

Applicability of Forensic Science in Criminal Justice System in India

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Abstract

In the last few decades, the infusion of technology in crime investigation has been a major breakthrough in the process of advancement of criminal justice. Police utilize scientific tools and techniques to detect a crime, reconstruct the crime scene, identify the alleged offender and establish vital links; the courts, on the other, take account of these physical evidences, otherwise infallible, and determine with enhanced accuracy the innocence or guilt of the offender. Somewhere, the efficiency and effectiveness of the criminal justice functioning has come to be intertwined with the extent of use of technological tools in crime investigation.

Forensic evidence is a discipline that functions within the parameters of the legal system. Its purpose is to provide guidance to those conducting criminal investigation and to supply to courts accurate information upon which they can rely in resolving criminal and civil disputes. The present paper will analyze the legislative frame with regard to applicability of forensic science in criminal justice. It will also try to probe the reasons as to why the role of forensic science in Indian criminal justice administration is still at rudimentary stage or restrictive in nature, even though since last few decades, a tremendous technological advancement in scientific era has been made. The Indian legal structure and its allied subsidiaries need to be remolded towards the achievement of result oriented forensic investigation and trial, so that speedy remedy & justice to victims of heinous crimes may be provided.

Key Words: Criminal Justice, Evidentiary value, Forensic Science, Legal approach.

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Introduction

Criminal justice forms part of the set of processes, bodies and institutions that aim to secure or restore social control¹. The latter may be defined as ‘the organized ways in which society responds to behavior and people it regards as deviant, problematic, worrying, threatening, troublesome and undesirable’². Administration of criminal justice primarily rests on police, prosecution, courts and prisons. These four organs are engaged in the vital task of prevention, detection, prosecution, adjudication and penalization of offenders in society. Effective criminal justice machinery ensures a safe and peaceful society. In fact, the entire existence of an orderly society depends upon sound and effective criminal justice system³.

Amongst the functionaries of the criminal justice, the pivotal role is that of the Magistrates and courts. They are responsible for deciding the guilt or otherwise of the alleged offenders and determining the sentence. This process of deciding the culpability of offenders by courts is a complex one involving appreciation of facts and evidence and establishing the charge sought to be proved. In the task, they are assisted by a specialized investigative body, the police. The latter are entrusted with the significant task of detecting and investigating crimes for the purpose of apprehending the alleged offenders and bringing them to justice. Any investigation speaks only with evidence. Truth stands proud in a Court of Law only on the solid and sound foundation of evidence”⁴.

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¹FRANCIS PAKES (ED), COMPARATIVE CRIMINAL JUSTICE pg. No.1 (Routledge, Oxon, Third Edition/2015).

² DAVID SHICHOR, THE MEANING AND NATURE OF PUNISHMENT, (Waveland Press, Inc. 2006).

³Committee on Reforms of Criminal Justice System, Government of India, Ministry of Home Affairs, Volume I, 2003.

⁴U. S. Misra, *CBI-The Role & Challenges* 13 NPAJ Vol. 57 (1 (2005)).

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What is Forensic Science?

The concept of forensic science is not a new one. In ancient India, medical opinion was frequently applied to the requirements of the law. Sir William Herschel was one of the first to advocate the use of fingerprinting in the identification of criminal suspects. Fingerprint evidence was first accepted in an Argentine court in the 1890s and in an English court in 1902.

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Forensic science, an amalgamation of almost all faculties of knowledge, is an essential and efficient enabler in the dispensation of justice in criminal, civil, regulatory and social contexts. It is defined as the application of science in answering questions that are of legal interest. Forensic science in today's world is an advanced scientific technique which is used in criminal and civil investigations, it is capable of answering important questions and forms an integrated part of criminal justice system⁵. It includes all well known techniques such as fingerprint analysis, DNA analysis, ballistic, firearms or explosive culture etc. It helps to convict those guilty of crime as well as can exonerate the innocent.

