about the Removal, Resignation and Filling of Vacancy of Chairperson or Member(s) of Board. The Central Government can remove a member (even the Chairperson) of the Board on the basis of specified reasons.

The position of the Chairperson or the member will be vacant if he is found of unsound mind or is found bankrupt or has been convicted for any offence involving moral turpitude. If any vacancy is found in the DNA Profiling Board then the appointments done by the Central Government as per this Act will fill it. When a Chairperson or a member has to resign from the Board then he has to give a written statement to the Central Government and the vacancy so caused will be filled from the same category from which the earlier Chairperson or member was.

**Section 10:** Any proceeding of the DNA profiling Board won't be called as invalid simply on the basis of any vacancy or defect in the constitution of the DNA profiling Board or any defect in the appointment of a person acting as a member of the Board or any irregularity in the procedure of the Board which is not affecting the merits of the case.

**Section 13** talks about Powers and functions, which are exercised and discharged by DNA Profiling Board. It will be giving advice to the Central Government on the location, size, and new creation and up gradation of the DNA laboratories. It will also keep a check on the state governments' functioning on the establishment of DNA laboratories. It will recommend funding to the DNA laboratories and will advise on planning, organization and management of DNA laboratories and monitor register and certify all DNA training programmes and recommend programmes that would increase the number of qualified DNA examiners. It supervises and inspects the equipment and material facilities. And to also make recommendation for privacy protection statutes, regulations and practices relating to access to, or use of stored DNA samples or DNA analyses, with a view to ensure that such protections are sufficient. It also makes specific recommendations to ensure the appropriate use and dissemination of DNA information, the accuracy, security and confidentiality of DNA information, the timely removal and destruction of

obsolete, expunged or inaccurate DNA information and take any other necessary steps required to be taken to protect privacy.

It will be laying out standards and procedures for establishment and functioning of DNA Data Banks including manpower, infrastructure and other related issues concerning monitoring of their performance and activities. It will also deliberate and advice on all ethical and Human Rights issues emanating out of DNA profiling in consonance with International guidelines laid down by the United Nations and UNESCO, inter alia, relating to:

- (a) The rights and privacy of citizen,
- (b) The issues concerning civil liberties,
- (c) Issues having ethical and other social implications in adoption of DNA profiling technology,
- (d) Professional ethics in DNA profiling, and will also undertake any other activity which in the opinion of the Board advances the purposes of this act.

#### STANDARDS, QUALITY CONTROL, QUALITY ASSURANCE OBLIGATIONS OF DNA LABOURATORIES

Chapter V, section 19 to 28 of this act deals with standards, quality, control, and quality assurance obligations of DNA laboratories. There are certain guidelines which are granted to the DNA laboratories which are been approved under this Act. These are certain obligations, which every laboratory has to follow.

Section 19 talks about these obligations, which laboratories have on them. Laboratory has to follow certain standards of the quality assurance for DNA testing which specified under the regulation. These laboratories have to maintain and establish a documented quality system and also has to prepare quality manual specifying details relating to: minimum goals and objectives, organization and management, qualifications and training of personnel (which talks about the qualification of the laboratory staff), facilities in the DNA laboratories, evidence control (facility providing adequate security and minimizing contamination of DNA sample), validation, analytical procedures, calibration and maintenance (DNA laboratory shall use such equipment suitable for the methods employed), proficiency testing, corrective action, reports, review, safety, and audits (DNA laboratory shall conduct audits annually).

## **DNA DATABANK**

Chapter VII, section 33 to 37, deals with the establishment of DNA DATABANKS, matching of profiles, communication of DNA profiles to the governments of foreign state, access to information and expunge of records respectively.

Section 33 which deals with the establishment of the DNA databanks talks about the establishment of the National DNA DATABANK and State DNA DATABANK and their notifications. The National DNA Data Bank shall receive DNA data from State DNA Data Banks and shall store the DNA Profiles received from different laboratories in the format as may be specified by regulations. Every DNA DATA BANK shall maintain certain categories of data such as a crime-scene index, a suspects' index, an offenders' index, etc. The DNA Data Bank shall contain the following information in relation to each of the DNA profiles, namely:

- (i) In case of a profile in the offenders index, the identity of the person from whose body substance or body substances the profile was derived, and
- (ii) In case of all other profiles, the case reference number of the investigation associated with the body substance or body substances from which the profile was derived.

