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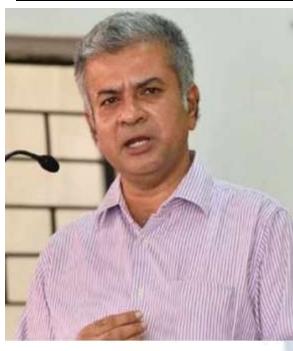
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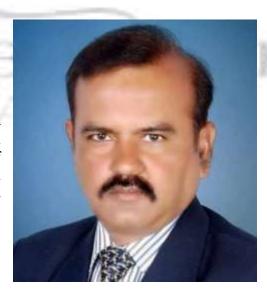


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With this thought, we hereby present to you

LEGAL

# CRITICAL ANALYSIS OF ADMISSIBILITY OF FORENSIC EVIDENCE AND REPORTS IN THE CRIMINAL JUSTICE SYSTEM OF INDIA

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#### **ABSTRACT**

We need to use scientific methods in the investigation for the collection of evidence and to ensure that evidence is collected and retained without being contaminated and altered, packed, and sent scientifically and safely to the lab is challenged before the investigating agency where the advanced techniques are used and applied to extract evidence that will link the evidence to the scene of the crime and finally identify criminal so that he or she may be successfully behind the bar of justice. Despite the increased attention paid to forensic evidence over the past decade, there is published empirical data identifying the types of evidence routinely collected, and the extent to which this evidence is submitted to and examined in forensic crime laboratories. There is even less research that describes the role and impact of such evidence on criminal justice outcomes. While the current study shows that forensic evidence can affect case processing decisions, it is not uniform across all crimes and all evidence types; The effects of evidence vary depending on criminal offense, the variety of forensic evidence, the criminal decision level, and other characteristics of the case.

#### **KEYWORDS:**

Forensic evidence, criminal justice system of India, investigation

#### **INTRODUCTIONS:**

The responsibilities of police in a country like India are priceless. With such an immense breadth and diversity in culture and heritage lies a great responsibility on the shoulders of police organizations. Though India is one of the biggest democracies having the largest police organization, still heinous crimes like sexual assault, murder, rape, robbery, etc. are increasing day by day. The police must

collect the evidence at the crime scene. The police officer shall follow the procedure to collect the evidence. Therefor evidence reaches up to the court of law, and it's reliable. The credibility of the evidence is not in question. If evidence is not tempered or contaminated then it shall be admissible in a court of law. Shreds of evidence due to unreliability shall not allowed by the court. India has the second largest population and when a crime is committed then the crime scene is not secure for the collection of evidence. Several people randomly visit the crime scene so forensic evidence like foot print, finger print, etc. are contaminated or destroyed and the court shall not really over that evidence. Police use logical devices and procedures to recognize a crime, recreate the crime scene, distinguish the supposed wrongdoer, and build up essential connections; the courts, on the other, assess these physical confirmations, in any case trustworthy, and decide with improved precision the innocence or guilty of the party. Due to lack of evidence or lack of proper evidence, most of the heinous criminals are acquitted or go scot-free based on even the slightest doubt. Moreover, the prosecution spends a huge amount of money on the trials of criminal cases. Therefore through conventional investigations mostly public money is wasted and criminals get acquittal based on the benefit of the doubt.

#### **HISTORICAL CONTEXT:**

Forensic evidence is a vital component of the criminal justice system, providing objective and reliable information about crime circumstances, perpetrators, and the cause of death or injury. In India, the admissibility of forensic evidence is subject to critical analysis due to its significant impact on criminal cases. Techniques like DNA analysis, fingerprint examination, ballistics, toxicology, and digital forensics are used to provide this information. However, the reliability and accuracy of these techniques are crucial, as errors in collection, handling, or interpretation can lead to wrongful convictions or acquittals. The Indian Evidence Act, of 1872, governs the admissibility of evidence in court proceedings, assessing relevance, authenticity, and reliability.