Role of Forensic Science in Crime Investigation:

Forensic science is one of the important aspects of criminal justice. Basically, it deals with scientific examination of physical clues collected from the crime scene. Forensic science explains the identity (who) of the suspect who committed the crime. The evidence clearly indicates the type (what) of the crime committed. The circumstances speak out about the time (when) of the incident. The forensic evidence proves the location of the offence (where/crime scene). The forensic investigation finds out the modus operandi (how) of the offender. Lastly, it

⁵IshaTyagi and Nivedita Grover, *Development of Forensic Science and Criminal Prosecution-India*, , 2 IJSRP Vol.4 (2014).

establishes the motive behind the crime. The forensic investigators reconstruct identity of the offender and the victim⁶.

During an investigation, evidence is collected at a crime scene or from a person, analyzed in a crime laboratory and then the results presented in court. Each crime scene is unique, and each case presents its own challenges⁷. Forensic science plays a vital role in the criminal justice system by providing scientifically based information through the analysis of physical evidence, the identity of the culprit through personal clues like fingerprint, footprints, blood drops or hair. It links the criminal with the crime through objects left by him at the scene and with the victim or carried from the scene and the victim. On the other hand, if the clues recovered do not link the accused with the victim or the scene of occurrence, the innocence of the accused is established. Forensic science, thus, also saves the innocent. After the emergence of DNA technology as a latest method of forensic science, it provides tremendous amount of information to the investigating officers that enable him to find the criminal purely from evidence which he has left at the scene of crime⁸.

Legal Provision:

In India, the application of forensic science to crime investigation and trial has to stand the limitation of law. The predominant questions therein are: viz.

- a) What is the constitutional validity of such techniques?
- b) To what extent does the law allow the use of forensic techniques in crime investigation?
- c) What is the evidentiary value of the forensic information obtained from the experts?

Articles 20(3) of the Indian Constitution provide that no person accused of any offence shall be compelled to be a witness against himself. Article 20(3) is based upon the presumption drawn by law that the accused person is innocent till proved guilty. It also protects the accused by shielding him from the possible torture during investigation in police custody. Criminal law considers an accused as innocent until his guilt is established beyond reasonable doubt. The Universal Declaration of Human Rights, Article 11, states: "Everyone charged with a penal

⁶N. B. Narejo, M. A. Avais, *Examining the Role of Forensic Science for the Investigative-Solution of Crimes*, 252 SURJ (SCIENCE SERIES) Vol. 44(2) 2012.

⁷Forensic Sciences, National Institute of Justice, Office of Justice Programs, <http://www.nij.gov/topics/forensics/pages/welcome.aspx>, (last visited on 15.2.2016).

⁸Jyotirmoy Adhikary, *DNA Technology in Administration of Justice*, (LexisNexis, Butterworths, 2007)

offence has the right to be presumed innocent until proved guilty according to law in a public trial at which he has had all the guarantees necessary for his defence.⁹"

Article 20 (3) of the Constitution of India guarantees fundamental right against self incrimination and guards against forcible testimony of any witness. The fundamental right guaranteed under Article 20 (3) is a protective umbrella against testimonial compulsion in respect of persons accused of an offence to be witness against themselves. The protection is available not only in respect of evidence given in a trial before Court but also at previous stage. The protection against self-incrimination envisaged in Article 20 (3) is available only when compulsion is used and not against voluntary statement, disclosure or production of document or other material¹⁰. This right has been taken to ensure that a person is not bound to answer any question or produce any document or thing if that material would have the tendency to expose the person to conviction for a crime¹¹.

Sec. 73 of the Indian Evidence Act empowers the court to direct any person including an accused to allow his finger impressions to be taken. The Supreme Court has also held that being compelled to give fingerprints does not violate the constitutional safeguards given in Art. 20(3)¹².

There are questions as to whether forensic evidence violates Art. 20(3) of Indian Constitution or not? In *The State of Bombay v. KathiKaluOghad & Others*,¹³ the court held that giving thumb impression, specimen signature, blood, hair, semen etc. by the accused do not amount to 'being a witness' within the meaning of the said Article. The accused, therefore, has no right to object to DNA examination for the purposes of investigation and trial.