Section 34 deals with the matching of profiles. When a DNA profile comes to the DNA Data Bank for the entry then it is seen by the Data Bank manager that whether they have that profile or is it a fresh profile and then accordingly gives the information to the court, tribunal, or law enforcement agency for prosecution or criminal investigation.

Section 35: It talks about communication of the Data Bank manager to government of the foreign state which is an international organization made by the governments of different states. But this communication can be done on request to the law enforcement agency and only on approval of the Central Government. It also talks about the not using of the DNA profile for the benefits other than administrative when it is brought for the entry in the DNA Data Bank.

Section 36 talks about the access to information in the crime scene index which will be restricted according to the rules specified for the cases in which a victim of an offence which forms or formed the object of the relevant investigation or a person who has been eliminated as a suspect in the relevant investigation.

More importantly it talks about the information in the offenders' index shall be removed permanently without delay, when the person in respect of whom the information is kept in offenders index, is finally acquitted of the charge against him or when the conviction for an offence

of a person to whom information relates is quashed and a final acquittal is effected after the final appeal.

Section 37 talks about expunge of records, when the certified copy of the order of the court is finally received by Data Bank manager. Explanation:- For the purposes of this section, a court order is not 'final' till the expiry of the period of limitation for filing an appeal, or revision application, or review if permissible under the law, with respect to the order setting aside the conviction.

## **CONFIDENTIALITY, ACCESS TO DNA PROFILES, SAMPLES AND RECORDS**

Chapter VIII, section 38 to 44 deals with the confidentiality, access to DNA profiles, samples and records. Section 38 talks about the confidentiality of the DNA profiles, samples and records.

Section 39 states about the use of the DNA profiles, samples and records. All DNA profiles, samples and records shall solely be used for the purpose of facilitating identification of the perpetrator(s) of a specified offence if the samples and records must be used for finding the victim of accidents, disasters or missing persons or for such other purposes. This section does not have to do anything information, which can be taken out by the DNA, profiles and samples for finding the identity of the person.

If nothing contained in this section shall apply to information, which may be used to determine the identity of any person.

Section 40 states that when the DNA profiles, samples and records are available. These are available for the law enforcement agencies for identification purposes in a criminal case, in judicial proceedings, in accordance with the rules of admissibility of evidence, for facilitating decisions in cases of criminal prosecution, for defense purposes, to a victim or the accused to the extent relevant and in connection with the case in which such accused is charged, for population statistics data base, identification, research and protocol development, or for quality control provided that it does not contain any personally identifiable information and does not violate ethical norms, as specified by rules and any other purposes specified by the rules.

Section 41 talks about the access to the information of the Data Bank. It says that the information to a person can be given in two circumstances, firstly, if is given for the purposes of proper operation and maintenance of the DNA Data Bank and secondly, if is appropriate for training purposes.

Section 42 says that if any person who is authorized to access an index of DNA data base system, for the purpose of including the information of DNA identification records or DNA profile in that index, may also access that index for purposes of carrying out one time key-board search on information obtained from any DNA sample lawfully collected for a criminal investigation purpose, except for a DNA sample voluntarily submitted solely for elimination purposes.

Explanation – The expression “one time keyboard search” means a search under which information obtained from a DNA sample is compared with information in the index without resulting in the information obtained from a DNA sample being included in the index.

Section 43 talks about the restrictions on the use of the DNA profiles, samples and records. It says that a person who is said to access or to communicate the information shall not use the information other than the purpose for which he was made to access or to communicate.

## **OFFENCES AND PENALTIES**

Chapter IX (Section 45-49) deals with the offences and penalties under this act.

Section 45 talks about the penalties for unauthorized access or disclosure or use of DNA Data base and forensic material. If any person wilfully discloses, in any manner to any person or agency, which is not entitled to receive it under this act, shall be punishable with imprisonment for a term, which may extend to three years, or with fine not exceeding ten thousands rupees, or with both.

If any person wilfully obtains individually identifiable DNA information from the DNA database or Data bank, he shall be punishable with imprisonment for a term, which may extend to three years, or with fine not exceeding ten thousands rupees, or with both.