The adversarial nature of the criminal justice system in India necessitates robust challenges to the admissibility of forensic evidence by defense counsel. This can involve questioning the qualifications of forensic experts, challenging the validity of scientific methodologies, or raising doubts about the chain of custody of evidence. Cultural and socio-economic factors also influence the perception of forensic evidence in the Indian context. Issues such as access to forensic services, forensic literacy among legal professionals and the public, and misconceptions about forensic science can impact its admissibility and acceptance in court.

Efforts to enhance the admissibility of forensic evidence in India include capacity-building initiatives,

accreditation of forensic laboratories, and the introduction of modern forensic techniques.

#### IMPORTANCE OF ADMISSIBILITY IN CRIMINAL CASES

The admissibility of forensic evidence is crucial for the delivery of justice and maintaining the integrity of the legal system. Forensic evidence, including DNA analysis, ballistics, fingerprints, and digital forensics, can uncover vital clues that might otherwise remain concealed in criminal investigations. However, ensuring the admissibility of such evidence is not just a formality but also the linchpin upon which the entire edifice of justice rests.

In the Indian criminal justice system, where the stakes are high and the implications profound, ensuring the admissibility of forensic evidence becomes even more paramount. The path to ensuring admissibility is fraught with challenges and complexities, with questions raised about the reliability and accuracy of forensic techniques. As a photographer, I understand the importance of precision and accuracy in every aspect of my craft, and any margin for error can have far-reaching consequences in the realm of forensic evidence.

The admissibility of forensic evidence is not only contingent upon its scientific validity but also on the adherence to legal protocols and standards. Chain of custody, preservation of evidence, and the qualifications of forensic experts are just some of the factors that must be meticulously scrutinized to ensure the integrity of the evidence presented in court.

Furthermore, the admissibility of forensic evidence intersects with broader issues of fairness and equity within the criminal justice system. In a country like India, where socio-economic disparities abound, ensuring equal access to forensic expertise and resources becomes imperative. As guardians of truth and fairness, it is incumbent upon all stakeholders within the criminal justice system to uphold the highest standards of integrity and rigor in ensuring the admissibility of forensic evidence, safeguarding the principles of justice for all.

#### **RESEARCH OBJECTIVES:**

- 1. To evaluate the legal framework that controls the Indian criminal justice system's acceptance of forensic reports and evidence.
- 2. To identify the types of forensic evidence commonly used in Indian courts and their respective admissibility criteria.
- 3. Analyze the forensic experts' roles and methods in producing reports and evidence for legal proceedings.

- 4. To analyze the factors influencing the admissibility of forensic evidence, such as reliability, relevance, and procedural adherence
- 5. To investigate case studies or precedents that show examples of successful or unsuccessful forensic evidence admissibility in Indian criminal proceedings

#### **RESEARCH METHODOLOGY:**

This will entail compiling data from scholarly publications, official reports, case law, and other pertinent sources in order to investigate the admissibility framework, forensic evidence types, difficulties, and disputes. We will perform a comparative analysis using international standards, concentrating on data released in the previous ten to fifteen years. Limitations include reliance on available data and possible biases in the literature, and ethical considerations will be upheld. The goal of the study is to pinpoint areas where forensic evidence in India needs to be made more reliable and admissible.

### MAIN TYPES OF FORENSIC EVIDENCE

In criminal investigations and court cases, forensic evidence is essential because it frequently forms the basis for a conviction or exoneration. The admissibility of forensic reports and evidence in the Indian criminal justice system is scrutinised and debated. This critical analysis takes into account legal frameworks, scientific rigour, and practical challenges as it examines and assesses the admissibility of various forms of forensic evidence that are frequently used in Indian courts.

#### **DNA Evidence:**

DNA analysis has revolutionized forensic research by accurately identifying individuals. However, the acceptance of DNA evidence in Indian courts is hampered by concerns about the custody chain, forensic laboratory standards, and interpretation challenges. Although DNA evidence is generally regarded as reliable, it is possible to tie their approval to the implementation of security precautions and validation procedures.

#### **Fingerprints:**

Among the most dependable and traditional types of forensic evidence are fingerprints. In India, there are difficulties with fingerprint collection, preservation, and comparison despite their well-established credibility. Concerns about admissibility can be brought on by problems like contamination, incorrect

handling, and a lack of established protocols. To guarantee the authenticity and dependability of fingerprint evidence, judicial review is necessary.