⁹ Universal Declaration of Human Rights, United Nations High Commissioner For Human Rights, http://www.icnl.org/research/library/files/Transnational/UNIVERSAL_DECLARATION_OF_HUMAN_RIGHTS.pdf (last visited on 9.2.2016).

¹⁰ Justice U.C. Shrivastava, *Immunity from Self-Incrimination under Art. 20(3) of the Constitution of India*, JJTRI, U.P., <http://ijtr.nic.in/articles/art19.pdf> (last visited on 8.2.2016).

¹¹ McDougall, Justice Robert, *The Privilege against Self-incrimination: a time for reassessment*, Paper presented at New South Wales Bar Association, 18 October 2008, <http://www.supremecourt.lawlink.nsw.gov.au/agdbasev7wr/supremecourt/documents/pdf/mcdougall181008.pdf>, (last visited on 29.08.2014) p. 2; Ashish Goel, 'Indian Supreme Court in Selviv. State of Karnataka: Is a Confusing Judiciary Worse than a Confusing Legislation?', Vol. 44, JLP, Asia and Latin America(2011).

¹² Gaurav Aggarwal, *Smart Study Series Forensic Medicine & Toxicology* 73 (ELSEVIER A division of Reed Elsevier India Private Limited, Gurgaon Haryana), 2009).

¹³ AIR 1961 SC 1808, 1962 SCR (3) 10.

The Bombay High Court in another significant verdict in the case of, *Ramchandra Reddy and Ors. v.State of Maharashtra*¹⁴, upheld the legality of the use of P300 or Brain finger-printing, lie-detector test and the use of truth serum or narco analysis. The court upheld a special court order allowing SIT to conduct scientific tests on the accused in the fake stamp paper scam including the main accused, Abdul Karim Telgi. The verdict also maintained that the evidence procured under the effect of truth serum is also admissible.

In a 2006 judgment, *Dinesh Dalmia v State*¹⁵, the Madras High Court held that subjecting an accused to narco-analysis does not tantamount to testimony by compulsion. However, in a subsequent case, i.e., *Selvi & Ors v. State of Karnataka & Anr.*¹⁶, the Supreme Court questioned the legitimacy of the involuntary administration of certain scientific techniques for the purpose of improving investigation efforts in criminal cases. In the above mentioned case,¹⁷ the Supreme Court held that brain mapping and polygraph tests were inconclusive and thus their compulsory usage in a criminal investigation would be unconstitutional.

The Code of Criminal Procedure, 1973 was amended in 2005 to enable the collection of a host of medical details from accused persons upon their arrest. Section 53 of the Criminal Procedure Code 1976 provides that upon arrest, an accused person may be subjected to a medical examination if there are “reasonable grounds for believing” that such examination will afford evidence as to the crime. The scope of this examination was expanded in 2005 to include “the examination of blood, blood-stains, semen, swabs in case of sexual offences, sputum and sweat, hair samples and finger nail clippings by the use of modern and scientific techniques including DNA profiling and such other tests which the registered medical practitioner thinks necessary in a particular case.”¹⁸

However, the provision inserted through an Amendment in 2005 is limited to rape cases only. This section also does not enable a complainant to collect blood, semen, etc, for bringing

¹⁴2004 All MR (Cri) 1704.

¹⁵2006 Cri. L. J 2401

¹⁶ AIR 2010 SC 1974.

¹⁷*ibid.*

¹⁸Overview and Concerns Regarding the Indian Draft DNA Profiling Act, Council for Responsible Genetics, http://www.genewatch.org/uploads/f03c6d66a9b354535738483c1c3d49e4/India_DNA_Bill_Memo_2.0.pdf, (last visited on 2.2.2016).

criminal charges against the accused; neither does it apply to complaint cases¹⁹. In similar lines, Section 164A Code of Criminal Procedure, 1973 provides for the medical examination of a woman who is an alleged victim of rape within twenty four hours and such examination includes the DNA profiling of the woman. Both the sections authorize any medical practitioner within the meaning of Sec. 2(h) Indian Medical Council Act, 1956 to collect a DNA sample. Question lies as to whether every medical practitioner is capable to collect and preserve DNA evidence. It is a well known fact that DNA evidence is entirely dependent upon proper collection and preservation of sample. Any simple mistake or unawareness can contaminate the sample and contaminated sample is of no use.