Whoever knowingly provides a DNA sample or result thereof in any manner to any person not authorized to receive it or obtains or uses without authorization such sample or result of DNA analysis, he shall be punishable with imprisonment for a term which may extend to three years, or with fine not exceeding ten thousands rupees, or with both.

Section 46 talks about Destruction, alterations, contamination, tampering with biological Evidence. If any person knowingly and intentionally destroys, alters, contaminates or tampers with biological evidence which is required to be preserved under any law for the time being in force with the intention to prevent that evidence from being subjected to DNA testing or to prevent the production or use of that evidence in a Judicial proceeding, he shall be punishable with imprisonment for a term which may extend to five years, or with fine not exceeding twenty thousand rupees, or with both.

Section 48 of the Act deals with the offences by companies/institutions. Where any offence has been committed by a company/institution, the person who was in charge at the time of offence i.e. was responsible to, the company /institution for the conduct shall be deemed to be guilty of the offence and shall be liable. Nevertheless, the person will not be held liable if the offence was committed in the absence of the knowledge of that person.

Section 49 of the Act deals with the Cognizance of offences by courts. No court inferior to that of a Metropolitan Magistrate or a Judicial Magistrate of the first class shall try any offence punishable under this Act and No court shall take cognizance of any offence punishable under this Act or any Rules or Regulations made there under, save on a complaint made by the Central Government or its officer or DNA Profiling Board or its officer or any other person authorized by them.

### **ADVANTAGES OF THE ACT**

1. In USA (DNA technology Act, 2003), Canada (DNA Identification Act, 1998), Germany, Australia, UK (Criminal Justice Act, 1995) and many more other countries the ability of law enforcement agencies can be greatly enhanced by using local State and National level Databases. When a crime is committed, the DNA sample may be compared and matched with the stored information. With the fear of the DNA database the offenders are always in the fear of getting apprehended any time. Until now, we were not having DNA Database but with the enforcement of this act we will have the DNA Database at STATE and NATIONAL levels which will decrease crimes in India.
2. The latest position in India is that there is no specific law on the subject of DNA evidence but DNA testing has got legal validity in 1989<sup>2</sup>. But due to coming of this Act, the country will get a very specific law in the subject of DNA evidence. In India *Kunhiraman v. Manoj*'s<sup>3</sup> case was the first paternity dispute, which required DNA testing and court had accepted the DNA evidences.
3. Today the DNA evidences has conclusively taken a special birth and acceptance in Indian Legal System as courts in India are passing orders for DNA tests in complex cases. It is now high time for the Government to take necessary steps in bringing a legislation regarding DNA evidences and necessary amendments should also be made in various relevant Acts and Codes such as in Indian Evidence Act, Family Courts Act, etc. in order

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<sup>2</sup> *Anil Kumar v. Turaka Kondala Rao*, 1998 Cri LJ 4279 (AP)

<sup>3</sup> (1991) 3 Crimes 860 (Ker.)

to make effective use of DNA evidences and taking of biological samples from the person of suspect(s) and of victim(s).

4. This act is a craft worthy piece of legislation as it helps very effectively in solving a criminal case. It is a powerful tool in detection of an accused and it keeps in check the crime rate with the creation of DNA Database.
5. The courts although are giving orders for the DNA tests and also relying on the DNA evidence yet in absence of a specific law the Courts are feeling handicapped in some of the cases. Nevertheless, as soon as this law comes into force, this handicappability will be removed and the courts will not be restricted to it.
6. The DNA technology has made the investigation of crimes much easier and has revolutionized the working of Investigating Authorities. It has become possible due to collection of biological materials from the place of occurrence.
7. Post-Conviction DNA testing: A request from the prisoner to the court for removal or vacation of the order (conviction) of the jury or court by matching the existing samples with his samples by DNA analysis for exoneration is called Post-Conviction DNA test (Section 44 of this act deals with Post-Conviction DNA testing), right now this legal procedure is applied in State and Federal cases in USA and in some European Countries. Procedure of post-conviction DNA testing has played an important role in solving the problems of wrong conviction and in reforming Criminal Justice System. The majority of the prisoners who were requesting for the removal of charges were convicted by faulty eye-witness identification, false confession, human error, wrongly performed scientific examination and misinterpret results etc. but by the revolution in Forensic science and by the advanced DNA analysis methods it is possible to save the honour and prestige of the Criminal Justice System by exonerating the innocent or wrongly convicted persons through post-convicted DNA testing.