#### **Forensic Ballistics:**

Criminal investigations frequently use ballistic evidence, which includes bullet trajectory analysis and firearm examination. Issues with admissibility in India could be caused by disparities in firearm databases, inconsistent forensic procedures, and forensic examiner skill. Ballistic evidence must be transparent and follow scientific protocols in order to be accepted in court.

#### **Toxicology:**

Finding drugs, poisons, or alcohol in biological samples is the goal of toxicological analysis. The admissibility of evidence in Indian courts can be affected by differences in testing procedures, contaminated samples, and the dependability of forensic labs. Toxicology report interpretation also calls for specific training and experience. Examining test protocols and expert testimony closely is essential to determining whether toxicological evidence is admissible.

#### **Digital Forensics:**

The increasing number of digital devices has made digital forensics an essential tool in contemporary criminal investigations. The authenticity, integrity, and chain of custody of digital evidence are issues with admissibility in India. The admissibility of digital evidence in court requires strict adherence to internationally recognized standards and compliance with the Information Technology Act.

The admissibility of forensic evidence and reports in the criminal justice system of India demands critical analysis and scrutiny. While various types of forensic evidence offer valuable insights into criminal cases, their acceptance in court depends on factors such as scientific validity, procedural integrity, and expert testimony. Addressing challenges related to forensic practices, laboratory standards, and legal frameworks is essential to enhance the reliability and admissibility of forensic evidence in Indian courts, ultimately contributing to the fair and effective administration of justice.

#### IMPORTANCE OF FORENSIC SCIENCE LABORATORIES:

Forensic science laboratories serve as the backbone of the criminal justice system by employing scientific techniques to analyze physical evidence collected from crime scenes. Their role encompasses various disciplines including forensic biology, chemistry, toxicology, ballistics, and

digital forensics. These laboratories are tasked with the responsibility of examining evidence impartially and providing accurate and reliable analysis to aid investigations and legal proceedings.

#### LEGAL FRAMEWORK FOR ADMISSIBILITY:

#### **Indian Evidence Act, 1872:**

- Section 45: Opinion of Experts.
- Section 46: Facts bearing upon opinions of experts.
- Section 47: Opinion as to handwriting when relevant.
- Section 59: Proof of facts by oral evidence.
- Section 73: Comparison of signature, writing, or seal with others admitted or proved.

#### Code of Criminal Procedure, 1973:

- Section 293: Examination of an expert.
- Section 293A: Report of a ballistic expert.

#### FORENSIC SCIENCE LABORATORIES (FSLS) AND THEIR REGULATIONS:

- Role of FSLs in analyzing and providing expert opinions on forensic evidence.
- Accreditation and standardization of FSLs to ensure the quality and reliability of reports.

#### **CHALLENGES ADMISSIBILITY:**

#### **Lack of Standardization:**

The lack of standardization across forensic science laboratories in India poses a significant challenge in admitting forensic evidence. Each FSL may follow different procedures, methodologies, and quality standards for evidence collection, analysis, and reporting, leading to discrepancies in the reliability and credibility of forensic reports. This also poses challenges in maintaining the integrity of forensic evidence, as proper documentation and chain of custody procedures are essential for its admissibility in court. Without uniform guidelines, there is a risk of contamination, mishandling, or tampering, which could undermine its admissibility and reliability.

#### ADVERSARIAL NATURE OF LEGAL PROCEEDINGS:

The adversarial nature of Indian legal proceedings can hinder the admissibility of forensic evidence.

Defense attorneys may use aggressive tactics during cross-examination to challenge the credibility and reliability of forensic experts, questioning their qualifications, methodologies, or conclusions. They may also exploit ambiguities or inconsistencies in forensic reports to create doubt in judges or juries, prolonging legal proceedings and diminishing the probative value of the evidence, especially if experts are not well-prepared or if there are weaknesses in the analysis.