Under Indian Evidence Act, 1872, forensic report is considered as “opinion” tendered by expert. An expert may be defined as a person who, by practice and observation, has become experienced in any science or trade. He is one who has devoted time and study to a special branch of learning, and is thus especially skilled in that field wherein he is called to give his opinion²⁰. The real function of the expert is to put before the court all the materials, together with reasons which induce him to come to the conclusion, so that the court, although not an expert, may form its own judgment by its own observation of those materials²¹. The credibility of an expert witness depends on the reasons stated in support of conclusion and the tool technique and materials, which form the basis of such conclusion²². However, the court is free to disagree with the conclusions drawn by the expert and rely on other evidences for the purpose of decision.

The National Draft Policy on Criminal Justice Reforms²³ has suggested that Indian Evidence Act needs to be amended to make scientific evidence admissible as ‘substantive evidence’ rather than ‘opinion evidence’ and establish its probative value, depending on the sophistication of the concerned scientific discipline.

¹⁹*Supra*, n. 8.

²⁰Pragati Ghosh, Evidentiary Value of Expert Evidence under Indian Evidence Act, 1872, <http://www.shareyouressays.com/119180/evidentiary-value-of-expert-evidence-under-indian-evidence-act-1872>, (last visited on 6.04.2015).

²¹ S. C. Parakh, ‘Expert Witness’ 421 IJA Vol.55 (2011).

²²Prof. (Dr.) B. P. Tiwari, *Evidentiary Value of Expert Opinion*, 23 IIRJ Vol. IV (2012).

²³ Report of the Committee on Draft National Policy on Criminal Justice, Ministry of Home Affairs, Government of India, July, 2007.

Restrictive use of Forensic Evidence in Indian Legal Scenario:

The most important function of scientific investigation is to convert suspicion into reasonable certainty of either guilt or innocence. However, till recently, the courts had to rely heavily on the non-scientific evidences because of the non-availability of proper technologies. There is a study of 2011 that shows that only in 47 cases in Supreme Court and different High Courts; DNA has played an important role. Out of these, 23.4% decisions were given by Delhi High Court alone. Furthermore, DNA evidence had been used in merely 4.7% murder cases and 2.3% rape and murder²⁴. In yet another study of rape cases over the decade, the author has indicated that there has been an increased reliance by Indian courts on forensic evidence and DNA over the years, even though the figures are abysmally low and concerted efforts are needed to include scientific evidence in all criminal matters, where applicable.²⁵

The area of forensic science in India has, yet, not been fused. Many a time, neither the judge, nor the lawyer nor even the police appreciate fully, the advances or the extensive, promising potentialities of the science and the fusion of new technologies, methodologies, modalities and research. Multitask and multi-professional nature of forensic science needs an inter-professional approach, which is, many a time, lacking²⁶.

The Committee on Reforms of Criminal Justice System²⁷ also indicated that the present level of application of forensic science in crime investigation is somewhat low in the country, with only 5-6% of the registered crime cases being referred to the FSLs and Finger Print Bureau put together. There is urgent need to bring about quantum improvement in the situation, more so, when the conviction rate is consistently falling over the years in the country and the forensic evidence, being clinching in nature, can reverse the trend to some extent.

²⁴Dr. Nirpat Patel, Vidhwansh K Gautaman, ShyamSundarJangir, *The Role of DNA in Criminal Investigation- Admissibility in Indian Legal System and Future Perspectives*,15-21 IJHSSI Vol. 2 (2013).

²⁵Dipa Dube, 'Determining the Applicability of DNA Evidence in Rape Trials in India', Vol. 2 (1), *IJSSR*, 2014.