## DISADVANTAGES OF THE ACT

### Right to PRIVACY

1. **In context of DNA profiling:** The concept of privacy is used to describe not only rights between individuals but also constitutional right against the state. An individual has a right to withdraw or participate as he/she deems fit. It is rightful claim of a person to determine up to what extent he/she wants to share his/her time, person or place with others and he/she has a right whether to communicate with others or not. The Universal Declaration of Human Rights also recognizes the right to privacy in its Article 12. The fourth

amendment to the US constitution directly protects the right to privacy. In India, this right has been derived from the common law of torts and from constitutional law. The National Commission to Review the Working of the Constitution of India which gives protection to private and family life and his/her correspondence although with reasonable restrictions. A safeguard exists in Article 20 (3) of the Constitution of India that a person cannot be compelled to be a witness against himself. Right of Privacy is available under Article 21 as such no person can be compelled to undergo any scientific test for collective evidence against him or herself<sup>4</sup>. In a case, it was held that no party to a legal proceedings can be compelled to any scientific test against his/her will as it has the effect of infringing upon his/her right to privacy<sup>5</sup>. Basic and salient features of MALIMATH COMMITTEE REPORT on Criminal Justice System Recommendations regarding Article 20 (3) of the Constitution of India should also be adopted on the proposed legislation to help in the prevention of commission of crime.

2. **In context to DNA Database:** As the use of DNA Database is increasing, the cry for violation of privacy is increasing. The supporters of the Database say that when the criminals and past convicts know that their genetic profiles are kept and saved they may think twice before repeating the offence. It works as a deterrent against such persons of criminal mentality. However, the opponents of the DNA database insist that it is violative to right to privacy. Further, they argue that society is meant to reform such persons and DNA Database system violates such commitments. Besides, it may create a havoc in the minds of juveniles' offenders and its implementation is against the presumption of innocence of a person. They apprehend that the contents of the DNA Data base may fall in wrong hands and then they may misuse the information<sup>6</sup>.

## CONCLUSION

DNA tests form a sophisticated new method for criminal investigation. It gained legal validity in India in 1989 by a paternity case. The coded genetic information, hidden in the DNA, is unique for every individual except monozygotic twins. Each cell has equal number of chromosomes and in turn, chromosomes contain DNA, which encodes the person's unique genetic make-up. Hence, an individual can be identified by a blood sample or even by the sample of hair, sputum, muscles, or tissue.

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<sup>4</sup> *Teeku Dutta v. State*, AIR 2004 Del. 205 (207)

<sup>5</sup> *Asit Kapur v. Union of India*, AIR 2004 Del. 203

<sup>6</sup> Source: An article of justice R.K. Abichandani, Judge, Gujarat High Court "THE GENE AGE :A LEGAL PERSPECTIVE"

The DNA analysis is accepted worldwide as an advanced scientific technique and it is considered more accurate and reliable evidence than any other form of scientific evidence. The DNA test conducted by the forensic experts is carried out to decide paternity of child and identification of suspects of crimes and for many other purposes. This is a powerful and comparatively better and authentic piece of scientific evidence in the reach of the courts in comparison with oral, documentary, and circumstantial evidence. The evidence obtained from the DNA test cannot be tampered with nor can it be removed or erased.

At present, there is no specific legislation in India about DNA test. However, its importance had been recognized by the Indian courts. The courts utilized this evidence to decide paternity of a child and identification of suspects of crime. The court relied heavily on this scientific evidence and much more than evidence of ballistic experts and handwriting experts. This technique has been used in subsequent judicial pronouncements.

Since Indian courts have given acceptance and preference to this form of expert evidence, it is high time that the Indian Parliament brings a suitable legislation to make this evidence admissible, compulsory and legal, particularly in deciding paternity and other related cases along with the criminal cases. In the absence of a specific legislation the courts, specifically Courts subordinate to the High courts, may feel handicapped and may not take initiative to order such tests as they might be considered transgressing the powers of High Courts and the Hon'ble Supreme Court. This is the 21st century, we are living in a scientific era and scientific methods, and techniques must be used also in deciding cases. We, as Indian must be rise to the occasion and must evolve scientific approach pertaining to our judicial pronouncement.

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