#### **TECHNOLOGICAL ADVANCEMENTS:**

The rapid advancements in forensic technologies in Indian courts present challenges in legal interpretation and acceptance of evidence. Judges and legal professionals may struggle to comprehend complex scientific concepts or evaluate the validity of new forensic techniques. The legal framework governing forensic evidence may lag behind technological developments, creating inconsistencies or uncertainties in its application. Courts may face dilemmas in determining the admissibility of evidence obtained through emerging technologies like digital forensics, biometrics, or advanced analytical methods. Without clear guidelines, judges may err on the side of caution, leading to disparities in evidence treatment across different cases.

#### **HUMAN ERROR AND BIAS:**

Forensic analysis faces inherent risks due to human error and bias. Experts are susceptible to cognitive biases, subjective judgments, and inadvertent mistakes, which can compromise the integrity of their findings. Factors like workload, fatigue, and implicit biases can influence the objectivity of forensic analysis, leading to inaccuracies or inconsistencies in reports. Forensic evidence is often subject to interpretation, and different experts may arrive at divergent conclusions based on the same data. This variability can be exploited by opposing parties to challenge the admissibility of forensic evidence in court.

#### LANDMARK CASES INVOLVING FORENSIC EVIDENCE IN INDIA:

#### State of Maharashtra v. Dr. Praful B. Desai (2003):

This case is significant as it established the importance of forensic evidence in establishing guilt beyond a reasonable doubt. Dr. Praful B. Desai, a medical practitioner, was accused of conducting illegal abortions leading to the death of a woman. The prosecution relied heavily on forensic evidence, including medical reports and expert testimony, to prove the cause of death and Dr. Desai's involvement. The case highlighted the role of forensic science in criminal investigations and

its admissibility as evidence in court.

#### Aarushi-Hemraj Murder Case (2008):

The double murder of Aarushi Talwar and Hemraj Banjade in Noida garnered widespread media attention and scrutiny. Forensic evidence played a crucial role in the investigation and subsequent trial. DNA analysis, fingerprint examination, and forensic pathology reports were pivotal in establishing the sequence of events and identifying the perpetrators. The case underscored the complexities involved in forensic investigations and the challenges in presenting forensic evidence in high-profile cases.

#### Naroda Patiya Massacre Case (2002):

In one of the deadliest incidents during the Gujarat riots of 2002, a mob attacked the Muslim-majority neighborhood of Naroda Patiya, resulting in the deaths of over 90 people. Forensic evidence, including post-mortem reports, ballistics analysis, and forensic anthropology, played a crucial role in identifying the victims, determining the cause of death, and establishing the culpability of the accused. The case highlighted the importance of forensic science in documenting human rights violations and ensuring justice for victims of mass atrocities

#### Bilkis Bano Gangrape Case (2002):

Bilkis Bano, a survivor of the Gujarat riots, was gang-raped and witnessed the brutal murder of her family members during the violence. Forensic evidence, including DNA analysis, medical examinations, and crime scene reconstruction, played a pivotal role in corroborating Bilkis Bano's testimony and establishing the guilt of the perpetrators. The case received international attention and underscored the importance of forensic evidence in prosecuting cases of sexual violence and human rights abuses.

#### Jessica Lal Murder Case (1999):

The murder of Jessica Lal, a model and bartender, at a high-profile party in Delhi shocked the nation and sparked public outrage. Forensic evidence, including ballistic analysis and forensic pathology reports, played a crucial role in identifying the murder weapon and establishing the guilt of the accused. The case brought attention to the challenges of obtaining reliable forensic evidence in cases involving influential individuals and highlighted the importance of forensic science in delivering

justice.

#### **Sohrabuddin Sheikh Encounter Case (2005):**

Sohrabuddin Sheikh, a suspected terrorist, was killed in an alleged encounter by the Gujarat Police. Forensic evidence, including ballistics analysis, post-mortem reports, and forensic pathology, played a crucial role in scrutinizing the circumstances of the encounter and establishing whether it was a genuine operation or extrajudicial killing. The case raised questions about the integrity of law enforcement agencies and the need for thorough forensic investigations to ensure accountability.