²⁶ Justice Jitendra N. Bhatt, A Profile of Forensic Science in Juristic Journey, <http://www.ebc-india.com/lawyer/articles/2003v8a4.htm> (last visited on 28.2.2016).

²⁷Committee on Reforms of Criminal Justice System, Government of India, Ministry of Home Affairs, Report, Volume 1, March 2003.

The reasons for reluctance of courts to use forensic evidence in criminal investigation are various. Mismanagement of physical evidence, including improper collection, preservation, non collection of clue evidence, non-maintenances of chain of custody, as well as delayed dispatch of physical evidence for scientific analysis has been repeatedly commented upon by the courts. Not sending an accused for medico-legal examination, non-lifting of fingerprints by the I.O or when bloodstained mortal object had been sent for chemical examination without covering the same by a wrapper immediately after seizure of the same then it's obvious that court would reject the report²⁸.

Sometimes scientific evidence suffers from some kind of technical lacunas such as non-mention of blood group in Serologist's report²⁹, tests were not done meticulously³⁰, no supportive data were provided by the Expert along with report³¹, delayed examination of exhibits at the laboratory³²etc.

Delayed examination of exhibits at the laboratory can turn the merit of a case into a negative version. The delayed examination of biological, serological and viscera exhibit in poisoning cases puts a big question mark on the authenticity of evidence. The putrefaction of such exhibits can generate alcohol in the exhibits, on long standing, and may also not permit the detection of poison and conclusive serological results; likewise, in cases of drunkenness, the blood alcohol or urine alcohol negative samples may test positive for the presence of alcohol due to self-generation of alcohol on the putrefaction of samples³³. Sometimes, it is not possible for the Autopsy Surgeon to clarify the mode of death³⁴.

Medico-legal examination is done to unearth real cause of injury or death. It can clearly tell the nature of death i.e. accidental/suicidal/homicidal and injury also. Documentation of medico-legal examination should, therefore, be prepared very carefully in order to arrive at scientific findings, which in many cases is not done in an appropriate manner.

²⁸A. Dutta, R. C.Arora,and Dr. P.C. Sarmah, *Analysis of Problems related to Forensic Examination in Offences against Human Body and Need for Auditing*, Vol.LVIII (3),IPJ& pg. no.10-11(2011).

²⁹Kasha Beharav. State of Orissa, AIR 1987 SC 1507.

³⁰Himanashu Pahari v.State, (1986) Cri. L.J. 622.

³¹Mahmood v. State of U.P., AIR 1976 SC 69.

³²Mahavir Singh v.State, Cri. Appeal No. 498/2007, decided on 22.5.09.

³³*ibid.*

³⁴Enamul Haque v. State of West Bengal, CRM 17348 of 2010 & AST 1114 of 2010.

Forensic case data, thus, is still poorly integrated into the investigation and crime analysis process, despite evidence of its great potential in various situations and studies³⁵.

Constraints faced by allied subsidiaries:

Modern techniques of investigation are an area still unknown to the police. They are not taught about them. The police are accused of investigating crimes by using traditional methods and techniques³⁶. It has been maintained that improper scientific knowledge with the investigation officer, the first respondent to the crime coupled with improper handling of scene of crime, may either contaminate the samples required to be tested or destroy the evidentiary value, which could be obtained on proper lifting, sealing, forwarding to the Expert/Laboratory for examination. Therefore, association of Forensic Experts with the police investigation right from the beginning and their effective liaison with the Medico-legal Expert can contribute very significantly and sometime decisively, to the solving of the crime³⁷.

In India, a serious concern is also about the independence of forensic labs and its self-regulation. The state and central forensic science laboratories are under the direct administrative control of the law enforcement authorities. The State and Union Territory Forensic Science Laboratories is either directly functioning under the respective Home Department or through police establishments³⁸. Forensic science institutions are part of police setup and therefore, cannot maintain absolute independence at all levels³⁹.

Forensic labs lack the necessary manpower and infrastructure. They are staff served. Sometimes proper infrastructure and equipments are missing. They lack proper funding also. Surprisingly, there is also a lack of co-ordination between these two wings, i.e. forensic expert and police.

The Report of the Committee on Draft National Policy on Criminal Justice⁴⁰ emphasized that training, accreditation, standard setting, professionalism and research and development of

³⁵Olivier Ribaux, Simon J. Walsh and Pierre Margot, *The contribution of forensic science to crime analysis and investigation: Forensic intelligence*, 171-181 FSI vol.156 (2006).

³⁶James Vadackumchery, *The Police, the Court, and Injustice*, 97 (APH Publishing Corporation, New Delhi, 1997).

³⁷The forensic use of bio-information: ethical issues, Nuffield Council on Bioethics, <http://nuffieldbioethics.org/wp-content/uploads/The-forensic-use-of-bioinformation-ethical-issues.pdf> (last visited on 25.2.2016).

³⁸V. R. Dinkar, 'Forensic Scientific Evidence: Problems and Pitfalls in India', 79-84, IJFSP Vol. 3 (2015).

³⁹Peerzada Yasir Latif Handoo, *Forensic Science: A Boon to Criminal Justice, Administration with Special Reference to State of J&K.*, 53 JIARM Vol.1 (2013).

⁴⁰*Supra n. 23.*

forensic science should receive adequate attention in the policy framework. The Malimath Committee⁴¹ also suggested that more well-equipped laboratories should be established to handle DNA samples and evidence, as well as specific law should be enacted giving guidelines to the police setting uniform standards for obtaining genetic information and creating adequate safeguards to prevent misuse of the same⁴². More recently, the Justice Verma Committee⁴³ laid down the need for proper storage and preservation of DNA samples, especially in sexual assault cases.

Latest Judicial Pronouncements: Here are some of the latest cases where court has relied on forensic evidence and given verdict by taking into consideration of this piece of evidence.

In *Krishan v. State of Haryana*⁴⁴, the Trial Court, considering the facts and circumstances of the case, more particularly relying on the FSL report convicted the appellant under Sec. 376 and Sec. 506 of IPC.

In a recent judgment in case of *State of Gujarat v. Mohan Hamir Gohil and others*⁴⁵, Division Bench of this Court after referring to various authorities on DNA technology, different methodology used for testing and the scientific advancements made world over, noticed that over a period of time the Courts across the world including in India have been placing heavy reliance on DNA results. It was observed "Over a period, the technology of DNA testing has made great strides and achieved sophistication leading to results which can often times be used either for inclusion or exclusion of the accused. DNA of a person is considered R/CR.A/224/2012 JUDGMENT unique to himself (except in cases of identical twins) and can be traced from smallest quantity of blood, saliva, semen, root of hair, skin, nail and such like. Subject, of course, to the laboratory analyzing the sample following the scientific protocols, the DNA results becomes absolutely unquestionable.

⁴¹*Supra n. 27.*

⁴²*Supra n. 5.*

⁴³Report of the Committee on Amendments to Criminal Law, 23rd January, 2013.

⁴⁴(2014) 13 SCC 574.

⁴⁵R/CR.A/224/2012

In *Dharam Deo Yadav v. State of Uttar Pradesh*⁴⁶, a judgment which deals with the admissibility of DNA evidence, Supreme Court observes that “Crime scene has to be scientifically dealt with without any error. In criminal cases specifically based on circumstantial evidence, forensic science plays a pivotal role, which may assist in establishing the evidence of crime, identifying the suspect, ascertaining the guilt or innocence of the accused. One of the major activities of the investigating officer at the crime scene is to make thorough search for potential evidence that have probative value in the crime. Investigating Officer may be guarded against potential contamination of physical evidence which can grow at the crime scene during collection, packing and forwarding. Proper precaution has to be taken to preserve evidence and also against any attempt to tamper with the material or causing any contamination or damage.”