### Nithari Serial Killings Case (2006):

The Nithari serial killings involved the abduction, rape, and murder of numerous children and women in Nithari, Uttar Pradesh. Forensic evidence, including DNA analysis, forensic odontology, and crime scene reconstruction, played a pivotal role in identifying the victims, linking the crimes to the accused, and securing convictions. The case highlighted the importance of forensic science in unraveling complex criminal conspiracies and delivering justice to the victims' families.

#### Sarika Shah Rape and Murder Case (2010):

Sarika Shah, a college student, was raped and murdered in Pune, Maharashtra. Forensic evidence, including DNA analysis, forensic serology, and forensic entomology, played a crucial role in identifying the perpetrator, establishing the cause of death, and securing a conviction. The case underscored the importance of multidisciplinary forensic investigations and the integration of various forensic disciplines in solving violent crimes.

#### Mumbai Terror Attacks (2008):

The coordinated terrorist attacks in Mumbai, which targeted multiple locations including hotels, a railway station, and a Jewish center, resulted in widespread casualties and chaos. Forensic evidence, including ballistic analysis, explosive residue analysis, and crime scene reconstruction, played a critical role in identifying the attackers, tracing the origins of the weapons and explosives used, and reconstructing the sequence of events. The case highlighted the indispensable role of forensic science in counter-terrorism efforts and national security.

#### Priyadarshini Mattoo Murder Case (1996):

Priyadarshini Mattoo, a law student, was raped and murdered in her apartment in Delhi. Forensic evidence, including DNA analysis, fingerprint examination, and forensic psychology reports, played a crucial role in identifying the perpetrator, establishing the motive, and securing a conviction upon retrial. The case garnered widespread attention and led to calls for judicial reforms to address delays and inconsistencies in the legal system, underscoring the importance of forensic evidence in delivering justice.

#### PROPOSED MEASURES FOR STRENGTHENING FORENSIC INFRASTRUCTURE:

Standardization and Accreditation:

Introducing standardized protocols and accreditation mechanisms for forensic laboratories can enhance the reliability and credibility of forensic analysis. Compliance with international standards such as ISO accreditation should be mandated to ensure quality control.

Training and Capacity Building:

Invest in training programs for forensic scientists, technicians, and judicial officers to enhance their understanding of forensic science principles and procedures. Continuous professional development should be encouraged to keep pace with advancements in forensic technology.

Enhanced Collaboration:

Foster collaboration between forensic laboratories, law enforcement agencies, and legal institutions to facilitate knowledge sharing and capacity building. Establishing interdisciplinary task forces can streamline the process of forensic analysis and improve coordination among stakeholders.

Clear Guidelines for Admissibility:

Develop clear guidelines and precedents for the admissibility of forensic evidence in court proceedings. These guidelines should address issues such as authentication, reliability, and relevance of forensic reports, providing clarity to judges and legal practitioners.

Technological Upgradation:

Invest in modernizing forensic laboratories with state-of-the-art equipment and technology to improve the accuracy and efficiency of forensic analysis. Embracing digital forensic techniques and software can facilitate the timely processing and presentation of forensic evidence in court.

#### **SCOPE OF THE STUDY:**

This study's scope includes a thorough analysis of the reports' and evidence's admissibility in the Indian criminal justice system. Reviewing the legal system, different kinds of forensic evidence,

admissibility standards, accuracy and dependability of forensic methods, and difficulties and disputes related to their application are all included. In addition to comparison evaluations with international norms, the study analyzes case studies from Indian jurisprudence and offers suggestions for streamlining the admissibility procedure. This research intends to contribute to a deeper understanding of the role of forensic evidence in criminal proceedings and facilitate potential reforms in this crucial area, while acknowledging limitations such as access to legal documents and the evolving nature of forensic science.

#### **CONCLUSION:**

To sum up, the critical examination of forensic evidence and reports' admissibility in India's criminal justice system reveals several important difficulties, such as a lack of standards, problems with quality control, and judicial ignorance. Strengthening the forensic infrastructure through protocol standardization, laboratory accreditation, extensive training programs, and technology upgrades is essential to addressing these issues. To guarantee justice and credibility in court, precise rules governing the admissibility of forensic evidence must be developed. India can ensure a fair and efficient criminal justice system for all citizens by putting these steps into place, which will increase the credibility of forensic evidence.

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