In *Anil @ Anthony Arikswamy Joseph v. State of Maharashtra*⁴⁷, relying on scientific evidences including DNA profile and oral evidences, the accused was convicted and punished with death sentence and fine by the Sessions Judge, Nagpur for gruesome murder of a minor boy aged about 10 years after subjecting him to carnal intercourse and then strangulating him to death.

In *Nitish Katara* murder case, the identification of the deceased victim was difficult due to availability of only a small portion of one un-burnt palm with fingers. Here also, DNA profile helped in identifying the body remains by matching DNA profile with parents of the deceased which helped the High Court of Delhi to uphold the conviction of the accused⁴⁸.

In *Sushil Mandal v. The State represented by CBI*⁴⁹, the petitioner, father of the deceased boy, challenged the findings of DNA profiling. The deceased boy fell in the adolescent cusp of mutual infatuation with a school girl and parents of both were advised by school administration for keeping check on them. Later, the boy was found reportedly missing and, after a week, a fully decomposed unidentified body was fished out from a lake. The petitioner claimed of not identifying the body remains and clothes of his missing son. He preferred habeas corpus petition in the high court accusing the father of the girl and praying the high court for directing the investigation by the Central Bureau of Investigation (CBI). The DNA test of the body remains

⁴⁶ 2014 (5) SCC 509

⁴⁷ (2014) 4 SCC 69.

⁴⁸ *Vishal Yadav v. State of Uttar Pradesh* (2014) SCC Online Del. 1373.

⁴⁹ 2014 SCC Online Mad 7362 : (2014) 2 MWN (Cri) : 580 (Mad) (1B).

matched with the genetic profiles of the parents (the petitioner and his wife) of the deceased. The skull super imposition test also established link between the deceased and the recovered body. But petitioner refused to accept the truth revealed by these scientific tests on one pretext or the other despite the fact that DNA test was repeated for his satisfaction. The apex court placed reliance on scientific tests including DNA profiling for human identification⁵⁰ and accordingly closed the matter.

The Bombay High Court in *Anmolsingh Swarnsingh Jabbal v. The State of Maharashtra*⁵¹, upheld life term, relying upon DNA evidence, in addition to other evidences, for murder of a young lady engineer by her colleague in a case of one sided love.

In another case of brutal rape and unnatural sexual act with a four year old girl child living in a slum dwelling was investigated by Delhi police and DNA profiling was used to link the perpetrator with the ghastly act of sexual violence. The court after having examined the detailed analysis of the child's testimony and various methodologies involved therein approved the investigation findings based upon DNA reports and other evidences and held the accused guilty and set aside acquittal order passed by the trial court⁵².

In another case, the use of DNA technology paved the way to prosecute and convict the culprit to death, liable for kidnapping and killing after gang rape of a 10 year old school girl by auto rickshaw driver and throwing the corpse of the victim in a running canal⁵³.

Conclusion:

In Indian scenario, there has been increased emphasis on the use of such technologies in criminal investigation and trials. The Commissions appointed on reforms of criminal justice have reiterated that the infusion of technology in crime detection can help the system to function efficiently. The relevant laws have been amended from time to time to make way for use of forensic technologies in crime investigation and trial. Yet, it may be said that there are existent flaws in the laws which need to be addressed. The courts are also reluctant to rely on scientific evidence due to their restrictive approach, or certain inherent defects in the evidence as produced

⁵⁰ *Inspector of Police v. John David* (2011) 5 SCC 509.

⁵¹ 2014 SCC Online Bom 397 : 2014 (2) Bom CR (Cri) 361 : MANU/MH/0352/2014

⁵² *State of NCT Delhi v. Sujeet Kumar*, 2014 SCC Online Del 1952

⁵³ *State by the Inspector of Police v. Manoharan*, 2015 Cri. LJ 1215 : MANU/TN/ 0496/2014.

in courts which deter them from relying on it entirely. The main motto of criminal justice system is to provide fair justice. Undoubtedly, forensic evidence is more authentic than ocular evidence. Forensic science being scientific evidence is a boon for criminal justice system. We have to overcome the existing flaws to step forward.